PLACER COUNTY CONSERVATION PROGRAM

DRAFT ENVIRONMENTAL IMPACT STATEMENT/ ENVIRONMENTAL IMPACT REPORT

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PUBLIC DRAFT

PLACER COUNTY CONSERVATION PROGRAM DRAFT ENVIRONMENTAL IMPACT STATEMENT/ ENVIRONMENTAL IMPACT REPORT

STATE CLEARINGHOUSE NUMBER: 2005032050

PREPARED FOR:

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LEAD AGENCIES

Placer County (CEQA)
United States Fish and Wildlife Service (NEPA)

FEDERAL COOPERATING AGENCIES

National Marine Fisheries Service
United States Army Corps of Engineers
United States Environmental Protection Agency

NONFEDERAL COOPERATING AGENCIES

California Department of Fish and Wildlife
Central Valley Regional Water Quality Control Board
City of Lincoln
Placer County Water Agency
South Placer Regional Transportation Authority

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This joint environmental impact statement/environmental impact report (EIS/EIR) is prepared in compliance with the National Environmental Policy Act (NEPA) and the NEPA procedures of the U.S. Fish and Wildlife Service (USFWS). Additionally, this EIR/EIS is prepared in compliance with the California Environmental Quality Act (CEQA) and State CEQA Guidelines. It evaluates the impacts associated with issuing endangered species permits and implementing the *Placer County Conservation Program* (PCCP). The PCCP is a regional, comprehensive program intended to protect, enhance, and restore natural resources in western Placer County, while streamlining permitting for Covered Activities. Within this framework, the PCCP would achieve conservation goals and comply with state and federal environmental regulations while streamlining planning and permitting for anticipated urban and rural growth and the construction and maintenance of infrastructure needed to serve Placer County's population.

The NEPA Lead Agency (USFWS) and the CEQA Lead Agency (Placer County) have prepared this EIS/EIR to evaluate and disclose the potential effects on the human environment of issuing the requested permits. In addition to evaluating the potential effects of implementing the PCCP, the EIS/EIR evaluates a range of alternatives to the proposed action, as well as a no-action alternative, as required under NEPA.

For further information regarding this EIS/EIR, contact Gregg McKenzie, Placer County Planning Services Division, 3091 County Center Drive, Auburn, CA 95603. Telephone: 530-745-3074. Email: gamckenz@placer.ca.gov.

Placer County. 2018. *Placer County Conservation Program Draft Environmental Impact Statement/Environmental Impact Report*. Public Draft. December. (ICF 04406.04.) With technical assistance by ICF, Sacramento, CA.

Executive Summary

This joint environmental impact statement/environmental impact report (EIS/EIR) evaluates the impacts associated with issuing endangered species permits and implementing the *Placer County Conservation Program* (PCCP). It was prepared pursuant to the California Environmental Quality Act (CEQA) (California Public Resources Code [PRC] Sections 21000–21178.1); the State CEQA Guidelines (PRC 21000 et seq.; 14 California Code of Regulations 1500 et seq.); the National Environmental Policy Act (NEPA) (42 United States Code 4321; 40 Code of Federal Regulations 1500.1); and the President's Council on Environmental Quality guidelines on implementing NEPA.

The PCCP is a regional, comprehensive program intended to protect, enhance, and restore natural resources in western Placer County, while streamlining permitting for Covered Activities. Within this framework, the PCCP would achieve conservation goals and comply with state and federal environmental regulations while streamlining planning and permitting for anticipated urban and rural growth and the construction and maintenance of infrastructure needed to serve Placer County's population. The PCCP comprises three integrated program components.

- The *Western Placer County Habitat Conservation Plan and Natural Community Conservation Plan* (Plan), a joint habitat conservation plan and natural community conservation plan (HCP/NCCP) that would protect fish, wildlife, plants, and their habitats and fulfill the requirements of the federal Endangered Species Act of 1973, as amended (ESA), and the California Natural Community Conservation Planning Act (NCCPA).
- The *Western Placer County Aquatic Resources Program* (CARP) that would protect streams, wetlands, and other water resources and fulfill the requirements of the Clean Water Act (CWA) and analogous state laws and regulations.
- The *Western Placer County In-Lieu Fee Program (ILF Program)* that fulfills compensatory mitigation requirements under Section 404 of the CWA.

Implementation of these programs would require permits for the incidental take of state- and federally listed species. The following agencies are jointly applying for these permits from state and federal agencies.

- Placer County (County).
- City of Lincoln.
- South Placer Regional Transportation Authority (SPRTA).[1]
- Placer County Water Agency (PCWA).
- Placer Conservation Authority (PCA).[2]

[1] SPRTA is a Joint Powers Authority of Placer County and the Cities of Lincoln, Rocklin, and Roseville.

[2] PCA would be created as a Joint Powers Authority of Placer County and the City of Lincoln to implement the HCP/NCCP and the CARP on behalf of all Permit Applicants.

These entities are collectively referred to as the *Permit Applicants* or the *Permittees*.[3] The Permit Applicants are applying for incidental take permits (ITPs) from the U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS), pursuant to Section 10(a)(1)(B) of the ESA. The same entities are also applying for an NCCP permit from the California Department of Fish and Wildlife (CDFW), pursuant to Section 2835 of the California Fish and Game Code. USFWS, NMFS, and CDFW are collectively referred to as the *Wildlife Agencies*. The permits from the Wildlife Agencies would authorize take of certain state- and federally listed species (i.e., Covered Species) during the course of otherwise lawful activities (i.e., Covered Activities).

To fulfill an application requirement for these permits, the Permit Applicants have prepared the Plan, which serves as an HCP under the ESA and an NCCP under the NCCPA. The Plan is intended to support the issuance of ITPs from USFWS and NMFS and issuance of an NCCP permit from CDFW with a term of 50 years. The Plan includes a long-term conservation plan to protect and contribute to the recovery of Covered Species and natural communities in the Plan Area, while streamlining development and maintenance activities that are compatible with local policies and regulations. The Plan identifies where future impacts on protected species would likely occur and lays out a strategy for avoidance, minimization, and mitigation of the impacts on natural resources that would result from these activities. The Plan also goes beyond the mitigation requirements of the ESA to include measures that protect and contribute to the recovery of Covered Species and natural communities in the Plan Area, as required by the NCCPA.

The second component of the PCCP, the CARP, establishes a local program to conserve aquatic resources in the Plan Area through the avoidance and minimization of impacts on such resources that could result from regional growth and development. It provides for the conservation of wetlands, streams, and the waters and the watersheds that support them in the Plan Area while streamlining the U.S. Army Corps of Engineers' (USACE's) CWA Section 404 and the Regional Water Quality Control Board's Section 401 permit processes for Covered Activities.

The third component of the PCCP, the ILF Program, provides a mechanism under which compensatory mitigation requirements under Section 404 of the CWA can be fulfilled by payment of a fee to purchase mitigation "credits." The ILF Program will provide compensatory mitigation for impacts on aquatic resources for all projects and activities that are covered under the HCP/NCCP and the CARP.

Summary of the Proposed Action and Alternatives

This EIS/EIR evaluates impacts associated with four alternatives.

- Alternative 1—No Action.
- Alternative 2—Proposed Action.
- Alternative 3—Reduced Take/Reduced Fill.
- Alternative 4—Reduced Permit Term.

[3] In addition to the Permit Applicants identified above, other parties may elect to seek coverage under the PCCP. These entities are considered *Participating Special Entities* and are listed in Section 8.9.4 of the Plan.

Alternative 1—No Action

Under Alternative 1, the no action alternative, permits would not be issued by USFWS, NMFS, or CDFW for incidental take of the proposed Covered Species through a regional-scale programmatic HCP or NCCP. Accordingly, the Permit Applicants and the private developers within the local jurisdictions would remain subject to the take prohibition for federally listed species under ESA and state-listed species under the California Endangered Species Act (CESA). The Permit Applicants and others with ongoing activities or future actions in the Plan Area that may result in the incidental take of federally listed species would need to apply, on a project-by-project basis, for incidental take authorization from either USFWS or NMFS through ESA Section 7 (when a federal agency is involved) or Section 10 (for nonfederal actions). Similarly, Permit Applicants and others whose ongoing activities or future actions have the potential for incidental take of state-listed species in the Plan Area would apply for incidental take authorization under CESA through a Section 2081(b) permit. In addition, a Section 404 permitting strategy would not be developed by USACE and, accordingly, Permit Applicants and private developers within their jurisdictions would follow existing procedures for activities subject to CWA Section 404.

Alternative 1 would entail the continuation of existing plans, policies, and operations. Based on this assumption, Alternative 1 incorporates programs adopted during the early stages of development of this EIS/EIR, facilities that are permitted or under construction during the early stages of development of this EIS/EIR, and projects that are permitted or are assumed to be constructed by 2035, which encompasses the planning horizon for the general plans and capital improvement plans in the Plan Area.

Under Alternative 1, because the Permit Applicants and private developers would generate environmental documentation and apply for permits on a project-by-project basis, there would be no comprehensive means to coordinate and standardize mitigation and compensation requirements of ESA, NCCPA, CEQA, NEPA, and the CWA within the Plan Area.

Alternative 2—Proposed Action

As noted above, the PCCP is a regional, comprehensive program intended to protect, enhance, and restore natural resources in western Placer County, while streamlining endangered species permitting for Covered Activities. Within this framework, the PCCP would achieve conservation goals and comply with state and federal environmental regulations while streamlining planning and permitting for anticipated urban and rural growth and the construction and maintenance of infrastructure in Placer County.

The Plan Area of the PCCP encompasses 269,118 acres. As shown in Figure ES-1, the Plan Area encompasses a portion of western Placer County, including all unincorporated lands in western Placer County and the city of Lincoln. Within the proposed Plan Area, more than 47,300 acres within the available potential acquisition area would become part of the PCCP Reserve System.

For purposes of this EIS/EIR, the proposed action consists of the following.

- ITP issuance by USFWS and NMFS, and NCCP permit issuance by CDFW.
- Approval and execution of the implementing agreement (IA) for the NCCP portion of the Plan by CDFW.
- The Permit Applicants' adoption and implementation of the PCCP.

The proposed action was developed by the Permit Applicants in consultation with USFWS, CDFW, NMFS, and USACE and is intended to address the conservation needs of Covered Species based on implementation of Covered Activities. These activities are widespread and varied, comprising urban and rural development, water management, conservation measures, facilities maintenance, and numerous other actions undertaken by the Permit Applicants.

Alternative 3—Reduced Take/Reduced Fill

Under Alternative 3—Reduced Take/Reduced Fill, the Covered Species, Covered Activities, permit duration, and implementation of the Plan and CARP would be the same as under Alternative 2, the proposed action. However, Alternative 3 would reduce the conversion of vernal pool complex in the Valley Potential Future Growth Area (PFG) by 10% (about 1,250 acres) compared to the proposed action; there would be similar reductions in other communities associated with wetlands or other waters. To minimize the impact on non–wetland-associated communities, the total extent of conversion of non–wetland-associated communities in the Valley PFG would be reduced compared to the proposed action.

Alternative 4—Reduced Permit Term

Under Alternative 4—Reduced Permit Term, the Plan Area, Covered Species, Covered Activities, and implementation of the Plan and CARP would be the same as under the proposed action. Under this alternative, the HCP/NCCP would include the same permit conditions for Covered Activities and similar conservation measures and conservation strategy as the PCCP, except the permit term would be for 30 years instead of 50.

Summary of Environmental Consequences and Proposed Recommended Mitigation

A list of specific resource topics was developed to focus on and compare environmental impacts of the various alternatives. The list was drafted based on applicable laws, regulations, policies, as well as comments from agency staff and the interested public. Chapter 3, *Affected Environment*, describes, for each resource topic, the existing environment that could be affected by the proposed action. These existing conditions establish the baseline for the analysis of effects or impacts that is detailed in Chapter 4, *Environmental Consequences*.

The issuance of ITPs and NCCP permit by the Wildlife Agencies—together with subsequent adoption and implementation of the Plan by the Permit Applicants consistent with the permits—is the proposed action considered in this EIS/EIR. Issuance of the ITPs and NCCP permit by the Wildlife Agencies provides compliance only with the ESA, CESA, and NCCPA, and such compliance is subject to project-level terms and conditions, as provided in the Plan and IA. Approval of the proposed action does not confer or imply approval to implement any Covered Activity by the Permit Applicants. All Covered Activities are subject to the land use or other authority of one or more of the Permit Applicants. Before approving or implementing a Covered Activity, the Permit Applicant with authority over the Covered Activity must comply with CEQA and other applicable laws and a project-level environmental analysis may be required. If a Covered Activity requires a project-level federal authorization or permit, a project-level environmental analysis under NEPA may also be required. Although the proposed action pertains specifically to the environmental effects of the Covered

Activities on biological and aquatic resources, other reasonably foreseeable environmental effects of the Covered Activities are discussed in this EIS/EIR to provide context for the analysis of the proposed action and alternatives.

No Action Alternative

Alternative 1, the no action alternative, includes reasonably foreseeable activities in the Plan Area associated with urbanization and associated infrastructure development, operation, and maintenance included in the various planning documents of Placer County and the City of Lincoln as well as future projects of SPRTA and PCWA. The general plan EIRs analyzed these activities, and Alternative 1 includes these analyses by incorporating by reference and carries these conclusions forward. Any mitigation included in these EIRs is incorporated by reference into the Alternative 1 analysis. In addition, typical best management practices used during construction by SPRTA and PCWA are also incorporated into Alternative 1, as these would occur whether or not the PCCP were to be approved. The land use changes associated with these activities would have various effects on each of the resources considered in this EIS/EIR, including direct and indirect effects, temporary effects associated with construction, and long-term effects of operation and maintenance (O&M). Conclusions about the significance of these impacts are based on the extent of the expected land use changes and the adequacy of the regulatory framework (e.g., local regulations and requirements) to provide effective mitigation.

Action Alternatives

The action alternatives (i.e., Alternatives 2, 3, and 4) would all add a regional framework for biological resource impact avoidance, minimization, and mitigation and for natural community conservation. This would be provided by the PCCP and implemented as a result of the Wildlife Agencies issuing permits. The impact analysis of the action alternatives focuses on how permit issuance could affect a resource differently from Alternative 1, the no action alternative. Each action alternative would include a version of the PCCP. The analysis was based on the following assumptions.

- The PCCP conservation strategy would apply to all Covered Activities.
- All Covered Activities would be implemented using the avoidance and minimization measures proposed in the PCCP.
- The action alternatives would include the acquisition and enhancement of a large, connected conservation lands system, with coordinated management for the benefit of Covered Species. This system would have a substantially larger footprint of land targeted for protection compared to the system of independent mitigation sites under Alternative 1, because not all land cover types and Covered Species would require mitigation under existing statutory and regulatory mechanisms.
- Acquisition and enhancement of the conservation lands system would be primarily located within the Reserve Acquisition Area (RAA). However, the land acquisition criteria allow for some high-value lands to be acquired outside the RAA but within the Plan Area.
- Activities on the conservation lands system would be consistent with the conservation measures described in the conservation strategy.

Unless affected by implementation of the PCCP conservation activities (i.e., primarily those actions associated with the conservation strategy), impacts of Alternative 1 would also occur under the action alternatives. This is because Alternative 1 comprises the same urbanization and infrastructure development activities that are identified as Covered Activities under the action alternatives. Therefore, the analysis in the PCCP addresses most of the reasonably foreseeable activities in the Plan Area associated with urbanization and associated infrastructure development, operation, and maintenance.

The analyses of the action alternatives also describe how the general concepts identified in the conservation strategy for biological resource mitigation could affect each of the individual resources considered, since the conservation strategy is part of all action alternatives. Thus, the analysis of the PCCP focuses on the consequences of issuing the federal ITPs and the state NCCP permit. The PCCP is based on extensive consultation with the Permit Applicants and Wildlife Agencies, resulting in a detailed database of activities that allows for a quantitative analysis of anticipated changes in land uses as a result of activities under Alternative 2 (i.e., Covered Activities under the PCCP) and the conservation strategy of the PCCP. The land use changes associated with these activities would have various effects on each of the resources considered in the PCCP and this EIS/EIR, including direct and indirect effects, temporary effects associated with construction, and long-term effects of O&M. Conclusions about the significance of these impacts are based on the extent of the expected land use changes and the adequacy of the regulatory framework (e.g., local regulations and requirements) to provide effective mitigation.

Impact Mechanisms

Under the action alternatives, impacts could occur during construction or O&M related to the proposed action and Covered Activities, which would include habitat restoration and creation (conservation measures designed to protect, enhance, and restore and improve the ecological function of natural communities, and to avoid, minimize, and compensate for effects on Covered Species); adaptive management and monitoring activities; the existing, planned, and proposed land uses over which the local jurisdictions have land use authority; transportation projects; and water and wastewater projects.

Most Covered Activities would require individual permits and approvals pursuant to the local jurisdictions' general plans and land use regulations, or the requirements of the implementing agency, and would undergo subsequent project-level CEQA review and relevant NEPA review for construction and operations-related impacts; some Covered Activities, however, may be exempted from environmental review requirements due to project characteristics.

Covered Activities in Lincoln and in unincorporated areas of Placer County would have the potential to result in impacts as identified in the general plans for these jurisdictions, as the action alternatives would serve to streamline the development in the Plan Area envisioned in the *Placer County General Plan* (which includes community and area plans)*, City of Lincoln General Plan,* and long-term SPRTA and PCWA plans.

Effects of Covered Activities would be anticipated to result from the types of actions listed below.

- Grading, excavation, trenching, and placement of fill material, including earthmoving, re-contouring, excavation, or removal or modification of landscape features or structures.

- Vegetation removal with off-road construction equipment to reduce fire hazards and control invasive plants.
- Construction and maintenance of residential, commercial, retail, recreational, and industrial land uses as specified in the *Placer County General Plan* and *City of Lincoln General Plan.*
- Construction of new and O&M of existing utility infrastructure.
- Widening of existing and development of new roads.
- Temporary construction or land disturbance associated with maintenance and/or operation of water facilities and other waterways.

Impacts and Mitigation

Tables ES-1 and ES-2 summarize impact determinations identified in this EIS/EIR. Table ES-3, at the end of this Executive Summary, lists all the impacts analyzed, their significance determinations, any proposed mitigation measures intended to reduce the level of significance, and the level of significance after mitigation.

Table ES-1 summarizes impacts on species discussed in Section 4.3, *Biological Resources*. Broadly speaking, biological resources would be subject to significant and unavoidable impacts under Alternative 1 and less-than-significant impacts under Alternatives 2, 3, and 4.

Table ES-1. Summary of Impact Determinations by Species Considered

Common Name	Covered Species?	Alternative 1	Alternative 2	Alternative 3	Alternative 4
Fish					
Central Valley steelhead	Yes	LTS	LTS	LTS	LTS
Central Valley fall/late fall-run Chinook salmon	Yes	LTS	LTS	LTS	LTS
Hardhead	No	LTS	LTS	LTS	LTS
Pacific lamprey	No	LTS	LTS	LTS	LTS
Invertebrates					
Valley elderberry longhorn beetle	Yes	LTS	LTS	LTS	LTS
Conservancy fairy shrimp	Yes	SU	LTS	LTS	LTS
Vernal pool fairy shrimp	Yes	SU	LTS	LTS	LTS
Vernal pool tadpole shrimp	Yes	SU	LTS	LTS	LTS
Amphibians					
California red-legged frog	Yes	LTS	LTS	LTS	LTS
Foothill yellow-legged frog	Yes	LTS	LTS	LTS	LTS
Western spadefoot	No	SU	LTS	LTS	LTS
Reptiles					
Giant garter snake	Yes	LTS	LTS	LTS	LTS
Western pond turtle	Yes	LTS	LTS	LTS	LTS
Coast horned lizard	No	LTS	LTSM	LTSM	LTSM

Common Name	Covered Species?	Alternative 1	Alternative 2	Alternative 3	Alternative 4
Birds					
Swainson's hawk	Yes	SU	LTS	LTS	LTS
California black rail	Yes	LTS	LTS	LTS	LTS
Western burrowing owl	Yes	SU	LTS	LTS	LTS
Tricolored blackbird	Yes	SU	LTS	LTS	LTS
Mammals					
Non-covered bats	No	LTS	LTSM	LTSM	LTSM
American badger	No	SU	LTSM	LTSM	LTSM

SU = significant and unavoidable; LTS = less than significant; LTSM = less than significant with mitigation.

The following non-biological resources had less-than-significant impacts or no impact under all action alternatives.

- Land Use and Planning.
- Mineral Resources.
- Population and Housing, Socioeconomics, and Environmental Justice.
- Recreation.

The following non-biological resources had impacts that were significant and unavoidable under all action alternatives.

- Agricultural and Forestry Resources.
- Air Quality, Greenhouse Gases, and Climate Change.
- Cultural and Paleontological Resources.
- Hydrology and Water Quality.
- Noise and Vibration.
- Transportation and Circulation.

Table ES-2 summarizes the impact determinations for the alternatives by resource. All of the significant and unavoidable impacts under Alternative 1 would result primarily from the activities expected under the implementation of the local jurisdictions' general plans (i.e., permanent development).

Table ES-2. Summary of Impact Determinations by Resource

Resource	Alternative 1	Alternative 2	Alternative 3	Alternative 4
Agricultural and Forestry Resources	SU	SU	SU	SU
Air Quality, Greenhouse Gases, and Climate Change	SU	SU	SU	SU
Biological Resources	SU	LTSM	LTSM	LTSM
Cultural and Paleontological Resources	SU	SU	SU	SU
Hydrology and Water Quality	SU	SU	SU	SU
Land Use and Planning	NI	LTS	LTS	LTS
Mineral Resources	NI	LTS	LTS	LTS
Noise and Vibration	SU	SU	SU	SU
Population and Housing, Socioeconomics, and Environmental Justice	LTS	LTS	LTS	LTS
Recreation	LTS	LTS	LTS	LTS
Transportation and Circulation	SU	SU	SU	SU

SU = significant and unavoidable; LTS = less than significant; LTSM = less than significant with mitigation; NI = no impact.

Issues Raised by Agencies and the Public

The review period for the notice of preparation ended on April 8, 2005. Comments were received from Placer County Flood Control and Water Conservation District; Placer County Department of Facility Services, Special Districts; California Department of Fish and Game (now CDFW); California Department of Conservation; California Department of Transportation (District 3); City of Lincoln; USFWS; and the California Governor's Office of Planning and Research (State Clearinghouse and Planning Unit). The following topics were raised in comments.

- The role of various agencies in development and review of the PCCP and EIS/EIR.
- Definition and use of an environmental baseline in impact analysis.
- Selection and analysis of a range of alternatives.
- Specificity of Covered Activities and associated impact analyses.
- Location of and requirements for mitigation.
- Increased burden on stormwater and flood-carrying facilities and alteration of floodplain boundaries.
- Areas designated for expanded public utilities.
- Impacts on agricultural land including Williamson Act lands.
- Identification and consideration of future transportation facilities.

Areas of Controversy

There are no known areas of controversy at this time.

Issues to be Resolved

There are no known issues to be resolved at this time.

Table ES-3. Summary of Impacts and Mitigation Measures

Impact	Level of Significance: NEPA	Level of Significance: CEQA	Mitigation Measure	Significance after Mitigation: NEPA	Significance after Mitigation: CEQA
Agricultural and Forestry Resources					
Alternative 1—No Action					
Impact AG-1: Conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to nonagricultural use	SU	SU		N/A	N/A
Impact AG-2: Conflict with existing zoning for agricultural use or with a Williamson Act contract	SU	SU		N/A	N/A
Impact AG-3: Conflict with existing zoning of forest land, timberland, or timberland zoned Timberland Production	NI	NI		N/A	N/A
Impact AG-4: Loss of forest land or conversion of forest land to non-forest use	NI	NI		N/A	N/A
Impact AG-5: Potential to cause other changes in the existing environment which, due to their location or nature, could result in conversion of farmland to nonagricultural use or conversion of forest land to non-forest use	SU	SU		N/A	N/A
Alternative 2—Proposed Action					
Impact AG-1: Conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to nonagricultural use	SU	SU		N/A	N/A
Impact AG-2: Conflict with existing zoning for agricultural use or with a Williamson Act contract	SU	SU		N/A	N/A
Impact AG-3: Conflict with existing zoning of forest land, timberland, or timberland zoned Timberland Production	NI	NI		N/A	N/A
Impact AG-4: Loss of forest land or conversion of forest land to non-forest use	NI	NI		N/A	N/A

Level of significance: LTS = less than significant; S = significant; SU = significant and unavoidable; NI = no impact; N/A = not applicable.

Impact	Level of Significance: NEPA	Level of Significance: CEQA	Mitigation Measure	Significance after Mitigation: NEPA	Significance after Mitigation: CEQA
Impact AG-5: Potential to cause other changes in the existing environment which, due to their location or nature, could result in conversion of farmland to nonagricultural use or conversion of forest land to non-forest use	SU	SU		N/A	N/A
Alternative 3—Reduced Take/Reduced Fill					
Impact AG-1: Conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to nonagricultural use	SU	SU		N/A	N/A
Impact AG-2: Conflict with existing zoning for agricultural use or with a Williamson Act contract	SU	SU		N/A	N/A
Impact AG-3: Conflict with existing zoning of forest land, timberland, or timberland zoned Timberland Production	NI	NI		N/A	N/A
Impact AG-4: Loss of forest land or conversion of forest land to non-forest use	NI	NI		N/A	N/A
Impact AG-5: Potential to cause other changes in the existing environment which, due to their location or nature, could result in conversion of farmland to nonagricultural use or conversion of forest land to non-forest use	SU	SU		N/A	N/A
Alternative 4—Reduced Permit Term					
Impact AG-1: Conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to nonagricultural use	SU	SU		N/A	N/A
Impact AG-2: Conflict with existing zoning for agricultural use or with a Williamson Act contract	SU	SU		N/A	N/A
Impact AG-3: Conflict with existing zoning of forest land, timberland, or timberland zoned Timberland Production	NI	NI		N/A	N/A
Impact AG-4: Loss of forest land or conversion of forest land to non-forest use	NI	NI		N/A	N/A

Level of significance: LTS = less than significant; S = significant; SU = significant and unavoidable; NI = no impact; N/A = not applicable.

Impact	Level of Significance: NEPA	Level of Significance: CEQA	Mitigation Measure	Significance after Mitigation: NEPA	Significance after Mitigation: CEQA
Impact AG-5: Potential to cause other changes in the existing environment which, due to their location or nature, could result in conversion of farmland to nonagricultural use or conversion of forest land to non-forest use	SU	SU		N/A	N/A
Air Quality, Greenhouse Gases, and Climate Change					
Alternative 1—No Action					
Impact AQ-1: Conflict with or obstruct implementation of the applicable air quality plan	SU	SU		N/A	N/A
Impact AQ-2: Violation of any air quality standard or substantial contribution to an existing or projected air quality violation	SU	SU		N/A	N/A
Impact AQ-3: Potential to result in a cumulatively considerable net increase of any criteria pollutant for which the project region is a nonattainment area for an applicable federal or state ambient air quality standard	SU	SU		N/A	N/A
Impact AQ-4: Exposure of sensitive receptors to substantial pollutant concentrations	SU	SU		N/A	N/A
Impact AQ-5: Potential to create objectionable odors affecting a substantial number of people	LTS	LTS		N/A	N/A
Impact AQ-6: Generation of greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment	SU	SU		N/A	N/A
Impact AQ-7: Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing emissions of greenhouse gases	SU	SU		N/A	N/A

Level of significance: LTS = less than significant; S = significant; SU = significant and unavoidable; NI = no impact; N/A = not applicable.

Impact	Level of Significance: NEPA	Level of Significance: CEQA	Mitigation Measure	Significance after Mitigation: NEPA	Significance after Mitigation: CEQA
Alternative 2—Proposed Action					
Impact AQ-1: Conflict with or obstruct implementation of the applicable air quality plan	SU	SU	Mitigation Measure AQ-1: Implement FRAQMD exhaust controls and criteria pollutant offsets during construction and O&M activities	SU	SU
Impact AQ-2: Violation of any air quality standard or substantial contribution to an existing or projected air quality violation	SU	SU	Mitigation Measure AQ-1: Implement FRAQMD exhaust controls and criteria pollutant offsets during construction and O&M activities	SU	SU
Impact AQ-3: Potential to result in a cumulatively considerable net increase of any criteria pollutant for which the project region is a nonattainment area for an applicable federal or state ambient air quality standard	SU	SU	Mitigation Measure AQ-1: Implement Feather River Air Quality Management District exhaust controls and criteria pollutant offsets during construction and operations and maintenance activities	SU	SU
Impact AQ-4: Exposure of sensitive receptors to substantial pollutant concentrations	SU	SU		N/A	N/A
Impact AQ-5: Potential to create objectionable odors affecting a substantial number of people	LTS	LTS		N/A	N/A
Impact AQ-6: Generation of greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment	SU	SU		SU	SU
Impact AQ-7: Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing emissions of greenhouse gases	SU	SU		SU	SU
Alternative 3—Reduced Take/Reduced Fill					
Impact AQ-1: Conflict with or obstruct implementation of the applicable air quality plan	SU	SU	Mitigation Measure AQ-1: Implement FRAQMD exhaust controls and criteria pollutant offsets during construction and O&M activities	SU	SU

Level of significance: LTS = less than significant; S = significant; SU = significant and unavoidable; NI = no impact; N/A = not applicable.

Impact	Level of Significance: NEPA	Level of Significance: CEQA	Mitigation Measure	Significance after Mitigation: NEPA	Significance after Mitigation: CEQA
Impact AQ-2: Violation of any air quality standard or substantial contribution to an existing or projected air quality violation	SU	SU	Mitigation Measure AQ-1: Implement FRAQMD exhaust controls and criteria pollutant offsets during construction and O&M activities	SU	SU
Impact AQ-3: Potential to result in a cumulatively considerable net increase of any criteria pollutant for which the project region is a nonattainment area for an applicable federal or state ambient air quality standard	SU	SU	Mitigation Measure AQ-1: Implement FRAQMD exhaust controls and criteria pollutant offsets during construction and O&M activities	SU	SU
Impact AQ-4: Exposure of sensitive receptors to substantial pollutant concentrations	SU	SU		N/A	N/A
Impact AQ-5: Potential to create objectionable odors affecting a substantial number of people	LTS	LTS		N/A	N/A
Impact AQ-6: Generation of greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment	SU	SU		SU	SU
Impact AQ-7: Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing emissions of greenhouse gases	SU	SU		SU	SU
Alternative 4—Reduced Permit Term					
Impact AQ-1: Conflict with or obstruct implementation of the applicable air quality plan	SU	SU	Mitigation Measure AQ-1: Implement FRAQMD exhaust controls and criteria pollutant offsets during construction and O&M activities	SU	SU
Impact AQ-2: Violation of any air quality standard or substantial contribution to an existing or projected air quality violation	SU	SU	Mitigation Measure AQ-1: Implement FRAQMD exhaust controls and criteria pollutant offsets during construction and O&M activities	SU	SU
Impact AQ-3: Potential to result in a cumulatively considerable net increase of any criteria pollutant for which the project region is a nonattainment area for an applicable federal or state ambient air quality standard	SU	SU	Mitigation Measure AQ-1: Implement FRAQMD exhaust controls and criteria pollutant offsets during construction and O&M activities	SU	SU

Level of significance: LTS = less than significant; S = significant; SU = significant and unavoidable; NI = no impact; N/A = not applicable.

Impact	Level of Significance: NEPA	Level of Significance: CEQA	Mitigation Measure	Significance after Mitigation: NEPA	Significance after Mitigation: CEQA
Impact AQ-4: Exposure of sensitive receptors to substantial pollutant concentrations	SU	SU		N/A	N/A
Impact AQ-5: Potential to create objectionable odors affecting a substantial number of people	LTS	LTS		N/A	N/A
Impact AQ-6: Generation of greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment	SU	SU		SU	SU
Impact AQ-7: Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing emissions of greenhouse gases	SU	SU		SU	SU
Biological Resources					
Alternative 1—No Action					
Impact BIO-1: Effects on vernal pool complex	SU	SU		N/A	N/A
Impact BIO-2: Effects on grassland	SU	SU		N/A	N/A
Impact BIO-3: Effects on aquatic/wetland complex	LTS	LTS		N/A	N/A
Impact BIO-4: Effects on riverine/riparian complex	LTS	LTS		N/A	N/A
Impact BIO-5: Effects on oak woodland	SU	SU		N/A	N/A
Impact BIO-6: Effects on valley oak woodland	SU	SU		N/A	N/A
Impact BIO-7: Effects on special-status plants in vernal pool habitats	SU	SU		N/A	N/A
Impact BIO-8: Effects on special-status plants in oak woodland habitats	SU	SU		N/A	N/A
Impact BIO-9: Effects on special-status plants in grassland habitats	SU	SU		N/A	N/A
Impact BIO-10: Effects on special-status plants in fresh emergent marsh and riverine habitats	SU	SU		N/A	N/A

Level of significance: LTS = less than significant; S = significant; SU = significant and unavoidable; NI = no impact; N/A = not applicable.

Impact	Level of Significance: NEPA	Level of Significance: CEQA	Mitigation Measure	Significance after Mitigation: NEPA	Significance after Mitigation: CEQA
Impact BIO-11: Potential for construction and operation effects on Chinook salmon (fall-/late fall–run) and Central Valley steelhead	LTS	LTS		N/A	N/A
Impact BIO-12: Potential for construction and operation effects on non-covered species (hardhead and Pacific lamprey)	LTS	LTS		N/A	N/A
Impact BIO-13: Effects on valley elderberry longhorn beetle	LTS	LTS		N/A	N/A
Impact BIO-14: Effects on vernal pool branchiopods	SU	SU		N/A	N/A
Impact BIO-15: Effects on California red-legged frog	LTS	LTS		N/A	N/A
Impact BIO-16: Effects on foothill yellow-legged frog	LTS	LTS		N/A	N/A
Impact BIO-17: Effects on western spadefoot, a non-covered species	SU	SU		N/A	N/A
Impact BIO-18: Effects on giant garter snake	LTS	LTS		N/A	N/A
Impact BIO-19: Effects on western pond turtle	LTS	LTS		N/A	N/A
Impact BIO-20: Effects on coast horned lizard, a non-covered species	LTS	LTS		N/A	N/A
Impact BIO-21: Effects on Swainson's hawk	SU	SU		N/A	N/A
Impact BIO-22: Effects on California black rail	LTS	LTS		N/A	N/A
Impact BIO-23: Effects on burrowing owl	SU	SU		N/A	N/A
Impact BIO-24: Effects on tricolored blackbird	SU	SU		N/A	N/A
Impact BIO-25: Effects on non-covered bats	LTS	LTS		N/A	N/A
Impact BIO-26: Effects on American badger, a non-covered species	SU	SU		N/A	N/A
Impact BIO-27: Effects on protected wetlands and waters	LTS	LTS		N/A	N/A
Impact BIO-28: Effects on fish and wildlife corridors	SU	SU		N/A	N/A

Level of significance: LTS = less than significant; S = significant; SU = significant and unavoidable; NI = no impact; N/A = not applicable.

Impact	Level of Significance: NEPA	Level of Significance: CEQA	Mitigation Measure	Significance after Mitigation: NEPA	Significance after Mitigation: CEQA
Impact BIO-29: Effects of invasive plant species	LTS	LTS		N/A	N/A
Alternative 2—Proposed Action				N/A	N/A
Impact BIO-1: Effects on vernal pool complex	LTS	LTS		N/A	N/A
Impact BIO-2: Effects on grassland	LTS	LTS		N/A	N/A
Impact BIO-3: Effects on aquatic/wetland complex	LTS	LTS		N/A	N/A
Impact BIO-4: Effects on riverine/riparian complex	LTS	LTS		N/A	N/A
Impact BIO-5: Effects on oak woodland	LTS	LTS		N/A	N/A
Impact BIO-6: Effects on valley oak woodland	LTS	LTS		N/A	N/A
Impact BIO-7: Effects on special-status plants in vernal pool habitats	S	S	Mitigation Measure BIO-1: Conduct surveys for and avoid special-status plants in proposed restoration and enhancement areas	LTS	LTS
Impact BIO-8: Effects on special-status plants in oak woodland habitats	S	S	Mitigation Measure BIO-1: Conduct surveys for and avoid special-status plants in proposed restoration and enhancement areas	LTS	LTS
Impact BIO-9: Effects on special-status plants in grassland habitats	S	S	Mitigation Measure BIO-1: Conduct surveys for and avoid special-status plants in proposed restoration and enhancement areas	LTS	LTS
Impact BIO-10: Effects on special-status plants in fresh emergent marsh and riverine habitats	S	S	Mitigation Measure BIO-1: Conduct surveys for and avoid special-status plants in proposed restoration and enhancement areas	LTS	LTS
Impact BIO-11: Potential for construction and operation effects on Chinook salmon (fall-/late fall–run) and Central Valley steelhead	LTS	LTS		N/A	N/A

Level of significance: LTS = less than significant; S = significant; SU = significant and unavoidable; NI = no impact; N/A = not applicable.

Impact	Level of Significance: NEPA	Level of Significance: CEQA	Mitigation Measure	Significance after Mitigation: NEPA	Significance after Mitigation: CEQA
Impact BIO-12: Potential for construction and operation effects on non-covered species (hardhead and Pacific lamprey)	LTS	LTS		N/A	N/A
Impact BIO-13: Effects on valley elderberry longhorn beetle	LTS	LTS		N/A	N/A
Impact BIO-14: Effects on vernal pool branchiopods	LTS	LTS		N/A	N/A
Impact BIO-15: Effects on California red-legged frog	LTS	LTS		N/A	N/A
Impact BIO-16: Effects on foothill yellow-legged frog	LTS	LTS		N/A	N/A
Impact BIO-17: Effects on western spadefoot, a non-covered species	LTS	LTS		N/A	N/A
Impact BIO-18: Effects on giant garter snake	LTS	LTS		N/A	N/A
Impact BIO-19: Effects on western pond turtle	LTS	LTS		N/A	N/A
Impact BIO-20: Effects on coast horned lizard, a non-covered species	S	S	Mitigation Measure BIO-2: Conduct preconstruction surveys for coast horned lizard	LTS	LTS
Impact BIO-21: Effects on Swainson's hawk	LTS	LTS		N/A	N/A
Impact BIO-22: Effects on California black rail	LTS	LTS		N/A	N/A
Impact BIO-23: Effects on burrowing owl	LTS	LTS		N/A	N/A
Impact BIO-24: Effects on tricolored blackbird	LTS	LTS		N/A	N/A
Impact BIO-25: Effects on non-covered bats	S	S	Mitigation Measure BIO-3: Conduct preconstruction surveys for roosting bats and implement protective measures	LTS	LTS
Impact BIO-26: Effects on American badger, a non-covered species	S	S	Mitigation Measure BIO-4: Conduct preconstruction survey for American badger	LTS	LTS
Impact BIO-27: Effects on protected wetlands and waters	LTS	LTS		N/A	N/A

Level of significance: LTS = less than significant; S = significant; SU = significant and unavoidable; NI = no impact; N/A = not applicable.

Impact	Level of Significance: NEPA	Level of Significance: CEQA	Mitigation Measure	Significance after Mitigation: NEPA	Significance after Mitigation: CEQA
Impact BIO-28: Effects on fish and wildlife corridors	LTS	LTS		N/A	N/A
Impact BIO-29: Effects of invasive plant species	LTS	LTS		N/A	N/A
Alternative 3—Reduced Take/Reduced Fill				N/A	N/A
Impact BIO-1: Effects on vernal pool complex	LTS	LTS		N/A	N/A
Impact BIO-2: Effects on grassland	LTS	LTS		N/A	N/A
Impact BIO-3: Effects on aquatic/wetland complex	LTS	LTS		N/A	N/A
Impact BIO-4: Effects on riverine/riparian complex	LTS	LTS		N/A	N/A
Impact BIO-5: Effects on oak woodland	LTS	LTS		N/A	N/A
Impact BIO-6: Effects on valley oak woodland	LTS	LTS		N/A	N/A
Impact BIO-7: Effects on special-status plants in vernal pool habitats	S	S	Mitigation Measure BIO-1: Conduct surveys for and avoid special-status plants in proposed restoration and enhancement areas	LTS	LTS
Impact BIO-8: Effects on special-status plants in oak woodland habitats	S	S	Mitigation Measure BIO-1: Conduct surveys for and avoid special-status plants in proposed restoration and enhancement areas	LTS	LTS
Impact BIO-9: Effects on special-status plants in grassland habitats	S	S	Mitigation Measure BIO-1: Conduct surveys for and avoid special-status plants in proposed restoration and enhancement areas	LTS	LTS
Impact BIO-10: Effects on special-status plants in fresh emergent marsh and riverine habitats	S	S	Mitigation Measure BIO-1: Conduct surveys for and avoid special-status plants in proposed restoration and enhancement areas	LTS	LTS
Impact BIO-11: Potential for construction and operation effects on Chinook salmon (fall-/late fall–run) and Central Valley steelhead	LTS	LTS		N/A	N/A

Level of significance: LTS = less than significant; S = significant; SU = significant and unavoidable; NI = no impact; N/A = not applicable.

Impact	Level of Significance: NEPA	Level of Significance: CEQA	Mitigation Measure	Significance after Mitigation: NEPA	Significance after Mitigation: CEQA
Impact BIO-12: Potential for construction and operation effects on non-covered species (hardhead and Pacific lamprey)	LTS	LTS		N/A	N/A
Impact BIO-13: Effects on valley elderberry longhorn beetle	LTS	LTS		N/A	N/A
Impact BIO-14: Effects on vernal pool branchiopods	LTS	LTS		N/A	N/A
Impact BIO-15: Effects on California red-legged frog	LTS	LTS		N/A	N/A
Impact BIO-16: Effects on foothill yellow-legged frog	LTS	LTS		N/A	N/A
Impact BIO-17: Effects on western spadefoot, a non-covered species	LTS	LTS		N/A	N/A
Impact BIO-18: Effects on giant garter snake	LTS	LTS		N/A	N/A
Impact BIO-19: Effects on western pond turtle	LTS	LTS		N/A	N/A
Impact BIO-20: Effects on coast horned lizard, a non-covered species	S	S	Mitigation Measure BIO-2: Conduct preconstruction surveys for coast horned lizard	LTS	LTS
Impact BIO-21: Effects on Swainson's hawk	LTS	LTS		N/A	N/A
Impact BIO-22: Effects on California black rail	LTS	LTS		N/A	N/A
Impact BIO-23: Effects on burrowing owl	LTS	LTS		N/A	N/A
Impact BIO-24: Effects on tricolored blackbird	LTS	LTS		N/A	N/A
Impact BIO-25: Effects on non-covered bats	S	S	Mitigation Measure BIO-3: Conduct preconstruction surveys for roosting bats and implement protective measures	LTS	LTS
Impact BIO-26: Effects on American badger, a non-covered species	S	S	Mitigation Measure BIO-4: Conduct preconstruction survey for American badger	LTS	LTS
Impact BIO-27: Effects on protected wetlands and waters	LTS	LTS		N/A	N/A

Level of significance: LTS = less than significant; S = significant; SU = significant and unavoidable; NI = no impact; N/A = not applicable.

Impact	Level of Significance: NEPA	Level of Significance: CEQA	Mitigation Measure	Significance after Mitigation: NEPA	Significance after Mitigation: CEQA
Impact BIO-28: Effects on fish and wildlife corridors	LTS	LTS		N/A	N/A
Impact BIO-29: Effects of invasive plant species	LTS	LTS		N/A	N/A
Alternative 4—Reduced Permit Term				N/A	N/A
Impact BIO-1: Effects on vernal pool complex	LTS	LTS		N/A	N/A
Impact BIO-2: Effects on grassland	LTS	LTS		N/A	N/A
Impact BIO-3: Effects on aquatic/wetland complex	LTS	LTS		N/A	N/A
Impact BIO-4: Effects on riverine/riparian complex	LTS	LTS		N/A	N/A
Impact BIO-5: Effects on oak woodland	LTS	LTS		N/A	N/A
Impact BIO-6: Effects on valley oak woodland	LTS	LTS		N/A	N/A
Impact BIO-7: Effects on special-status plants in vernal pool habitats	S	S	Mitigation Measure BIO-1: Conduct surveys for and avoid special-status plants in proposed restoration and enhancement areas	LTS	LTS
Impact BIO-8: Effects on special-status plants in oak woodland habitats	S	S	Mitigation Measure BIO-1: Conduct surveys for and avoid special-status plants in proposed restoration and enhancement areas	LTS	LTS
Impact BIO-9: Effects on special-status plants in grassland habitats	S	S	Mitigation Measure BIO-1: Conduct surveys for and avoid special-status plants in proposed restoration and enhancement areas	LTS	LTS
Impact BIO-10: Effects on special-status plants in fresh emergent marsh and riverine habitats	S	S	Mitigation Measure BIO-1: Conduct surveys for and avoid special-status plants in proposed restoration and enhancement areas	LTS	LTS
Impact BIO-11: Potential for construction and operation effects on Chinook salmon (fall-/late fall–run) and Central Valley steelhead	LTS	LTS		N/A	N/A

Level of significance: LTS = less than significant; S = significant; SU = significant and unavoidable; NI = no impact; N/A = not applicable.

Impact	Level of Significance: NEPA	Level of Significance: CEQA	Mitigation Measure	Significance after Mitigation: NEPA	Significance after Mitigation: CEQA
Impact BIO-12: Potential for construction and operation effects on non-covered species (hardhead and Pacific lamprey)	LTS	LTS		N/A	N/A
Impact BIO-13: Effects on valley elderberry longhorn beetle	LTS	LTS		N/A	N/A
Impact BIO-14: Effects on vernal pool branchiopods	LTS	LTS		N/A	N/A
Impact BIO-15: Effects on California red-legged frog	LTS	LTS		N/A	N/A
Impact BIO-16: Effects on foothill yellow-legged frog	LTS	LTS		N/A	N/A
Impact BIO-17: Effects on western spadefoot, a non-covered species	LTS	LTS		N/A	N/A
Impact BIO-18: Effects on giant garter snake	LTS	LTS		N/A	N/A
Impact BIO-19: Effects on western pond turtle	LTS	LTS		N/A	N/A
Impact BIO-20: Effects on coast horned lizard, a non-covered species	S	S	Mitigation Measure BIO-2: Conduct preconstruction surveys for coast horned lizard	LTS	LTS
Impact BIO-21: Effects on Swainson's hawk	LTS	LTS		N/A	N/A
Impact BIO-22: Effects on California black rail	LTS	LTS		N/A	N/A
Impact BIO-23: Effects on burrowing owl	LTS	LTS		N/A	N/A
Impact BIO-24: Effects on tricolored blackbird	LTS	LTS		N/A	N/A
Impact BIO-25: Effects on non-covered bats	S	S	Mitigation Measure BIO-3: Conduct preconstruction surveys for roosting bats and implement protective measures	LTS	LTS
Impact BIO-26: Effects on American badger, a non-covered species	S	S	Mitigation Measure BIO-4: Conduct preconstruction survey for American badger	LTS	LTS
Impact BIO-27: Effects on protected wetlands and waters	LTS	LTS		N/A	N/A

Level of significance: LTS = less than significant; S = significant; SU = significant and unavoidable; NI = no impact; N/A = not applicable.

Impact	Level of Significance: NEPA	Level of Significance: CEQA	Mitigation Measure	Significance after Mitigation: NEPA	Significance after Mitigation: CEQA
Impact BIO-28: Effects on fish and wildlife corridors	LTS	LTS		N/A	N/A
Impact BIO-29: Effects of invasive plant species	LTS	LTS		N/A	N/A
Cultural and Paleontological Resources					
Alternative 1—No Action					
Impact CUL-1: Potential to cause alteration of characteristics of known or unknown cultural resources that may qualify such resources for listing in the NRHP (NEPA) or CRHR (CEQA)	SU	SU		N/A	N/A
Impact CUL-2: Disturbance of any human remains, including those interred outside of dedicated cemeteries	LTS	LTS		N/A	N/A
Impact CUL-3: Direct or indirect destruction of a unique paleontological resource or site or unique geologic feature	SU	SU		N/A	N/A
Alternative 2—Proposed Action					
Impact CUL-1: Potential to cause alteration of characteristics of known or unknown cultural resources that may qualify such resources for listing in the NRHP (NEPA) or CRHR (CEQA)	SU	SU		N/A	N/A
Impact CUL-2: Disturbance of any human remains, including those interred outside of dedicated cemeteries	LTS	LTS		N/A	N/A
Impact CUL-3: Direct or indirect destruction of a unique paleontological resource or site or unique geologic feature	SU	SU	Mitigation Measure CUL-1: Retain a qualified professional paleontologist to monitor significant ground-disturbing activities Mitigation Measure CUL-2: Stop work if substantial fossil remains are encountered during construction	SU	SU

Level of significance: LTS = less than significant; S = significant; SU = significant and unavoidable; NI = no impact; N/A = not applicable.

Impact	Level of Significance: NEPA	Level of Significance: CEQA	Mitigation Measure	Significance after Mitigation: NEPA	Significance after Mitigation: CEQA
Alternative 3—Reduced Take/Reduced Fill					
Impact CUL-1: Potential to cause alteration of characteristics of known or unknown cultural resources that may qualify such resources for listing in the NRHP (NEPA) or CRHR (CEQA)	SU	SU		N/A	N/A
Impact CUL-2: Disturbance of any human remains, including those interred outside of dedicated cemeteries	LTS	LTS		N/A	N/A
Impact CUL-3: Direct or indirect destruction of a unique paleontological resource or site or unique geologic feature	SU	SU	Mitigation Measure CUL-1: Retain a qualified professional paleontologist to monitor significant ground-disturbing activities Mitigation Measure CUL-2: Stop work if substantial fossil remains are encountered during construction	SU	SU
Alternative 4—Reduced Permit Term					
Impact CUL-1: Potential to cause alteration of characteristics of known or unknown cultural resources that may qualify such resources for listing in the NRHP (NEPA) or CRHR (CEQA)	SU	SU		N/A	N/A
Impact CUL-2: Disturbance of any human remains, including those interred outside of dedicated cemeteries	LTS	LTS		N/A	N/A
Impact CUL-3: Direct or indirect destruction of a unique paleontological resource or site or unique geologic feature	SU	SU	Mitigation Measure CUL-1: Retain a qualified professional paleontologist to monitor significant ground-disturbing activities Mitigation Measure CUL-2: Stop work if substantial fossil remains are encountered during construction	SU	SU

Level of significance: LTS = less than significant; S = significant; SU = significant and unavoidable; NI = no impact; N/A = not applicable.

Impact	Level of Significance: NEPA	Level of Significance: CEQA	Mitigation Measure	Significance after Mitigation: NEPA	Significance after Mitigation: CEQA
Hydrology and Water Quality					
Alternative 1—No Action					
Impact WQ-1: Violation of any water quality standards or waste discharge requirements	LTS	LTS		N/A	N/A
Impact WQ-2: Substantial depletion of groundwater supplies or substantial interference with groundwater recharge	LTS	LTS		N/A	N/A
Impact WQ-3: Substantial alteration of existing drainage patterns in a manner that would result in substantial erosion or siltation onsite or offsite	LTS	LTS		N/A	N/A
Impact WQ-4: Substantial alteration of existing drainage patterns in a manner that would result in flooding onsite or offsite	LTS	LTS		N/A	N/A
Impact WQ-5: Creation of or contribution to runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff	LTS	LTS		N/A	N/A
Impact WQ-6: Other substantial degradation of water quality	LTS	LTS		N/A	N/A
Impact WQ-7: Placement of housing within a 100-year flood hazard area	LTS	LTS		N/A	N/A
Impact WQ-8: Placement of structures that would impede or redirect flood flows within a 100-year flood hazard area	LTS	LTS		N/A	N/A
Impact WQ-9: Exposure of people or structures to significant risk involving flooding, including flooding as a result of the failure of a levee or dam	SU	SU		N/A	N/A
Impact WQ-10: Contribution to inundation by seiche, tsunami, or mudflow	LTS	LTS		N/A	N/A

Level of significance: LTS = less than significant; S = significant; SU = significant and unavoidable; NI = no impact; N/A = not applicable.

Impact	Level of Significance: NEPA	Level of Significance: CEQA	Mitigation Measure	Significance after Mitigation: NEPA	Significance after Mitigation: CEQA
Alternative 2—Proposed Action					
Impact WQ-1: Violation of any water quality standards or waste discharge requirements	LTS	LTS		N/A	N/A
Impact WQ-2: Substantial depletion of groundwater supplies or substantial interference with groundwater recharge	LTS	LTS		N/A	N/A
Impact WQ-3: Substantial alteration of existing drainage patterns in a manner that would result in substantial erosion or siltation onsite or offsite	LTS	LTS		N/A	N/A
Impact WQ-4: Substantial alteration of existing drainage patterns in a manner that would result in flooding onsite or offsite	LTS	LTS		N/A	N/A
Impact WQ-5: Creation of or contribution to runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff	LTS	LTS		N/A	N/A
Impact WQ-6: Other substantial degradation of water quality	LTS	LTS		N/A	N/A
Impact WQ-7: Placement of housing within a 100-year flood hazard area	LTS	LTS		N/A	N/A
Impact WQ-8: Placement of structures that would impede or redirect flood flows within a 100-year flood hazard area	LTS	LTS		N/A	N/A
Impact WQ-9: Exposure of people or structures to significant risk involving flooding, including flooding as a result of the failure of a levee or dam	SU	SU		N/A	N/A
Impact WQ-10: Contribution to inundation by seiche, tsunami, or mudflow	LTS	LTS		N/A	N/A

Level of significance: LTS = less than significant; S = significant; SU = significant and unavoidable; NI = no impact; N/A = not applicable.

Impact	Level of Significance: NEPA	Level of Significance: CEQA	Mitigation Measure	Significance after Mitigation: NEPA	Significance after Mitigation: CEQA
Alternative 3—Reduced Take/Reduced Fill					
Impact WQ-1: Violation of any water quality standards or waste discharge requirements	LTS	LTS		N/A	N/A
Impact WQ-2: Substantial depletion of groundwater supplies or substantial interference with groundwater recharge	LTS	LTS		N/A	N/A
Impact WQ-3: Substantial alteration of existing drainage patterns in a manner that would result in substantial erosion or siltation onsite or offsite	LTS	LTS		N/A	N/A
Impact WQ-4: Substantial alteration of existing drainage patterns in a manner that would result in flooding onsite or offsite	LTS	LTS		N/A	N/A
Impact WQ-5: Creation of or contribution to runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff	LTS	LTS		N/A	N/A
Impact WQ-6: Other substantial degradation of water quality	LTS	LTS		N/A	N/A
Impact WQ-7: Placement of housing within a 100-year flood hazard area	LTS	LTS		N/A	N/A
Impact WQ-8: Placement of structures that would impede or redirect flood flows within a 100-year flood hazard area	LTS	LTS		N/A	N/A
Impact WQ-9: Exposure of people or structures to significant risk involving flooding, including flooding as a result of the failure of a levee or dam	SU	SU		N/A	N/A
Impact WQ-10: Contribution to inundation by seiche, tsunami, or mudflow	LTS	LTS		N/A	N/A

Level of significance: LTS = less than significant; S = significant; SU = significant and unavoidable; NI = no impact; N/A = not applicable.

Impact	Level of Significance: NEPA	Level of Significance: CEQA	Mitigation Measure	Significance after Mitigation: NEPA	Significance after Mitigation: CEQA
Alternative 4—Reduced Permit Term					
Impact WQ-1: Violation of any water quality standards or waste discharge requirements	LTS	LTS		N/A	N/A
Impact WQ-2: Substantial depletion of groundwater supplies or substantial interference with groundwater recharge	LTS	LTS		N/A	N/A
Impact WQ-3: Substantial alteration of existing drainage patterns in a manner that would result in substantial erosion or siltation onsite or offsite	LTS	LTS		N/A	N/A
Impact WQ-4: Substantial alteration of existing drainage patterns in a manner that would result in flooding onsite or offsite	LTS	LTS		N/A	N/A
Impact WQ-5: Creation of or contribution to runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff	LTS	LTS		N/A	N/A
Impact WQ-6: Other substantial degradation of water quality	LTS	LTS		N/A	N/A
Impact WQ-7: Placement of housing within a 100-year flood hazard area	LTS	LTS		N/A	N/A
Impact WQ-8: Placement of structures that would impede or redirect flood flows within a 100-year flood hazard area	LTS	LTS		N/A	N/A
Impact WQ-9: Exposure of people or structures to significant risk involving flooding, including flooding as a result of the failure of a levee or dam	SU	SU		N/A	N/A
Impact WQ-10: Contribution to inundation by seiche, tsunami, or mudflow	LTS	LTS		N/A	N/A

Level of significance: LTS = less than significant; S = significant; SU = significant and unavoidable; NI = no impact; N/A = not applicable.

Impact	Level of Significance: NEPA	Level of Significance: CEQA	Mitigation Measure	Significance after Mitigation: NEPA	Significance after Mitigation: CEQA
Land Use and Planning					
Alternative 1—No Action					
Impact LU-1: Physical division of an established community	NI	NI		N/A	N/A
Impact LU-2: Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project adopted for the purpose of avoiding or mitigating an environmental effect	NI	NI		N/A	N/A
Impact LU-3: Conflict with any applicable habitat conservation plan or natural community conservation plan	NI	NI		N/A	N/A
Impact LU-4: Result in safety hazards due to creation, restoration, or enhancement of habitats that can result in the creation of wildlife attractants in the vicinity of airports as identified in *FAA Advisory Circular 150-5200-33B Hazardous Wildlife Attractants on or Near Airports*	NI	N/A		N/A	N/A
Alternative 2—Proposed Action					
Impact LU-1: Physical division of an established community	LTS	LTS		N/A	N/A
Impact LU-2: Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project adopted for the purpose of avoiding or mitigating an environmental effect	LTS	LTS		N/A	N/A
Impact LU-3: Conflict with any applicable habitat conservation plan or natural community conservation plan	LTS	LTS		N/A	N/A
Impact LU-4: Result in safety hazards due to creation, restoration, or enhancement of habitats that can result in the creation of wildlife attractants in the vicinity of airports as identified in *FAA Advisory Circular 150-5200-33B Hazardous Wildlife Attractants on or Near Airports*	LTS	N/A		N/A	N/A

Level of significance: LTS = less than significant; S = significant; SU = significant and unavoidable; NI = no impact; N/A = not applicable.

Impact	Level of Significance: NEPA	Level of Significance: CEQA	Mitigation Measure	Significance after Mitigation: NEPA	Significance after Mitigation: CEQA
Alternative 3—Reduced Take/Reduced Fill					
Impact LU-1: Physical division of an established community	LTS	LTS		N/A	N/A
Impact LU-2: Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project adopted for the purpose of avoiding or mitigating an environmental effect	LTS	LTS		N/A	N/A
Impact LU-3: Conflict with any applicable habitat conservation plan or natural community conservation plan	LTS	LTS		N/A	N/A
Impact LU-4: Result in safety hazards due to creation, restoration, or enhancement of habitats that can result in the creation of wildlife attractants in the vicinity of airports as identified in *FAA Advisory Circular 150-5200-33B Hazardous Wildlife Attractants on or Near Airports*	LTS	N/A		N/A	N/A
Alternative 4—Reduced Permit Term					
Impact LU-1: Physical division of an established community	LTS	LTS		N/A	N/A
Impact LU-2: Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project adopted for the purpose of avoiding or mitigating an environmental effect	LTS	LTS		N/A	N/A
Impact LU-3: Conflict with any applicable habitat conservation plan or natural community conservation plan	LTS	LTS		N/A	N/A
Impact LU-4: Result in safety hazards due to creation, restoration, or enhancement of habitats that can result in the creation of wildlife attractants in the vicinity of airports as identified in *FAA Advisory Circular 150-5200-33B Hazardous Wildlife Attractants on or Near Airports*	LTS	N/A		N/A	N/A

Level of significance: LTS = less than significant; S = significant; SU = significant and unavoidable; NI = no impact; N/A = not applicable.

Impact	Level of Significance: NEPA	Level of Significance: CEQA	Mitigation Measure	Significance after Mitigation: NEPA	Significance after Mitigation: CEQA
Mineral Resources					
Alternative 1—No Action					
Impact MIN-1: Contribute to the loss of availability of a known mineral resource that would be of value to the region and the residents of the state	NI	NI		N/A	N/A
Impact MIN-2: Contribute to the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan	NI	NI		N/A	N/A
Alternative 2—Proposed Action					
Impact MIN-1: Contribute to the loss of availability of a known mineral resource that would be of value to the region and the residents of the state	LTS	LTS		N/A	N/A
Impact MIN-2: Contribute to the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan	NI	NI		N/A	N/A
Alternative 3—Reduced Take/Reduced Fill					
Impact MIN-1: Contribute to the loss of availability of a known mineral resource that would be of value to the region and the residents of the state	LTS	LTS		N/A	N/A
Impact MIN-2: Contribute to the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan	NI	NI		N/A	N/A
Alternative 4—Reduced Permit Term					
Impact MIN-1: Contribute to the loss of availability of a known mineral resource that would be of value to the region and the residents of the state	LTS	LTS		N/A	N/A

Level of significance: LTS = less than significant; S = significant; SU = significant and unavoidable; NI = no impact; N/A = not applicable.

Impact	Level of Significance: NEPA	Level of Significance: CEQA	Mitigation Measure	Significance after Mitigation: NEPA	Significance after Mitigation: CEQA
Impact MIN-2: Contribute to the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan	NI	NI		N/A	N/A
Noise and Vibration					
Alternative 1—No Action					
Impact NOI-1: Exposure of persons to or generation of noise levels in excess of applicable standards	SU	SU		N/A	N/A
Impact NOI-2: Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels	SU	SU		N/A	N/A
Impact NOI-3: Generation of a substantial permanent increase in existing ambient noise levels in the project vicinity	SU	SU		N/A	N/A
Impact NOI-4: Creation of a substantial temporary or periodic increase in existing ambient noise levels in the project vicinity	SU	SU		N/A	N/A
Impact NOI-5: Presence of project-related activities within an airport land use plan area or within 2 miles of a public airport or public use airport, resulting in exposure of people residing or working in the Plan Area to excessive noise levels	LTS	LTS		N/A	N/A
Impact NOI-6: Presence of project-related activities in the vicinity of a private airstrip, resulting in exposure of people residing or working in the Plan Area to excessive noise levels	LTS	LTS		N/A	N/A

Level of significance: LTS = less than significant; S = significant; SU = significant and unavoidable; NI = no impact; N/A = not applicable.

Impact	Level of Significance: NEPA	Level of Significance: CEQA	Mitigation Measure	Significance after Mitigation: NEPA	Significance after Mitigation: CEQA
Alternative 2—Proposed Action					
Impact NOI-1: Exposure of persons to or generation of noise levels in excess of applicable standards	SU	SU	Mitigation Measure NOI-1: Implement measures to reduce noise resulting from conservation measures and Covered Activities during construction and O&M activities to ensure compliance with applicable noise standards, where feasible	SU	SU
Impact NOI-2: Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels	SU	SU	Mitigation Measure NOI-2: Employ vibration-reducing construction practices for vibration-generating activities associated with conservation measures and Covered Activities	SU	SU
Impact NOI-3: Generation of a substantial permanent increase in existing ambient noise levels in the project vicinity	SU	SU		N/A	N/A
Impact NOI-4: Creation of a substantial temporary or periodic increase in existing ambient noise levels in the project vicinity	SU	SU	Mitigation Measure NOI-1: Implement measures to reduce noise resulting from conservation measures and Covered Activities during construction and O&M activities to ensure compliance with applicable noise standards, where feasible.	SU	SU
Impact NOI-5: Presence of project-related activities within an airport land use plan area or within 2 miles of a public airport or public use airport, resulting in exposure of people residing or working in the Plan Area to excessive noise levels	LTS	LTS		N/A	N/A

Level of significance: LTS = less than significant; S = significant; SU = significant and unavoidable; NI = no impact; N/A = not applicable.

Impact	Level of Significance: NEPA	Level of Significance: CEQA	Mitigation Measure	Significance after Mitigation: NEPA	Significance after Mitigation: CEQA
Impact NOI-6: Presence of project-related activities in the vicinity of a private airstrip, resulting in exposure of people residing or working in the Plan Area to excessive noise levels	LTS	LTS		N/A	N/A
Alternative 3—Reduced Take/Reduced Fill					
Impact NOI-1: Exposure of persons to or generation of noise levels in excess of applicable standards	SU	SU	Mitigation Measure NOI-1: Implement measures to reduce noise resulting from conservation measures and Covered Activities during construction and O&M activities to ensure compliance with applicable noise standards, where feasible.	N/A	N/A
Impact NOI-2: Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels	SU	SU	Mitigation Measure NOI-2: Employ vibration-reducing construction practices for vibration-generating activities associated with conservation measures and Covered Activities	SU	SU
Impact NOI-3: Generation of a substantial permanent increase in existing ambient noise levels in the project vicinity	SU	SU		N/A	N/A
Impact NOI-4: Creation of a substantial temporary or periodic increase in existing ambient noise levels in the project vicinity	SU	SU	Mitigation Measure NOI-1: Implement measures to reduce noise resulting from conservation measures and Covered Activities during construction and O&M activities to ensure compliance with applicable noise standards, where feasible.	SU	SU

Level of significance: LTS = less than significant; S = significant; SU = significant and unavoidable; NI = no impact; N/A = not applicable.

Impact	Level of Significance: NEPA	Level of Significance: CEQA	Mitigation Measure	Significance after Mitigation: NEPA	Significance after Mitigation: CEQA
Impact NOI-5: Presence of project-related activities within an airport land use plan area or within 2 miles of a public airport or public use airport, resulting in exposure of people residing or working in the Plan Area to excessive noise levels	LTS	LTS		N/A	N/A
Impact NOI-6: Presence of project-related activities in the vicinity of a private airstrip, resulting in exposure of people residing or working in the Plan Area to excessive noise levels	LTS	LTS		N/A	N/A
Alternative 4—Reduced Permit Term					
Impact NOI-1: Exposure of persons to or generation of noise levels in excess of applicable standards	SU	SU	Mitigation Measure NOI-1: Implement measures to reduce noise resulting from conservation measures and Covered Activities during construction and O&M activities to ensure compliance with applicable noise standards, where feasible.	SU	SU
Impact NOI-2: Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels	SU	SU	Mitigation Measure NOI-2: Employ vibration-reducing construction practices for vibration-generating activities associated with conservation measures and Covered Activities	SU	SU
Impact NOI-3: Generation of a substantial permanent increase in existing ambient noise levels in the project vicinity	SU	SU		N/A	N/A

Level of significance: LTS = less than significant; S = significant; SU = significant and unavoidable; NI = no impact; N/A = not applicable.

Impact	Level of Significance: NEPA	Level of Significance: CEQA	Mitigation Measure	Significance after Mitigation: NEPA	Significance after Mitigation: CEQA
Impact NOI-4: Creation of a substantial temporary or periodic increase in existing ambient noise levels in the project vicinity	SU	SU	Mitigation Measure NOI-1: Implement measures to reduce noise resulting from conservation measures and Covered Activities during construction and O&M activities to ensure compliance with applicable noise standards, where feasible.	SU	SU
Impact NOI-5: Presence of project-related activities within an airport land use plan area or within 2 miles of a public airport or public use airport, resulting in exposure of people residing or working in the Plan Area to excessive noise levels	LTS	LTS		N/A	N/A
Impact NOI-6: Presence of project-related activities in the vicinity of a private airstrip, resulting in exposure of people residing or working in the Plan Area to excessive noise levels	LTS	LTS		N/A	N/A
Population and Housing, Socioeconomics, and Environmental Justice					
Alternative 1—No Action					
Impact SOC-1: Creation of substantial population growth either directly or indirectly	LTS	LTS		N/A	N/A
Impact SOC-2: Displacement of a substantial number of existing housing units, necessitating the construction of replacement housing elsewhere	LTS	LTS		N/A	N/A
Impact SOC-3: Displacement of a substantial number of people, necessitating the construction of replacement housing elsewhere	LTS	LTS		N/A	N/A
Impact SOC-4: Substantially change economic activity in the Plan Area	LTS	N/A		N/A	N/A
Impact SOC-5: Substantially affect property tax revenue	LTS	N/A		N/A	N/A

Level of significance: LTS = less than significant; S = significant; SU = significant and unavoidable; NI = no impact; N/A = not applicable.

Impact	Level of Significance: NEPA	Level of Significance: CEQA	Mitigation Measure	Significance after Mitigation: NEPA	Significance after Mitigation: CEQA
Impact SOC-6: Substantially disproportionately affect minority or low-income populations	LTS	N/A		N/A	N/A
Alternative 2—Proposed Action					
Impact SOC-1: Creation of substantial population growth either directly or indirectly	LTS	LTS		N/A	N/A
Impact SOC-2: Displacement of a substantial number of existing housing units, necessitating the construction of replacement housing elsewhere	LTS	LTS		N/A	N/A
Impact SOC-3: Displacement of a substantial number of people, necessitating the construction of replacement housing elsewhere	LTS	LTS		N/A	N/A
Impact SOC-4: Substantially change economic activity in the Plan Area	LTS	N/A		N/A	N/A
Impact SOC-5: Substantially affect property tax revenue	LTS	N/A		N/A	N/A
Impact SOC-6: Substantially disproportionately affect minority or low-income populations	LTS	N/A		N/A	N/A
Alternative 3—Reduced Take/Reduced Fill					
Impact SOC-1: Creation of substantial population growth either directly or indirectly	LTS	LTS		N/A	N/A
Impact SOC-2: Displacement of a substantial number of existing housing units, necessitating the construction of replacement housing elsewhere	LTS	LTS		N/A	N/A
Impact SOC-3: Displacement of a substantial number of people, necessitating the construction of replacement housing elsewhere	LTS	LTS		N/A	N/A
Impact SOC-4: Substantially change economic activity in the Plan Area	LTS	N/A		N/A	N/A
Impact SOC-5: Substantially affect property tax revenue	LTS	N/A		N/A	N/A

Level of significance: LTS = less than significant; S = significant; SU = significant and unavoidable; NI = no impact; N/A = not applicable.

Impact	Level of Significance: NEPA	Level of Significance: CEQA	Mitigation Measure	Significance after Mitigation: NEPA	Significance after Mitigation: CEQA
Impact SOC-6: Substantially disproportionately affect minority or low-income populations	LTS	N/A		N/A	N/A
Alternative 4—Reduced Permit Term					
Impact SOC-1: Creation of substantial population growth either directly or indirectly	LTS	LTS		N/A	N/A
Impact SOC-2: Displacement of a substantial number of existing housing units, necessitating the construction of replacement housing elsewhere	LTS	LTS		N/A	N/A
Impact SOC-3: Displacement of a substantial number of people, necessitating the construction of replacement housing elsewhere	LTS	LTS		N/A	N/A
Impact SOC-4: Substantially change economic activity in the Plan Area	LTS	N/A		N/A	N/A
Impact SOC-5: Substantially affect property tax revenue	LTS	N/A		N/A	N/A
Impact SOC-6: Substantially disproportionately affect minority or low-income populations	LTS	N/A		N/A	N/A
Recreation					
Alternative 1—No Action					
Impact REC-1: Increased use of existing recreational facilities, resulting in substantial physical deterioration	LTS	LTS		N/A	N/A
Impact REC-2: Construction or expansion of recreational facilities that might have an adverse physical effect on the environment	LTS	LTS		N/A	N/A
Alternative 2—Proposed Action					
Impact REC-1: Increased use of existing recreational facilities, resulting in substantial physical deterioration	LTS	LTS		N/A	N/A

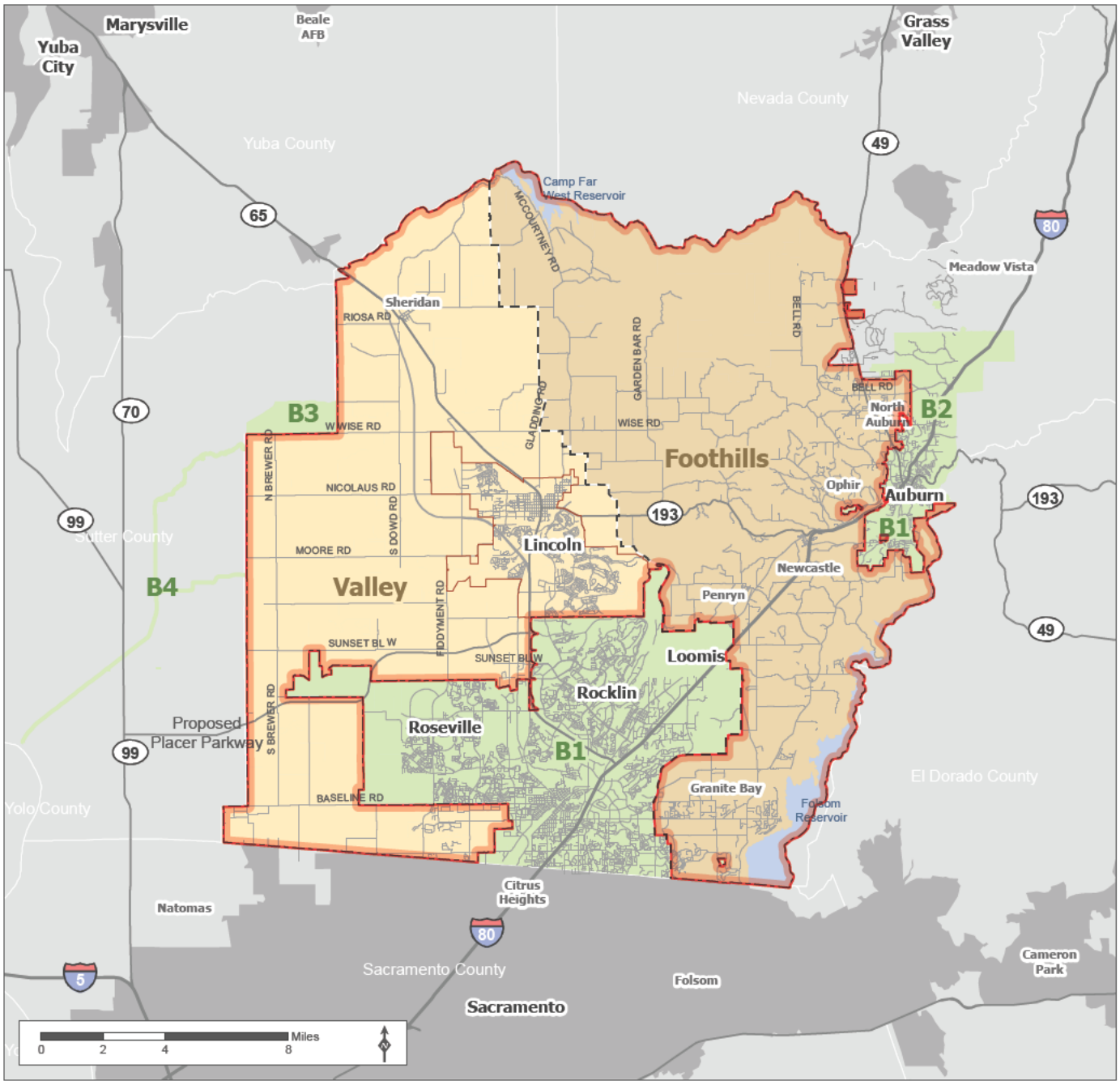
Level of significance: LTS = less than significant; S = significant; SU = significant and unavoidable; NI = no impact; N/A = not applicable.

Impact	Level of Significance: NEPA	Level of Significance: CEQA	Mitigation Measure	Significance after Mitigation: NEPA	Significance after Mitigation: CEQA
Impact REC-2: Construction or expansion of recreational facilities that might have an adverse physical effect on the environment	LTS	LTS		N/A	N/A
Alternative 3—Reduced Take/Reduced Fill					
Impact REC-1: Increased use of existing recreational facilities, resulting in substantial physical deterioration	LTS	LTS		N/A	N/A
Impact REC-2: Construction or expansion of recreational facilities that might have an adverse physical effect on the environment	LTS	LTS		N/A	N/A
Alternative 4—Reduced Permit Term					
Impact REC-1: Increased use of existing recreational facilities, resulting in substantial physical deterioration	LTS	LTS		N/A	N/A
Impact REC-2: Construction or expansion of recreational facilities that might have an adverse physical effect on the environment	LTS	LTS		N/A	N/A
Transportation and Circulation					
Alternative 1—No Action					
Impact TRA-1: Result in a substantial increase in traffic and affect capacity of the roadway system	SU	SU		N/A	N/A
Impact TRA-2: Result in safety hazards due to design features, incompatible uses (e.g., hazards to vehicular, air, pedestrian, or bicycle travel), or inadequate emergency access	LTS	LTS		N/A	N/A
Impact TRA-3: Conflict with transportation plans, programs, and planned projects	NI	NI		N/A	N/A
Alternative 2—Proposed Action					
Impact TRA-1: Result in a substantial increase in traffic and affect capacity of the roadway system	SU	SU		N/A	N/A

Level of significance: LTS = less than significant; S = significant; SU = significant and unavoidable; NI = no impact; N/A = not applicable.

Impact	Level of Significance: NEPA	Level of Significance: CEQA	Mitigation Measure	Significance after Mitigation: NEPA	Significance after Mitigation: CEQA
Impact TRA-2: Result in safety hazards due to design features, incompatible uses (e.g., hazards to vehicular, air, pedestrian, or bicycle travel), or inadequate emergency access	LTS	LTS		N/A	N/A
Impact TRA-3: Conflict with transportation plans, programs, and planned projects	NI	NI		N/A	N/A
Alternative 3—Reduced Take/Reduced Fill					
Impact TRA-1: Result in a substantial increase in traffic and affect capacity of the roadway system	SU	SU		N/A	N/A
Impact TRA-2: Result in safety hazards due to design features, incompatible uses (e.g., hazards to vehicular, pedestrian, or bicycle travel), or inadequate emergency access	LTS	LTS		N/A	N/A
Impact TRA-3: Conflict with transportation plans, programs, and planned projects	NI	NI		N/A	N/A
Alternative 4—Reduced Permit Term					
Impact TRA-1: Result in a substantial increase in traffic and affect capacity of the roadway system	SU	SU		N/A	N/A
Impact TRA-2: Result in safety hazards due to design features, incompatible uses (e.g., hazards to vehicular, pedestrian, or bicycle travel), or inadequate emergency access	LTS	LTS		N/A	N/A
Impact TRA-3: Conflict with transportation plans, programs, and planned projects	NI	NI		N/A	N/A

Level of significance: LTS = less than significant; S = significant; SU = significant and unavoidable; NI = no impact; N/A = not applicable.



Source: Placer County, 2014; MIG | TRA 2015; CalTrans

- Interstate
- Highway
- Road
- City of Lincoln
- Valley/Foothill Divide
- Surrounding Urban Area

Plan Area A

Valley	100,921 acres	Plan Area A Boundary
Foothills	109,295 acres	
All Plan Area A	210,216 acres	

Plan Area B

- B1. Permittee Activity in Non-Participating City Jurisdiction. 50,636 acres
- B2. PCWA Zone 1 Operations and Maintenance. 6,315 acres
- B3. Coon Creek Floodplain Conservation. 1,724 acres in Sutter County
- B4. Fish Passage Channel Improvement. 33 miles of channels in Sutter County
- B5. Big Gun Conservation Bank. 52 acres in Placer County (Not shown on map)

Source: Appendix A.

Graphics ... 04406.04 (7-12-2018) tg

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Figure ES-1
Plan Area
Placer County Conservation Program – EIS/EIR

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Acronyms and Abbreviations

Term	Definition
1994 SIP	*1994 Sacramento Area Regional Ozone Attainment Plan*
2005 PM10 Plan	*2005 Implementation of SB656 Measures to Reduce Particulate Matter Plan*
2013 Ozone SIP	*2013 SIP Revisions to the Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan*
2015 Triennial Plan	*2015 Triennial Air Quality Attainment Plan*
2017 Ozone SIP	*Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan*
AAGR	average annual growth rate
AB	Assembly Bill
AB 32 Scoping Plan	*2008 Climate Change Scoping Plan* for AB 32
ACMs	asbestos-containing materials
AG	Agriculture
ALUC	Airport Land Use Commission
ALUCP	*Placer County Airport Land Use Compatibility Plan*
AMMs	Avoidance and minimization measures
ARB	California Air Resources Board
ARC	Airport Reference Code
asl	above sea level
ATCM	Asbestos Airborne Toxic Control Measure
Basin Plan	*Basin Plan for the Sacramento and San Joaquin Rivers Basin*
basin plans	Water Quality Control Plans
BFEs	Base Flood Elevations
BMOs	Basin Management Objectives
BMP	best management practice
BO	Biological Opinion
BRSP	*Bickford Ranch Specific Plan*
BWG	Biological Stakeholder Working Group
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
Cal/EPA	California Environmental Protection Agency
Cal/OSHA	California Division of Occupational Safety and Health
California CAA	California Clean Air Act
Caltrans	California Department of Transportation
CARP	*Western Placer County Aquatic Resources Program*
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife

Term	Definition
Central Valley Water Board	Central Valley Regional Water Quality Control Board
CEO	chief executive officer
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
cfs	cubic feet per second
CH_4	reducing methane
CHRIS	California Historical Resources Information System
CLOMR	Conditional Letter of Map Revision
CM	Conservation Measure
CNDDB	California Natural Diversity Database
CNEL	community noise equivalent level
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
Construction General Permit	General NPDES Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Order 2009-0009-DWQ)
County	Placer County
CRHR	California Register of Historical Resources
CRMP	Cultural Resources Management Plan
CRPR	California Rare Plant Rank
CVFPB	Central Valley Flood Protection Board
CVFPP	*Central Valley Flood Protection Plan*
CWA	Clean Water Act
CWHR	California Wildlife Habitat Relationship
DA	Department of the Army
dB	decibel
dBA	A-weighted decibels
dbh	diameter at breast height
-Dh	Design Historical
DPM	diesel particulate matter
DPR	California Department of Pesticide Regulation
DSDD	Doty South Diversion Dam
DWR	California Department of Water Resources
EC	electrical conductivity
ECAs	Essential Connectivity Areas
EFH	essential fish habitat
EIS/EIR	environmental impact statement/environmental impact report

Term	Definition
EO	Executive Order
ESA	Endangered Species Act
EXR	Existing Reserves and Other Protected Areas
FAA	Federal Aviation Administration
FARs	floor area ratios
FBFM	Flood Boundary and Floodway Map
FEMA	Federal Emergency Management Agency
FERC	Federal Energy Regulatory Commission
FIRMs	Flood Insurance Rate Maps
FIS	Flood Insurance Study
FMMP	Farmland Mapping and Monitoring Program
FPPA	Farmland Protection Policy Act
FR	Federal Register
FRAQMD	Feather River Air Quality Management District
FRAQMD PM2.5 Plan	*2013 Yuba City-Marysville PM2.5 Nonattainment Area Redesignation Request and Maintenance Plan*
FSZ	Farmland Security Zone
FTA	Federal Transit Administration
GBCP	*Granite Bay Community Plan*
General Dewatering Permit	General Order for Dewatering and Other Low Threat Discharges to Surface Waters
general plans	local general, community, and area plans
GHG	greenhouse gas
GMP	groundwater management plan
GSA	Groundwater Sustainability Agency
GWP	global warming potential
HABS	Historic American Building Survey
HAER	Historic American Engineering Record
HALS	Historic American Landscape Survey
HCP	habitat conservation plan
HCP/NCCP	joint habitat conservation plan and natural community conservation plan
HFCs	hydroflourocarbons
Hidden Falls	Hidden Falls Regional Park
Hot Spots Act	Air Toxics Hot Spots Information and Assessment Act of 1987
HRI	Historic Resources Inventory
HUC-8	U.S. Geological Survey Hydrologic Unit Code Level 8
I-	Interstate
IA	implementing agreement

Term	Definition
IAWG	Interagency Working Group
IC	Information Center
ILF	in-lieu fee
ILF Program	*Western Placer County In-Lieu Fee Program*
in/sec	inch per second
IPCC	Intergovernmental Panel on Climate Change
ITP	incidental take permit
L_{dn}	day-night sound level
LEDPA	least environmentally damaging practicable alternative
L_{eq}	equivalent sound level
LID	low impact development
L_{max}	maximum sound level
L_{min}	minimum sound levels
LOMR	Letter of Map Revision
LOP	letter of permission
LOS	level of service
Magnuson-Stevens Act	Magnuson-Stevens Fishery Conservation and Management Act
MBTA	Migratory Bird Treaty Act
MCAB	Mountain Counties Air Basin
mg/L	milligrams per liter
mgd	million gallons per day
MLDs	most likely descendants
MOU	memorandum of understanding
MRZ	Mineral Resource Zone
MS4	Municipal Separate Storm Sewer Systems
msl	mean sea level
MT CO_2e	metric tons of carbon dioxide equivalent
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NASb	North American Subbasin
NCCP	natural community conservation plan
NCCPA	California Natural Community Conservation Planning Act
NEPA	National Environmental Policy Act
NESHAPs	National Emissions Standards for Hazardous Air Pollutants
NEVs	neighborhood electric vehicles
NFIP	National Flood Insurance Program
NHD	National Hydrography Dataset
NHPA	National Historic Preservation Act
NID	Nevada Irrigation District

Term	Definition
NISC	National Invasive Species Council
NMFS	National Marine Fisheries Service
NO	nitric oxide
NO_2	nitrogen dioxide
NOA	Naturally occurring asbestos
NOAA	National Oceanic and Atmospheric Administration
NOI	notice of intent
NOP	notice of preparation
NO_X	nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
NPPA	Native Plant Protection Act of 1977
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NTUs	nephelometric turbidity units
NWPs	nationwide permits
O&M	operations and maintenance
OHWM	Ordinary High Water Mark
PCA	Placer Conservation Authority
PCAPCD	Placer County Air Pollution Control District
PCAPCD PM2.5 Plan	*2013 PM2.5 Implementation and Maintenance Plan*
PCCP	*Placer County Conservation Program*
PCFCWCD	Placer County Flood Control and Water Conservation District
PCTPA	Placer County Transportation Planning Agency
PCWA	Placer County Water Agency
PFCs	perfluorocarbons
PFG	Potential Future Growth Area
PG&E	Pacific Gas and Electric Company
PGP	programmatic general permit
pH	potential of hydrogen
PIR	Public Interest Review
Placer County RTP	*Placer County 2036 Regional Transportation Plan*
Placer Legacy Program	Placer Legacy Open Space and Agricultural Conservation Program
Plan	*Western Placer County Habitat Conservation Plan and Natural Community Conservation Plan*
Planning Agreement	PCCP Planning Agreement
PM	particulate matter
PM10	particulate matter less than or equal to 10 microns in diameter
PM2.5	particulate matter less than or equal to 2.5 microns in diameter
Porter-Cologne Act	Porter-Cologne Water Quality Control Act
PPMP	Pollution Prevention and Monitoring Program
PPV	peak particle velocity

Term	Definition
PRC	California Public Resources Code
RAA	Reserve Acquisition Area
Regional Water Boards	Regional Water Quality Control Boards
RGP	regional general permit
RHNA	Regional Housing Needs Allocation
RHNPs	Regional Housing Needs Plans
ROD	record of decision
ROGs	reactive organic gases
RUSP	*Regional University Specific Plan*
SACOG	Sacramento Area Council of Governments
SB	Senate Bill
SCP	*Sheridan Community Plan*
Section 404	Section 404 of the Clean Water Act
sf	square feet
SF_6	sulfur hexafluoride
SFHA	Special Flood Hazard Area
SIP	State Implementation Plan
SMARA	Surface Mining and Reclamation Act of 1975
SMD-1	Placer County Sewer Maintenance District #1
SMD-3	Placer County Sewer Maintenance District #3
SO_2	sulfur dioxide
SPA	Special Planning Area
SPRTA	South Placer Regional Transportation Authority
SR	State Route
SRAs	state recreation areas
State Water Board	State Water Resources Control Board
Sutter County CAP	*Sutter County Climate Action Plan*
SVAB	Sacramento Valley Air Basin
SVP	Society of Vertebrate Paleontology
SWMP	*Storm Water Management Plan*
SWPPP	stormwater pollution prevention plan
TACs	toxic air contaminants
TMDL	total maximum daily load
Tribe	*California Native American Tribe*
TSS	*Total suspended solids*
UCMP	University of California Museum of Paleontology
UPRR	Union Pacific Railroad
USACE	U.S. Army Corps of Engineers
USC	United States Code

Term	Definition
USDA	U.S. Department of Agriculture
USDOI	U.S. Department of the Interior
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
VMT	vehicle miles traveled
WDRs	waste discharge requirements
WHR	California Wildlife Habitat Relationship
Williamson Act	California Land Conservation Act
WPCGMP	*Western Placer County Groundwater Management Plan*
WWTP	wastewater treatment plant
WY	water year
YSRCP	Yuba-Sutter Regional Conservation Plan

Chapter 1
Introduction

This joint environmental impact statement/environmental impact report (EIS/EIR) evaluates the impacts associated with issuing endangered species permits and implementing the *Placer County Conservation Program* (PCCP). The PCCP is a regional, comprehensive program that would provide a framework to protect, enhance, and restore the natural resources in western Placer County, while streamlining permitting for Covered Activities. Within this framework, the PCCP would achieve conservation goals and comply with state and federal environmental regulations while streamlining planning and permitting for anticipated urban and rural growth and the construction and maintenance of infrastructure needed to serve the county's population. The PCCP includes three integrated programs.

- The *Western Placer County Habitat Conservation Plan and Natural Community Conservation Plan* (Plan; Appendix A), a joint habitat conservation plan and natural community conservation plan (HCP/NCCP) that would protect fish, wildlife, plants, and their habitats and fulfill the requirements of federal Endangered Species Act of 1973, as amended (ESA), and California Natural Community Conservation Planning Act (NCCPA).
- The *Western Placer County Aquatic Resources Program* (CARP; Appendix B) that would protect streams, wetlands, and other water resources and fulfill the requirements of the Clean Water Act (CWA) and analogous state laws and regulations.
- The *Western Placer County In-Lieu Fee Program* (ILF Program; Placer County 2018*)*, that fulfills compensatory mitigation requirements under Section 404 of the CWA.

This EIS/EIR was prepared pursuant to the California Environmental Quality Act (CEQA) (California Public Resources Code [PRC] Sections 21000–21178.1); the State CEQA Guidelines (PRC 21000 et seq.; 14 California Code of Regulations 1500 et seq.); the National Environmental Policy Act (NEPA) (42 United States Code 4321; 40 Code of Federal Regulations [CFR] 1500.1); and the President's Council on Environmental Quality (CEQ) guidelines on implementing NEPA.

The proposed action (also, the *proposed project* under CEQA) is described in detail in Chapter 2, *Proposed Action and Alternatives*, of this EIS/EIR. The proposed action under NEPA is issuance of incidental take[1] permits (ITPs) by the U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS), pursuant to Section 10(a)(1)(B) of the ESA. The proposed project under CEQA consists of issuance of an NCCP permit from the California Department of Fish and Wildlife (CDFW), pursuant to Section 2835 of the California Fish and Game Code; adoption of the PCCP, including the HCP/NCCP and the CARP by the agencies receiving the endangered species and wetlands permits (see Section 1.1, *Placer County Conservation Program Overview*, below); and approval of associated implementing actions such as adoption or amendment of plans and ordinances (Table 1-1).

[1] As defined by the ESA, *take* means "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." *Harm* is defined as "any act that kills or injures the species, including significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering" (50 CFR 17.3). *Take* is defined under the California Fish and Game Code Section 86 as any action or attempt to "hunt, pursue, catch, capture, or kill."

1.1 Placer County Conservation Program Overview

The PCCP is a regional, comprehensive program that would provide a framework to protect, enhance, and restore the natural resources in western Placer County, while streamlining permitting for Covered Activities. Within this framework, the PCCP would achieve conservation goals and comply with state and federal environmental regulations while facilitating planning and permitting for anticipated urban and rural growth and the construction and maintenance of infrastructure needed to serve the county's population. The PCCP includes three integrated program components.

- The *Western Placer County Habitat Conservation Plan and Natural Community Conservation Plan*, also referred to as the Plan, a joint HCP and NCCP that would protect fish, wildlife, and plants, and their habitats and fulfill the requirements of the ESA and NCCPA.
- The *Western Placer County Aquatic Resources Program,* also referred to as CARP, that would protect streams, wetlands, and other water resources and fulfill the requirements of the CWA and analogous state laws and regulations.
- The *Western Placer County In-Lieu Fee Program,* referred to as the ILF Program, that fulfills compensatory mitigation requirements under Section 404 of the CWA.

The following agencies are jointly applying for endangered species permits from state and federal agencies.

- Placer County (County).
- City of Lincoln.
- South Placer Regional Transportation Authority (SPRTA).[2]
- Placer County Water Agency (PCWA).
- Placer Conservation Authority (PCA).[3]

These entities are collectively referred to as the *Permit Applicants* or the *Permittees*.[4] The Permit Applicants are applying for ITPs from USFWS and NMFS, pursuant to Section 10(a)(1)(B) of the ESA. The same entities are also applying for an NCCP permit from CDFW, pursuant to Section 2835 of the California Fish and Game Code. USFWS, NMFS, and CDFW are collectively referred to as the *Wildlife Agencies*. The permits from the Wildlife Agencies would authorize take of certain state- and federally listed species (i.e., Covered Species) during the course of otherwise lawful activities (i.e., Covered Activities), as described in Chapter 2, *Proposed Action and Alternatives*.

To fulfill an application requirement for these permits, the Permit Applicants have prepared the Plan, which serves as an HCP under the ESA and an NCCP under the NCCPA. The Plan is intended to support the issuance of ITPs from USFWS and NMFS and issuance of an NCCP permit from CDFW with a term of 50 years. The Plan includes a long-term conservation plan to protect and contribute to the recovery of Covered Species and natural communities in the Plan Area as described below in Section 1.1.2, *Plan Area*, while streamlining development and maintenance activities that are

[2] SPRTA is a Joint Powers Authority of Placer County and the Cities of Lincoln, Rocklin, and Roseville.

[3] PCA would be created as a Joint Powers Authority of Placer County and the City of Lincoln to implement the HCP/NCCP and the CARP on behalf of all Permit Applicants.

[4] In addition to the Permit Applicants identified above, other parties may elect to seek coverage under the PCCP. These entities are considered *Participating Special Entities* and are listed in Section 8.9.4 of the Plan.

compatible with local policies and regulations. The Plan identifies where future impacts on protected species would likely occur and lays out a strategy for avoidance, minimization, and mitigation of the impacts on natural resources that would result from these activities. The Plan also goes beyond the mitigation requirements of the ESA to include measures that protect and contribute to the recovery of Covered Species and natural communities in the Plan Area, as required by the NCCPA.

1.1.1 Background

In 1998, the Placer County Board of Supervisors directed the Placer County Planning Department to prepare a program to implement the open space and conservation goals and policies of the 1994 *Placer County General Plan*. This program, now known as the Placer Legacy Open Space and Agricultural Conservation Program (Placer Legacy Program), was approved in June 2000. Implementation programs from the general plan provided the impetus for initiating the PCCP. The Placer Legacy Program further refined the direction provided by the general plan, including the decision to prepare an NCCP and a comprehensive program to address wetlands and streams that became the CARP. The PCCP was initiated in 2001 after the Board voted unanimously to sign the PCCP Planning Agreement (Planning Agreement), which included the work program for the PCCP. In 2007, the PCCP Ad Hoc committee was formed consisting of two Board members from Placer County and two Council members from the City of Lincoln. The Ad Hoc Committee was created to engage the decision-makers and to develop a consistent framework, a conservation map, and priorities. In 2008, the Board unanimously adopted the Ad Hoc Committee's recommendations to work with partners (City of Lincoln, PCWA, and SPRTA), and to coordinate with the public and resource agencies to finish the work plan and prepare a second draft. In spring 2013, a draft reserve map was developed by the Ad Hoc Committee and County staff. That map provided the foundation for the preparation of the proposed conservation strategy.

The 2001 Planning Agreement was entered into by the County, CDFW, USFWS, and NMFS. That document identified the Permit Applicants, the program areas and phases, regulatory goals, the planning process, guidelines for plan development, commitment of resources to complete the program, and other miscellaneous provisions. The Planning Agreement was amended in December 2011 to remain effective until December 1, 2018.

The process used to develop the PCCP relied upon many of the same principles from the Placer Legacy Program, which included independent scientific input and analysis, extensive public participation, and advice from key stakeholder groups. To assist in the development of the PCCP, the County formed working groups consisting of citizens (the Biological Stakeholder Working Group [BWG] and Finance Committee), agency staff, and science advisors.

1.1.2 Plan Area

The Plan Area is that land proposed for permit coverage under the Plan as shown on Figure 1-1. The Plan Area was developed with a focus on areas where growth and development may greatly affect state- and federally protected species. As shown in Figure 1-1, the Plan Area boundary includes a portion of western Placer County, including all unincorporated lands in western Placer County, and the city of Lincoln. Also shown in Figure 1-1, the Plan Area also includes areas where some Covered Activities of the County and PCWA would be located within the non-participating cities, a portion of

the Coon Creek[5] floodplain in Sutter County, canals in Sutter County that are important for salmonid fish passage, and the Big Gun Conservation Bank in Michigan Bluff.

The Covered Activities and locations of Covered Activities are described in detail in Chapter 2, *Proposed Action and Alternatives*.

1.1.3 PCCP and this EIS/EIR

The County is the lead agency and the other Permit Applicants and CDFW are responsible agencies for the CEQA portion of this environmental document. USFWS is the lead agency and NMFS is a cooperating agency for the NEPA portion of this environmental document. This EIS/EIR evaluates the potential impacts of ITP and NCCP permit issuance by USFWS, NMFS, and CDFW; approval and execution of the implementing agreement (IA) for the NCCP portion of the Plan by CDFW; and the Permit Applicants' adoption and implementation of the PCCP. These actions are referred to collectively as the *proposed action* (for a detailed description, see Chapter 2, *Proposed Action and Alternatives*). This EIS/EIR also evaluates the impacts of other alternatives, including the no action alternative.

The purpose of the EIR component of this joint EIS/EIR is to inform the public and agency decision-makers about the potential, significant environmental impacts of the proposed action; potential mitigation measures to avoid, minimize, and mitigate these significant impacts; and reasonable alternatives that could reduce the significant environmental impacts of the proposed action. The EIR will be used by the Permit Applicants approving the PCCP to comply with CEQA for actions (described in detail in Chapter 2, *Proposed Action and Alternatives*) taken by these agencies to adopt and implement the PCCP. The EIR would also be used by CDFW to comply with CEQA for its proposed actions in issuing to the Permit Applicants the state NCCP permit.

The purpose of the EIS component of this joint EIS/EIR is to inform the public and two federal agencies about the potential effects on the human environment resulting from issuance of the ITPs to the Permit Applicants and the implementation of the PCCP. USFWS and NMFS would use the EIS to comply with NEPA for their proposed actions in issuing ITPs to the Permit Applicants. In addition, the U.S. Army Corps of Engineers (USACE) would use information in the EIS to support its own NEPA compliance actions in the Plan Area for programmatic general permit (PGP) and other related permit issuance and other permitting over time, as described in more detail below (see Section 1.4.4, *U.S. Army Corps of Engineers*).

See Section 1.3, *Purpose and Need*, for more details on the purpose of this document under both NEPA and CEQA.

[5] The name *Coon Creek* has been officially changed by the U.S. Board of Geographic Names to *Raccoon Creek*. However, many background studies pertinent to this EIS/EIR use *Coon Creek,* and to avoid confusion, this name has generally been used throughout this document.

1.2 Overview of NEPA and CEQA

1.2.1 NEPA

NEPA provides an interdisciplinary framework for federal agencies to promote efforts to prevent environmental damage and contains action-forcing procedures to ensure that the federal agency decision-makers consider environmental values alongside technical and economic considerations that are inherent factors in federal decision-making. NEPA applies to all federal agencies in the executive branch and to most of the activities they manage, regulate, or fund that affect the human environment. NEPA requires all agencies to consider and to publicly disclose the environmental effect of their proposed actions (in this instance, USFWS and NMFS issuance of ITPs) through the preparation of appropriate documents. It is also intended to foster intergovernmental coordination and cooperation and to enhance public participation in government planning and decision-making. The CEQ has adopted regulations and other guidance providing detailed procedures that federal agencies must follow to implement NEPA. In addition to the CEQ's NEPA regulations, each agency has implemented its own NEPA implementing procedures, frequently through the issuance of regulations that recognize each agency's particular mandate and mission.

A primary intent of this joint EIS/EIR is to support Lead Agency compliance with NEPA. USFWS, as the federal lead agency under NEPA, has determined that the decision to permit a regional HCP/NCCP in Placer County is a major federal action that may result in a significant effect on the human environment, and that an EIS must be prepared to fully comply with its NEPA obligations. NEPA requires public participation be included in the planning and implementation of federal agencies' actions. The NEPA process helps federal agencies make informed decisions regarding the environmental consequences of their actions and ensures that measures to protect, restore, and enhance the environment are included, as necessary, as a component of their actions.

As described in CEQ's NEPA regulations (40 CFR Section 1501.6), federal agencies other than the NEPA lead agency are included as cooperating agencies if they have jurisdiction by law or may be included as cooperating agencies if they have special expertise with respect to the action's anticipated environmental effects. Other federal agencies may use the lead agency's NEPA document to support their own decision-making processes, if appropriate. A *cooperating agency* participates in the NEPA process and may provide input and expertise during preparation of the NEPA document. Federal agencies may designate and encourage nonfederal public agencies such as state, local, and tribal entities to participate in the NEPA process as cooperating agencies (40 CFR 1508.5). Accordingly, NMFS and USACE are cooperating agencies under NEPA because of their jurisdiction by law, their special expertise in aquatic resources and endangered species, and their involvement in the PCCP. Consequently, this EIS/EIR may be used by NMFS and USACE to satisfy, at least in part, those agencies' NEPA requirements. See Section 1.4, *Intended Uses of this EIS/EIR*, for more details on how each agency will use this document.

1.2.2 CEQA

CEQA requires state and local agencies to estimate and evaluate the environmental impacts of their actions and aims to prevent the significant environmental impacts of those actions by requiring agencies, when feasible, to avoid significant environmental impacts or reduce them to a level of less than significant by adopting feasible mitigation measures. Like NEPA, CEQA requires all agencies to consider and publicly disclose the environmental impacts of their proposed actions through the

preparation of appropriate documents. The State CEQA Guidelines are the primary source of regulations that interpret CEQA.

CEQA requires that the state or local lead agency prepare an EIR when the lead agency determines that a project may have a significant impact on the environment. CEQA applies to all discretionary activities proposed to be carried out or approved by a lead agency. Placer County is the CEQA lead agency, and it has determined that an EIR must be prepared because the proposed project—which, as described in detail in Chapter 2, *Proposed Action and Alternatives*, includes the PCCP and implementing actions as described above—may result in a significant impact on the environment. This EIR has been prepared to facilitate CEQA compliance for all of the Permit Applicants. Each Permit Applicant must adopt the final EIR to provide that compliance.

In addition to lead agencies, responsible and trustee agencies have roles in the environmental review process. A *responsible agency* under CEQA is a state or local public agency other than the CEQA lead agency that has discretionary approval over the project. A CEQA *trustee agency* is a state agency that has jurisdiction by law over natural resources affected by a project that are held in trust for the people of California.

CDFW is a responsible agency under CEQA because it would approve the NCCP portion of the PCCP under Section 2835 of the California Fish and Game Code. CDFW is also a trustee agency under CEQA because it has jurisdiction by law over the natural resources that are the subject of the PCCP. Similarly, the Central Valley Regional Water Quality Control Board (Central Valley Water Board) is also a responsible agency under CEQA because it would issue a water quality certification under Section 401 of the CWA.

All agencies with responsibility for implementing or approving the proposed project, including the Permit Applicants, are considered responsible agencies under CEQA (see Section 1.4, *Intended Uses of this EIS/EIR*). Aside from Placer County (the CEQA lead agency), the Permit Applicants—the City of Lincoln, SPRTA, and PCWA—are CEQA responsible agencies responsible for approving and implementing the PCCP.

All lead and responsible agencies have independently reviewed and directed the preparation of this document.

1.2.3 Joint Documentation

CEQ regulations (40 CFR 1506.2), U.S. Department of the Interior (USDOI)[6] procedures (516 DM 4.18), and the National Oceanic and Atmospheric Administration (NOAA)[7] require federal agencies to cooperate, to the fullest extent possible, with the applicant and state and local officials to reduce duplication among NEPA requirements, state and local environmental requirements, and ESA requirements. Similarly, CEQA and the State CEQA Guidelines strongly encourage state and local agencies to prepare a combined EIS/EIR that satisfies both NEPA and CEQA requirements (PRC Section 21083.6, State CEQA Guidelines Section 15222).

Although there are many requirements of CEQA and NEPA that are similar or the same, there are some important terminology differences between the two laws. For example, NEPA refers to the activity evaluated in an EIS as a proposed *action* by a federal entity, whereas CEQA refers to the

[6] USFWS is a federal government agency within USDOI.

[7] NMFS is a federal government agency within the NOAA and the U.S. Department of Commerce.

activity as a proposed *project* undertaken, supported, or permitted by a public agency. For the purposes of this EIS/EIR, the proposed action also means the proposed project and consists of the following components.

- Approval and adoption of the PCCP, including the Plan, the IA, the fee ordinance, and the CARP, by the Permit Applicants (note that SPRTA would not adopt the CARP).
- Issuance of ITPs by USFWS and NMFS and issuance of an NCCP permit by CDFW for the Covered Species associated with the Covered Activities described in the Plan.
- Approval and execution of the IA by CDFW for the Plan.
- Federal, state, and local agency actions or approvals that would be issued or undertaken as a result of the PCCP, including the CWA 404 permit strategy aligned with the PCCP (see Appendix C), issuance of Section 404 permits for Covered Activities described in the PCCP, and a memorandum of understanding (MOU) for a streamlined water quality certification process from the Central Valley Water Board.
- Issuance of programmatic agreements between federal, state and local agencies as a result of the PCCP, including Section 401 certification.
- Local agency actions that would be undertaken as a result of the PCCP and associated implementation agreements, including amendments to general plans and codes.
- Implementation of the PCCP, including the Plan and the CARP, by the Permit Applicants.

See Chapter 2, *Proposed Action and Alternatives*, for a detailed description of the proposed action.

All Covered Activities would be subject to the approval authority of one or more of the Permit Applicants with jurisdiction over such projects. Issuance of permits by the Wildlife Agencies would provide compliance only with the ESA and NCCPA for Covered Species. Approval of the proposed HCP/NCCP would not confer or imply approval to implement the Covered Activities. Rather, as part of the standard approval process, individual projects would be considered for further environmental analysis and generally would receive separate, project-level environmental analysis under CEQA and, in some cases, NEPA for those projects involving federal agencies. This EIS/EIR is intended to provide compliance with CEQA and NEPA for all Covered Activities regarding impacts on Covered Species and other biological resources that would be authorized by a Section 10(a)(1)(b) permit pursuant to the ESA and Section 2835 of the NCCPA chapter of the Fish and Game Code. As the proposed action analyzes incidental take resulting from the Covered Activities by addressing certain of the various statutory and regulatory requirements tied to project authorization, reasonably foreseeable environmental effects of the Covered Activities are discussed herein to provide context for the analysis of the proposed action and alternatives.

1.3 Purpose and Need

NEPA requires an EIS to briefly describe the underlying purpose and need for the agency's proposed and alternative actions (40 CFR 1502.13). Similarly, the State CEQA Guidelines require that an EIR contains a "statement of objectives sought by the proposed project;" this statement should include the "underlying purpose of the project" (State CEQA Guidelines 15124[b]).

1.3.1 Underlying Need

The underlying need for the proposed action arises from the potential take of Covered Species resulting from the Covered Activities described in detail in Chapter 2, *Proposed Action and Alternatives*, for which the Permit Applicants have applied for ITPs from USFWS and NMFS pursuant to Section 10(a)(1)(B) of ESA and an NCCP permit from CDFW pursuant to Section 2835 of the California Fish and Game Code.

1.3.2 Purpose and Need Statement

The purposes of the proposed action for USFWS are listed below.

- Respond to the Permit Applicants' application for an ITP based on the proposed Covered Activities that may result in incidental take of the Covered Species within the Plan Area.
- To comprehensively protect and conserve Covered Species and to conserve, enhance, and restore the habitat and ecosystems upon which these species depend to ensure their long-term survival in the Plan Area.
- Assemble and maintain a Reserve System within the Plan Area that focuses on preservation and enhancement actions that provide for the protection of species, natural communities, and ecosystems on a landscape level.

Both USACE and NMFS have been involved in the preparation of the EIS/EIR as cooperating agencies. The purpose of their involvement was to ensure that the EIS/EIR addressed these agencies' NEPA requirements for considering issuance of their respective permits (i.e., PGP and ITP, respectively) that are part of the proposed PCCP, to the extent consistent with USFWS's purpose and need as the lead agency. USACE and NMFS will undertake separate review of this EIS/EIR to determine if the analysis contained herein adequately addresses each agency's NEPA obligations, conduct additional analysis as necessary, and adopt the appropriate decision documents.

1.3.3 Statement of Project Objectives

The Permit Applicants' objectives for the proposed PCCP are stated in HCP/NCCP Section 1.1.4. The broad objective for the PCCP is stated as follows:

> the purpose of the PCCP is to protect and enhance ecological diversity and function, including aquatic resource functions and values, in the greater portion of western Placer County while allowing appropriate and compatible growth in accordance with applicable laws.

This broad objective—planning for Western Placer County's conservation and development—was addressed by Placer County and the other Permit Applicants in consultation with State and federal agencies, with advice from a scientific working group; with input from stakeholders representing environmental, land ownership, development, and community interests; and through a series of public meetings and coordination with elected representatives from Placer County and the City of Lincoln. HCP/NCCP Section 1.4 provides an overview of HCP/NCCP planning process.

The specific objectives of the proposed action for Placer County and the other Permit Applicants are listed below.

- Provide comprehensive species, natural community, and ecosystem conservation in the Plan Area.

- Provide for the conservation and management of the Covered Species in the Plan Area and contribute to the recovery of listed species in Placer County and Northern California.
- Protect and enhance biological and ecological diversity in the county.
- Establish a regional system of habitat reserves to preserve, enhance, restore, manage, and monitor native species and the habitats and ecosystems upon which they depend.
- Enhance and restore stream and riparian systems inside and outside the habitat reserves to provide additional benefit to native fish and other stream-dwelling species.
- Allow issuance of federal permits to the Permittees for lawful incidental take of species listed as threatened or endangered pursuant to the ESA resulting from development under the Permittees' adopted plans, policies, and programs.
- Allow issuance of a state authorization to the Permittee for lawful take of both nonlisted species and species listed as threatened or endangered pursuant to the CESA resulting from development under the Permit Applicants' adopted plans, policies, and programs.
- Streamline and simplify the process for future incidental take authorization of currently non-listed species that may become listed pursuant to the ESA or CESA during the permit term.
- Standardize avoidance, minimization, mitigation, and compensation requirements of all applicable laws and regulations related to biological and natural resources within the Plan Area so that public and private actions will be governed equally and consistently, thereby reducing delays, expenses, and regulatory duplication.
- Provide a less costly, more efficient project review process that will result in greater conservation than the current project-by-project, species-by-species endangered species compliance process.
- Provide a streamlined aquatic resource protection and permitting process, the CARP, to provide the basis for streamlined USACE/CWA permitting and 1602 permitting for PCCP Covered Activities, as well as provide the basis for a CWA Section 404 PGP for Covered Activities and a programmatic certification of the PGP by the Regional Water Quality Control Board under CWA Section 401.
- Provide a means for local agencies receiving permits to extend incidental take authorization to private entities subject to their jurisdiction, integrating endangered species permitting with local land use authorization.

1.4 Intended Uses of this EIS/EIR

Implementation of the PCCP would require permits and approvals from the lead agencies as well as other public agencies. This section describes the uses of this EIS/EIR by the lead agencies as well as the cooperating and responsible agencies. Table 1-1 summarizes the permits and approvals associated with implementation of the PCCP.

Table 1-1. Summary of Federal and State Permit and Approval Decisions for the PCCP

Agency	Legal Authority	Permit or Approval Decision
Federal		
U.S. Fish and Wildlife Service	Federal Endangered Species Act, Section 7	Biological Opinion
	Federal Endangered Species Act, Section 10(a)(1)(B)	Incidental take permit, implementing agreement
National Marine Fisheries Service	Federal Endangered Species Act, Section 7	Biological Opinion
	Federal Endangered Species Act, Section 10(a)(1)(B)	Incidental take permit, implementing agreement
U.S. Army Corps of Engineers	Clean Water Act, Section 404	Permit for the discharge of dredged and/or fill material into waters of the United States under Section 404 of the Clean Water Act
		Programmatic general permit (PGP) for Placer County and City of Lincoln
		Regional general permit (RGP) for Placer County Water Agency
		Letter of permission (LOP)
State		
California Department of Fish and Wildlife	California Fish and Game Code, Section 2835	Natural community conservation plan permit, implementing agreement
Central Valley Regional Water Quality Control Board	Clean Water Act, Section 401	Regional Water Quality Certification
Local		
Placer County		Adopt PCCP, including the Plan and CARP; establish Placer Conservation Authority; adopt implementing ordinance; adopt fee ordinance; adopt amendments to the Placer County Code; amend general plan and community plans; sign agreements
City of Lincoln		Adopt PCCP, including the Plan and CARP; establish Placer Conservation Authority; adopt implementing ordinance; adopt fee ordinance; adopt amendments to the Lincoln Municipal Code; amend general plan ; sign agreements
Placer County Water Agency		Adopt PCCP, including the Plan and CARP; sign agreements
South Placer Regional Transportation Authority		Adopt the Plan; sign agreements

1.4.1 U.S. Fish and Wildlife Service

USFWS must decide whether to issue an ESA Section 10(a)(1)(B) ITP for the species under its jurisdiction that are covered under the Plan (all non-marine and non-anadromous species). They must also select a preferred alternative for the purposes of NEPA. ESA Section 10(a)(2)(B) requires that specific issuance criteria be met before USFWS may issue ITPs. The Permit Applicants have proposed a permit term of 50 years. If USFWS decides to issue the ITP, it may also decide to enter into an IA with the Permit Applicants, CDFW, and NMFS.

Permit Issuance Criteria

The issuance criteria for an ITP are contained in ESA Section 10(a)(2)(B) and the implementing regulations for ESA (50 CFR 17.22[b][2][i]). These issuance criteria are listed below.

1. The taking will be incidental.
2. The applicant will, to the maximum extent practicable, minimize and mitigate the impacts of such takings.
3. The applicant will ensure that adequate funding for the conservation plan and procedures to deal with unforeseen circumstances will be provided.
4. The taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild.
5. The measures, if any, required under paragraph (b)(1)(iii)(D) of this section will be met.
6. He or she [the Director] has received such other assurances as he or she may require that the plan will be implemented (50 CFR 17.22[b][2][i]).

An applicant must prepare and submit to USFWS for approval an HCP containing the mandatory elements of Section 10(a)(2)(A) before an ITP can be issued. Accordingly, the HCP must specify the following information.

1. The impact which will result from such taking.
2. What steps the applicant will take to minimize and mitigate such impacts, and the funding that will be available to implement such steps; and the procedures to be used to deal with unforeseen circumstances.
3. What alternative actions to such taking the applicant considered and the reasons why such alternatives are not being used.
4. Such other measures that USFWS may require as being necessary or appropriate for the purposes of the plan.

The determination as to whether the criteria have been met will be described in USFWS's decision package: a Biological Opinion (BO) pursuant to Section 7 of the ESA; a Findings and Recommendations for the issuance of a Section 10(a)(1)(B) permit; and a NEPA decision document (in this case, a record of decision [ROD]). These decision documents are produced at the end of the process and will contain the rationale behind USFWS's decision to either approve or deny a Section 10(a)(1)(B) permit application. USFWS may decide to issue the ITP, which will contain standard

terms and conditions and may also contain additional terms and conditions as deemed appropriate by USFWS. Alternatively, USFWS may deny the application for an ITP.[8]

Federal Endangered Species Act, Section 7

Issuance of an ITP is also a federal action subject to Section 7 of ESA. Section 7(a)(2) requires all federal agencies, in consultation with USFWS, to ensure that any action "authorized, funded, or carried out" by any such agency "is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification" of critical habitat. Because issuance of a Section 10 permit involves a federal authorization, it is subject to this provision. In this case, because it is issuing the authorization, USFWS will conduct an internal consultation. Although the provisions of Section 7 and Section 10 are similar, Section 7 and its regulations require an analysis of the HCP's direct and indirect effects, a jeopardy analysis for federally listed plants, and analysis of effects on designated critical habitat. The results of this internal consultation will be documented in a BO, which will be produced at the end of the internal Section 7 process.

1.4.2 National Marine Fisheries Service

NMFS shares responsibility with USFWS for implementing the ESA and oversees marine and anadromous species. Like USFWS, NMFS must also decide whether to issue an ITP for the federally listed species covered under the Plan that are under their jurisdiction. If NMFS decides to issue an ITP, NMFS may also sign the IA. The same issuance criteria (pursuant to Section 10[a][2][B] of ESA) must be met before NMFS may issue its ITP.

As part of its ESA requirements, NMFS will need to issue a separate BO and a Findings and Recommendation. As discussed in this chapter, NMFS is a cooperating agency under NEPA (see Section 1.2.1, *NEPA*, above). NMFS may adopt this EIS as part of its decision-making process (40 CFR 1506.3) and then issue a ROD.

1.4.3 California Department of Fish and Wildlife

CDFW must decide whether to approve the NCCP pursuant to Section 2835 of the California Fish and Game Code. The determination as to whether the criteria for approval of the NCCP have been met is described in CDFW's NCCP permit decision and CEQA findings. CDFW would also sign the IA.

Approval of an NCCP is an action requiring compliance with CEQA. The CEQA document for the NCCP must include a specific mitigation, monitoring, and reporting program consistent with the requirements of PRC Section 21000 et seq. As a responsible and trustee agency under CEQA, CDFW would be required to adopt the EIR and make findings pursuant to the EIR.

California Natural Community Conservation Planning Act

In accordance with the NCCPA (California Fish and Game Code, Section 2800 et seq.), CDFW will approve the NCCP for implementation if it makes the finding that the Plan is in substantial compliance with the following, based on substantial evidence in the record.

[8] Permit denial regulations are codified in 50 CFR 13.21(b).

1. The Plan has been developed consistent with the process identified in the Planning Agreement entered into pursuant to California Fish and Game Code Section 2810.
2. The Plan integrates adaptive management strategies that are periodically evaluated and modified on the basis of information from the monitoring program and other sources. These strategies will assist in providing for the conservation of Covered Species and ecosystems within the Plan Area.
3. The Plan provides for the protection of habitat, natural communities, and species diversity on a landscape or ecosystem level through the creation and long-term management of habitat reserves or other measures that provide equivalent conservation of Covered Species appropriate for terrestrial, aquatic, and marine habitats within the Plan Area.
4. The development of reserve systems and conservation measures in the Plan Area provides, as needed for the conservation of species, all the following functions.
    a. Conserving, restoring, and managing representative natural and semi-natural landscapes to maintain the ecological integrity of large habitat blocks, ecosystem functions, and biological diversity.
    b. Establishing one or more reserves or other measures that provide equivalent conservation of Covered Species within the Plan Area, and linkages between the reserves and adjacent habitat areas outside the Plan Area.
    c. Protecting and maintaining habitat areas that are large enough to support sustainable populations of Covered Species.
    d. Incorporating a range of environmental gradients (e.g., slope, elevation, aspect, coastal or inland characteristics) and high habitat diversity to provide for shifting species distributions due to changed circumstances.
    e. Sustaining the effective movement and interchange of organisms between habitat areas in a manner that maintains the ecological integrity of the habitat areas within the Plan Area.
5. The Plan identifies activities, and any restrictions on those activities, allowed within reserve areas that are compatible with the conservation of species, habitats, natural communities, and their associated ecological functions.
6. The Plan contains specific conservation measures that meet the biological needs of Covered Species and are based on the best available scientific information regarding the status of Covered Species and the impacts of permitted activities on those species.
7. The Plan contains a monitoring program.
8. The Plan contains an adaptive management program.
9. The Plan establishes the estimated timeframe and process by which the reserves or other conservation measures are to be implemented, the obligations of landowners and plan signatories, and the consequences of the failure to acquire lands in a timely manner.
10. The Plan contains provisions that ensure adequate funding to carry out the conservation actions identified in the plan.

Section 2835 of the NCCPA allows CDFW to authorize take in an NCCP for any identified species for which conservation and management is provided in the plan, whether or not the species is listed as threatened or endangered under the CESA or ESA.

1.4.4 U.S. Army Corps of Engineers

Many of the proposed activities to be covered under the PCCP will also require authorizations under Section 404 of the CWA from USACE. Placer County and the City of Lincoln are seeking a Section 404 PGP for a large portion of PCCP Covered Activities. PCWA is seeking a Regional General Permit (RGP) for a portion of its PCCP Covered Activities. Many of the aquatic resources in the Plan Area that provide habitat for species covered are considered waters of the United States under CWA Section 404. If sufficient for its purposes, USACE intends to use this EIS/EIR to develop a permitting strategy consistent with the PCCP, streamlines the review process, and provides better protection of aquatic resources in the Plan Area that may not otherwise be achievable on a case-by-case basis.

Placer County and the City of Lincoln are jointly requesting the USACE issue a 5-year PGP under CWA Section 404.[9] If issued, the PGP would be based on a local aquatic resource program (CARP), described below, that provides the same or better level of protection to waters of the United States as afforded under the USACE's Regulatory Program. Once the County or City has approved an activity under its CARP, the USACE will rely on the local determination and the activity will also be approved under the respective PGP. PCWA is also requesting the issuance of a 5-year RGP by USACE under CWA Section 404. The requested PGP and RGP would address activities covered by the PCCP that would result in the discharge of dredged and/or fill material into waters of the United States, and they would require USACE to verify that each activity is consistent with the terms and conditions of the PGP or RGP and has minimal individual and cumulative impacts on the aquatic environment.

USACE would potentially authorize impacts on waters of the United States from certain Covered Activities. The proposed PGP would allow the County and City of Lincoln to verify those projects that meet the terms and conditions of the PGP. The proposed County/City PGP and PCWA RGP would also require that the County, City of Lincoln, and PCWA submit annual reports to USACE documenting such items as the total fill authorized and compensatory mitigation authorized during the reporting period.

The PGP and PCWA RGP would be part of a permitting strategy that the USACE would propose to establish under CWA Section 404. The USACE permitting strategy is proposed to align with the PCCP and would cover activities resulting in a discharge of dredged and/or fill material into waters of the United States. The permitting strategy may include general permit(s) (PGP and PCWA RGP, and RGP for restoration projects associated with the in-lieu fee program), Section 404 letter of permission (LOP) procedures, and individual permitting procedures to cover many of the activities proposed under the PCCP. The goal of this strategy would be to provide greater protection for waters of the United States, ensure consistency with the PCCP, and reduce the processing time required to obtain a permit decision from USACE. USACE would use the information and data in the PCCP and EIS to the maximum extent possible to develop and implement the Section 404 permitting strategy.

USACE will undertake a separate, but concurrent, public review process in support of its actions and NEPA compliance. The USACE draft permit strategy is found in Appendix C of this document.

USACE will also need to ensure compliance with the U.S. Environmental Protection Agency's (USEPA's) Section 404(b)(1) guidelines for any proposed PGP, RGP, LOP, and standard permit that would result in the discharge of dredged and/or fill material into waters of the United States. As part

[9] If approved, the USACE would likely issue a joint PGP to the County and City.

of its compliance with the Section 404(b)(1) guidelines, USACE would conduct an alternatives analysis to determine the least environmentally damaging practicable alternative (LEDPA). In addition, USACE will need to evaluate any proposed PGP, RGPs, LOPs, and individual permits to determine if they are contrary to the public interest. USACE cannot issue any permits for activities that do not meet all of the requirements of the Section 404(b)(1) guidelines and/or that are contrary to the public interest. Compliance with the Section 404(b)(1) guidelines and the effects on the public will be determined by the USACE in their decision documents for any proposed PGP, RGP, LOP, or standard permit.

The alternatives in this EIS/EIR (see Chapter 2, *Proposed Action and Alternatives*) have been developed in cooperation with USACE as a NEPA cooperating agency; consequently, the alternatives analysis contained in this EIS/EIR is intended to support USACE's alternatives analysis obligations as set forth in the Section 404(b)(1) guidelines. Information in the evaluation of alternatives in this EIS/EIR is intended to support USACE's determination of the LEDPA for the PGP.

1.4.5 Participating Jurisdictions in the PCCP

Plan

Placer County would be responsible for adopting the Plan, certifying the EIR portion of the EIS/EIR as the lead agency under CEQA, making Findings of Fact pursuant to CEQA, and signing the IA. The City of Lincoln, PCWA, and SPRTA must decide whether to adopt the Plan and sign the IA; each of these entities is also a responsible agency under CEQA and would be required to consider the EIR and make findings pursuant to CEQA, including adoption of mitigation measures, as applicable. Other actions by local jurisdictions would include adoption of implementing ordinances, potential amendments to their respective general plans to ensure consistency with the PCCP, local municipal code amendments, and the adoption of fee ordinances.

Permit Applicants that adopt the Plan, sign the IA, and adopt the EIR would be Permit Applicants on two joint ESA Section 10(a)(1)(B) ITPs, one issued by USFWS and one by NMFS, and a joint NCCPA Section 2835 permit issued by CDFW. These permits will provide authorization for take of Covered Species resulting from Covered Activities within each Permit Applicant's respective jurisdiction. The Permit Applicants will vest the responsibility for implementing the conservation strategy of the Plan to the PCA. The PCA will oversee implementation of the Plan on behalf of the Permit Applicants but will not have regulatory authority over permit decisions except in its role in permitting actions associated with Participating Special Entities who seek coverage under the Plan. However, the Permit Applicants will ultimately be responsible for compliance with all terms and conditions of the state and federal permits.

CARP

The CARP establishes a local program to conserve aquatic resources in the Plan Area through the avoidance and minimization of impacts on aquatic resources from regional growth and development. It provides for the conservation of wetlands, streams, and the waters and the watersheds that support them in the Plan Area while streamlining the USACE's CWA Section 404 and the Central Valley Water Board's Section 401 permit processes for Covered Activities. See Chapter 2, *Proposed Action and Alternatives*, for a detailed description of the CARP. To implement the CARP and the PGP, Placer County and the City of Lincoln would adopt ordinances that enforce the CARP.

1.4.6 Relationship of EIS/EIR with the Plan

The proposed action, as described in Chapter 2, *Proposed Action and Alternatives*, is based on information contained in the PCCP, including the Plan Area boundary, goals and objectives, Covered Species, Covered Activities, and anticipated permit duration. In addition to the species identified for coverage under the Plan, this EIS/EIR also evaluates species not proposed for coverage by the Plan that may be affected by plan implementation, such as special-status animal and plant species that are legally protected under the ESA, CESA, or other regulations, and species that are considered sufficiently rare by the scientific community that they might qualify for such listing.

This EIS/EIR evaluates a range of alternatives to the proposed action, including the no action alternative. This EIS/EIR will be used to inform agency decision-makers and the public regarding the potential significant environmental effects of the proposed action, potential measures to mitigate these significant effects and impacts, and reasonable alternatives that could reduce the significant adverse environmental effects and impacts related to implementing the proposed action. See Chapter 2, *Proposed Action and Alternatives*, for a more complete discussion of the requirements of selecting and evaluating alternatives.

1.5 Public and Agency Involvement

Public participation is an essential part of the NEPA and CEQA processes. The NCCPA and federal regulations also require public participation and outreach. This section describes the public and agency involvement activities for the PCCP, including the EIS/EIR scoping process (pursuant to CEQA and NEPA), agency coordination activities, PCCP working group meetings, and other public outreach activities that have occurred since the initial stages of the PCCP planning process.

1.5.1 EIS/EIR Scoping Process

The public scoping process, which also establishes the environmental baseline, began in March 2005, with the publication of a notice of intent (NOI) in the Federal Register (pursuant to NEPA) and submittal of a notice of preparation (NOP) to the State Clearinghouse (pursuant to CEQA). The NOI and NOP notified the public and agencies of the PCCP, the intent to prepare an EIS/EIR, and the public meetings that were held on March 15, 16, and 17, 2005. The NOI and NOP also informed the public that written comments on the NOI and NOP should be received by April 6, 2005, respectively. The NOI and NOP and scoping comments are included in Appendix D.

Public Scoping Meetings

USFWS, as the NEPA lead agency, and Placer County, as the CEQA lead agency, held joint public scoping meetings at the following locations.

- City of Roseville Corporation Yard, Rooms 2 and 3, 2005 Hilltop Circle, Roseville, CA 95747, on March 15, 2005, from 6:00 p.m. to 8:00 p.m.
- Placer County Planning Commission Chambers, 11414 B Avenue, Auburn, CA 95603, on March 16, 2005, from 6:00 p.m. to 8:00 p.m.
- City of Lincoln McBean Pavilion, 65 McBean Park Drive, Lincoln, CA 95648, on March 17, 2005, from 7:30 p.m. to 9:30 p.m.

Significant Issues Identified in Scoping Comments

The review period for the NOP ended on April 8, 2005. Comments were received from Placer County Flood Control and Water Conservation District; Placer County Department of Facility Services, Special Districts; California Department of Fish & Game (now CDFW); California Department of Conservation; California Department of Transportation (District 3); City of Lincoln; USFWS; and the California Governor's Office of Planning and Research (State Clearinghouse and Planning Unit). The following topics were raised in comments.

- The role of various agencies in development and review of the PCCP and EIS/EIR.
- Definition and use of an environmental baseline in impact analysis.
- Selection and analysis of a range of alternatives.
- Specificity of Covered Activities and associated impact analyses.
- Location of and requirements for mitigation.
- Increased burden on stormwater and flood-carrying facilities and alteration of floodplain boundaries.
- Areas designated for expanded public utilities.
- Impacts on agricultural land including Williamson Act lands.
- Identification and consideration of future transportation facilities.

1.5.2 Agency Coordination

Technical Agency Meetings

Throughout the PCCP planning process, regular technical agency meetings were held with USEPA, USFWS, NMFS, USACE, and CDFW to discuss specific agency comments related to administrative draft sections of the PCCP. These agencies provided technical input on the baseline data, Covered Species lists, Covered Species accounts, existing ecological conditions report, Covered Activities, impact analysis, and conservation strategy.

Collaboration and Consultation with Tribes

The adoption of the PCCP HCP/NCCP and the CARP, as well as approval of this EIS/EIR, requires compliance with both NEPA and CEQA. Both require consultation with federally recognized and/or California Native American Tribes. The mechanisms by which tribal consultation applies are as follows.

- NEPA, in which federal agencies are encouraged to consult with Native American tribes early in the planning process.
- Section 106 of the National Historic Preservation Act (NHPA) requires federal agencies to take into account the effects of their undertakings on historic properties and afford State and tribal historic preservation offices, and the public, a reasonable opportunity to comment on such undertakings. The implementing regulations for section 106 of the NHPA, at 36 CFR 800, define how the Services can meet these requirements. The Service implements coordination with federally recognized tribes by following Secretarial Order 3206.

Under CEQA, the County is generally required to consult with California Native American Tribes on the impact that a project may have on Tribal Cultural Resources; however, the NOP of this document was filed in 2005 and thus compliance with Assembly Bill (AB) 52 does not apply to the approval of this document. In the future, however, projects utilizing the PCCP that also require project-specific CEQA compliance will be subject to the requirements of AB 52, including consultation with California Native American Tribes, if necessary.

Consultation and outreach to tribes were carried out during several phases of the development of the PCCP. These include tribal consultation meetings with the United Auburn Indian Community. Tribal consultation is ongoing and will be carried out in accordance with the procedures stipulated in the PCCP's Cultural Resources Management Plan.

1.5.3 Committee Meetings

An organizational structure was created to develop the PCCP efficiently and with substantial opportunity for input from stakeholders and the general public. Key working groups, described below, were formed to help with the development of the PCCP. A Placer County Program Manager reported to the various groups and was responsible for day-to-day administration of the planning effort.

Interagency Working Group

After the Planning Agreement was signed by all parties, the conservation planning process for the PCCP began with the establishment of an Interagency Working Group (IAWG). The IAWG is made up of County planning staff, Wildlife Agency staff, staff of other participating agencies, and the County's consultants. The group initially met monthly in Auburn, or more frequently as necessary, to assist the Permit Applicants with the preparation of the PCCP. Later meetings were held less frequently to discuss the drafting of the conservation strategy. The IAWG has guided the scope of work and methodologies used in the various biological studies conducted in support of the PCCP. Members have also provided input on the development of numerous aspects of the conservation strategy, including the different analysis zones, conservation areas, biological goals and objectives, and reserve acquisition criteria.

Biological Working Group

During PCCP preparation, the BWG generally met as necessary, on average four or five times per year at the outset, and monthly during finalization of the PCCP, to provide stakeholder input into the conservation planning process. Meetings were held in an open public forum and were attended by members of local environmental organizations, farming interests, development industry representatives, and other landowner representatives. The BWG has been involved with reviewing and discussing findings of biological studies conducted in the PCCP area and reviewing and commenting on the development of the conservation strategy. The group was also asked to provide specific input on various aspects of the draft PCCP.

Science Advisors

Independent scientific input is required by the NCCPA (Section 2810[b][5]). The CDFW provides guidelines for "obtaining independent scientific analysis and input, to assist … permittees in meeting scientifically sound principles for the conservation and management of species" for assembling a

science advisory group, defining their scope of work, involving a facilitator, and providing scientific advice (California Department of Fish and Game 2002). The science advisory process for the PCCP was guided by CDFW's guidelines. The USFWS and NMFS "encourage[s] the use of scientific advisory committees during development and implementation of an HCP" in their revised *Habitat Conservation Planning and Incidental Take Permit Processing Handbook* (December 21, 2016)[10].

The Science Advisors were an independent group of scientists retained by Placer County under the direction of CDFW in order to comply with the science review provisions of the NCCPA. The Science Advisors reviewed available information on biological resources and published a report in January 2004 (Brussard et al. 2004). The Science Advisors identified the ecosystems described in Chapter 3 of the PCCP and made recommendations for conservation and management. Science Advisors were convened again in January 2009 to address the need to refine the land cover mapping for vernal pool complexes. The Permit Applicants considered all comments from the Science Advisors' report when developing the Plan and the comments on mapping of vernal pool complexes when the land cover mapping was updated in 2009 and again in 2011.

Finance Committee

The Finance Committee was formed in May 2013 to discuss PCCP's cost assumptions and the funding plan. Membership was composed of staff representatives from the Permit Applicants and stakeholders representing real estate interests, land development, non-profit conservation organizations (e.g., Placer Land Trust and Sierra Club), and individuals with backgrounds on land values in Placer County (e.g., real estate broker and appraiser). This group met on a number of occasions between 2013 and 2015, and its deliberations helped direct County staff, the consultant team, and the Board of Supervisors on a number of key funding issues. In addition to the Finance Committee deliberations, the cost model was peer reviewed by Economic Planning Systems in 2015. No substantive changes were made to the PCCP funding plan as a result of that peer review.

Ad Hoc Committee

The Ad Hoc Committee was formed in February 2007. The Committee is comprised of two members of the Placer County Board of Supervisors and two members of the Lincoln City Council. The purpose of the Committee is to "meet with various resource agencies to prepare a map and a set of policy guidelines that are acceptable to the committee" and to "focus on the issue of the viability of agriculture land that is adjacent to habitat, the science in delineating the quality of habitat, the science behind the cost estimates in terms of long term preservation of this habitat in the conservation area, and the science of restoration or the use of restoration as a tool to mitigate the impacts to habitat." The Committee meets on an as-needed basis (typically once per month between 2007 through 2012) to review and evaluate reserve map alternatives and to consider the land use, infrastructure, and cost implications of the various reserve maps. Once a reserve map was selected that could serve as the foundation of a viable conservation strategy in 2013, the Committee's focus has primarily been on governance, plan funding strategies, and cost implications to landowners and local government.

[10] The Five-Point Policy was superseded by the HCP Handbook published by USFWS and NMFS in December 2016. However, the Five-Point Policy was in effect when the science advisory process was implemented for the PCCP in 2003–2004.

1.5.4 Public Outreach

Public involvement has been an integral part of the process of developing the Plan. Stakeholders and the public have been actively involved throughout the planning process and have had the opportunities to provide their input and influence on the development of the Plan through public meetings and hearings.

In addition, a website was created that provided information on PCCP documents (https://www.placerconservation.com).

The Permit Applicants developed the Plan in compliance with public involvement guidelines established by USFWS and NMFS (U.S. Fish and Wildlife Service and National Marine Fisheries Service 1996, 2016) and the requirements of the NCCPA.

1.6 Document Organization

This EIS/EIR is organized as shown below.

- Chapter 1, *Introduction*
- Chapter 2, *Proposed Action and Alternatives*
- Chapter 3, *Affected Environment*
  - 3.1, *Agriculture/Forestry*
  - 3.2, *Air Quality, Greenhouse Gases, Climate Change*
  - 3.3, *Biological Resources*
  - 3.4, *Cultural and Paleontological Resources*
  - 3.5, *Hydrology and Water Quality*
  - 3.6, *Land Use*
  - 3.7, *Mineral Resources*
  - 3.8, *Noise and Vibration*
  - 3.9, *Population and Housing, Socioeconomics, and Environmental Justice*
  - 3.10, *Recreation*
  - 3.11, *Transportation and Circulation*
- Chapter 4, *Environmental Consequences*
  - 4.1, *Agriculture/Forestry*
  - 4.2, *Air Quality, Greenhouse Gases, Climate Change*
  - 4.3, *Biological Resources*
  - 4.4, *Cultural and Paleontological Resources*
  - 4.5, *Hydrology and Water Quality*
  - 4.6, *Land Use*

- 4.7, *Mineral Resources*
- 4.8, *Noise and Vibration*
- 4.9, *Population and Housing, Socioeconomics, and Environmental Justice*
- 4.10, *Recreation*
- 4.11, *Transportation and Circulation*

- Chapter 5, *Other Required CEQA and NEPA Analyses*
- Chapter 6, *Consultation and Coordination*
- Chapter 7, *Report Authors and Preparers*

1.7 References Cited

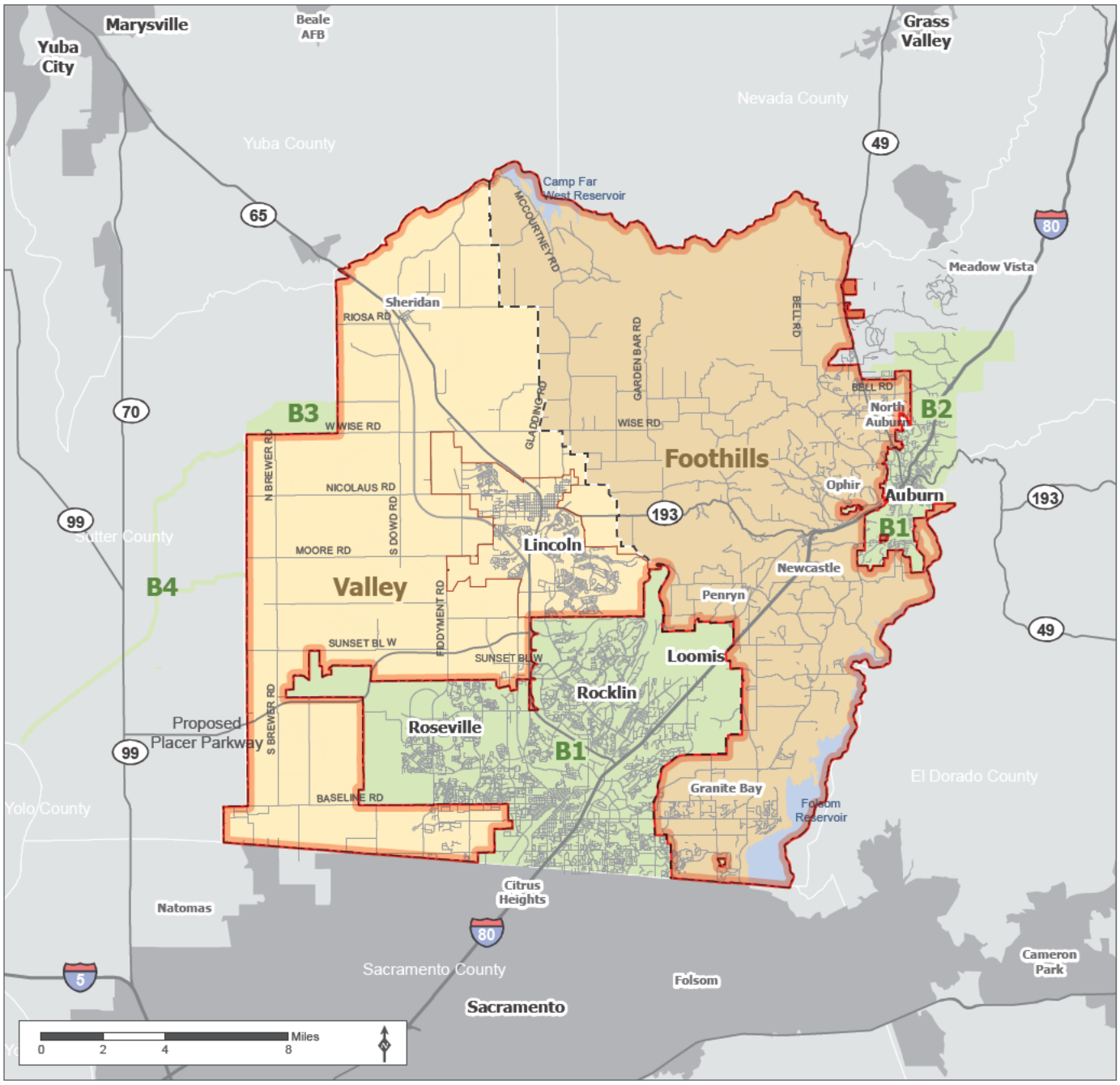
Brussard, P., F. Davis, J. Medeiros, B. Pavlik, and D. Sada. 2004. *Report of the Science Advisors for the Placer County Natural Communities Conservation Plan and Habitat Conservation Plan: Planning Principles, Uncertainties, and Management Recommendations*. County of Placer.

California Department of Fish and Game. 2002. *Roles & Responsibilities of Consultants in Developing NCCP/HCPs.*

Placer County, 2018. *Western Placer County In-Lieu Fee Program Enabling Instrument*. Prepared by Placer County Community Development Resource Agency. November. Auburn, CA.

U.S. Fish and Wildlife Service and National Marine Fisheries Service. 1996. *Habitat Conservation Planning and Incidental Take Permit Processing Handbook*. November 4.

U.S. Fish and Wildlife Service and National Marine Fisheries Service. 2016. *Habitat Conservation Planning and Incidental Take Permit Processing Handbook*. December 21.



Source: Placer County, 2014; MIG | TRA 2015; CalTrans

- Interstate
- Highway
- Road
- City of Lincoln
- Valley/Foothill Divide
- Surrounding Urban Area

Plan Area A

Valley	100,698 acres	Plan Area A Boundary
Foothills	109,134 acres	
All Plan Area A	209,832 acres	

Plan Area B

- B1. Permittee Activity in Non-Participating City Jurisdiction. 50,636 acres
- B2. PCWA Zone 1 Operations and Maintenance. 6,315 acres
- B3. Coon Creek Floodplain Conservation. 1,724 acres in Sutter County
- B4. Fish Passage Channel Improvement. 33 miles of channels in Sutter County
- B5. Big Gun Conservation Bank. 52 acres in Placer County (Not shown on map)

Source: Appendix A

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Figure 1-1
Plan Area
Placer County Conservation Program – EIS/EIR

Chapter 2
Proposed Action and Alternatives

This chapter describes the proposed action, including the PCCP conservation strategy and the conservation measures intended to provide for the protection and conservation of the Covered Species and natural communities addressed by the PCCP. This chapter also describes the regulatory considerations for developing alternatives to the proposed PCCP, summarizes the alternatives screening process, and identifies alternatives eliminated from further consideration as well as those carried forward for detailed analysis in this EIS/EIR.

2.1 Approach to Developing Alternatives

2.1.1 Regulatory Framework

NEPA and CEQA

Range of Alternatives

NEPA and CEQA require that an EIS/EIR evaluate a reasonable range of alternatives to a proposed action, including a no action alternative. NEPA and CEQA provide guidance that can be used to define a range of alternatives for consideration in an EIS/EIR.

The Council on Environmental Quality (CEQ) NEPA regulations provide that lead agencies "shall rigorously explore and objectively evaluate all reasonable alternatives, and for alternatives which were eliminated from detailed study, briefly discuss the reasons for their having been eliminated" (40 Code of Federal Regulations [CFR] Part 1502.14[a]). Although the CEQ regulations do not specifically define what constitutes a "reasonable alternative," NEPA guidance documents and NEPA case law indicate that "reasonable alternatives" are those technically and economically feasible project alternatives that are reasonably related to the primary objectives of the project as defined in the purpose and need statement.[1] If there are many possible reasonable alternatives, the guidance and case law clearly permit a focus on a "reasonable range" of project alternatives.[2] Alternatives that

[1] CEQ, *Forty Most Asked Questions Concerning CEQ's National Environmental Policy Act Regulations*, Questions 1a, 2a, 2b, 46 Federal Register (FR) 18026 (March 23, 1981); *League of Wilderness Defenders-Blue Mountains Biodiversity Project v. U.S. Forest Service* (9th Cir. 2012) 689 F.3d 1060, 1069 ["[t]he scope of an alternatives analysis depends on the underlying "purpose and need" specified by the agency for the proposed action"]; *Laguna Greenbelt, Inc. v. U. S. Dep't of Transp.* (9th Cir.1994) 42 F.3d 517, 524-525 ["[t]he range of alternatives that must be considered in the EIS need not extend beyond those reasonably related to the purposes of the project"]; *City of Angoon v. Hodel* (9th Cir.1986) 803 F.2d 1016, 1021–1022; see also 40 CFR Part 1502.13 ["[t]he [EIS] shall briefly specify the underlying purpose and need to which the agency is responding in proposing the alternatives including the proposed action"]; *City of Carmel-By-The-Sea v. U.S. Dep't of Transp.* (9th Cir.1997) 123 F.3d 1142, 1155 ["Project alternatives derive from an Environmental Impact Statement's 'Purpose and Need' section, which briefly defines 'the underlying purpose and need to which the agency is responding in proposing the alternatives including the proposed action.' 40 CFR Part 1502.13. The stated goal of a project necessarily dictates the range of 'reasonable' alternatives and an agency cannot define its objectives in unreasonably narrow terms."].

[2] CEQ, *Forty Most Asked Questions Concerning CEQ's National Environmental Policy Act Regulations*, Question 1b, 46 FR 18026 (March 23, 1981); *City of Alexandria v. Slater* (D.C. Cir. 1999) 198 F.3d 862.

cannot reasonably meet the purpose and need of the proposed federal action do not require detailed analysis. Moreover, "reasonable alternatives" include those that are practical or feasible from a technical and economic standpoint and using common sense, rather than simply being desirable from the standpoint of the applicant.[3]

The range of alternatives under CEQA is similarly governed by the rule of reason. Alternatives under CEQA must meet the basic project objectives (see Chapter 1, *Introduction*, Section 1.3.3), and must be potentially feasible. In determining whether alternatives are feasible, lead agencies are guided by the general definition of feasibility found in State CEQA Guidelines Section 15364: "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors." In accordance with State CEQA Guidelines Section 15126.6(f), the lead agency should consider site suitability, economic viability, availability of infrastructure, general plan consistency, other regulatory limitations, jurisdictional boundaries, and the proponent's control over alternative sites in determining the range of alternatives to be evaluated in an EIR. An EIR must briefly describe the rationale for selection and rejection of alternatives and the information that the lead agency relied upon in making the selection. It should also identify any alternatives that were considered by the lead agency but were rejected as infeasible during the scoping process and briefly explain the reason for their exclusion (State CEQA Guidelines Section 15126.6[d][2]).

No Action/No Project Alternative

A no action alternative is required to be considered in an EIS, and a no project alternative is required to be considered in an EIR. A no action/no project alternative allows decision-makers to compare the effects of approving the project to the effects of not approving the project. CEQ regulations for implementing NEPA require an EIS to include evaluation of a no action alternative (40 CFR 1502.14). At the lead agencies' discretion under NEPA, the no action alternative may be described as the future circumstances without the proposed action and can also include predictable actions by persons or entities other than the federal agencies involved in a project action, acting in accordance with current management direction or level of management intensity.

Under CEQA, an EIR is required to analyze the no project alternative. State CEQA Guidelines Section 15126.6(e)(2) indicates that the no project alternative analyzed should include reasonably foreseeable changes in existing conditions and changes that would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services.

Clean Water Act

Activities that would result in the discharge of dredged or fill material into waters of the United States require authorization from the U.S. Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act, or CWA (Section 404). Projects subject to permitting under the CWA must comply with Section 404(b)(1) guidelines (40 CFR, Part 230) for discharge of dredged or fill material into waters of the United States. Section 404(b)(1) guidelines require that

[3] CEQ, *Forty Most Asked Questions Concerning CEQ's National Environmental Policy Act Regulations*, Question 2a, 46 FR 18026 (March 23, 1981).

> except as provided under Section 404(b)(2), no discharge of dredged or fill material shall be permitted if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences.

The guidelines consider an alternative practicable "if it is available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes." Practicable alternatives under the guidelines assume that "alternatives that do not involve special aquatic sites are available, unless clearly demonstrated otherwise." The guidelines also assume that "all practicable alternatives to the proposed discharge which do not involve a discharge into a special aquatic site are presumed to have less adverse impact on the aquatic ecosystem, unless clearly demonstrated otherwise."

Placer County (also referred to as the *County*) and the City of Lincoln are seeking a Section 404 programmatic general permit (PGP), letter of permission procedure (LOP), and regional general permit (RGP) from USACE for a large portion of the PCCP Covered Activities. If issued, this PGP would streamline the permitting process for certain activities covered under the PCCP that would result in the discharge of dredged or fill material into waters of the United States. The Placer County Water Agency (PCWA) is requesting issuance of an RGP by USACE under Section 404 for a portion of its PCCP Covered Activities. As part of the evaluation to issue a PGP, LOP, or an RGP under Section 404, USACE must follow the U.S. Environmental Protection Agency's (USEPA's) Section 404(b)(1) guidelines, which in part require that USACE document that the Covered Activities would result in no more than minimal effects on waters of the United States and that the permitted action is the least environmentally damaging practicable alternative (LEDPA).

Federal Endangered Species Act

Federal Endangered Species Act (ESA) Section 10(a)(1)(B) requires applicants for incidental take permits (ITPs) to specify in a habitat conservation plan (HCP) what alternative actions to the incidental take of federally listed threatened and endangered species were considered and the reasons that those alternatives were rejected. The ESA requirement is addressed in Chapter 11 of the Plan, which considers alternatives to take. Alternatives to take typically include alternatives such as not achieving implementation of the general plan and reducing overall development in certain areas.

2.1.2 Alternatives Considered

Ideas for potential alternatives came from a variety of sources, including the PCCP development process, the public scoping process under CEQA and NEPA, and the lead and cooperating agencies. U.S. Department of the Interior (USDOI) implementing regulations (43 CFR 46.110) require lead federal agencies to consider the inclusion of a consensus-based alternative. ESA Section 10(a)(2)(B) and its implementing regulations (50 CFR 13 and 50 CFR 17) and U.S Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service's (NMFS's) *Habitat Conservation Planning and Incidental Take Permit Processing Handbook* (December 21, 2016) both require public participation, satisfying the USDOI regulations at 43 CFR 46.110. All alternatives considered by the lead agencies were different conservation plans that varied as described below.

- **Permit term**—permit term of 30 years (instead of the proposed 50 years).
- **Covered Species**—fewer Covered Species (e.g., only species currently listed as threatened or endangered under ESA or the California Endangered Species Act [CESA]).
- **Permit area**—larger permit area (e.g., expanding the Plan Area to apply to all of Placer County).
- **Covered Activities**—reduced development in Placer County and the City of Lincoln and fewer projects covered by each Permit Applicant (i.e., the County, City of Lincoln, South Placer Regional Transportation Authority [SPRTA], and PCWA).
- **Conservation strategy**—changes in the type, location, magnitude, or frequency of implementing certain conservation measures, or considering only the mitigation component of the conservation plan (e.g., HCP/CESA 2081 conservation plan).

Additionally, in anticipation of USACE's use of the EIS/EIR to satisfy its requirements under Section 404(b)(1), conservation plan alternatives with the following variations were considered.

- **No PGP, RGP, or LOP issued by USACE**—the CWA evaluation would consider effects on wetlands and waters on a project-by-project basis using existing permitting mechanisms.
- **No dredge or fill (no Section 404 action)**—development would be allowed but would avoid all dredge or fill of jurisdictional waters and wetlands.
- **Reduced effects on waters of the United States**—potential effects on jurisdictional wetlands and other waters of the United States would be reduced.

2.2 Alternatives Screening

Twelve alternatives were identified that varied by the components described in the previous section. These 12 alternatives, labeled A through L, were screened against a set of criteria using a systematic screening process. Screening occurred in three tiers, with separate criteria used in each tier. Potential alternatives that met the screening criteria in one tier were carried forward to the next tier. Only alternatives that satisfied criteria for all three tiers were carried forward in this EIS/EIR for detailed analysis.

The screening criteria for the EIS/EIR are based on a number of considerations, including (1) legal requirements for adequate discussions of alternatives in the EIS/EIR, as set forth in NEPA and CEQA and the regulations and case law interpreting those statutes; (2) concepts of "potential feasibility" under CEQA and "reasonableness" under NEPA; and (3) CWA Section 404(b)(1) screening criteria.

Under CEQA, alternatives to be included in an EIR, in addition to a no project alternative, must satisfy the following requirements.

- Are potentially feasible.
- Attain most of the basic objectives of the project.
- Avoid or substantially lessen any of the significant impacts of the project.

Placer County, as the CEQA lead agency, may structure its alternatives around a reasonable definition of a fundamental underlying purpose, and it need not study alternatives that cannot achieve the basic project objectives.

USDOI and USFWS, the NEPA lead agency, obtain NEPA guidance from a document issued by the CEQ titled *Forty Most Asked Questions Concerning CEQ's National Environmental Policy Act Regulations,* which provides guidance on the most frequently asked questions on 40 CFR 1500–1508. Per 40 CFR 1502.14, the heart of an EIS is the presentation of environmental impacts of the proposed action and alternatives in comparative form. This same code section instructs lead agencies to "rigorously explore and objectively evaluate all reasonable alternatives." In addition, there must be a discussion of other alternatives that are eliminated from detailed study with a brief discussion of the reasons for eliminating them. The reasonable range of alternatives also includes those that are not within the jurisdiction of the lead agencies. While the U.S. Code does not further define what constitutes a reasonable range of alternatives, the CEQ guidance states that what constitutes a reasonable range depends on the nature of a proposed federal action and the facts of a particular case.[4] When there is potentially a very large number of alternatives, a reasonable range of alternatives covering the full spectrum of reasonable alternatives can be identified for detailed analysis in the NEPA document.

USDOI has adopted additional regulations (43 CFR 46.415[b]) that require an EIS to include, in addition to a no action alternative, alternatives that meet the following requirements.

- Are reasonable.
- Meet the purpose and need of the proposed action.
- Address one or more significant issues related to the proposed action.

Finally, in addition to the requirements for the evaluation of alternatives under NEPA, per the USACE NEPA implementing regulations for the Regulatory Program (33 CFR 325, Appendix B[9][b][5]), the alternatives analysis conducted in an EIS should be thorough enough to use for both the public interest review and the Section 404(b)(1) guidelines, where applicable. Under the USACE public interest review, for activities where there are unresolved conflicts as to resource use, USACE must evaluate the practicability of using reasonable alternative locations and methods to accomplish the objective of the proposed structure or work (33 CFR 320.4[a][2][ii]). As explained in Section 2.1.1, *Regulatory Framework*, under the Section 404(b)(1) guidelines, USACE must evaluate the practicability of alternatives in light of the overall project purpose (40 CFR 230.10[a]) and must evaluate the following to determine if each alternative is practicable:

- Availability.
- Overall project purpose.
- Costs.
- Logistics.
- Existing technology.
- Adverse effects on the aquatic ecosystem.
- Other significant adverse environmental consequences.

[4] CEQ, *Forty Most Asked Questions Concerning CEQ's National Environmental Policy Act Regulations*, Question 1b, 46 FR 18026 (March 23, 1981).

2.2.1 First Tier Screening Criteria

The legal requirements of CEQA and NEPA were considered in the context of the statements of project objectives and purpose (see Chapter 1, Section 1.3, *Purpose and Need*) to develop the following first tier screening criteria.

- Could the potential alternative protect and enhance ecological diversity and function, including aquatic resource functions and values, in the greater portion of western Placer County while allowing appropriate and compatible growth in accordance with applicable laws?

These criteria assume that allowing appropriate and compatible growth in accordance with applicable laws includes allowing sufficient land area for development under the general plans of the City of Lincoln and Placer County. As detailed in Plan Appendix M, sufficient land area was defined as shown in Table 2-5 of the Plan, reprinted below as Table 2-1.

Table 2-1. Land Development to Accommodate Growth for the 50-Year Permit Term by 10-Year Period (acres)

	Cumulative Land Area Developed, by 10-Year Period (acres)				
Plan Area Component	Year 10	Year 20	Year 30	Year 40	Year 50
Plan Area A					
A1 Valley PFG[a]	2,027	5,377	10,606	15,683	19,545
A2 Valley Conservation and Rural Development[b]	250	320	400	480	570
A3 Foothills PFG[c]	1,999	3,997	5,996	7,993	9,993
A4 Foothills Conservation and Rural Development[c]	201	403	604	806	1,007
All Plan Area A	**4,477**	**10,097**	**17,606**	**24,962**	**31,115**
Plan Area B[d]					
B1 Permittee Activity in Non-Participating City Jurisdiction	385	395	405	415	425
All Plan Area	**4,862**	**10,492**	**18,011**	**25,377**	**31,540**

Sources**:** Appendix A:Table 2-5.

NPC = non-participating city.
PFG = Potential Future Growth Area.

[a] Area of land development reflecting City of Lincoln and Placer County general and specific plans (see Appendix M, *Growth Scenario Memo*, Table A.1) and a generalized factor of 15 percent additional land development to account for infrastructure, rights-of-way, and public facilities.

[b] Estimates for rural development in the Valley developed by MIG|TRA Environmental Sciences include allowance for public infrastructure.

[c] Foothills growth scenario estimates by Hausrath Economics Group adapted to available land and general plan land use designation by MIG|TRA Environmental Sciences.

[d] Estimate for Plan Area B is an allowance for public infrastructure.

- Could the potential alternative provide comprehensive species, natural community, and ecosystem conservation in the Plan Area?
- Could the potential alternative contribute to the recovery of endangered species in Placer County and northern California?
- Could the potential alternative establish a regional system of habitat reserves to preserve, enhance, restore, manage, and monitor native species and the habitats and ecosystems upon which they depend?
- Could the potential alternative enhance and restore stream and riparian systems outside the habitat reserves to provide additional benefit to native fish and other stream-dwelling species?
- Could the potential alternative allow issuance of permits to the Permit Applicants for lawful incidental take of species listed as threatened or endangered pursuant to ESA and CESA?
- Could the potential alternative streamline and simplify the process for future incidental take authorization of currently nonlisted species that may become listed during the permit term?
- Could the potential alternative standardize avoidance, minimization, mitigation, and compensation requirements of all applicable laws and regulations relating to biological and natural resources within the Plan Area, so that public and private actions will be governed equally and consistently, thus reducing delays, expenses, and regulatory duplication?
- Could the potential alternative provide a less costly, more efficient project review process that would result in greater conservation than the current project-by-project, species-by-species endangered species compliance process?
- Could the potential alternative provide a means for the agencies receiving permits to extend the incidental take authorization to private entities subject to their jurisdiction, bringing endangered species permitting under local control?
- Could the potential alternative provide a streamlined aquatic resource protection and permitting process to provide the basis for streamlined USACE/CWA permitting and 1602 permitting for Covered Activities, as well as provide the basis for CWA Section 404 PGP for Covered Activities and a programmatic certification of the PGP by the Regional Water Quality Control Board under CWA Section 401?

Under the principles of both CEQA and NEPA, for an alternative to be advanced to the next tier of screening, the answer to most or all of these questions had to be *possibly* or *unknown*. If the answers to six or more of the questions were *not likely*, the potential alternative was rejected.

The following were the alternatives screened.

- A. Reduction in Permit Term to 30 Years.
- B. Reduction in Covered Species.
- C. Increase in Permit Area.
- D. Reduced Development/Reduced Impacts to Jurisdictional Wetlands and Other Waters of the U.S.—Map Alternative 2.
- E. Reduced Development/Reduced Impacts to Jurisdictional Wetlands and Other Waters of the U.S.—Map Alternative 4.

- F. Reduced Development/Reduced Impacts to Jurisdictional Wetlands and Other Waters of the U.S.—Map Alternative 6.
- G. Reduced Development/Reduced Impacts to Jurisdictional Wetlands and Other Waters of the U.S.—Map Alternative 7.
- H. Habitat Conservation Plan/2081 Conservation Plan.
- I. Reserve System Limited to Placer County.
- J. No Programmatic General Permit, Letter of Permission, or Regional General Permit Issued by USACE.
- K. No Fill Alternative.
- L. Expanded Reserve Acquisition Area.

Four alternatives were eliminated from consideration at this first tier as described in Section 2.3, *Alternatives Eliminated from Further Consideration*.

- H. Habitat Conservation Plan/2081 Conservation Plan (no natural community conservation plan [NCCP]).
- J. No Programmatic General Permit, Letter of Permission, or Regional General Permit Issued by USACE.
- K. No Fill Alternative.
- L. Expanded Reserve Acquisition Area.

2.2.2 Second Tier Screening Criteria

Potential alternatives that advanced to the second tier of screening were evaluated under CEQA using the following question.

- Would the potential alternative avoid or substantially lessen any of the significant environmental effects of the proposed action?

There is no similar requirement under NEPA.

If the answer to the question was *possibly* or *unknown*, the potential alternative was carried forward for third tier screening. If the answer was *no* or *not likely*, then the potential alternative was rejected.

The following alternatives were carried forward to the third tier of screening.

- A. Reduction in Permit Term.
- C. Increase in Permit Area.
- D. Reduced Development/Reduced Fill—Map Alternative 2.
- E. Reduced Development/Reduced Fill—Map Alternative 4.
- F. Reduced Development/Reduced Fill—Map Alternative 6.
- G. Reduced Development/Reduced Fill—Map Alternative 7.

2.2.3 Third Tier Screening Criteria

The third tier criteria focus on CEQA's concept of feasibility and NEPA's principle of reasonableness. Under CEQA, alternatives evaluated in an EIR should be potentially feasible. CEQA Guidelines Section 15126.6(a) defines *feasible* as capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors. Under NEPA, an EIS must rigorously explore and objectively evaluate a reasonable range of alternatives that achieve the proposed action's objectives as provided by the purpose and need statement (40 CFR 1502.14[a]; 46 FR 18026).

The range of alternatives should provide a range of options to decision-makers to support informed decision-making. Reasonable alternatives include those that are practical or feasible from a technical or economic standpoint and using common sense, rather than alternatives that are simply desirable from the applicant's perspective. Under both NEPA and CEQA, potential alternatives can be developed using economic considerations, social factors, legal feasibility under species protection laws, and technical factors to inform the general concepts of feasibility under CEQA and reasonableness under NEPA. The Section 404(b)(1) analysis must consider similar issues to those under CEQA and NEPA. These include costs, logistics, existing technology, and overall purpose.

In addition to these CEQA and NEPA considerations, adverse effects on the aquatic environment, including effects on waters of the United States and special aquatic sites, must be evaluated by USACE consistent with the requirements of the Section 404(b)(1) guidelines. Third tier criteria include the following issues.

- Would the marginal costs of the potential alternative be so substantial that a reasonably prudent public agency would not proceed with the alternative?
- Would the marginal costs of the potential alternative be so substantial that it would be impractical to proceed with the alternative?
- Would the potential alternative take so long to implement, as compared with the proposed action, that it would not meet the project purpose or objectives within an acceptable time frame?
- Would the potential alternative require technology or physical components that are clearly technically infeasible based on currently available science and engineering for the scope of the potential alternative?
- Would construction, operation, and/or maintenance of the potential alternative violate any federal or state statutes or regulations?
- Would the potential alternative involve an outcome that is clearly undesirable from a policy standpoint in that the outcome could not reflect a reasonable balancing of relevant economic, environmental, social, and technological factors?
- Would the potential alternative involve a potential increase in adverse effects to the aquatic ecosystem?
- Would the potential alternative involve a potential increase in adverse effects on special aquatic sites?

If the answers to all these questions were *not likely* or *unknown*, the potential alternative is considered in this EIS/EIR. If the answers to any of these questions were *likely* or *yes*, the potential alternative failed the third tier screening and, consequently, is not considered in detail in this EIS/EIR.

Of the alternatives carried forward to the third tier of screening, the following alternatives were identified for consideration in the EIS/EIR:

- A. Reduction in Permit Term
- D. Reduced Development/Reduced Fill—Map Alternative 2
- E. Reduced Development/Reduced Fill—Map Alternative 4
- F. Reduced Development/Reduced Fill—Map Alternative 6
- G. Reduced Development/Reduced Fill—Map Alternative 7

Alternatives D, E, F, and G were combined into one alternative, as described below in Section 2.4.3, *Alternative 3—Reduced Take/Reduced Fill*.

2.3 Alternatives Eliminated from Further Consideration

Seven alternatives were eliminated from further consideration in the EIS/EIR. The following alternatives were rejected because they would not meet project objectives as identified in detail in the screening analysis.

- H. Habitat Conservation Plan/2081 Conservation Plan (no natural community conservation plan [NCCP])
- J. No Programmatic General Permit, Letter of Permission, or Regional General Permit Issued by USACE
- K. No Fill Alternative
- L. Expanded Reserve Acquisition Area

The following alternatives were rejected because they would not avoid or substantially lessen any of the significant environmental effects of, or potentially address one or more significant issues related to, the proposed action.

- B. Reduction in Covered Species
- I. Reserve System Limited to Placer County

The following alternative was rejected as infeasible, as other jurisdictions in Placer County have not chosen to participate, even given a substantial amount of time to consider participation.

- C. Increase in Permit Area

2.4 Alternatives Carried Forward for Detailed Analysis

The alternatives screening process described in Section 2.2, *Alternatives Screening*, resulted in four alternatives to be further analyzed in this EIS/EIR. Each of these four alternatives is described in detail below and evaluated in subsequent chapters of the EIS/EIR.

- Alternative 1—No Action.
- Alternative 2—Proposed Action.
- Alternative 3—Reduced Take/Reduced Fill.
- Alternative 4—Reduced Permit Term.

2.4.1 Alternative 1—No Action

This EIS/EIR includes an analysis of a no action alternative/no project alternative in accordance with the requirements of NEPA and CEQA, respectively. In this document, the no action/no project alternative is Alternative 1—No Action. The analysis of this alternative allows decision-makers to compare the effects of approving or of not approving the proposed action.

Under Alternative 1, permits would not be issued by USFWS, NMFS, or the California Department of Fish and Wildlife (CDFW) for incidental take of the proposed Covered Species through a regional-scale programmatic HCP or NCCP. As a result, Permit Applicants and the private developers within their jurisdictions would remain subject to the take prohibition for federally listed species under ESA and state-listed species under CESA. The Permit Applicants and others with ongoing activities or future actions in the Plan Area that may result in the incidental take of federally listed species would need to apply, on a project-by-project basis, for incidental take authorization from either USFWS or NMFS through ESA Section 7 (when a federal agency is involved) or Section 10 (for nonfederal actions). Similarly, Permit Applicants and others whose ongoing activities or future actions have the potential for incidental take of state-listed species in the Plan Area would apply for incidental take authorization under CESA through a Section 2081(b) permit. In addition, a Section 404 permitting strategy would not be developed by USACE and, as a result, Permit Applicants and private developers within their jurisdictions would follow existing procedures for activities subject to Section 404 CWA.

For this analysis, Alternative 1 would entail the continuation of existing plans, policies, and operations. Based on this assumption, Alternative 1 incorporates programs adopted during the early stages of development of this EIS/EIR, facilities that are permitted or under construction during the early stages of development of this EIS/EIR, and projects that are permitted or are assumed to be constructed by 2035, which encompasses the planning horizon for the general plans and capital improvement plans in the Plan Area.

Under Alternative 1, because the Permit Applicants and private developers would generate environmental documentation and apply for permits on a project-by-project basis, there would be no comprehensive means to coordinate and standardize mitigation and compensation requirements of ESA, Natural Community Conservation Planning Act (NCCPA), CEQA, NEPA, and the CWA within the Plan Area. This is anticipated to result in a more costly, less equitable, and less efficient project review process that would reap fewer conservation benefits. Conservation planning and

implementation would not happen at a regional scale and therefore would not establish an efficient and effective system of conservation lands to meet the needs of the species covered by the PCCP. Mitigation would not occur in a coordinated fashion, and would likely result in smaller mitigation areas as there would be more onsite mitigation for specific projects. Accordingly, Alternative 1 would not streamline the permitting process or provide local control of the endangered species process. It is not expected to provide species with the benefits of a comprehensive system of conservation lands that would be provided through a coordinated effort to minimize biological effects throughout the Plan Area.

Geographic Area

The geographic area for Alternative 1 is the same as the Plan Area, as described in Chapter 1, Section 1.1.2, *Plan Area*, and Section 2.4.2, *Alternative 2—Proposed Action*.

Typical Activities

Under Alternative 1, various types of activities would continue in the Plan Area consistent with current regulatory practices. While regulatory practices are likely to change over the coming decades, assumptions about future changes to existing regulations (or new regulations) are too speculative. Therefore, it is assumed future regulations would be consistent with existing regulations. The various types of activities assumed to occur under Alternative 1 are described below.

- Urban development would occur within the Valley and Foothills Potential Future Growth Area (PFG) components, described in the Plan as those mapped locations in the Plan Area within which the local agencies anticipate urban development would occur under their respective plans and authorities (components A1 and A3). Included are public projects, private projects, and all aspects of forecasted future growth.
- Rural development would occur in the Valley and Foothills Conservation and Rural Development components, described in the Plan as those mapped locations in the Plan Area within which the local agencies anticipate rural development would occur under their respective plans and authorities (components A2 and A4). Included are public projects and private projects that do not entail a change in zoning or a general plan or community plan land use designation or the granting of permits under existing zoning to allow more intensive uses.
- Regional public programs would continue. These programs provide and sustain the backbone infrastructure that supports public services and development within the Plan Area. Regional public programs involve operations and maintenance (O&M) of existing facilities and construction and O&M for new facilities. Regional public programs include those related to transportation, wastewater, water supply, solid waste management, public parks, and utilities.
- In-stream activities associated with development and public programs would also occur under Alternative 1. These include construction and O&M activities that take place within stream channels, along stream banks, or on adjacent lands within the riparian corridor.
- Ongoing conservation programs administered by Placer County would continue under Alternative 1. These include the Placer Legacy Program, coordinated resource management plans, integrated regional water management plans, and the *Placer County Community Wildfire Protection Plan* (which integrates with the *Placer County Strategic Plan for Biomass Utilization Program*).

These typical activities would require consideration of environmental effects on a project-by-project basis. In the absence of a regional conservation plan, these activities would be subject to individual project review under ESA and CESA, which could restrict the activities based on the needs of federally listed and state-listed species.

Typical Species Considered

As described above, compliance with ESA and CESA would continue to be addressed on a project-by-project basis. Projects and activities with potential to take federally listed species would be required to comply with ESA by pursuing a Section 7 consultation. Projects and activities with a potential to take state-listed species would be required to comply with CESA by applying to CDFW for a 2081 Permit. Agencies or private developers within their jurisdictions would be required to prepare the appropriate environmental documents and to comply with any mitigation requirements as identified as part of the project-specific environmental review, as well as any applicable policies contained in the local agencies' general plans and related land use planning documents.

Conservation of species and their habitats through mitigation and compensation under the existing regulatory framework would likely result in a pattern of conservation that is geographically fragmented, intensified to an extent that doesn't match natural conditions and managed by a multitude of reserve managers in a piecemeal fashion. It would be unviable to conserve essential ecological processes under Alternative 1 because there would not be a coordinated system of conservation areas, and the ability to provide linkages through project-by-project mitigation over time may be precluded by continued development. There would be no mechanism to comprehensively provide for species recovery. In addition, there would be no comprehensive adaptive management and monitoring program to ensure successful conservation at a landscape scale. Furthermore, project-by-project permit applications would likely be limited to federally listed and state-listed species, reducing the number of species that would benefit from conservation actions.

Typical Species Mitigation

As a result of federal and state consultation for impacts on listed species and project-by-project CEQA and NEPA review for effects on biological resources, various types of mitigation measures are expected to be required under Alternative 1. These types of mitigation measures are listed below. Non-discretionary agricultural activities and rural development consistent with land use ordinances would not trigger environmental review under CEQA. No mitigation would be required for such actions unless ESA, CESA, or Section 404 permitting were required for the action.

- Avoidance and minimization measures (AMMs) incorporating generally accepted species-specific protocols and/or project-specific measures as negotiated with various wildlife agencies. These typically include preservation and management of onsite habitat. Other avoidance minimization requirements could include preconstruction surveys, construction timing restrictions, setback requirements, use restrictions, or other similar measures.
- Restoration and/or enhancement of onsite habitat, if available and set aside for compensation.
- Compensatory mitigation in offsite areas. Such mitigation could include purchasing credits at a private conservation or mitigation bank; purchasing and restoring large areas of habitat and using those areas to mitigate various project effects in much the same way that a mitigation bank functions; and purchasing and restoring habitat to mitigate individual project effects.

2.4.2 Alternative 2—Proposed Action (Proposed Placer County Conservation Program)

The PCCP is a regional, comprehensive program that would provide a framework to protect, enhance, and restore the natural resources in western Placer County, while streamlining permitting for Covered Activities. Within this framework, the PCCP would achieve conservation goals and comply with state and federal environmental regulations while facilitating planning and permitting for anticipated urban and rural growth and the construction and maintenance of infrastructure needed to serve the county's population. The PCCP includes two integrated programs.

- The *Western Placer County Habitat Conservation Plan and Natural Community Conservation Plan*, also referred to as the Plan, a joint HCP and NCCP that would protect fish, wildlife, and plants, and their habitats and fulfill the requirements of the ESA and NCCPA.
- The *Western Placer County Aquatic Resources Program,* also referred to as CARP, that would protect streams, wetlands, and other water resources and fulfill the requirements of the CWA and analogous state laws and regulations.

The following entities have prepared the PCCP in cooperation with USFWS, NMFS, CDFW, USEPA, and USACE.

- Placer County
- City of Lincoln
- SPRTA
- PCWA

As noted in Chapter 1, *Introduction*, these entities are collectively referred to as the *Permit Applicants*. In addition to the Permit Applicants identified above, other parties may elect to seek coverage under the PCCP. These entities are considered *Participating Special Entities.*[5] The Permit Applicants would vest the responsibility for implementing the Plan to the Placer Conservation Authority (PCA).[6] The PCA would oversee implementation of the Plan on behalf of the Permittees. The PCA, not yet formed, would also be a Permittee, as it would implement conservation actions and because it would be the permitting authority for Participating Special Entities. However, the Permittees would ultimately be responsible for compliance with all the terms and conditions of the state and federal permits.

The PCCP identifies a range of Covered Activities (discussed below), which consist of certain actions undertaken in the Plan Area by or under the authority of the Permit Applicants that may affect Covered Species or covered natural communities. The Plan considers these activities in assessing the total amount of take of Covered Species that would be expected in the Plan Area and in developing the overall PCCP conservation strategy. The proposed action is described below, including the Plan Area, the Covered Activities, the Covered Species, the proposed conservation strategy, and the CARP. For more details on all of these topics, see the Plan.

Under Alternative 2, permits would be issued by USFWS and NMFS under Section 10(a)(1)(B) of the ESA and by CDFW under Section 2081(b) for incidental take of the proposed Covered Species

[5] Participating Special Entities are listed in Section 8.9.4 of the Plan.

[6] The role of the PCA is discussed in Section 8.3.2 of the Plan.

through a regional-scale programmatic HCP or NCCP. The USFWS permit would cover take of 11 species; the NMFS permit would cover take of 1 species; and the CDFW permit would cover take of 9 species. The permit durations would be for 50 years. PCA would oversee implementation of the PCCP.

Plan Area

The Plan Area encompasses 269,118 acres, 99% of which is in Placer County. Because the Plan Area encompasses the full geographic extent of the Covered Activities, it includes some areas outside the jurisdiction of the Permit Applicants (Figure 1-1). The Plan Area comprises Plan Area A and Plan Area B, with specific components within each Plan Area (Table 2-2; Figure 2-1); not all Covered Activities are covered in all parts of the Plan Area.

Plan Area A

Plan Area A—which comprises the four components defined below—is the main focus of the PCCP. Plan Area A is where all covered future growth for the Permit Applicants and most of the Covered Activities would take place. Definitions of the components are based on the PCCP Designation Map (Figure 2-2), which designates all of Plan Area A as PFG, Reserve Acquisition Area (RAA), or Existing Reserves and Other Protected Areas (EXR). The RAA and EXR designations are combined in the Conservation and Rural Development designation, with separate Valley and Foothills Conservation and Rural Development designations. The Plan states that the conservation zones include the EXR because the Plan's Reserve System will be building off of the EXR (Appendix A:5-73).

A1—Valley Potential Future Growth Area

Covered Activities in component A1, Valley PFG, consist of all activities undertaken by or under authority of the Permit Applicants as described in Chapter 2 of the Plan. These activities include public projects, private projects, and all aspects of forecasted future growth.

A2—Valley Conservation and Rural Development

Covered Activities in component A2, Valley Conservation and Rural Development, consist of all activities undertaken by or under authority of the Permit Applicants as described in Chapter 2 of the Plan. These activities include public and private projects that do not entail a change in zoning or a general plan or community plan land use designation to allow more intensive uses. A2 would support most of the Valley portion of the PCCP Reserve System.

A3—Foothills Potential Future Growth Area

Covered Activities in component A3, Foothills PFG, consist of all activities undertaken by or under authority of the Permit Applicants as described in Chapter 2 of the Plan. These activities include public and private projects that do not entail a change in zoning or a general plan or community plan land use designation to allow more intensive uses, although the general plan, specific plan, and implementing zoning may be changed over the course of the PCCP permit to allow changes in allowed land use type, increased land use intensity, or increased residential density. Such changes would require additional environmental review.

A4—Foothills Conservation and Rural Development

Covered Activities in component A4, Foothills Conservation and Rural Development, consist of all activities undertaken by or under authority of the Permit Applicants as described in Chapter 2 of the Plan. These activities include public and private projects that do not entail a change in zoning or a general plan or community plan land use designation to allow more intensive uses. A4 would support most of the Foothills portion of the PCCP Reserve System.

Plan Area B

Plan Area B comprises five components where only specific, limited Covered Activities or conservation activities may occur.

B1—Permittee Activity in Non-Participating City Jurisdiction

Covered Activities in component B1, Permittee Activity in Non-participating City Jurisdiction, consist of all public Covered Activities undertaken by the Permit Applicants in the incorporated area and, in some cases, the sphere of influence of the non-participating cities. These activities include construction, operations, or maintenance of PCWA canals and new pipelines, a portion of Placer Parkway, the Interstate (I-) 80/State Route (SR) 65 interchange, and miscellaneous County-owned facilities, as well as possible in-stream conservation actions related to fish passage improvement. Most of B1 is already urban. Coverage is only for activities directly undertaken by a Permit Applicant and does not include urban growth or private projects of any kind.

B2—PCWA Zone 1 Operations and Maintenance

Covered Activities in component B2, PCWA Zone 1 O&M, consist of PCWA Zone 1 O&M for existing facilities east of Auburn and adjacent to Lake Theodore Reservoir. Coverage in B2 does not include new PCWA construction.

B3—Coon Creek Floodplain Conservation

Covered Activities in component B3, Coon Creek Floodplain Conservation, consist of watershed protection and stream restoration activities along the Coon Creek floodplain in a 1,724-acre portion of Sutter County. Coverage in this area may include new acquisition by the PCA, the PCA in partnership with Sutter County, or by an entity such as a nonprofit conservation group acting in concert with the PCA and Sutter County. Coverage does not include any development activities, flood control, or land conversion.

B4—Fish Passage Channel Improvement

Covered Activities in component B4, Fish Passage Channel Improvement, consist of selective in-stream work on a small portion of 33 miles of channels west of Placer County in Sutter County. These Covered Activities would be subject to joint resolutions or agreements between Placer and Sutter Counties and Reclamation District 1001. No PCA acquisition would be associated with this activity. Remediation work would address improvement of fish habitat only, with an emphasis on ensuring fish passage into spawning and rearing areas in Area A. Table 2-2 shows additional detail regarding the channels making up component B4.

B5— Big Gun Conservation Bank

Covered Activities in component B5, Big Gun Conservation Bank, consist of actions pursuant to the conservation strategy for California red-legged frog on the existing Big Gun Conservation Bank in Placer County, east of Auburn near the townsite of Michigan Bluff.

Table 2-2. Plan Area Components

	Plan Area Component	Area (acres)
Plan Area A		
A1	Valley Potential Future Growth Area (Valley PFG)	46,769
A2	Valley Conservation and Rural Development (RAA and EXR)	53,929
	All Valley	100,698
A3	Foothills Potential Future Growth Area (Foothills PFG)	78,897
A4	Foothills Conservation and Rural Development (RAA and EXR)	30,237
	All Foothills	109,134
	All Plan Area A	**209,832**
Plan Area B		
B1	Permittee Activity in Non-participating City Jurisdiction	50,636
B2	PCWA Zone 1 Operations and Maintenance	6,315
B3	Coon Creek Floodplain Conservation	1,724
B4	Fish Passage Channel Improvement	559
B5	Big Gun Conservation Bank	52
Plan Area B4—Fish Passage Channel Improvement Reaches		
	Channel Reach	Length (miles)
	Auburn Ravine	8.1
	Coon Creek	11.2
	Cross Canal	7.7
	East Side Canal	6.0
	Total	**32.9**

Source: Appendix A: Table 2-2.
EXR = Existing Reserves and Other Protected Areas.
PCWA = Placer County Water Agency.
PFG = Potential Future Growth Area.
RAA = Reserve Acquisition Area.

Covered Activities

Throughout the Plan and this EIS/EIR, several terms are used to refer to Covered Activities. The term *project* as used in the Plan usually means a specific, one-time activity, typically a construction project. The individual projects described below serve as examples to illustrate the categories of Covered Activities and to guide the analysis of potential environmental effects associated with their implementation. For example, the Placer Parkway project is one specific instance of a transportation project. It is intended that the Placer Parkway project be a Covered Activity; similarly, future, currently undesignated transportation projects that conform to PCCP requirements would also qualify as Covered Activities under the Plan. The term *operations and maintenance* or *O&M* refers to

the full range of activities associated with the lifecycle of a physical facility, including its use, operation, maintenance, repair, and abandonment at the end of use. The term *Program* refers to the whole of an agency's activities related to a specific purpose including land acquisition, capital projects, and O&M activities.

Most actions undertaken directly by a Permit Applicant (or a Permit Applicant's contractor, agent, or employee) would comply with and be covered by the PCCP and its related permits by complying with the conditions of approval (conditions on Covered Activities) described in Chapter 6 of the Plan and with other relevant PCCP requirements. Mandatory conditions on the Covered Activities are necessary to meet state and federal permit issuance criteria, to help meet the regional conservation goals of the Plan, and to assist Permit Applicants in meeting their funding obligations.

Specific projects seeking permit coverage would follow a formal process for analysis and inclusion as described in Chapter 6 of the Plan. All Covered Activities must incorporate the relevant conditions on Covered Activities in order to avoid, minimize, or mitigate effects on Covered Species and natural communities. For projects to be approved for coverage under the Plan, project applicants must demonstrate that conditions have been incorporated or will be incorporated properly into their proposed projects.

A range of Covered Activities addressed by the Plan would take place in the Plan Area. These activities are widespread and varied including urban and rural development, water management, conservation measures, facilities maintenance, and numerous other actions that are undertaken by the Permit Applicants or by individuals or entities under their jurisdiction. The PCCP groups Covered Activities into seven categories based on geographic boundaries or features and program goals as depicted in Figure 2-1 and described below.

1. Valley Potential Future Growth.
2. Valley Conservation and Rural Development.
3. Foothills Potential Future Growth.
4. Foothills Conservation and Rural Development.
5. Regional Public Programs.
6. In-Stream Programs.
7. Conservation Programs.

The first four categories, encompassing future growth and rural development in the Foothills and Valley, are based on mapped boundaries in the general plans of the County and the City of Lincoln that reflect patterns of anticipated urban, suburban, and rural residential expansion. The conservation and rural development categories were also determined by association with large-scale geographic features, vegetative land cover mapping, and underlying species distribution. The final three categories occur throughout the Plan Area and are defined primarily by similar habitat features (as is the case for In-Stream Programs) or programmatic objectives (as is the case for Regional Public Programs and Conservation Programs). The relationship between each Covered Activity category and component(s) of the Plan Area in which it may be implemented is shown in Table 2-3.

Table 2-3. Covered Activity Category by Plan Area Component

	Plan Area A				Plan Area B				
Activity Category	A1 Valley	A2 Valley	A3 Foothills	A4 Foothills	B1	B2	B3	B4	B5
1. Valley Potential Future Growth	X								
2. Valley Conservation and Rural Development		X							
3. Foothills Potential Future Growth			X						
4. Foothills Conservation and Rural Development				X					
5. Regional Public Programs	X	X	X	X	X	X			
6. In-Stream Programs	X	X	X	X	X	X			
7. Conservation Programs	X	X	X	X	X		X	X	X

Source: Appendix A:Table 2-3.

X = activity covered in this Plan Area component.

The activities identified below describe the different types of activities covered by the Plan. In some cases, specific projects are identified by Chapter 4 of the Plan as examples to illustrate the general category. All Covered Activities discussed below are associated with Plan Area A unless otherwise stated.

Valley Potential Future Growth

This category includes all ground- or habitat-disturbing projects and activities that occur in component A1, Valley PFG. The Valley PFG comprises 46,769 acres consisting of the City of Lincoln, a portion of the adjacent Lincoln sphere of influence, and the unincorporated County area adjacent to the City of Roseville. This category includes rural and urban land uses and the use, construction, demolition, rehabilitation, maintenance, and abandonment of typical public facilities, consistent with the implementation of local general, community, and area plans (collectively referred to as *general plans*); specific plans; and local, state, and federal laws. Acquisition of reserve lands and conservation activities may potentially occur in the Valley PFG, primarily in the Stream System as defined in Chapter 1 of the Plan and where large blocks of high-quality Covered Species habitat can be incorporated into the Reserve System and when such acquisitions meet the avoidance standards of Chapter 6, *Conditions on Covered Activities*, of the Plan.

Activities in the Valley PFG are based on general plan and zoning designations of the County and the City of Lincoln. The general plans, community plans, area plans, specific plans, and associated zoning designations may be changed over the course of the PCCP permit term to accommodate the growth

projections described in Appendix M of the Plan by allowing changes in land use type, increases in land use intensity, and increases in residential density.

Covered urban land uses, including those within the Valley PFG, are summarized in Table 2-4. Ongoing rural and agricultural land uses are summarized in Table 2-5. Public agency programs, even if they also occur in areas beyond the Valley PFG, are described below and are summarized in Table 2-6 as they are covered in the Valley PFG.

Placer County and the City of Lincoln have developed several planning documents that outline strategies and projects in accordance with current general plans and specific plans. To the extent that these plans are consistent with the goals of the PCCP, implementation of these planning documents would be covered. Examples of current planning documents in the Valley PFG include the following.[7]

- *City of Lincoln General Plan.*
- *Placer County General Plan.*
- *Dry Creek/West Placer Community Plan.*
- *Sunset Industrial Area Plan.*
- *Sheridan Community Plan.*
- *Placer Vineyards Specific Plan.*
- *Regional University Specific Plan.*
- *Riolo Vineyards Specific Plan.*
- *City of Lincoln Bikeways Master Plan, 2001 (and Bikeway Master Plan Update, 2012).*
- *Placer County Regional Bikeway Plan.*

Additional area plans, community plans, specific plans, and updates to comprehensive general plans would be developed over the course of the Plan's permit term.

[7] Many of these documents can be accessed online at www.ci.lincoln.ca.us or www.placer.ca.gov/planning.

Table 2-4. Land Uses Consistent with Urban and Suburban General Plan Designations

Category	Example Projects
Urban Development	Residential, commercial, office/professional, industrial, and public/quasi-public.
Transient Lodging	Hotels/motels and recreational vehicle parks.
Service Uses	Banks and financial services, professional offices, medical services, day care facilities, educational facilities, and business support services.
Public Facilities	New fire stations, police/sheriff stations and substations, community policing centers, communications facilities (including antennae, towers, and equipment facilities), public administration centers, convention centers, theatres, community centers, concert venues, community gardens, and concession buildings.
Recreational Facilities (Public/Private)	Regional parks, neighborhood parks, dog parks, soccer fields, golf courses, indoor and outdoor sports centers, recreational centers, trails, golf courses, racetracks, campgrounds, and associated infrastructure including roads, bridges, parking areas, and restrooms.[a]
Funeral/Interment Services	Mortuaries, crematorium, columbaria, mausoleums, and similar services when in conjunction with cemeteries.
Other Urban/Suburban Uses	Activities consistent with the local general plan and zoning ordinances of the Placer County or the City of Lincoln that are similar in nature to the uses listed above.
Land Use consistent with rural and agricultural general plan designations	Urban and suburban general plan designations also allow land uses listed in [Plan] Table 2-7 [shown as Table 2-5 of this EIS/EIR].
Public facilities consistent with rural and agricultural general plan designations	Urban and suburban general plan designations also allow public facilities listed in [Plan] Table 2-8 [shown as Table 2-6 of this EIS/EIR].

Source: Appendix A:Table 2-6.

[a] Public use of trails and other park facilities is not a Covered Activity.

Table 2-5. Land Uses Consistent with Rural and Agricultural General Plan Designations

Category	Example Projects
Rural Residential	Single-family homes at a density of less than one dwelling per 2.3 acres, including privately owned roads, bridges, driveways, emergency access roads, clearing land for a range of rural residential land use activities, and other features commonly associated with rural dwelling units and use of land in rural settings.
Public/Private Recreational Facilities	Neighborhood parks, dog parks, soccer fields, golf courses, indoor and outdoor sports centers, recreational centers, open space and passive recreation facilities, trails, golf courses, racetracks, campgrounds, and associated infrastructure including roads, bridges, parking areas, and restrooms as well as maintenance facilities.
Private Facilities of Public Assembly	Churches, convention centers, theaters, rural recreational uses (e.g., equestrian facilities), community centers, concert venues, community gardens, and concession buildings.
Transportation Facilities	New capital facility construction, roads, road widening, shoulder improvements, bike lane construction, bridge replacement/widening, culverts, transit facilities, and park and ride facilities.
Agricultural Facilities and Uses	Plant nurseries, greenhouses, wine production, wineries, equestrian facilities, farm equipment sales, community centers, and outdoor retail sales. This may include nurseries, Christmas tree farms, ornamental plant nurseries, dairies, and feedlots, if a discretionary permit is required.
Food Production Facilities	Industrial/manufacturing uses associated with food/beverage production and agricultural support services.
Agricultural Uses Requiring Conditional/ Minor Use Permits	New intensive agriculture that requires a conditional/minor use permit consistent with local general plans, such as commercial equestrian facilities, dairy and swine operations, equestrian event facilities, and wineries.
Fuel Load Modifications and Treatments	Fuel load modifications and treatments consistent with the *Placer County Community Wildfire Protection Plan, Placer County Local Hazard Mitigation Plan*, Placer County Strategic Plan for Biomass Utilization Program, local ordinances, and Public Resources Code 4291.
Vegetation Management	Fuel reduction (including hand and mechanized removal and controlled burns), tree removal and pruning, grazing activities, exotic vegetation control/removal, hazardous tree work, weed abatement, and algae control in ponds. Permittees may use herbicides and pesticides in accordance with best management practices described in Chapter 6 of the Plan but shall be responsible for ensuring no take of Covered Species occurs as a result of herbicide and pesticide uses.
Public Facilities	New fire stations, police/sheriff stations and substations, community policing centers, libraries, communications facilities, public maintenance facilities (park maintenance and transportation corporation yards), and public administration centers. Solid waste facilities including transfer stations and recycling centers.
Non-Residential Development in Rural Areas	Telecom facilities and small utility facilities. Solar energy projects in rural areas are covered by the Plan as long as their effects on Covered Species and natural communities are consistent with the effects evaluation in Chapter 4 of the Plan.

Category	Example Projects
Other Rural Uses	Other rural uses, consistent with the local general plan and zoning ordinances of Placer County or the City of Lincoln, that are similar in nature to the uses listed above. Such proposed uses must share characteristics in common with the uses listed above, must not be of greater intensity or density, and must not generate more environmental effects.
Conservation Activities	Acquisition or operation of land for use as a biological reserve or mitigation bank.

Source: Appendix A:Table 2-7.

Table 2-6. Public Facilities Consistent with Rural and Agricultural General Plan Designations

Category	Example Projects
Water Supply Facilities	County, Placer County Water Agency, and City of Lincoln water supply and conveyance facilities and appurtenances to meet the needs of residential, commercial, office/professional public/quasi-public, and industrial uses.
Stormwater Management Facilities	Storm water conveyance systems, low impact development facilities, nonpoint source reduction, detention/retention facilities, outfall structures, and other drainage improvements.
Wastewater Management Facilities	Sewage-treatment plants, sanitary sewer systems and rehabilitation, force main and effluent line construction and maintenance, effluent discharge and reclaimed water line installation and maintenance, and pump station construction.
Solid Waste Management Facilities	Landfills, or transfer stations, material recovery facilities, small-scale energy production facilities (i.e., landfill gas utilization), and recycling centers.
Public and Private Utilities	Transmission lines, telecommunications lines, and gas lines subject to authority of Permittees. *Note: Actions by PG&E, Sacramento Municipal Utilities District, and Northern California Power Agency that are not directly subject to the authority of Permittees will not be covered under these permits.*
Other	Other public programs as described below under "Regional Public Programs."

Source: Appendix A:Table 2-8.

Valley Rural Development

This category includes all ground- or habitat-disturbing projects and activities that occur in the Valley in component A2, Valley Conservation and Rural Development. This represents the Valley RAA and EXR but excludes the Valley PFG (see Figure 2-2). This 53,929-acre area is an arc of unincorporated County land around the west and north side of the Valley PFG. Covered Activities here include rural residential uses and the few types of agriculture-related activities (e.g., barns and agricultural processing facilities) that are subject to ministerial or discretionary approval by the County or City of Lincoln. Other agricultural activities such as grazing and the growing of rice, field crops, and orchard crops are not covered by the Plan. The Valley Conservation and Rural Development component is where most of the PCCP conservation objectives for the Valley would be implemented; PCA acquisition and management of reserve lands in the RAA is a Covered Activity described below.

Activities in A2, Valley Conservation and Rural Development, are based on designations in the general plans of the County and the City of Lincoln. These general plans, community plans, area plans, specific plans, and associated zoning designations may be changed over the course of the PCCP permit term to allow changes in allowed land use type so long as the following terms are met.

- The land use remains rural or agricultural or compatible with rural or agricultural general plan designations.
- Land use intensity is not increased.
- Residential density is not increased.

Activities that do not meet the criteria listed above are not prohibited by the Plan, but they are specifically not covered by the Plan. Project proponents who seek approvals or entitlements inconsistent with the above criteria cannot receive take coverage for their projects under the PCCP and must apply for take authorization directly from the relevant state or federal agencies. Rural development activities covered by the Plan are summarized in Table 2-5. Public agency programs are described below as they are covered in component A2, Valley Conservation and Rural Development.

Foothills Potential Future Growth

This category includes all ground- or habitat-disturbing projects and activities that occur in component A3—Foothills PFG (Figure 2-2). The 78,897 acres of the Foothills PFG comprise the unincorporated communities of Granite Bay, Penryn, Ophir, Mt. Pleasant, and Newcastle and adjacent portions of the I-80 corridor; the unincorporated area around the City of Auburn; and rural residential lands east of the Cities of Rocklin and Lincoln. The Foothills PFG boundary extends easterly to the Placer/El Dorado County line, hence area tabulations include 3,820 acres of Folsom Reservoir and the Folsom Lake State Recreation Area in which there is no coverage by this Plan.

Future growth in the Foothills PFG will be less in magnitude and density than in the Valley PFG. There will be portions of the I-80 corridor and the outlying areas around Auburn and along SR 49 that will develop at urban densities with urban land use. However, most of the Foothills PFG outside the urban core of Granite Bay, North Auburn/Bowman is zoned for very low-density, rural residential and agricultural development. It is expected that most of the land area subject to future growth will be rural residential (i.e., a density of one dwelling unit per acre to one dwelling unit per 10 acres). Acquisition of reserve lands and conservation activities may occur in the Foothills PFG, primarily in the Stream System to benefit covered fish.

Activities in the Foothills PFG are based on designations in the general plan and community plans of Placer County. The general plans, community plans, specific plans, and associated zoning designations may be changed over the course of the PCCP permit term to allow changes in allowed land use type, increases in land use intensity, and increases in residential density.

Urban land use activities are summarized in Table 2-4. Ongoing rural and agricultural land uses are also covered as summarized in Table 2-5. Public agency programs are described below as they are covered in Component A3—Foothills PFG.

Current plans that apply to the Foothills PFG include those listed below.

- *Granite Bay Community Plan.*
- *Horseshoe Bar/Penryn Community Plan.*

- *Ophir General Plan.*
- *Auburn/Bowman Community Plan.*
- *Bickford Ranch Specific Plan*.

Additional area plans, community plans, specific plans, and updates to comprehensive general plans would be developed over the course of the Plan's permit term.

Foothills Rural Development

This category includes all ground- or habitat-disturbing projects and activities that occur in the Foothills RAA and EXR, which are grouped into component A4—Foothills Conservation and Rural Development (Figure 2-2). This 30,237-acre area is north of the Foothills PFG, generally north and east of the intersection of Wise and Gladding Roads extending to north and west of the intersection of Hubbard and Bell Roads. The Plan boundary extends to the Placer/Yuba/Nevada County line, hence area tabulations include 837 acres of Camp Far West Reservoir, in which no Covered Activities would take place.

Most of the area consists of large parcels in woodland and rangeland and is currently zoned for large-parcel minimums. The category includes rural residential uses and agricultural activities which are subject to ministerial or discretionary approval by the County. Component A4—Foothills Conservation and Rural Development is where most of the PCCP conservation objectives for the Foothills would be implemented; PCA acquisition and management of reserve lands in the RAA is a Covered Activity described below.

Covered rural development activities are based on designations in the *Placer County General Plan*. This general plan and its associated zoning designations may be changed over the course of the PCCP permit term to allow changes in allowed land use type so long as the following terms are met.

- The land remains in rural or agricultural use or is compatible with rural or agricultural general plan designations.
- Land use intensity is not increased.
- Residential density is not increased.

Activities that do not meet the criteria listed above are not prohibited by the PCCP, but they are specifically not covered by the Plan. Project proponents who seek approvals or entitlements inconsistent with the above criteria cannot receive take coverage for their projects under the PCCP and must apply for take authorization directly from the relevant state or federal agencies.

Covered rural development activities are summarized in Table 2-5. Covered public agency programs are described below as they are covered in the Foothills Conservation and Rural Development component.

Regional Public Programs

Regional public programs provide and sustain the backbone infrastructure that supports public services and development within the Plan Area. Regional public programs involve O&M of existing facilities and construction and O&M for new facilities. These important public projects will serve existing and future Placer County and city of Lincoln residents during the permit term. The programs are typically funded through a variety of sources, and public projects are frequently listed

as capital improvement programs in adopted plans or programs. Projects could be carried out by a public agency/utility district or private developer on behalf of a public agency/utility district.

All regional public programs in Plan Area A are covered under the Plan. Specific activities/projects in Plan Area B are covered, as noted below. Regional public programs are divided into six categories by public facility provider such that similar activities are grouped together to help organize the effects analysis. These categories are transportation programs, wastewater programs, water supply programs, solid waste management facility programs, public recreation serving activities, and utility line construction and facility maintenance.

Transportation Programs

Transportation programs provide, enhance, and maintain infrastructure that supports existing development and new development. Transportation program activities covered under the Plan may occur anywhere within Plan Area A or component B1. Types of transportation activities proposed for coverage under the PCCP include those listed below.

- County and City road projects including new lanes, new connections, extensions, widening, and realignment projects. Projects may include trails for use by pedestrians and bicyclists.
- County and City roadway safety and operational improvement projects to roads including shoulder widening and straightening of curves. Modifications to vertical and horizontal alignments. Improvements at intersections and driveway encroachments, including constructing new turning lanes, adding signals, and lengthening of existing turning lanes. Also, intersection level-of-service improvements, grade separations, and sound wall installations. Projects may improve access for pedestrians and bicyclists.
- County and City maintenance of new and existing transportation facilities, including appurtenant drainage and water quality infrastructure.
- New roads constructed in association with urban or rural development will usually be installed by the developer, and the County or city will assume ownership and maintenance.
- *Metropolitan Transportation Plan 2035* and subsequent Metropolitan Transportation Plans (projects that are located in the Plan Area and under the jurisdiction of the Permit Applicants).
- Other yet undesignated major regional transportation projects.

Two major transportation projects—Placer Parkway and its interchanges and the I-80/SR 65 Interchange improvements—are planned for implementation within the permit term. Placer Parkway is planned be an approximately 15-mile-long, high-speed roadway of four to six lanes connecting SR 65 in western Placer County to SR 70/SR 99 in southern Sutter County. Placer Parkway is intended to provide access from rapidly developing parts of western Placer County to the I-5 corridor, downtown Sacramento, and Sacramento International Airport. The first phase of Placer Parkway, from SR 65 to Foothills Boulevard North, is under construction.

Modifications to the I-80/SR 65 interchange have not been finalized. Potential options include construction of a bi-directional high-occupancy vehicle direct connector between I-80 and SR 65; replacement of the eastbound I-80 to northbound SR 65 loop-connector with a flyover connector; structure widening of the East Roseville Viaduct and replacement of the Taylor Road overcrossing; and widening of the southbound SR 65 to westbound I-80 and the westbound I-80 to northbound SR 65 connectors with associated auxiliary lanes and ramp realignments. High-traffic volumes cause operational problems at the interchange, and traffic is expected to increase because of population

and employment growth. The improvements are intended to reduce congestion, improve traffic operations, and enhance safety.

Wastewater Programs

The County (through sewer maintenance districts) and the City of Lincoln operate and maintain multiple wastewater treatment facilities. The PCCP would provide coverage for Permit Applicant wastewater projects including treatment plant construction or expansion (including installation of pipelines), O&M, effluent discharge, force main and effluent line construction and maintenance, discharge and reclamation line installation, and pump station construction. Covered wastewater activities may occur anywhere within Plan Area A or component B1, Permittee Activity in Non-participating City Jurisdiction. Planned wastewater projects are listed in Table 2-7.

Pipeline O&M includes important activities within the Plan Area as they prevent deterioration of infrastructure necessary for wastewater conveyance. For purposes of the Plan, routine maintenance work is defined as work performed regularly (i.e., every 1–5 years) to maintain the functional and structural integrity of facilities.

Maintenance activities will generally require trenching around existing pipelines and conducting repairs or replacing segments of pipeline. The pipelines are located in both urban and rural areas. The maintenance activities that are proposed for coverage under the Plan include the following.

- Mechanical root removal, including the use of a drain snaking rotor with an auger which cuts at the tree root incursion with a rotating blade.
- Rehabilitation, repair, and/or replacement of pipelines and components including but not limited to air release valves, piping connections, joints, and appurtenances. Activities may include excavation to access pipelines.
- Sewer pipe sliplining, which is a trenchless method of rehabilitating pipelines to repair leaks or restore structural stability.
- Replacement/repair of buried service valves (including valves within creek embankments that may require excavation and minor bank stabilization activities).
- Maintenance of pipeline turnouts, including access to pipelines.
- Replacement/repair of appurtenances, fittings, utility hole covers, and meters.
- Wastewater vault maintenance which include minor repairs and debris removal.
- Wastewater meter inspections and repairs.
- Maintenance of pump stations, operation yards, utility yards, and corporation yards.
- Facility access road repairs and maintenance, which is limited to existing roads.

Table 2-7. Current Planned Wastewater Management Projects

Project Name	Description
Sewer Maintenance District 1 Service Area	
Auburn Ravine Force Main Rehab/Replacement	Rehabilitate pipe either by digging and replacing or using a less invasive pipe lining technology. An estimated 1.14 miles of pipe are expected to be lined or replaced. Also analyze other downstream trunk line restrictions.
Hwy 49 Siphon Relief	Install up to 3,350 feet of parallel pipe and/or a pump station. May include excavation, compaction, and paving.
Bell Road Lift Station	Panel and pump replacement.
Joeger Road Lift Station	Construct retaining wall, new control building, paving, new pumps and control panels.
Vineyard Lift Station	Evaluate lift station wet well and booster pumps.
Airport Lift Station	New wet well, pumps, panels, control building, lids, and generator.
Olive Grove Lift Station	Replace pumps and rails.
Rock Creek Realignment	Abandon about 1,600 feet of sewer pipe installed in the 1960s. Reroute about 1,600 feet of pipe adjacent to Rock Creek and reinstall about 1,600 feet of pipe along another route away from the creek bed. May include excavation, compaction, and paving.
Sewer Maintenance District 2 Service Area	
Trunkline Upsizing	Upsize 7,500 feet of 18-inch sewer pipe and 6,000 feet of 21-inch pipe. May be completed by digging and replacing or with less invasive pipe bursting technology. May include occasional work near creeks.
Wexford Lift Station	Replace generator, add transfer switch and overflow storage.
Winterhawk Lift Station	Replace lids, pumps, rails, panels, generator and add storage.
Maintenance Yard at Plant 2	Construct a building at the maintenance yard for equipment storage and maintenance.
Sewer Maintenance District 3 Service Area	
Regional Sewer, Phase II (Auburn Folsom Road, Loomis)	Upsize approximately 10,150 linear feet of 10-inch sewer pipe in the Sewer Maintenance District 2 (Granite Bay) collection system to provide for growth in the Sewer Maintenance District 3 area. Install new or additional pumps in the existing pump station.
E Street, Sheridan	
Chlorine Contact Basin	Construct new concrete chlorine contact basin.
Wastewater Treatment Plant Upgrade	Construct new storage and treatment ponds to provide for growth. Construct a new wastewater treatment plant, including several concrete basins and buildings to house equipment to provide additional capacity. Construct significant upgrades to the wastewater treatment plant with new technology appropriate for anticipated water quality requirements.
Wastewater Treatment Plant Abandonment	Demolish existing wastewater treatment plant and construct a pump station and pipeline to Wheatland or Lincoln (about 4–8 miles); project may include a possible Bear River crossing.

Project Name	Description
Community of Sheridan	
Sheridan—Water System Improvements	Replace and upsize several thousand feet of potable water supply piping. Conversion of old piping to convey reclaimed water. Replacement of fire hydrants and placement of additional fire hydrants. Install approximately 300 potable water meters. Installation of a water storage tank not exceeding 1 million gallons in volume.
Nader Road and Community of Sheridan	
Sheridan—Water Import Project	Construction of a raw water transmission pipeline from the Bear River or Coon Creek to Nader Road area to provide surface water for Nader Road and Sheridan area.
Sunset Whitney Service Area	
Sunset Whitney—SASUG Pipeline	Build a gravity sewer system, force main, and pump station from Athens Road in Lincoln to either the Dry Creek wastewater treatment plant or the City of Lincoln's wastewater treatment plant.

Source: Appendix A:Table 2-9A.

Water Supply Programs

Permit Applicants PCWA, the City of Lincoln, and Placer County (for the Sheridan community) would supply present and future water users in the Plan Area and portions of the non-participating cities. These Permit Applicants would seek coverage for O&M of existing water supply facilities, future capital improvement projects within the Plan Area, and future construction of water supply facilities to meet the needs of residential, commercial, public facility, and industrial construction within the Plan Area (e.g., new water supply, treatment, storage, and delivery infrastructure as well as the O&M of new water supply, treatment, storage, and delivery infrastructure). O&M and planned capital improvement projects are described below and in Table 2-8. Covered PCWA water supply activities may occur anywhere within Plan Area A or in component B1, Permittee Activity in Non-participating City Jurisdiction or B2, PCWA Zone 1 O&M.

Operations and Maintenance Activities

The following O&M activities for raw water distribution are proposed for coverage under the Plan (a more comprehensive description specific to PCWA activities can be found in the PCWA *Natural Resources Management Plan for Raw Water Distribution System Operations and Maintenance Activities*; Appendix E of the Plan).

- Adjusting or replacing orifices, which control flow rates, at delivery points where customers divert water from PCWA canals.
- Yearly water delivery outages.
- Delivery schedule changes and routine flow adjustments throughout the canal system through use of check boards, temporary weirs, valve controls, and debris removal.
- Seasonal release of excess water at designated outlet locations for flood management during storm events.

- Clearing debris and sediment in canals, lining leaky canal sections, repairing damaged pipes and/or flumes, and controlling vegetative growth in the canals and on the canal berms through physical removal.
- Sediment removal from reservoirs and dams, reservoir and canal berm maintenance due to damage by muskrats, beavers, and otters.
- Periodic reservoir outages for canal cleaning, repair, or sediment removal.
- Repair and replacement of treated and raw water distribution facilities, including pipeline flushing and meter replacement.
- Canal lining, guniting, and piping.
- Maintenance and operation of water supply, treatment, and delivery infrastructure, including water storage tanks, pump stations, connecting transmission lines, and their appurtenances.

Capital Improvement Projects

The Permit Applicants would undertake a number of capital projects for new surface and groundwater water supply, treatment, storage, and delivery infrastructure over the PCCP permit term. These would include water supply projects, groundwater wells, transmission and distribution pipelines, metering station installations, water treatment and storage facilities, corporation yards, facilities and administration buildings, and pump stations.

Table 2-8. Water Supply Projects

Activity	Description
Placer County Water Agency	
Auxiliary Power Plant for Pumping American River Water Supply (Ophir)	Construct a power plant either diesel generator on Maidu Drive, Auburn or a co-generation plant at the future Ophir Water Treatment Plant.
Baltimore Ravine Pipeline (Auburn area)	Construct a pipeline from the future Werner Road Storage Tank to run through the Baltimore Ravine Specific Plan Area and connect to the Auburn Water System.
Duncan Hill Pipeline (Ophir area)	Construct a pipeline within Millertown, Voyiatzes, and Duncan Hill Roads to connect the Auburn Water System to Ophir Road.
Foothill Water Treatment Plant—Ophir Road Pipeline	Connect the Foothill Water Treatment Plant in Newcastle to the Newcastle Water Storage Tank with a pipeline.
Groundwater Wells within Western Placer County (various locations in western Placer County)	Install new groundwater wells within western Placer County and improve the existing Tinker and Sunset Industrial Wells.
Lincoln Phase 3 Pipeline and Metering Station (West of Sierra College Boulevard near Twelve Bridges)	This project includes approximately 5,000 feet of pipeline to convey water from the existing Lincoln Metering Station to a new metering station.
Loomis Basin Tank (6.5 million gallons) and Connecting Pipelines (Lake Forest Drive, Loomis)	Construct a 6.5-million-gallon treated water storage tank, booster pump station, altitude valve vault, detention basin, access road, and approximately 13,000 feet of 12- and 18-inch diameter pipeline.

Activity	Description
Ophir Water Treatment Plant and Treated Water Pipeline Project	Construct a new water treatment plant on Ophir Road adjacent to the Auburn Tunnel Pump Station site. This project includes new treated and raw water pipelines within Ophir Road associated with the Auburn Tunnel Pump Station and proposed Ophir Water Treatment Plant.
Raw Water Diversion	Construct a diversion structure on Dry Creek in western Placer County.
Taylor Road Pipeline Phase 1 and 2 (Penryn)	Construct a pipeline within Taylor Road from the Penryn Tank to Sierra College Boulevard.
Water System Facilities Center (Ophir/Newcastle area)	Acquire land in Ophir/Newcastle area to be used for a future PCWA Water Systems Facilities Center. The facilities center would include a warehouse, fabrication shop, crew building, administration building, vehicle/equipment wash area, and fuel station.
Werner Road Storage Tanks (Ophir)	Construct two treated water storage tanks on PCWA property.
West Placer Corporation Yards (various locations in western Placer County)	Construct a corporation yard that would include a warehouse and lay-down area for storage of pipe and other construction equipment.
West Placer Pipeline, Storage Tanks, and Distribution Pump Stations (various locations in western Placer County)	Construct pipelines, water storage tanks and pump stations to distribute water to various new development in western Placer County. Most would be included in private development process.
West Placer Water Supply Projects	Develop a regional water supply for western Placer County. Two are being considered: • Expanded American River Pump Station: increase current diversion capability at the existing American River Pump Station located on the American River upstream of Folsom Reservoir. • Sacramento River Diversion: develop a new diversion facility on the Sacramento River upstream of the confluence of the American River and Sacramento River. This would include construction of water supply infrastructure components, including new or expanded diversions from the Sacramento or American Rivers, and new or expanded water treatment and pumping facilities, storage tanks, and major transmission and distribution pipelines. The operational direct effects of West Placer Water Supply Projects would not be a Covered Activity (and therefore are not assessed in the PCCP). However, development projects within the Plan Area that would use this new water supply are covered by the PCCP. Therefore, the indirect effects would be covered by the PCCP.

Activity	Description
Placer County—Sheridan Water Supply	
Sheridan—Water Supply and Distribution (Camp Far West Road, Sheridan)	Construct a new well, standby generator, and water tank for the Sheridan community water system.
Sheridan—Water System Improvements	Construct a new well, standby generator, and water tank for the Sheridan community water system.
Sheridan—Water System Improvements	Replace and upsize several thousand feet of potable water supply piping. Convert old piping to convey reclaimed water. Replace fire hydrants and place additional fire hydrants.
Sheridan—Water System Improvements	Install approximately 300 potable water meters. Install a water storage tank not exceeding 1 million gallons in volume.
Sheridan—Water Import Project	Construct a raw water transmission pipeline from the Bear River or Coon Creek to Nader Road area to provide surface water for the Nader Road and Sheridan area.
Sunset Whitney – SASUG Pipeline	Build a gravity sewer system, forcemain, and pump station from Athens Road in Lincoln to either the Dry Creek wastewater treatment plant or the City of Lincoln's wastewater treatment plant.

Source: Appendix A:Table 2-9B.
PCCP = Placer County Conservation Program.
PCWA = Placer County Water Agency.

Solid Waste Management Facility Programs

Solid waste management facility programs include O&M and construction of new facilities or expansion or existing facilities. Covered solid waste management facility program activities may occur anywhere within Plan Area A, and transfer stations built or operated by the County are permitted in component B1, Permittee Activity in Non-participating City Jurisdiction.

The PCCP would also provide coverage for post-closure maintenance activities and the future use of the property as open space that may include public recreation (i.e., trails), agriculture, grazing, or other compatible activities compatible with post-closure conditions that might be constructed. The solid waste management projects listed in Table 2-9 are expected to occur within permit term of the PCCP.

Covered Activities associated with these programs include operation and potential expansion of the Western Regional Sanitary Landfill, operation of the Materials Recovery Facility (or its potential relocation or construction of a new Materials Recovery Facility), and post-closure maintenance activities at the Loomis Landfill.

Table 2-9. Solid Waste Management Projects

Activity	Description
Loomis Landfill—Gas System Upgrades (Ong Place, near intersection of King Road and Penryn Road)	Replace and/or upgrade landfill gas components: blower, flare, piping, leachate and condensate collection and storage tanks, and supervisory control and data acquisition system.
Loomis Landfill—Decommission Landfill Gas Extraction System	Remove flare, blowers, compressors, condensate, storage, and piping and regrade and revegetate.
Loomis Landfill—Abandon Groundwater Monitoring Wells	Grout well casings and remove upper well casings below grade.
Loomis Landfill—Beneficial Use Project	Construct passive recreational facilities (parks, trail systems, minor structures/landscaping) on and/or around landfill property.
Western Regional Sanitary Landfill—Landfill Expansion	Revise final fill height of existing landfill near southeast corner of site. If eastern property is acquired, revise fill plan to include eastward expansion of landfill facilities.

Source: Appendix A:Table 2-9C.

Public Recreation–Serving Activities

Permit Applicants' recreation-serving activities—establishing and maintaining public recreation facilities—is a Covered Activity, although public use of the facilities is not. Public parks and recreation activities include construction of new parks, adaptation of existing public lands for enhanced recreational access, and O&M of all facilities. The locations of many County and most City of Lincoln parks and trail facilities where these Covered Activities would occur will be within, or close to, urban areas. Covered public parks and recreation-serving activities may occur anywhere within Plan Area A.

The effects of trail stream crossing are discussed below under *In-Stream Activities*. Passive forms of recreation may be allowed on some lands acquired for the Reserve System. Construction and maintenance of trails and other recreation facilities in the Reserve System are discussed below under *Conservation Programs*.

Covered Activities include construction of new County and City of Lincoln parks, which would include trails, recreation facilities, and other park infrastructure including restrooms, parking areas, maintenance facilities, restrooms, wildlife observation platforms facilities, and educational kiosks. To the extent possible, recreational facilities would use existing infrastructure such as trails and fire or ranch roads.

Maintenance of these facilities includes trail and road maintenance, installation of fencing, facility maintenance, prescribed burns, pond maintenance (including draining and dredging), and invasive vegetation management. In the unincorporated area, parks in rural settings will also include controls on feral pig introductions. Vegetation management activities include the removal of exotic species, planting of native vegetation, and livestock grazing. Trail maintenance includes grading, clearing, brushing, erosion control, paving, re-paving, and trail restoration. If a park is to be included as part of the Reserve System, details for maintenance would be provided within the Reserve Management Plan.

Utility Line Construction and Facility Maintenance

This category of Covered Activities relates to pipelines and cables in the Plan Area that are maintained by the Permit Applicants or by public or private utilities, natural gas companies, petroleum companies, or telecommunications companies acting under Permit Applicant authority, including franchise and encroachment within Permit Applicant–owned roadways or other rights-of-way. Private companies also operate and maintain electric substations, gas valve stations, radio broadcasting towers, and cellular telephone towers, among other facilities. Covered utility line construction and facility maintenance activities may occur anywhere within Plan Area A.

Public and private utility activities that are directly subject to the authority of a Permit Applicant would be a Covered Activity. Public and private utility activities that are regulated by or subject to the authority of another entity such as the California Public Utility Commission would not be covered by the Plan. Some energy or water utilities may already have their own ITPs or NCCP permits for their activities (e.g., the Pacific Gas and Electric Company is developing its own HCP for O&M activities) and would therefore not require coverage under the Plan. A utility may request coverage under the Plan for routine maintenance and repair of existing utilities within the Plan Area as a Participating Special Entity.

Maintenance or repair of linear facilities may involve vegetation clearing (e.g., mowing, disking, herbicide spraying, tree trimming) or excavation of underground utility lines for inspection, maintenance, or replacement. The routine maintenance of utility lines in the Plan Area is a Covered Activity under the Plan, except for the use of pesticides, which is not covered by the federal permit. Coverage for utility line or facility maintenance that takes place in the Reserve System would be decided on a case-by-case basis, and the Permit Applicant may need to consult with the Resource Agencies as needed.

In-Stream Activities

The term *in-stream activities* is defined for the purposes of the Plan as those occurring within streams, typically the top of the bank or the outer edge of the riparian canopy, whichever is more landward. This category addresses projects that occur within streams and may result in effects on a stream, reservoir, or on-stream ponds. This category includes O&M activities in the stream channel, along the stream bank, and on adjacent lands at the top-of-bank within the riparian corridor. Covered in-stream activities may occur anywhere within Plan Area A. The flood control and water conservation projects listed in Table 2-10 are expected to occur within permit term of the PCCP.

In-stream activities that would be covered under the Plan include the following.

- Urban and rural development activities described above that overlap with the Stream System and the adjacent riparian corridor, including transportation, water supply, wastewater management, and stormwater management.
- Construction, replacement, and repair of bridges for cars and trucks, trains, and pedestrians.
- Flood control and storm water management including water retention/detention facilities construction, streambed and channel debris and vegetative control and removal, channel lining of canals, canal realignment, culvert replacement, maintenance of access roads, beaver dam removal, stormwater conveyance facilities and outfall structures, erosion/sediment control, bank stabilization, and floodplain enhancement.

- Maintenance of existing flood protection and stormwater facilities such as drainage improvements, existing dams, armored creeks, bypass channels, and stormwater ponds. Maintenance includes trail repair, trash removal, fence installation, sediment removal (primarily in reservoirs), and road, culvert, and minor bridge repair.
- Natural resource protection such as bank stabilization projects, restoration to reduce erosion, and fish passage enhancements.
- Erosion control projects or storm damage prevention projects that do not create new permanent structures or hardscape on the creek bank or channel. This category includes temporary flood-fighting activities to prevent storm damage (e.g., temporary flood-fighting would include sandbagging and earth fill levees).
- Vegetation management for exotic species removal and native vegetation plantings including the use of livestock grazing and prescribed burns.
- Reservoir fluctuations including drawdown and filling for maintenance or operational purposes (i.e., not associated with a capital project).
- In-stream gauge station monitoring (installation and maintenance).
- O&M of in-stream water system facilities.
- Implementation of resource management plans.
- Implementation of the riverine and riparian conservation and management strategies including cleaning/removing sediment from gravel beds and augmenting gravel in stream beds, among other in-stream conservation activities.

As may be noted from this list, some in-stream projects are intended to mitigate, enhance, or restore stream and riparian functions. A number of restoration activities are underway in the Plan Area and more would be expected in the future. Water utility/water supply O&M activities associated with habitat enhancement and restoration that would be conducted inside and outside the Reserve System are identified below under *Conservation Programs*.

Table 2-10. Flood Control and Water Conservation Projects

Activity	Description
Scilacci Farms Regional Retention Project	Stormwater retention project with wetlands and agricultural conservation easements located North and South of Coon Creek immediately East of the Sutter County line.
Regional Retention Projects within Cross Canal Watershed	Stormwater retention projects with wetlands and agricultural conservation easements within floodplain areas of streams within the general Cross Canal Watershed, including Pleasant Grove Creek, Curry Creek, Auburn Ravine, Markham Ravine, and Coon Creek.
Dry Creek Watershed Flood Control Plan—Regional Detention Projects	Both on- and off-channel stormwater detention projects located throughout the Dry Creek Watershed.
Dry Creek Watershed Flood Control Plan—Regional Floodplain Restoration Projects	Floodplain restoration/reconnection projects located throughout the Dry Creek Watershed.
Dry Creek Watershed Flood Control Plan—Bridge/Culvert Replacement Projects	Bridge and culvert improvement projects throughout the Dry Creek Watershed.

Activity	Description
Dry Creek Watershed Flood Control Plan—Conveyance and Channel Improvement Projects	Improvements to underground conduits, artificial channels, and natural channels throughout the Dry Creek Watershed.
ALERT Flood Warning System of Precipitation and Stream Level Gages	Installation, monitoring, and maintenance of remote stream data sensors throughout Dry Creek and Cross Canal Watersheds.
Dry Creek Watershed Stream Channel Maintenance Program	Stream channel clearing and conveyance maintenance activities throughout flood-prone locations within Dry Creek Watershed.
Operations, Monitoring, and Maintenance activities at the District's Miners Ravine Off-Channel Detention Basin Facility	Routine annual maintenance and monitoring as well as non-routine maintenance and operation activities at the District's facility in Roseville.

Source: Appendix A:Table 2-9D.

Conservation Programs

PCCP Management Activities

Activities associated with implementation of the Plan's conservation strategy are included in PCCP Covered Activities. The management activities that would be used on the Reserve System are summarized below and described in detail in Chapter 5 of the Plan. Most of these activities would take place within the Reserve System assembled by the Plan. Some conservation activities may also occur outside of the Reserve System but within the Plan Area. In-stream conservation measures described below under *Conservation Strategy* overlap with the PCCP management activities discussed in this section.

Reserve Management and Habitat Enhancement, Restoration, Creation, and Translocation

This category includes all management measures, including habitat restoration and creation, required by the Plan or other measures that might be necessary to achieve Plan biological goals and objectives. The Plan's conservation strategy sets forth requirements for habitat enhancement, restoration, and creation.

Activities in this category may involve soil disturbance, removal of undesirable plants, and limited grading. All habitat enhancement, restoration, and creation activities conducted within the Reserve System that are consistent with the requirements of the Plan are covered by the permits. Habitat enhancement, restoration, and creation activities may also be conducted outside the Reserve System so long as they are consistent with the Plan. Examples of habitat enhancement, restoration, creation, and reserve management activities include, but are not limited to, the following.

- Management measures identified in Chapter 5 of the Plan intended to maintain, enhance, restore, and create habitat for Covered Species (Table 2-11 lists Covered Species).
- Vegetation management, including management of invasive plants, using livestock grazing, mowing, manual labor, and/or prescribed burning.

- Collection of cysts from covered branchiopods (i.e., conservancy fairy shrimp, vernal pool fairy shrimp, and vernal pool tadpole shrimp) for depositing in a cyst bank with Wildlife Agency approval.
- Relocation of Covered Species from affected sites and within reserves where effects would be unavoidable and relocation would have a high likelihood of success. This is expected to occur in very limited circumstances, except for collection of seeds and cysts of covered vernal pool plants and branchiopods, respectively (see above bullet points).
- Demolition or removal of structures, roads, or constructed livestock ponds to increase public safety or to restore habitat.
- Control of introduced predators (e.g., feral cats and dogs, pigs, nonnative fish, and bullfrogs).
- Management activities for burrowing owls such as population augmentation and owl relocation for conservation purposes.
- Surveys and monitoring for mitigation and restoration/habitat enhancement projects.
- Use of motorized vehicles for patrolling, maintenance, and resource management activities in the Reserve System.
- Use of mechanized equipment for construction, maintenance, and resource management projects in the Reserve System.
- Installation of wells, canals, irrigation lines and other water conveyance facilities, the water from which would be used to fill stock ponds, troughs, and other storage facilities for cattle.
- Travel through the Reserve System by habitat managers, Wildlife Agency personnel. Off-trail travel will be kept to the minimum amount necessary to perform maintenance, management, or patrol activities.
- Fire management including prescribed burning, mowing, and fuel-break establishment and maintenance (see *Fuel Management*, below).
- Collection and processing (e.g., chipping for transportation and trimming and bucking of logs) of waste biomass materials that result from fuel management activities.
- Hazardous materials remediation, such as appropriate closure of underground storage tanks, soil remediation, and cleanup of illegal dumping.
- Repair of existing facilities damaged by floods, landslide, or fire.
- Restoration and enhancement projects in vernal pool grasslands, streams, riparian areas, wetlands, and uplands.
- Fish passage enhancements including removal of fish barriers, such as low flow crossings and development of fish screens.

Monitoring and Research

Biologists would need to conduct surveys for all Covered Species, natural communities, and other resources within the Reserve System on a regular basis for monitoring, research, and adaptive management purposes. These surveys may require physical capture and inspection of specimens to identify and mark individuals or measure physical features, all of which may be considered take under ESA or CESA. Research conducted by biologists on reserves in support of the Plan would be

covered by the permits as long as the research projects have negligible effects on populations of Covered Species.

Fuel Management

Each Reserve System unit would have a fire management component included within the PCCP Reserve Management Plans. The fire management component would describe site-specific conditions and actions required to (1) reduce existing fuel loads, (2) re-introduce fire as a natural process of the ecosystem (if permissible), (3) minimize environmental effects and protect sensitive resources, (4) minimize the impacts from fire incident response measures, and (5) enhance and/or restore natural community characteristics.

Preservation of reserve lands in perpetuity would require that they be managed to reduce their susceptibility to catastrophic wildfire as well as to meet the ecological objectives of the PCCP.

Recreation

The PCCP would develop limited recreation opportunities within the Reserve System according to the requirements in Chapter 5 of the Plan (see *Content of Reserve Unit Management Plans*) and Chapter 6 of the Plan (see Reserve Management Conditions 1–3). These activities are expected to be minimal but may include trails and associated infrastructure. The PCCP limits future reserves to 100 miles of trails with an average width of 6 feet. All trails and recreation facilities would be constructed to minimize effects on Covered Species and vegetation communities and in compliance with the guidelines in Chapter 6 of the Plan.

Recreational uses would only be allowed within the Reserve System if the PCA determines that they are consistent with the biological goals and objectives of the Plan and are consistent with a reserve unit management plan approved by the Wildlife Agencies. Allowed uses would be specified in the reserve unit management plan and may include hiking, non-motorized bicycle riding, walking, horseback riding, fishing and hunting, wildlife observation and photography, and environmental education and interpretation on designated trails at appropriate sites or other similar low intensity activities.

Reserve System Infrastructure

This category includes construction, maintenance, and use of facilities needed to manage the reserves, including but not limited to reserve field offices, maintenance yards, maintenance sheds, workshops, storage space (e.g., for machinery or vehicles) carports, driveways, roads, bridges, fences, gates, wells, stock tanks, stock ponds, and a native plant nursery to support restoration and enhancement projects. All reserve management structures would be constructed to minimize effects on Covered Species and vegetation communities and in compliance with the guidelines in Chapter 5 of the Plan and conditions on Covered Activities described in Chapter 6 of the Plan. Facilities existing at the time of land acquisition would be used whenever feasible.

Non-PCCP Placer County Conservation Programs

Placer County administers ongoing conservation and resource management programs (e.g., management of wildfire fuel) that are separate from but complementary to the PCCP. The actions conducted by Placer County to implement *Placer Legacy* and the *Auburn Ravine/Coon Creek Ecosystem Restoration Plan, Dry Creek Comprehensive Resource Management Plan, Pleasant Grove/Curry Creek Ecosystem Restoration Plan*, and *Dry Creek Greenway Vision Plan* are similar to

many of those that would be conducted by the PCA to implement the PCCP conservation strategy. These actions, which are also Covered Activities, would occur primarily outside the Reserve System.

Covered Species

Covered Species are species for which take would be authorized as well as species that would be conserved and protected by the Plan. The Plan proposes 14 special-status species for coverage under the ITPs and NCCP permit as shown in Table 2-11 below.

Table 2-11. Plan Covered Species

		Status	
Common Name	Scientific Name	Federal	State
Birds			
Swainson's hawk	*Buteo swainsoni*	BCC	ST
California black rail	*Laterallus jamaicensis coturniculus*	BCC	ST & FP
Western burrowing owl	*Athene cunicularia*	BCC	SSC
Tricolored blackbird	*Agelaius tricolor*	BCC	SC
Reptiles			
Giant garter snake	*Thamnophis gigas*	FT	ST
Western pond turtle	*Emys marmorata*		SSC
Amphibians			
Foothill yellow-legged frog	*Rana boylii*		SC
California red-legged frog	*Rana draytonii*	FT	SSC
Fish			
Central Valley steelhead—Distinct Population Segment	*Oncorhynchus mykiss irideus*	FT	
Central Valley fall/late fall-run Chinook salmon Evolutionarily Significant Unit	*Oncorhynchus tshawytscha*	SC	SSC
Invertebrates			
Valley elderberry longhorn beetle	*Desmocerus californicus dimorphus*	FT	
Conservancy fairy shrimp	*Branchinecta conservatio*	FE	
Vernal pool fairy shrimp	*Branchinecta lynchi*	FT	
Vernal pool tadpole shrimp	*Lepidurus packardi*	FE	

Status:

Federal

BCC = U.S. Fish and Wildlife Service Birds of Conservation Concern.
FE = Federally Listed as Endangered.
FT = Federally Listed as Threatened.
SC = National Marine Fisheries Service Species of Concern.

State of California

FP = Fully Protected.
SC = State Candidate.
SE = State Listed as Endangered.
SSC = California Department of Fish and Wildlife Species of Special Concern.
ST = State Listed as Threatened.

Conservation Strategy

The PCCP conservation strategy and its components are part of the proposed action. The conservation strategy, defined in Chapter 5 of the Plan, is designed to provide for conservation of landscapes, natural communities, and Covered Species. The conservation strategy defines overarching biological goals, sets measurable objectives including quantified geographic acquisition targets, and defines implementation actions that would achieve these goals. The strategy comprises four main conservation measures, as described below.

Reserve System

The Plan proposes to progressively establish a large system of interconnected blocks of land. Over the 50-year permit term for the PCCP, the PCA would acquire approximately 47,300 acres that would augment the approximately 16,000 acres of existing conservation lands. Cumulatively, 38% of the present natural and semi-natural landscape in Plan Area A would ultimately be subject to conservation management. The Reserve System would provide a means for protecting, managing, enhancing, and restoring or creating the natural communities and habitats that support Covered Species. The Reserve System would be located mainly in the western and northern Valley and in the northern Foothills, regionally separated from future urban and suburban growth. The geographic aspect of the conservation strategy is expressed in Figure 2-3.

Stream Protection

The conservation strategy and associated CARP provide protection of the Stream System everywhere in Plan Area A. Conservation actions in, and avoidance of, the Stream System contribute both to Covered Species' habitats and connectivity to the Reserve System. The term *Stream System* is defined in the Plan as the stream channel itself (wet or dry) and the surrounding areas: (1) any area subject to flooding in a 100-year event as defined by the Federal Emergency Management Agency (2005) or as determined by hydrologic analysis based on an engineering site survey (whichever is more accurate), or the area in #2 as follows, whichever is greater; (2) the outermost limit of a variable-width buffer measured outward from the edge of the Ordinary High Water Mark (OHWM) on streams mapped in the National Hydrography Dataset (NHD) (so-called blueline streams) as listed in Plan Table 3-4; and (3) the area within 50 feet of streams not named in Plan Table 3-4, but which are shown as "blueline" streams on U.S. Geological Survey quad maps as specified in California Public Resources Code Section 4528 and as located on the NHD (for a detailed definition, see Section 3.2.7 of the Plan, provided in Appendix A).

Wetland Conservation and No Overall Net Loss of Wetland Values and Functions

The PCCP provides for protection, enhancement, restoration, and creation of the aquatic/wetland complex natural community. The conservation strategy provides for the protection of surrounding upland necessary to sustain the hydrological function of protected, restored, and created wetlands. The PCCP anticipates loss of wetlands, including vernal pool wetlands. Restoration and creation of wetlands would specifically provide in-kind compensatory habitat in the RAA or Stream System in order to achieve conservation of the Covered Species and no overall net loss of wetland habitat through the term of the permit.

Avoidance and Minimization

To avoid and minimize take, Covered Activities would comply with specific conditions that apply to certain natural communities and species. The conditions are listed in Chapter 6 of the Plan. For the most part, it is anticipated that (1) conservation actions would take place on lands generally set aside for conservation purposes, (2) implementation of the Reserve System and CARP would accomplish avoidance and minimization on a cumulative, regional scale, and (3) avoidance and minimization in the PFG would be focused only on specific resources and lands meeting the avoidance requirements of the Plan.

Conservation Measures

The conservation measures are designed to protect, enhance, and restore natural communities and the Covered Species habitats they support; improve the ecological function of natural communities; avoid, minimize, and compensate for effects on Covered Species associated with implementation of Covered Activities; and provide for the conservation of Covered Species in the Plan Area. The conservation measures would collectively achieve the Plan biological goals and objectives. Because of the large scale and long timeframe over which the PCCP would be implemented, the conservation measures are also designed to be flexible to allow for adaptive management with increasing knowledge over time. Tables 2-12 and 2-13 summarize the conservation measures, the magnitude of their application (typically in acres), their general locations, and the physical actions expected under each conservation measure.[8] Table 2-14 and 2-15 summarize the required acreage of protection of existing natural communities and constituent habitat within each conservation zone to achieve the objectives of Conservation Measure (CM) 1. Conservation Zones are shown on Figure 2-3. Table 2-15 presents the conservation for Covered Species to achieve the objectives of CM3.

[8] Chapter 5 of the Plan details the physical actions expected under the conservation measures.

Table 2-12. Plan Conservation Measures

CM Number: Title	Description	Location
CM1: Establish Reserve System	This CM describes the Plan's acquisition requirements for Reserve System assembly, including reserve design criteria and acre commitments for natural communities and Covered Species habitats; during implementation, the PCA will turn to this conservation measure for guidance regarding prioritization and acquisition of lands for the Reserve System (see Table 2-13).	Figure 2-2 (primarily the RAAs)
CM2: Manage and Enhance Reserve System	This CM describes the actions necessary to maintain and improve the ecological conditions of natural communities and Covered Species habitat on the Reserve System and along streams outside the Reserve System; during implementation, the PCA will turn to this measure for guidance regarding the preparation and implementation of Reserve Management Plans, which will include site-specific management and enhancement actions.	Entire Plan Area
CM3: Restore and Create Natural Communities and Covered Species Habitat	This CM describes restoration and creation actions the PCA will implement to increase the acres of natural communities and Covered Species habitat; during implementation, the PCA will turn to this measure for guidance related to restoration/creation requirements and the preparation and implementation of site-specific restoration/creation plans.	Figure 2-2 (primarily the RAAs)
CM4: Plan Area-Wide Actions	This CM describes actions the PCA will implement throughout the Plan Area outside of the Reserve System. These actions include development and implementation of Low Impact Development Standards and outreach to private landowners regarding land use practices and technical assistance for grants to improve and maintain wetlands and ponds on private lands.	Entire Plan Area

Source: Appendix A:Chapter 5.

Table 2-13. Physical Actions Needed to Implement Plan Conservation Measures

Conservation Measure	Physical Actions Required to Implement Measure
CM1: Establish Reserve System	• Acquisition of land in fee title, conservation easement, or purchase of credits at an approved Bank.
CM2: Manage and Enhance Reserve System	• Vegetation management through grazing by livestock, mowing, hand removal, prescribed burns, and herbicide application that avoids take of listed species. • Removal or retrofit of fences that serve as barriers or hazards to wildlife movement. • Improvement of culverts and other road crossing points to make them more attractive to and safer for wildlife. • Management of grassland vegetation and thatch to facilitate dispersal of amphibians. ***Management and enhancement actions for vernal pool complex and grassland natural communities may include the following.*** • Management of grassland through grazing, disking, controlled burns, hand-pulling, and other practices. • Removal or control of nonnative vegetation in restored and created vernal pools. • Prescribed burning for fire management. • Mechanical recontouring of vernal pool basins. • Removal or modification of ditches, raised roads, trails, and other barriers to restore surface flow to vernal pool basins. • Construction of drainage ditches or retention basins to divert surface runoff from sources which adversely affect vernal pools. • Removing livestock from vernal pool complexes during late spring (when livestock tend to congregate in pools to cool-off), providing stock ponds and well water pumped into troughs as supplements to vernal pools as drinking sources, and utilizing types of cattle that are less likely than others to congregate in and around pools. • Limitation of ground squirrel control measures (poisoning, hunting, and trapping) in some areas. ***Management and enhancement actions for aquatic/wetlands complex vegetation control*** • Removal and/or control of nonnative, invasive vegetation through grazing, prescribed burns, herbicide application, and hand and mechanical removal. • Installation of fencing, where ecologically appropriate, to manage grazing and exclude feral pigs. • Removal of sediment and repairs to improve water retention. • Eradication of nonnative predators through trapping, habitat manipulation, hand capturing, or other methods. • Creation of openings in vegetation through mowing and focused disking. • Installation of coarse woody debris or anchored basking platforms in wetlands. • Provision of vegetative cover through planting emergent vegetation.

Conservation Measure	Physical Actions Required to Implement Measure
	• Maintenance of appropriate water depths and hydrological cycles. • Use of filter and buffer strips around wetlands and minimization of the use of herbicides to remove or reduce point and nonpoint sources of water pollution. • Provision of access for staff of the Placer Mosquito and Vector Control District to monitor and control mosquitoes when warranted. ***Management and enhancement actions for riverine and riparian complex vegetation control*** • Removal and modification of barriers to fish passage including beaver dams, seasonal flashboard dams, pipeline crossings and concrete dams. • Improvement of in-channel features by reconstructing channel geometry, removal of nonnative vegetation (and re-vegetation with native plants), installation of large woody material, removal of armored levees and replacement with earthen levees, and replenishment and/or cleaning of spawning gravel. • Control of nonnative animal species through targeted harvest programs, modification of in-water structures that attract predatory fish, and improvement of in-stream refuge for juvenile salmonids. ***Management and enhancement actions for oak woodland natural communities*** • Planting and protecting seedlings and saplings. • Implementing prescribed grazing programs. • Implementing prescribed burning as part of a fire management regime. • Controlling nonnative plants by disking, mowing, mulching, hoeing, or use of herbicides. • Controlling nonnative animals that feed on acorns, seedlings, and saplings through development of a feral pig control program. ***Management and enhancement actions for agricultural and other open space*** • Maintenance or restoration of patches of emergent vegetation and grassland on rice fields and borders of waterways. • Development and implementation of a water management plan on rice lands in support of giant garter snake habitat. • Implementation of integrated pest management on rice lands.
CM3: Restore and Create Natural Communities and Covered Species Habitat	• Restoration or creation of vernal pool complex by excavating or recontouring historical vernal pools and swales to natural bathymetry. • Restoration of grasslands consisting of seeding, planting, and associated activities such as burning, disking, mowing, mulching, and in limited circumstances, herbicide treatment. • Restoration or creation of aquatic/wetland complex by recontouring hydrological features, planting native vegetation, and implementing BMPs to reduce the potential for mosquito production. • Acquisition and enhancement of riverine and riparian complex by removing/modifying barriers to fish passage, improvement of in-channel features, and control of nonnative animal species.

Conservation Measure	Physical Actions Required to Implement Measure
	• Restoration of oak woodland by planting acorns and seedlings, controlling nonnative plants and animals, implementing progressive livestock management, developing or augmenting approaches to offset sudden oak death, and incorporating fire into management regimes.
CM4: Plan Area–Wide Actions	• The actions associated with this conservation measure are administrative in nature and would not, in and of themselves, require physical, ground-disturbing activities.

Source: Appendix A:Chapter 5.

Table 2-14. Acquisition Commitments (acres)

Communities and Constituent Habitats	Total in Plan Area A	Acquired Acres: Acquisition Commitment [a]	Acquired Acres: *Estimated Acquisition (Flexible)*[b]	Existing Protected Areas	Available for Acquisition[c]	Acquisition Commitment + Existing Protected Areas as % of Total in Plan Area A
Vernal Pool Complex (VPC)	**45,065**	**17,000**		**7,067**	**20,115**	**53%**
Vernal Pool Constituent Habitats	2,237	790	–	555	882	60%
Vernal Pool Wetland	790	250	–	226	303	60%
Seasonal Wetland in VPC	845	–	*304*	209	327	61%
Seasonal Swales	602	–	*236*	120	253	59%
Vernal Pool Complex Uplands[b]	42,829	–	*16,210*	6,512	19,233	–
Grassland	**34,760**	**7,150**	**–**	**1,097**	**13,635**	**24%**
Aquatic/Wetland Complex	**3,433**	**600**	**–**	**591**	**1,594**	**35%**
Aquatic/Wetland Constituent Habitats	*2,850*	586	–	*407*	*1,321*	
Fresh Emergent Marsh	1,112	256	–	193	540	40%
Lacustrine	1,061	–	*181*	93	452	26%
Non-VP Seasonal Wetland	677	–	*148*	121	328	40%
Aquatic/Wetlands Complex Uplands[b]	583	–	*14*	184	273	–
Riverine/Riparian Complex	**6,685**	**2,200**	**–**	**458**	**3,390**	**40%**
Riverine/Riparian Constituent Habitats	*5,519*	1,718	–	*412*	2,732	
Riverine	868	–	*308*[d]	126	425	50%
Riparian	4,651	1,410	–	286	2,306	36%
Riverine/Riparian Complex Uplands[b]	1,167	–	*482*	46	658	

Communities and Constituent Habitats	Total in Plan Area A	Acquired Acres: Acquisition Commitment [a]	Acquired Acres: *Estimated Acquisition (Flexible)*[b]	Existing Protected Areas	Available for Acquisition[c]	Acquisition Commitment + Existing Protected Areas as % of Total in Plan Area A
Valley Oak Woodland	**1,364**	**190**	**–**	**21**	**396**	**15%**
Oak Woodland	**50,870**	**10,110**	**–**	**6,122**	**14,946**	**32%**
All Natural Communities	**142,179**	**37,250**	**–**	**15,357**	**54,075**	**37%**
Agriculture	**24,954**	**10,050**	**–**	**232**	**14,706**	**41%**
Rice Agriculture	19,580	2,000	–	185	14,430	11%
Field Agriculture	2,757	–	–	10	221	–
Orchard and Vineyard Agriculture	2,618	–	–	37	54	–
All Agriculture		**–**	**8,050**	**–**	**–**	**–**
Non-Natural	**42,698**	**–**	**–**	**369**	**–**	**–**
Managed Open Water	5,317	–	–	–	–	–
Rural Residential	18,871	–	–	32	–	–
Urban	18,510	–	–	337	–	–
Total All Land	**209,832**	**47,300**[e]	**–**	**15,957**	**68,781**	**37%**

Source: Appendix A:Table 5-2.

[a] Acquisition commitment: The acquisition of land, through purchase of fee title or conservation easement, to protect natural communities or Covered Species' habitat.

[b] Estimate of flexible acquisition is an estimate of the area of constituent habitats that will be acquired in reserves incidental to and as part of the land acquired as the acquisition commitment. More or less of these constituent habitats can be acquired as long as the acquisition commitments for communities and other constituent habitats are met.

[c] Available for acquisition: The extent of RAA land and PFG Stream System after direct loss from Covered Activities is deducted.

[d] Includes 88.6 stream miles of riverine identified in Objective RAR-1-2. The Plan requires 88.6 miles of protection.

[e] Some values in the table may not sum exactly to the total due to rounding. The values in the acquisition commitment column are fixed regardless of any rounding errors.

Table 2-15. Natural Community and Constituent Habitat Protection Commitments (acres)

Communities and Constituent Habitats	Total in Plan Area A	Acquired Acres: Total Protection Commitment[a]	Acquired Acres: *Estimated Protection (Flexible)*[b]	Conservation Zones (estimated/non-required in italics[b]): Valley North RAA	Valley South RAA	Valley Anywhere[c]	Foothills North RAA	Foothills Anywhere[b]
Vernal Pool Complex (VPC)	**45,065**	**17,000**	**–**	**8,430**	**5,170**	**3,400**	**–**	**–**
Vernal Pool Constituent Habitats	2,237	790	–	392	240	158	–	–
Vernal Pool Wetland	790	250	–	124	76	50	–	–
Seasonal Wetland in VPC	845	–	*304*	*153*	*94*	*62*	–	–
Seasonal Swales	602	–	*236*	*115*	*71*	*46*	–	–
Vernal Pool Complex Uplands	42,829	–	*16,210*	*8,038*	*4,930*	*3,242*	–	–
Grassland	**34,760**	**2,740**	**–**	**160**	**120**	**70**	**2,000**	**390**
Aquatic/Wetland Complex	**3,433**	**–**	***600***	**210**	**110**	**80**	**130**	**70**
Aquatic/Wetland Constituent Habitats	2,850	586	–	210	110	80	121	65
Fresh Emergent Marsh	1,112	256	–	98	51	37	45	24
Lacustrine	1,061	–	*181*	*57*	*30*	*22*	*47*	*26*
Non-VP Seasonal Wetland	677	–	*148*	*55*	*29*	*21*	*29*	*15*
Aquatic/Wetlands Complex Uplands	583	–	*14*	–	–	–	*9*	*5*
Riverine/Riparian Complex	**6,685**	**–**	***2,200***	**910**	**370**	**320**	**310**	**290**
Riverine/Riparian Constituent Habitats	5,519	1,718	–	696	283	245	256	239
Riverine	868	–	*308*[f]	*150*	*61*	*53*	*23*	*22*
Riparian	4,651	1,410	–	546	222	192	233	218
Riverine/Riparian Complex Uplands	1,167	–	*482*	*214*	*87*	*75*	*54*	*51*
Valley Oak Woodland	**1,364**	**190**	**–**	**70**	**–**	**20**	**–**	**100**
Oak Woodland	**50,870**	**10,110**	**–**	**70**	**20**	**20**	**8,820**	**1,180**
All Natural Communities	**142,179**	**32,840**	–	**9,850**	**5,790**	**3,910**	**11,260**	**2,030**

Communities and Constituent Habitats	Total in Plan Area A	Acquired Acres: Total Protection Commitment[a]	Acquired Acres: *Estimated Protection (Flexible)*[b]	Conservation Zones (estimated/non-required in italics[b]): Valley North RAA	Valley South RAA	Valley Anywhere[c]	Foothills North RAA	Foothills Anywhere[b]
Agriculture	**24,954**	**8,240**	–	–	–	**8,240**	–	–
Rice	19,580	2,000	–	–	–	2,000	–	–
Field	2,757	–	–	–	–	–	–	–
Orchard	2,618	–	–	–	–	–	–	–
Any Agriculture[d]		–	*6,240*	–	–	*6,240*	–	–
Total All Protection[e]		**41,080**		**9,850**	**5,790**	**12,150**	**11,200**	**2,090**

Source: Appendix A:Table 5-3.

[a] The protection commitment is all of a community acquired (see Table 5-2 of the Plan for acquisition commitments) minus any area converted to another community through restoration. The protection commitment does not include any areas added through restoration (see Table 5-4 of the Plan).

[b] Estimate of flexible protection is an estimate of the area of community or constituent habitats that will be protected in reserves incidental to and as part of the land acquired as the protection commitment. More or less of these constituent habitats can be acquired as long as the protection commitments are met. The protection commitments are also flexible within the conservation zones for constituent habitats and upland components of complexes with flexible protection estimates.

[c] Anywhere protection commitments can be acquired anywhere within the Valley conservation zone or PFG for "Valley Anywhere" and the Foothills conservation zone or PFG for "Foothills Anywhere." See Section 5.3.1.3.6, *Conservation Zones*, of the Plan for details.

[d] Any Agriculture: Includes rice, field crops, orchards, and vineyards and may be substituted by any natural community.

[e] Some values may not sum exactly to the total due to rounding. The values in the Total Protection Commitment column are fixed regardless of any rounding errors.

[f] Includes 88.6 stream miles of riverine identified in Objective RAR-1-2. The Plan requires protection of 88.6 miles.

Table 2-16. Covered Species' Protection and Restoration Commitments (acres)

Species/Habitat Type[a]	All Habitat in Plan Area A	Existing Protected Areas	Habitat Protected[b]	Habitat Restored	Habitat in Reserve (Protected + Restored)	Habitat in Reserve + Existing Protected Areas, as Proportion of Habitat in Plan Area A
Birds						
Swainson's Hawk						
Nesting Habitat	1,968	301	1,268	720	1,988	116%
Foraging Habitat	54,574	7,726	17,003	3,920	20,923	52%
Total	56,542	8,027	18,271	4,640	22,911	55%
California Black Rail						
Year-Round Habitat	1,112	193	256	175	432	56%
Western Burrowing Owl						
Year-Round Habitat	55,101	7,869	17,129	4,126	21,255	53%
Tricolored Blackbird						
Nesting Habitat	633	188	187	87	274	73%
Foraging Habitat	60,974	7,994	18,138	4,000	22,138	49%
Total	61,608	8,181	18,325	4,087	22,412	50%
Reptiles						
Giant Garter Snake						
Aquatic Habitat	19,511	660	2,702	529	3,231	20%
Upland Habitat	3,537	549	1,763	449	2,212	78%
Total	23,049	1,209	4,465	978	5,443	29%
Western Pond Turtle						
Aquatic Habitat	10,244	1,053	2,800	1,850	4,650	56%
Upland Habitat	14,263	1,970	3,859	1,930	5,789	54%
Total	24,507	3,023	6,659	3,780	10,439	55%

Species/Habitat Type[a]	All Habitat in Plan Area A	Existing Protected Areas	Habitat Protected[b]	Habitat Restored	Habitat in Reserve (Protected + Restored)	Habitat in Reserve + Existing Protected Areas, as Proportion of Habitat in Plan Area A
Amphibians						
Foothill Yellow-legged Frog						
Year-Round Habitat	1,837	11	83	83	167	10%
California Red-legged Frog						
Aquatic Habitat	8,532	119	1,168	1,241	2,409	30%
Upland Habitat	75,306	5,986	12,484	160	12,644	25%
Total	83,838	6,105	13,652	1,401	15,053	25%
Invertebrates						
Valley Elderberry Longhorn Beetle						
Year-Round Habitat	6,367	472	2,313	1,553	3,866	68%
Vernal Pool Fairy Shrimp and Vernal Pool Tadpole Shrimp[c]						
Wetland Habitat	2,237	555	790	900	1,690	101%
Vernal Pool Complex	44,278	7,067	17,000	3,000	20,000	61%
All Land Area[d]	**209,832**	**15,957**	**41,080**	**6,220**	**47,300**	**30%**

Source: Appendix A:Table 5-6.

[a] Based on modeled habitat for terrestrial species; see Chapter 3 of the Plan. The covered fish habitat is measured by stream miles (see text).

[b] Habitat Protected is all habitat acquired less any land altered for restoration as another land-cover type.

[c] The Plan does not model habitat for Conservancy fairy shrimp because its known distribution in the Plan Area is restricted to a single vernal pool and because the type of vernal pool this species typically occurs in (large and turbid pools) is not found in the Plan Area.

[d] Values are subject to rounding.

PCCP Implementation

PCCP implementation is described in detail in Chapter 8 of the Plan. The following provides a summary.

Plan

As noted in Chapter 1, *Introduction*, the Permit Applicants would vest the responsibility for implementing the Plan to the PCA.[9] The PCA would oversee implementation of the Plan on behalf of the Permit Applicants. The PCA, not yet formed, would also be a Permittee as it implements conservation actions and because it would be the permitting authority for Participating Special Entities.

As Permittees, the local participating agencies would be responsible for compliance with all the terms and conditions of the state and federal permits. They will ensure that all Covered Activities adhere to the Plan and avoid, minimize, and mitigate effects on Covered Species as described in the Plan, and they will monitor Covered Activities to ensure that such measures have been implemented in coordination with the Wildlife Agencies, public land managers, and the private sector.

Implementation of the Plan will begin when the implementing agreement is fully executed, the Section 10(a)(1)(B) ITPs and NCCP permit are issued, and the local implementing ordinances take effect.

It is expected that ecological conditions in the Plan Area may change as a result of future events and circumstances, since the implementation timeframe for the PCCP conservation strategy would be over 50 years. Chapter 10 of the Plan (Appendix A) details changes in circumstances that are reasonably foreseeable, outlines a process for identifying changed circumstances, and provides planned responses intended to address these events. Changed circumstances addressed by the PCCP include:

- Covered species listed
- Non-covered species listed
- Destruction of restoration projects due to fire
- Expansion of new or non-native species or disease
- Flooding of vernal pools and riparian restoration or enhancement sites
- Destruction of restoration projects through drought
- Climate change

The planned responses to these events, if needed, would be covered actions by the Plan. Examples of planned responses include: initiated a damage assessment of affected conservation lands within a specific time from the end of the event (e.g., 6 months); evaluation of the extent of the damage; and habitat restoration and enhanced recovery of affected habitat area.

[9] The role of the PCA is discussed in Section 8.3.2 of the Plan.

CARP

The CARP provides a structure for protecting aquatic resources in western Placer County while streamlining the environmental permitting process for effects on aquatic resources. The CARP protects aquatic resources by establishing avoidance, minimization, and mitigation requirements for projects that have the potential to affect such resources.

The CARP provides a means to fulfill the requirements of federal, state, and local laws that protect aquatic resources using a comprehensive, long-term, regional conservation strategy. This regional strategy focuses authorized effects on aquatic resources near or within existing urban areas and away from rural, intact natural areas, thereby avoiding and minimizing effects on aquatic resources on a regional scale.

The CARP uses a watershed approach to identify intact watersheds for conservation, creation, and establishment of aquatic resources and direct development towards watersheds that are already degraded and have been historically impacted by development. This comprehensive regional approach to aquatic resource conservation and mitigation in western Placer County provides a greater level of landscape- and watershed-scale protection of aquatic resources than has historically occurred with project-by-project permitting under CWA Sections 404 and 401 and the California Fish and Game Code 1602 programs (related to stream bed and bank impacts). The CARP also includes an in-lieu fee program under which compensatory mitigation requirements under CWA Section 404 can be fulfilled by payment of a fee.

CARP avoidance, minimization, and mitigation requirements are derived from the Plan. However, the CARP focuses on aquatic resources specifically and, in some areas, addresses them in greater detail than does the Plan. In addition, the CARP covers minor effects on aquatic resources resulting from very small projects that would not otherwise affect Covered Species under the Plan. Together, the CARP and Plan provide project proponents and applicants for development permits with a comprehensive regional approach to natural resource conservation and permitting (see Chapter 1 of the Plan for details).

The CARP and the Plan have complementary goals and objectives. The Plan minimizes and mitigates effects on Covered Species and natural communities, including aquatic natural communities and habitat, and provides for their conservation and management at a landscape-level scale. The CARP provides a multidisciplinary, programmatic approach to obtain permits the County and/or City for effects on aquatic resources, while providing preferred avoidance, minimization, and compensation at a larger landscape level, rather than on a project-by-project basis.

The majority of mitigation requirements under the CARP are drawn from the Plan, and these compensatory mitigation actions would be used to create the PCCP Reserve System that is described in the Plan.

In-Lieu Fee Program

The PCCP would also include the *Western Placer County In-Lieu Fee Program* (ILF Program) under which compensatory mitigation requirements under Section 404 of the CWA can be fulfilled by payment of a fee. The ILF Program would provide wetland mitigation “credits” that can be used to fulfill Section 404 compensatory mitigation requirements. The ILF Program would allow proponents of Covered Activities to pay a fee to the PCA for such credits; the PCA would use fee revenues to implement mitigation projects that protect, enhance, and restore aquatic resources. The ILF

Program would provide compensatory mitigation for impacts on aquatic resources for all projects and activities that are covered under the Plan and the CARP.

2.4.3 Alternative 3—Reduced Take/Reduced Fill

Alternative 3—Reduced Take/Reduced Fill is derived from the second tier alternatives screening process evaluation of Alternatives D, E, F, and G. These alternatives are based on different versions of a conservation and development map originally considered in 2005 during an early phase of the PCCP planning process (Map Alternatives 2, 4, 6, and 7), which examined different boundaries for reserve acquisition in the western area of the Valley portion of the Plan Area. The maps were also based upon an early version of land cover mapping that was subsequently determined to be inadequate for purposes of mapping of vernal pool complexes. Subsequent mapping, completed in 2011, ultimately superseded the mapping that provided the foundation for Maps 2, 4, 6, and 7. As a group, these maps were considered to be a basis for developing a proposed plan, as acknowledged by the USACE/USEPA letter dated August 24, 2007.

Under Alternative 3, permits would be issued by USFWS and NMFS under Section 10(a)(1)(B) of the ESA and by CDFW under Section 2081(b) for incidental take of the proposed Covered Species through a regional-scale programmatic HCP or NCCP. The USFWS permit would cover take of 11 species; the NMFS permit would cover take of 1 species; and the CDFW permit would cover take of 9 species. The permit durations would be for 50 years. The PCCP would be implemented as described below.

Compared with Alternative 2, the proposed action, the conservation principle of the earlier maps is essentially equivalent in the Foothills, but it differs mainly in the balance between the RAA and PFG in the Valley. The four maps all have a smaller amount of land designated PFG in the Valley, ranging from a reduction of 13% for Map 6 to a reduction of 5% for Map 4, described in more detail in Appendix E.

While the conservation concepts of the earlier maps remained valid, their vegetative land cover data and vernal pool complex mapping were outdated; consequently, they no longer met the purpose and need of the proposed Plan and therefore would not be implementable by the Permit Applicants.

The common quantitative feature among these alternatives is a reduced PFG, ranging from roughly 2,000 to 6,000 fewer acres of PFG. This reduction in PFG could also result in a reduction of effects on natural communities, including vernal pool complex lands, and reduction in fill of wetlands and other waters of the United States.

The Permit Applicants used the spatial model of the Plan Area to evaluate the effect of the resulting reduced-take alternative, Alternative 3, specifically estimating the effects of Covered Activities, including land development as represented by a 50-year growth scenario. Alternative 3 reduces the vernal pool complex land conversion for the Valley PFG by 10% (about 1,250 acres) compared to the proposed action; there are similar reductions in other communities associated with wetlands or other waters. When the spatial model assumes those land cover types are not available for land development by Covered Activities, the model reallocates future land development to other land cover types, resulting in a corresponding increase in conversion of some of the other natural community types. In order to minimize the impact on non–wetland associated communities, the total extent of land conversion in the Valley PFG is reduced for this alternative by 1,000 acres, compared to the proposed Plan. This limits increased conversion of non–wetland associated communities to less than 5%, as shown in Table 2-17.

Table 2-17. Alternative 3—Reduced Take/Reduced Fill Permit Limits for Direct Effects and Comparison with Proposed Plan

	PCCP Proposed Plan			Alternative 3 Reduced Take/Reduced Fill			Valley PFG Alt3 % Reduction/ Increase from PCCP
Communities and Constituent Habitats	All Plan	Valley PFG	All Valley	All Plan	Valley PFG	All Valley	
Vernal Pool Complex	12,550	12,200	12,400	11,300	10,950	11,150	-10%
Vernal Pool Constituent Habitats Total	580	560	570	525	505	515	-10%
Vernal Pool	185	180	180	165	160	160	-11%
Seasonal Wetland in VPC	223	220	220	198	195	195	-11%
Seasonal Swales	172	170	170	152	150	150	-12%
VPC Uplands	11,970	11,640	11,830	10,775	10,445	10,635	-10%
Grassland	6,900	3,400	3,500	7,040	3,540	3,640	+4%
Aquatic/Wetland Complex	260	120	120	250	110	110	-9%
Aquatic/Wetland Constituent Habitats Total	260	120	120	250	110	110	-9%
Fresh Emergent Marsh	105	50	50	100	45	45	-10%
Lacustrine	103	50	50	99	46	46	-8%
Non-VP Seasonal Wetland	52	20	20	50	18	18	-8%
Complex Uplands	–	–	–		–	–	–
Riverine/Riparian Complex	490	150	150	475	135	135	-10%
Riverine/Riparian Constituent Habitats Total	490	150	150	475	135	135	-10%
Riverine Type	115	80	80	106	71	71	-11%
Riparian Woodland	375	70	70	369	64	64	-9%
Complex Uplands	–	–	–		–	–	–
Valley Oak Woodland	140	30	30	140	30	30	0%
Oak Woodland	6,210	1,100	1,100	6,225	1,115	1,115	+1%
Subtotal Natural	26,550	17,000	17,300	25,430	15,880	16,180	-7%
Agriculture	3,550	2,700	2,900	3,670	2,820	3,020	+4%
Rice	2,060	1,800	2,000	2,140	1,880	2,080	+4%
Any Agriculture	1,490	900	900	1,530	940	940	+4%
Total All	30,100	19,700	20,200	29,100	18,700	19,200	-5%

Source: Placer County 2018:6.

Plan Area

Plan Area A

A1—Valley Potential Future Growth Area

The reduced permit limits of Alternative 3 would apply only to Plan Area component A1, Valley PFG. Because Alternative 3 would incorporate the same Reserve Map as the proposed action in order to retain feasibility with respect to the objectives of the Permit Applicants, the character and pattern of development would be modified slightly in order for the full amount of housing and employment growth in the growth scenario to be accommodated in the 50-year permit term. This would entail either increased onsite avoidance of vernal pool complex and other wetlands and waters, increased acquisition of reserve lands in the PFG, and/or reduced development footprint in the Valley PFG. The intra-regional shifts in development and the net reduction of 1,000 acres of land conversion—approximately 5%—could be accommodated by the land use diagrams and corresponding range of development densities in the adopted City and County general plans.

A2—Valley Conservation and Rural Development

Under Alternative 3, no change would occur to the mapped area or the permit limits that would apply to component A2, Valley Conservation and Rural Development. There may be changes in the extent of the Reserve System established there.

A3—Foothills Potential Future Growth Area

The extent of component A3, Foothills PFG, under Alternative 3 would be the same as under the proposed action.

A4—Foothills Conservation and Rural Development

The extent of component A4, Foothills Conservation and Rural Development, under Alternative 3 would be the same as under the proposed action.

Plan Area B

Activities in Area B, comprising the components listed below, would be the same under the Alternative 3 as under the proposed action.

- B1—Permit Applicant Activity in Non-Participating Cities
- B2—PCWA Operations and Maintenance
- B3—Coon Creek Floodplain Conservation
- B4—Fish Passage Channel Improvement
- B5—Big Gun Reserve

The County would be the main Permittee operating in component B1, and may alter public project design to reduce conversion of vernal pool complex or other wetlands in order to manage the overall reduced permit limits set in Alternative 3.

Covered Activities

Covered Activities under Alternative 3 would be the same as under the proposed action. As discussed above, the extent and location of covered growth may be changed slightly.

Covered Species

The same species would be covered under Alternative 3 as under the proposed action.

Conservation Strategy

Under this alternative, the conservation strategy and its components, designed to provide for conservation of landscapes, natural communities, and Covered Species, would be the same under Alternative 3 as under the proposed action.

Implementing Alternative 3 by relying on greater onsite avoidance would produce an appreciable change in the component of the conservation strategy that relies on establishing a regional scale Reserve System rather than a continuation of the present pattern of preserving smaller isolated patches of habitat that are more difficult to manage and inevitably subject to greater indirect effects of adjacent land uses.

The increased avoidance in the Valley PFG and the decreased mitigation dependent on effect, and the possibly smaller extent of land conversion overall would likely result in a smaller and potentially less contiguous reserve area to be acquired in the RAA. The decrease would depend on the way the reduced take/reduced fill for Alternative 3 was implemented in the Valley PFG; for the purposes of evaluating effects of Alternative 3, it is assumed that the extent of the Reserve System in the Valley RAA would probably be reduced by 3,000 acres from that assumed for implementation of the proposed action, and the extent of Reserve System in the Valley PFG would probably be increased by approximately 2,000 acres from that assumed for implementation of the proposed action.

PCCP Implementation

Plan

Plan implementation would follow the same principles and adhered to the same requirements under the Alternative 3 as under the proposed action.

CARP

Implementation of the CARP under Alternative 3 would be identical to that under the proposed action.

2.4.4 Alternative 4—Reduced Permit Term

Under Alternative 4, permits would be issued by USFWS and NMFS under Section 10(a)(1)(B) of the ESA and by CDFW under Section 2081(b) for incidental take of the proposed Covered Species through a regional-scale programmatic HCP or NCCP. The USFWS permit would cover take of 11 species; the NMFS permit would cover take of 1 species; and the CDFW permit would cover take of 9 species. The permit durations would be for 30 years rather than 50. The PCCP would be implemented as described below.

Under this alternative, the HCP/NCCP would include the same permit conditions for Covered Activities and similar conservation measures and conservation strategy as the PCCP.

Plan Area

The Plan Area would be the same as under the proposed action.

Covered Activities

Because of the shorter permit term, longer-term projects would not be covered. Additionally, there would be lower levels of urban and suburban development covered under the HCP/NCCP. Because of reduced impacts on Covered Species, the amount of conservation proposed would be less than the proposed action, generally in proportion to the lower level of development. Finally, it is expected that less funding would be needed for acquisition, management, and restoration of a lesser amount of conservation lands (i.e., a smaller Reserve System).

For the purposes of the analysis, it is assumed that under Alternative 4, the amount of total impacts of Covered Activities would be reduced by 40%, the same proportional reduction as the permit term (from 50 years to 30 years).

Covered Species

The Covered Species would be the same as under the proposed action.

Conservation Strategy

The conservation strategy needed to offset those impacts (i.e., mitigate) and provide for the conservation and management of the Covered Species has not been determined. However, for the purposes of this analysis, it is assumed under this alternative that the Reserve System would be 30% smaller than under the proposed action.

Under Alternative 4, the conservation actions proposed in the Plan (i.e., Alternative 2) would be proportional to the amount of development by year 30 under Alternative 2. Accordingly, the conservation proposed under the PCCP would be reduced for the Valley portion of Plan Area A, Foothill portion of Plan Area A, and for Plan Area B by multiplying those amounts by 0.55, 0.60, and 0.95, respectively.

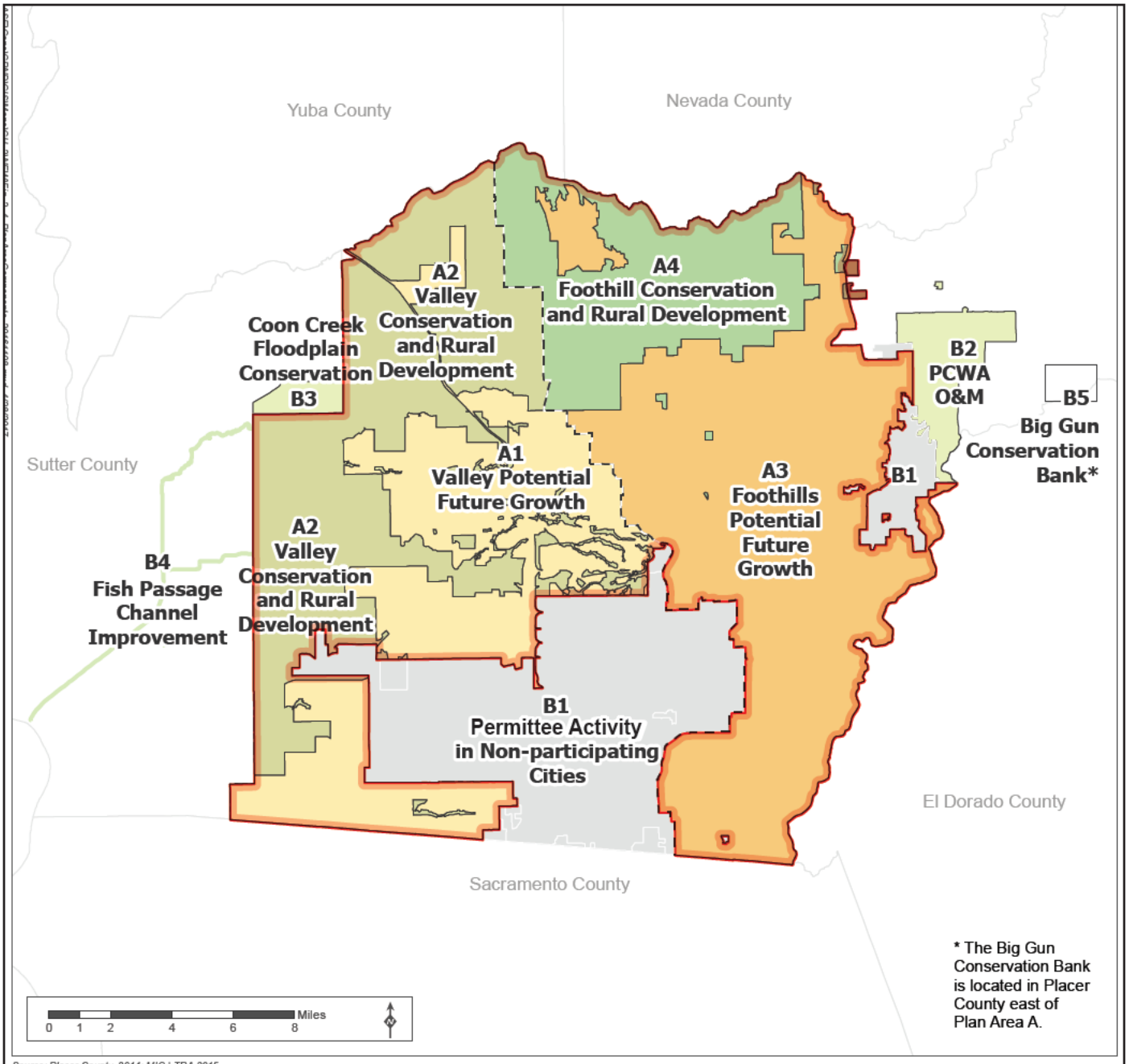
PCCP Implementation

Alternative 4 would entail implementation of the PCCP as under Alternative 2, the proposed action, except that the permit term would be 30 years instead of 50, resulting in less urban and suburban development within the permit term. The impacts by year 30—as shown in Table 2-1—were used as the estimate of impacts under Alternative 4. As shown in this table, land development at year 30 for the Valley and Foothill portions of Plan Area A would be 55% and 60%, respectively, of those estimated by year 50. For Plan Area B, land development at year 30 would be 95% of that estimated by year 50. The individual impacts under Alternative 4 were developed by multiplying these percentages (the fractions) by the total impacts on natural communities, agricultural lands, and Covered Species under Alternative 2.

2.5 References Cited

Federal Emergency Management Agency. 2005. *Flood Hazard Zones: FEMA Coastal Flood Hazard Analysis and Mapping Guidelines Focused Study Report*. February.

Placer County. 2018. Table 3: Alternative M Reduced Take/Reduced Fill Permit Limits for Direct Effects and Comparison with Proposed Plan. In: *Memo: County Comments on Appendix E, Screening of Alternatives*. Page 6.



Source: Placer County, 2014; MIG | TRA 2015

Plan Area A

- A1. Valley Potential Future Growth
- A2. Valley Conservation and Rural Development
- A3. Foothills Potential Future Growth
- A4. Foothill Conservation and Rural Development
- Plan Area A Boundary

Plan Area B Components

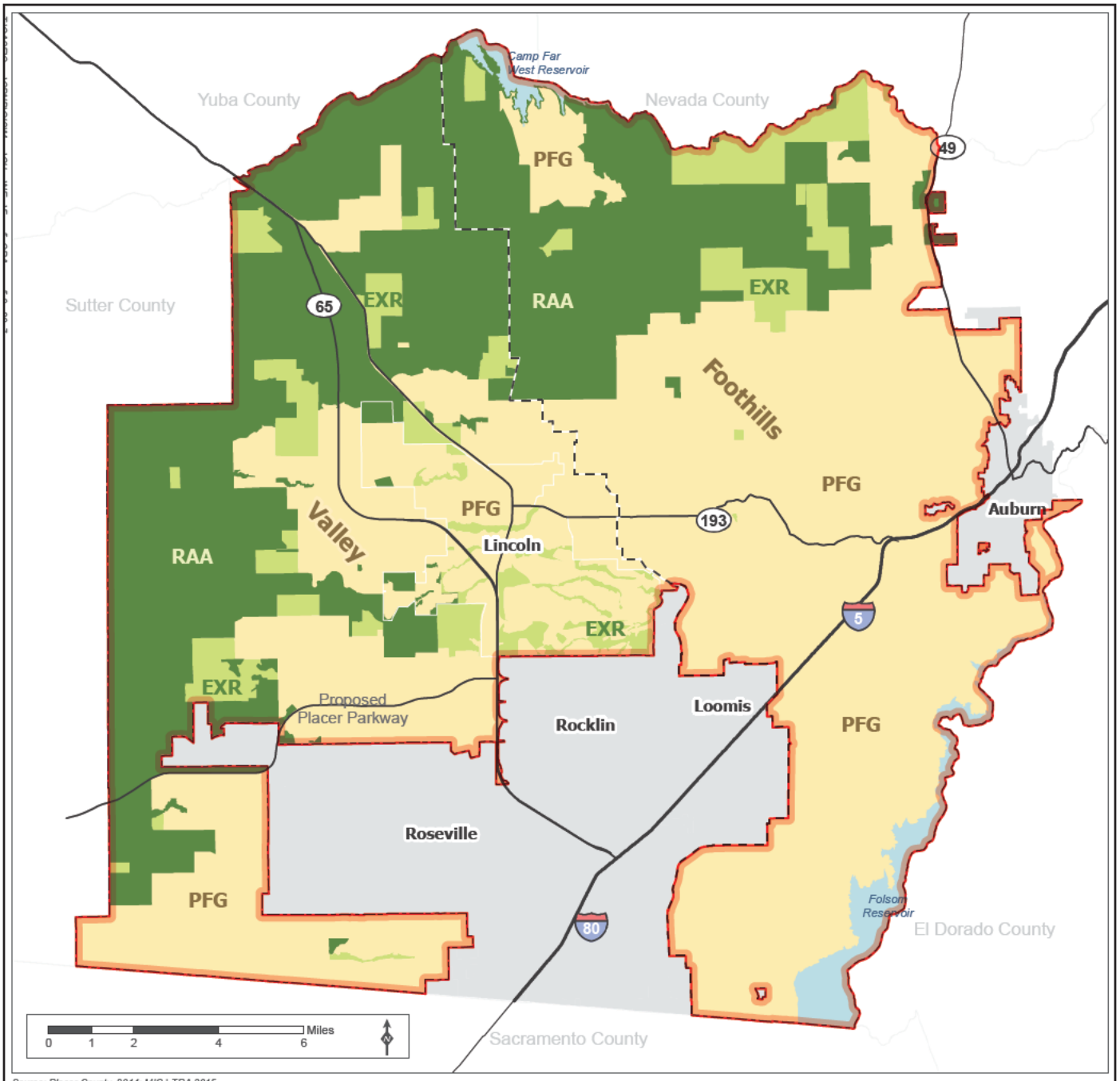
- B1. Permittee Activity in Non-Participating Cities: Public program or conservation activities undertaken by the Permittees.
- B2. PCWA O&M: PCWA Zone 1: Operations and Maintenance (O&M) for existing facilities east of Auburn plus adjacent Lake Theodor reservoir.
- B3. Coon Creek Floodplain Conservation: Watershed protection and stream restoration activities along Coon Creek floodplain in a portion of Sutter County.
- B4. Fish Passage Channel Improvement: Fish Passage Channel Improvement: Selective in-stream work on a portion of 33 miles of channels west of Placer County in Sutter County.
- B5. Big Gun Conservation Bank: Conservation actions for California red legged frog in Placer County on the Big Gun mitigation bank east of Auburn.

– – Valley/Foothill Divide

Source: Appendix A

Graphics ... 04406.04 (7-12-2018) tg

Figure 2-1
Plan Area Components
Placer County Conservation Program – EIS/EIR



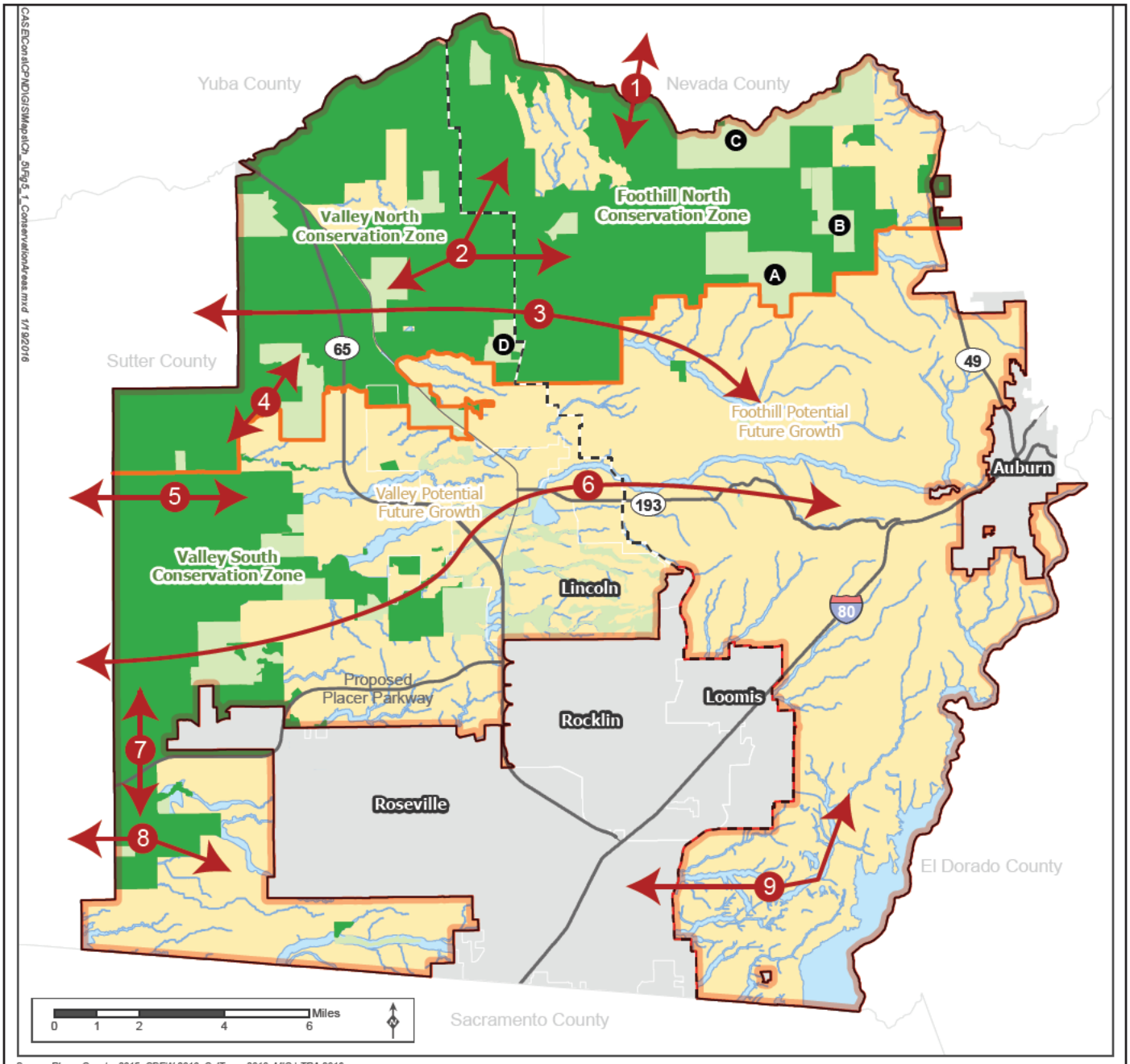
Source: Placer County, 2014; MIG | TRA 2015

- Reserve Aquisition Area (RAA)
- Potential Future Growth Area (PFG)
- Existing Protected Area and Other Reserves
- Non-participating City
- Plan Area A Boundary
- Highways
- Valley/Foothill Divide

Source: Appendix A.

Graphics ... 04406.04 (7-12-2018) tg

Figure 2-2
PCCP Designation Map
Placer County Conservation Program – EIS/EIR



Source Placer County 2015 CDFW 2010 CalTrans 2010 MIG | TRA 2016

Existing Protected Area
Reserve Acquisition Area
Potential Future Growth Area
Non-Participating City
Linkage (Orientation)
Valley/Foothill Divide
North/South Conservation Zone Divide
Stream System
Major Road
Plan Area A Boundary

Existing Protected Areas that will contribute to the PCCP Reserve System

- Hidden Falls
- Bruin Ranch
- Taylor Ranch
- Doty Ravine

1. **Bear River Watershed** (N-S) Connect PCCP oak woodland reserves to oak woodlands in Nevada County throughout the Bear River watershed as identified in the Spenceville CAPP.
2. **Yankee Slough - Coon Creek Watershed** (E-W) Connect Valley reserves to Foothill reserves.
3. **Coon Creek - Doty Creek corridor.** (E-W) Connect existing protected areas and reinforce riparian protection for salmonids.
4. **Lower Coon Creek** Maintain connectivity between PCCP northern and southern conservation areas and linkage along lower Coon Creek in the Sutter County
5. **Markham Ravine** (E-W) Connect PCCP reserves with scattered existing protected areas to the east; may play a role in giant garter snake dispersal.
6. **Auburn Ravine.** (E-W) Connect PCCP reserves with scattered existing protected areas to the east; important for salmonids.
7. **Cross Placer Parkway.** (N-S) Remediate barrier created by the proposed Placer Parkway. Connect Pleasant Grove Creek watershed to Curry Creek watershed; may play a role in giant garter snake dispersal.
8. **Curry Creek.** (E-W) Connect PCCP reserve lands to Sutter County on the west and avoided stream systems to the east; may play a role in giant garter snake dispersal.
9. **Miners Ravine.** (E-W) Connect stream system reserve opportunities in Miners Ravine to tributaries of Dry Creek; important for salmonids.

Source: Appendix A.

Figure 2-3
Conservation Zones
Placer County Conservation Program – EIS/EIR

Chapter 3
Affected Environment

Organization of this Chapter

This chapter describes the regulatory and environmental settings associated with the physical, biological, and social parameters of the Plan Area. Resource considerations in this EIS/EIR were derived from the Council on Environmental Quality (CEQ) regulations for implementing NEPA, Appendix G of the State CEQA Guidelines, and input received from the public during the scoping period. Based on this information, Placer County and the U.S. Fish and Wildlife Service (USFWS) have determined that the proposed action or alternatives could affect the resources listed below.

- Section 3.1, *Agricultural and Forestry Resources*
- Section 3.2, *Air Quality, Greenhouse Gases, and Climate Change*
- Section 3.3, *Biological Resources*
- Section 3.4, *Cultural and Paleontological Resources*
- Section 3.5, *Hydrology and Water Quality*
- Section 3.6, *Land Use and Planning*
- Section 3.7, *Mineral Resources*
- Section 3.8, *Noise and Vibration*
- Section 3.9, *Population and Housing, Socioeconomics, and Environmental Justice*
- Section 3.10, *Recreation*
- Section 3.11, *Transportation and Circulation*

Analytic Parameters

Definition of Baseline

CEQA

For the purposes of CEQA, the *environmental baseline* is typically defined as the release date of notice of preparation (NOP) to prepare an EIR. For the PCCP EIS/EIR, the later of these two dates was March 10, 2005. However, lead agencies have some flexibility in defining baseline conditions, so long as the conditions are justified and remain relevant throughout the environmental review process. The baseline is developed to assess the significance of impacts of the proposed or alternative actions in relation to the existing conditions at the time of the NOP.

NEPA

Neither NEPA nor the CEQ regulations for implementing NEPA contain a specific directive for using a baseline for determining an action's significant effects on the quality of the human environment. However, the alternatives should present the environmental impacts of the proposal and the alternatives in comparative form, thus sharply defining the issues and providing a clear basis for choice among options for the decision-maker and the public (40 Code of Federal Regulations 1502.14). Accordingly, for this document, the point of measurement in this EIS/EIR for determining impacts under NEPA for the proposed action and alternatives is the same as the CEQA baseline.

No Action Alternative and Baseline

The no action alternative differs from the baseline in that, as described in Chapter 2, *Proposed Action and Alternatives*, the no action alternative assumes continuation of existing plans, policies, and operations—meaning, for instance, that all general plans would be fully implemented as described in the EIRs for those plans incorporated by reference in this EIS/EIR. The no action alternative incorporates programs adopted during the early stages of development of this EIS/EIR, facilities that are permitted or under construction during the early stages of development of this EIS/EIR, and projects that are permitted or are assumed to be constructed during the permit term for the PCCP, a timeframe that encompasses the planning horizon for the *Placer County General Plan*, *City of Lincoln General Plan,* and other local and regional plans.

Mapping Data

During preparation of the PCCP, the available mapping data for specific environmental resources evolved over the course of several years, as is common in long-term planning processes. This is the case for the mapping of the vernal pool complex land cover for the PCCP. The original land cover mapping for the entire Plan Area was prepared in 2003 based on 2002 aerial photography. The mapping of the Valley portion of the Plan Area was then updated using aerial photography from 2005 and 2009. New aerial photography was acquired in spring 2011 to detect smaller and lower-density vernal pools in disturbed areas; the Valley portion was evaluated and updated using this new aerial photography.

The methodology used in the 2011 mapping of vernal pool complex is best suited for the purposes of the vernal pool complex effects analysis because it was designed to detect smaller and lower-density vernal pool complexes in disturbed areas than previous mapping had detected. The 2011 mapping methodology was based on the deliberations of a Science Advisory Panel that met in January 2009 to discuss issues related to the accurate mapping of vernal pool complex. The Science Advisory Panel was convened at the request of Placer County after a lengthy discussion with California Department of Fish and Wildlife (CDFW) and USFWS about the original vernal pool complex land cover mapping and whether it accurately depicted the extent of vernal pool complexes in western Placer County. Moreover, the 2011 data, which included attributes for resource density and quality, was the information source for the conservation strategy. The effects analysis in the Plan for vernal pool complex is based on this 2011 mapping. The effects analysis for the Foothills portion of the Plan Area is based on original mapping conducted in 2003 (based on 2002 aerial photography) and updated in 2009 by CDFW mapping of rural residential development that had occurred since 2002.

As described in Chapter 3 of the Plan, a regional land cover map (*Baseline Land-Cover Map*) was developed for the Plan and used to estimate the effects of Covered Activities and to develop the

conservation strategy. As described above, this map incorporates data from mapping conducted prior to 2005, with revisions to vernal pool complexes (based on mapping conducted in 2011), and some revisions in the Foothills portion of the Plan Area (based on 2009 mapping). A detailed description of how the data and mapping were developed is presented in Chapter 3 of the Plan.

In summary, the baseline for the analysis in this EIS/EIR is the date of the release of the notice of intent/NOP, which is March 10, 2005, for data in all environmental topics. The 2011 data for the Valley portion of the Plan Area and the 2009 data for the Foothill portion are used to reflect the more recent and more accurate data available for vernal pool complex habitats. This is consistent with the approach taken in the effects analysis for the Plan. This "hybrid" baseline fulfills the goals of using a consistent, legally defensible baseline across both documents, while relying upon the best available scientific information.

Regulatory Setting

The *Regulatory Setting* subsection of each resource section describes the laws, regulations, and policies that affect the resource or the assessment of impacts on the specific resource. General plan discussions list relevant goals and policies (as well as implementation programs if applicable); specific plans and community plans are also discussed where relevant. The subsection establishes the regulatory framework for the analysis of each resource. Regulations that apply to all resource topics, including the federal Endangered Species Act, Natural Communities Conservation Planning Act, NEPA, and CEQA, are described in Chapter 1, *Introduction*, and Chapter 2, *Proposed Action and Alternatives*.

Environmental Setting

The *Environmental Setting* subsection of each resource section characterizes the baseline physical environment for the specific resource and describes historic changes and trends affecting it. Existing information is used to describe the baseline for each resource.

3.1 Agricultural and Forestry Resources

This section describes the affected environment and regulatory settings for agricultural and forestry resources in the Plan Area. Impacts that would result from implementing the proposed action and alternatives are described in Chapter 4, *Environmental Consequences*, along with mitigation measures to reduce impacts, where appropriate.

3.1.1 Regulatory Setting

Federal

There are no federal laws or regulations pertaining to agricultural and forestry resources that are relevant to the proposed action or alternatives.

State

Farmland Mapping and Monitoring Program

CEQA includes a finding that the conversion of agricultural lands to nonagricultural uses threatens the long-term health of the state's agricultural economy. Impacts on agricultural resources are evaluated on the basis of a project's potential to affect land designated as Important Farmland (Figure 3.1-1). In California, the farmland classification system developed by the California Department of Conservation's Farmland Mapping and Monitoring Program (FMMP) is the primary system used to evaluate the quality and distribution of farmland in California. The FMMP prepares Important Farmland maps approximately every 2 years for most of the state's agricultural regions on the basis of soil survey information and land inventory and monitoring criteria developed by the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS). The farmland classification system used by the FMMP consists of eight mapping categories: five categories of agricultural lands and three categories of nonagricultural lands. The characteristics of these categories are described below.

Agricultural Land

- **Prime Farmland.** Prime Farmland is defined by the state as "irrigated land with the best combination of physical and chemical features able to sustain long-term production of agricultural crops." Prime Farmland has the soil quality, growing season, and moisture supply needed to produce sustained high yields. To be designated as Prime Farmland, the land must have been used for production of irrigated crops at some time during the 4 years prior to the mapping date (California Department of Conservation 2016a).
- **Farmland of Statewide Importance.** The state defines Farmland of Statewide Importance as "irrigated land similar to Prime Farmland that has a good combination of physical and chemical characteristics for the production of agricultural crops." However, this land has minor shortcomings, such as greater slopes or less ability to store soil moisture than Prime Farmland. In order for land to be designated as Farmland of Statewide Importance, it must have been used for production of irrigated crops at some time during the 4 years prior to the mapping date (California Department of Conservation 2016a).

- **Unique Farmland.** Unique Farmland is considered to consist of lower-quality soils and is used for production of the state's leading agricultural crops. This land is usually irrigated, but may include nonirrigated orchards or vineyards as found in some climatic zones in California. To qualify for this designation, land must have been used for crops at some time during the 4 years prior to the mapping date.
- **Farmland of Local Importance.** Farmland of Local Importance is important to the local agricultural economy as determined by each county's board of supervisors and a local advisory committee.
- **Grazing Land.** Grazing Land is land on which the existing vegetation is suited to the grazing of livestock. This category is used only in California and was developed in cooperation with the California Cattlemen's Association, the University of California Cooperative Extension, and other groups interested in the extent of grazing activities.

Nonagricultural Lands

- **Urban and Built-up Lands.** Urban and Built-up Lands consist of land occupied by structures with a building density of at least 1 unit to 1.5 acres, or approximately six structures to a 10-acre parcel. This type of land is used for residential, industrial, commercial, construction, institutional, public administration, railroad and other transportation yards, cemeteries, airports, golf courses, sanitary landfills, sewage treatment, water control structures, and other developed purposes.
- **Other Land.** Other Land is land not included in any other mapping category. Examples include low-density rural developments and brush, timber, wetland, and riparian areas not suitable for livestock grazing. This category also includes vacant and nonagricultural land surrounded on all sides by urban development; confined livestock, poultry, or aquaculture facilities; strip mines; borrow pits; and water bodies smaller than 40 acres.
- **Water.** Water includes perennial water bodies with an extent of at least 40 acres.

California Land Conservation Act (Williamson Act)

The California Land Conservation Act, or Williamson Act, is one of the state's primary mechanisms for conserving farmland. The Williamson Act enables counties and cities to designate agricultural preserves (Williamson Act lands) and offer preferential taxation to private agricultural landowners based on the income-producing value of their property in agricultural use, rather than on the property's assessed market value. In return for the preferential tax rate, the landowner is required to sign a contract with the county or city agreeing not to develop the land for a minimum 10-year period or 20 years for a Farmland Security Zone (FSZ) contract. An FSZ is an area created within an agricultural preserve by a county upon request by a landowner or group of landowners. A FSZ contract provides a landowner with a greater property tax deduction than the traditional Williamson Act contract in exchange for a commitment to a 20-year contract. Both types of Williamson Act contracts are automatically renewed annually unless a party to the contract files for non-renewal or petitions for cancellation. If the landowner chooses not to renew the contract, it expires at the end of its duration. Under certain circumstances, a county or city may approve cancellation of a Williamson Act contract. Cancellation requires the county or city to make specific findings in support of the cancellation and private landowners to pay back-taxes and cancellation fees. Under certain circumstances, a Williamson Act contract may be used to protect lands for open space and recreational uses.

Permissible land uses under Williamson Act contracts are governed by Government Code Section 51238.1. Each city and county has the discretion to determine land uses that are or are not compatible with Williamson Act contracts, provided these uses are not prohibited under the act. The following are categories into which land can be placed under the Williamson Act.

Prime Agricultural Land

Prime Agricultural Land enrolled under Williamson Act contract meets any of the following criteria.

1. Land that is Class I or Class II in the NRCS land use capability classification system.
2. Land that rates 80–100 in the Storie Index Rating system.
3. Land that supports livestock used for the production of food and fiber and has an annual carrying capacity equivalent to at least one animal unit per acre as defined by USDA.
4. Land planted with fruit- or nut-bearing trees, vines, bushes, or crops that have a non-bearing period of less than 5 years and will normally return during the commercial-bearing period on an annual basis from the production of unprocessed agricultural plant production not less than $200 per acre.
5. Land that has returned from the production of unprocessed agricultural plant production with an annual gross value of not less than $200 per acre for 3 of the previous 5 years.

Non-Prime Agricultural Land

Non-Prime Agricultural Land enrolled under Williamson Act contract is other agricultural land that does not meet any of the criteria for classification listed above for Prime Agricultural Land. Non-Prime Agricultural Land is defined as Open Space Land of Statewide Significance under the California Open Space Subvention Act and may be identified as such in other documents. Most Non-Prime Agricultural Land is used for grazing or nonirrigated crops. However, Non-Prime Agricultural Land may also include other open space uses compatible with agriculture and consistent with local general plans.

Land in Non-Renewal

The non-renewal period begins with a Notice of Non-Renewal from the county or city, and the contract is terminated at the end of the non-renewal period. During the non-renewal process, the annual tax assessment gradually increases.

Local

Placer County General Plan

The general distribution and location and the extent of allowable uses for agricultural lands within a given city or county is typically designated by the land use element in the general plan. In California, it is common for local planning documents to include goals and policies aimed at balancing the preservation of existing agricultural land with the increasing demands for housing and other types of urbanization or non-agricultural uses.

Excerpted below are the relevant goals and policies from the *Placer County General Plan* that pertain to agriculture (Placer County 2013).

Goals

1.H. To designate adequate agricultural land and promote development of agricultural uses to support the continued viability of Placer County's agricultural economy.

7.A. To provide for the long-term conservation and use of agriculturally-designated lands.

7.B. To minimize existing and future conflicts between agricultural and non-agricultural uses in agriculturally-designated areas.

7.C. To protect and enhance the economic viability [of] Placer County's agricultural operations.

Policies

1.H.1. The County shall maintain agriculturally-designated areas for agricultural uses and direct urban uses to designated urban growth areas and/or cities.

1.H.2. The County shall seek to ensure that new development and public works projects do not encourage expansion of urban uses into designated agricultural areas.

1.H.4. The County shall allow the conversion of existing agricultural land to urban uses only within community plan areas and within city spheres of influence where designated for urban development on the General Plan Land Use Diagram.

7.A.1. The County shall protect agriculturally-designated areas from conversion to non-agricultural uses.

7.A.2. The County shall ensure that unincorporated areas within city spheres of influence that are designated for agricultural uses are maintained in large parcel sizes of 10-acre minimums or larger.

7.A.3. The County shall encourage continued and, where possible, increased agricultural activities on lands suited to agricultural uses.

7.A.7. The County shall maintain agricultural lands in large parcel sizes to retain viable farming units.

7.A.11. The County shall support appropriate efforts by private conservation organizations to use conservation easements as a tool for agricultural preservation.

7.A.12. The County shall actively encourage enrollments of agricultural lands in its Williamson Act program.

7.B.1. The County shall identify and maintain clear boundaries between urban/suburban and agricultural areas and require land use buffers between such uses where feasible, except as may be determined to be unnecessary or inappropriate within a Specific Plan as part of the Specific Plan approval. These buffers shall occur on the parcel for which the development permit is sought and shall favor protection of the maximum amount of farmland.

7.B.2. The County shall weigh the economic benefits of surface mining against the value of preserving agriculture when considering mineral extraction proposals on land designated for agricultural use.

7.B.4. The County shall continue to enforce the provisions of its Right-to-Farm Ordinance and of the existing state nuisance law.

7.C.6. The County shall ensure that land use regulations do not arbitrarily restrict potential agricultural-related enterprises which could provide supplemental sources of income for farm operators.

Placer County Right to Farm Ordinance

The purpose of Placer County's (County's) Right to Farm Ordinance is to reduce the loss of commercial agriculture resources to the County by limiting the circumstances under which agricultural operations may be deemed to constitute a nuisance. Under the ordinance, no agricultural activity, operation, or facility conducted or maintained for commercial purposes shall be

or become a nuisance, private or public, due to any changed condition in or about the locality, after being in operation for more than 1 year, provided the activity, operation, or facility was not a nuisance when it began.

Placer County Zoning Ordinance Sections 17.08.010, 17.10.010, and 17.64.090

Zoning Ordinance Section 17.64.090 establishes limitations on land uses in agricultural preserves, open space preserves, and FSZs. Relevant compatible uses allowed on land under Williamson Act contract include, in addition to agricultural uses, open space uses defined as fisheries and game preserves.

The Zoning Ordinance also establishes two zone districts, Farm and Agricultural Exclusive, which regulate land uses in agricultural areas.

Sutter County General Plan

Excerpted below are the relevant goal and policies from the *Sutter County General Plan* that pertain to agriculture (Sutter County 2011).

Goal

AG 1. Preserve and protect high-quality agricultural lands for long-term agricultural production.

Policies

AG 1.1 Agricultural Land Preservation. Preserve and maintain agriculturally designated lands for agricultural use and direct urban/suburban and other nonagricultural related development to the cities, unincorporated rural communities, and other clearly defined and comprehensively planned development areas.

AG 1.5 Agricultural Land Conversion. Discourage the conversion of agricultural land to other uses unless all of the following findings can be made:

a. The net community benefit derived from conversion of the land outweighs the need to protect the land for long-term agricultural use

b. There are no feasible alternative locations for the proposed use that would appreciably reduce impacts upon agricultural lands

c. The use will not have significant adverse effects, or can mitigate such effects, upon existing and future adjacent agricultural lands and operations *(AG 1-A)*

AG 1.6 Interrelationship with Habitat Conservation. Permit agriculturally designated lands to be used for habitat conservation and/or mitigation with approval of a development agreement, provided such use does not interfere or adversely affect existing or planned agricultural uses or impact County flood control operations. *(AG 1-A)*

AG 1.13 Cooperation with Other Agencies. Coordinate with the cities, the Local Agency Formation Commission (LAFCO), local service providers, and other relevant agencies on joint mechanisms to preserve agricultural lands and limit urban encroachment.

City of Lincoln General Plan

Excerpted below are the relevant goals and policies from the *City of Lincoln General Plan* that pertain to agriculture (City of Lincoln 2008).

Goals

LU-1. To grow in orderly pattern consistent with the economic, social, and environmental needs of Lincoln.

LU-5. To retain rural designations for large parcels of land outside the city limits but within the Planning Area, until annexed to city.

Policies

LU-1.11 Natural Resource Conservation. To promote a high quality of life within the community, the City will in conjunction with related polices in other general plan elements, promote the retention of natural open space areas, greenbelts and the provision of adequate parks as part of approving new land use designs.

LU-1.14 Land Use Conflicts. The City shall continue to apply the regulations and procedures of the City's Zoning Ordinance and shall use the environmental process to prevent or mitigate land use conflicts.

LU-5.3. Protect Agriculture. The City shall ensure that agricultural land uses are not prematurely terminated by protecting the continued operation of agricultural land uses.

LU-5.4. Agricultural Buffers. The City shall require that agricultural land uses designated for long-term protection (i.e., in a Williamson Act contract or under a conservation easement) shall be buffered from urban land uses through the use of techniques including, but not limited to, greenbelts, open space setbacks, soundwalls, fencing and berming.

LU-5.5. Agricultural Disclosure. Residential developments locating next to active agricultural areas will have a notice included in the deed notifying buyers of the agricultural use.

3.1.2 Environmental Setting

Agricultural Land Use Designations in Western Placer County

The *Placer County General Plan* establishes one agricultural land use designation. The Agriculture (AG) (10, 20, 40, 80–160 acre minimum) designation identifies land for the production of food and fiber, including areas of prime agricultural soils, and other productive and potentially production lands where commercial agricultural uses can exist without creating conflicts with other land uses, or where potential conflicts can be mitigated.

The AG designation allows crop production, orchards and vineyards, grazing, pasture and rangeland, hobby farms, other resource extraction activities, facilities that directly support agricultural operations (such as agricultural products processing), and necessary public utility and safety facilities. Residential development can include one principal dwelling and one secondary dwelling per lot (Placer County 2013).

Baseline Agricultural Uses Agricultural data in Placer County are presented below for 2006; where available, more recent data are included. Important Farmland data are not available for Baseline Year (2005), therefore 2006 data were used. As described below, farmland has been converted, with a conversion of 13,140 acres in the 10 years between 2006 and 2016. The change from 2005 to 2006 would have been small in the context of the whole Plan Area and, for this reason, 2006 data were considered adequate to describe the environmental setting.

The majority of agricultural land in the Plan Area is located in the unincorporated areas of Placer County, in the northwestern portion of western Placer County. Within the Plan Area, approximately 129,804.6 acres (about 48%) are designated agricultural (using 2006 land cover data). The West

Valley, or Sacramento Valley plain, contains the majority of cropland in the Plan Area. Rice crops dominate the western edge of the county. The North Foothills region is characterized by rangeland with small orchards (Placer County 2002). Important Farmland in the Plan Area is shown in Table 3.1-1.

Table 3.1-1. Important Farmland in the Plan Area (2006)

Important Farmland Category	Acres in the Plan Area	Percent of Plan Area
Prime Farmland	8,286.3	3.07%
Farmland of Statewide Importance	4,491.7	1.67%
Farmland of Local Importance	95,622.3	35.48%
Unique Farmland	21,404.4	7.94%
Total	129,804.6	48.16%

Source: California Department of Conservation 2006.

The climate and availability of water have allowed agricultural industry to flourish; Placer County was one of the leading tree fruit growing regions in the United States for over a century, which lasted until the 1960s (Placer County 2002). According to the *Placer County Agricultural Crop Report 2006*, Placer County's total gross value of agricultural crops and products was $64,297,934. The top five selling crops in 2006 were nursery products, timber production, cattle and calves, rice, and walnuts (Placer County Agriculture Department n.d.).

According to the *2016 Crop Report* for Placer County, Placer County's total gross value of agricultural crops and products for 2016 was $65,206,000. This was an increase of approximately 1.4% from 2015. The top five selling crops for 2016 were rice, other livestock (poultry, swine goats), cattle and calves, nursery stock, and walnuts (Placer County Agriculture Weights and Measures n.d.).

Conversion of farmland to non-agricultural use is largely due to development in western Placer County. The total inventoried acreage of Important Farmland (this includes prime farmland, unique farmland, and farmland of state and local importance) in 2016 was 125,044 acres, compared to 138,184 in the year 2006. Between 2014 and 2016, approximately 3,868 acres of farmland of local importance was converted to urban and built-up land. Prime farmland, farmland of statewide importance, and unique farmland all increased in acreage (954 acres total) (California Department of Conservation 2006, 2016b).

Baseline agricultural uses in western Placer County include orchards, pasture, row crops, unidentified croplands, and vineyard.

The following provides a description of irrigated agriculture types found in the Plan Area. Unless otherwise noted, acreages are from Placer County land cover data (2006).

Rice

Rice fields generally occur at elevations of about 45–140 feet, and all rice fields in Placer County are located within private land. This type of agriculture is the most common of the agricultural land-cover types, and covered approximately 19,580.2 acres in production in 2006, or 7.3% of the Plan Area.

Row Crops

Row crops are generally found in alluvial valley bottoms or gently rolling terrain in the low to mid-elevations, where there are deep, fertile soils. The major row crops found in western Placer County are alfalfa, corn fodder, oats, wheat, and hay. Row crops covered an area totaling 704.3 acres in production in 2006, or 0.3% of the Plan Area.

Unidentified Croplands

Unidentified croplands include plowed or fallow agricultural fields or where the crops could not be identified. These areas are likely to be in rotation for the next year's cycle of row crop cultivation. Unidentified croplands are found at elevations of 47–1,368 feet and occupied approximately 1,807.3 acres in 2006, or 0.7% of the Plan Area.

Alfalfa

Small amounts of alfalfa are grown in western Placer County for use as a hay crop in irrigated fields. Alfalfa fields are found at elevations of about 70–135 feet and occupied approximately 175.6 acres in production in 2006, or 0.07% of the Plan Area.

Irrigated Pasture

Irrigated pastures occur throughout the western Placer County and vary from small irrigated fields in rural-residential areas in the foothills used for small-scale livestock rearing to extensive pastures on floodplains in the lower foothills and valley area used for intensive cattle rearing. Irrigated pastures covered approximately 141.1 acres of irrigated pasture in 2006, or approximately 0.05% of the Plan Area.

Vineyard

Vineyards are found at elevations of about 85–1,290 feet in elevation and are located within private lands. Vineyards occupied approximately 95.6 bearing acres of wine grapes in 2006, or 0.04% of the Plan Area.

Orchard

Orchards in western Placer County are found in the foothill region and are frequently adjacent to streams or irrigation canals. Walnuts, plums, peaches, oranges, apples, and pears are the most commonly planted crops. Orchards are found at elevations of 60–1,680 feet, and in 2006 occupied approximately 2,522 acres including almonds, or 0.8% of the Plan Area.

Williamson Act Lands

In 2017 32,336 acres in Placer County were under Williamson Act contracts. This was a decrease from 8,260 acres in 2013 (Brown pers. comm.). In 2013, Placer County was ranked in the top 10 of counties with the largest net enrollment decrease (California Department of Conservation 2015). The majority of lands enrolled in Williamson Act contracts are found in the west and northwestern portion of western Placer County. Figure 3.1-2 shows Williamson Act–enrolled lands in Placer County and the Plan Area.

Forest Land

There is no forest land or timber land in the Plan Area.

3.1.3 References Cited

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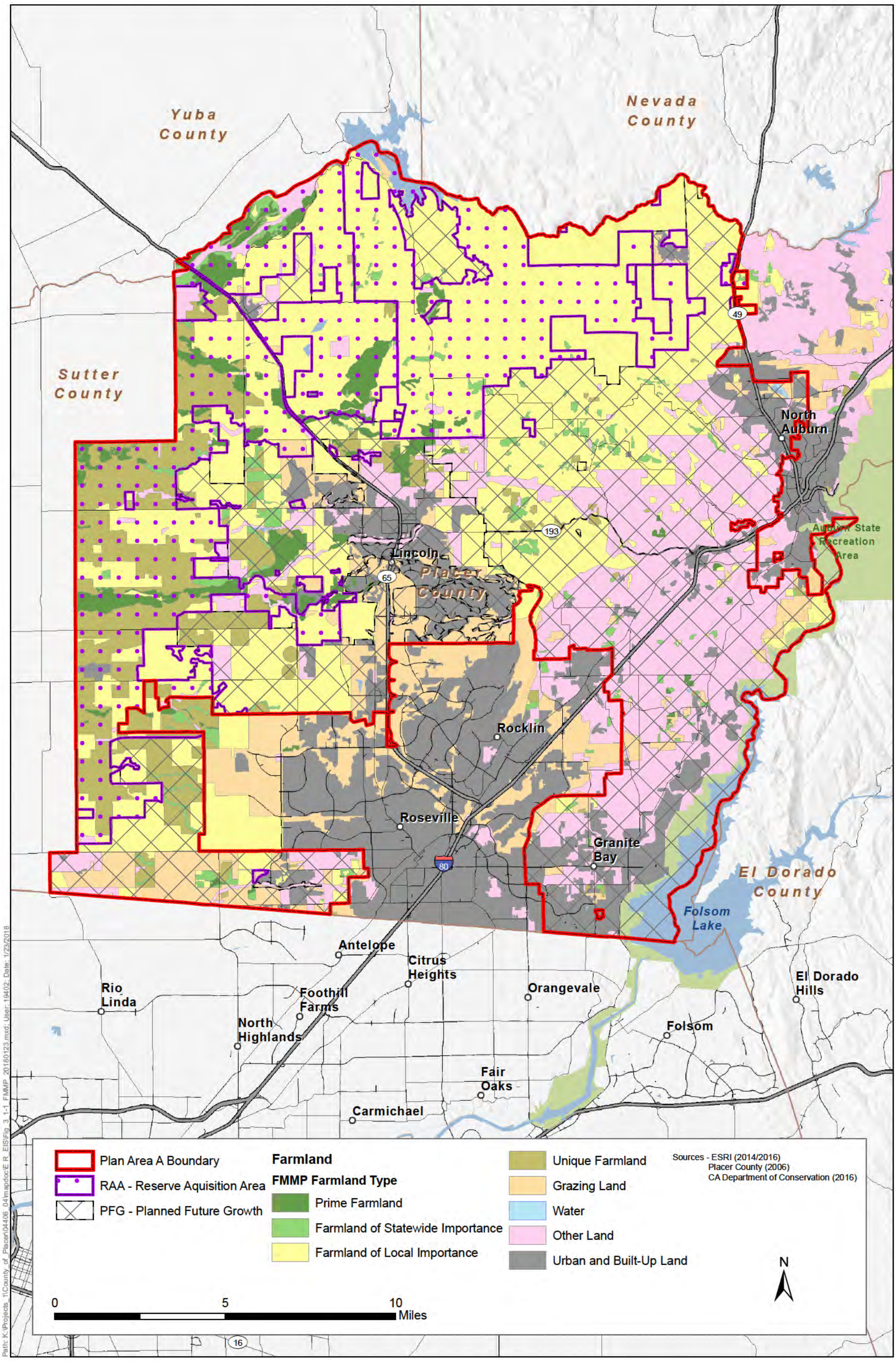

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Figure 3.1-1
Farmland
Placer County Conservation Program—EIS/EIR

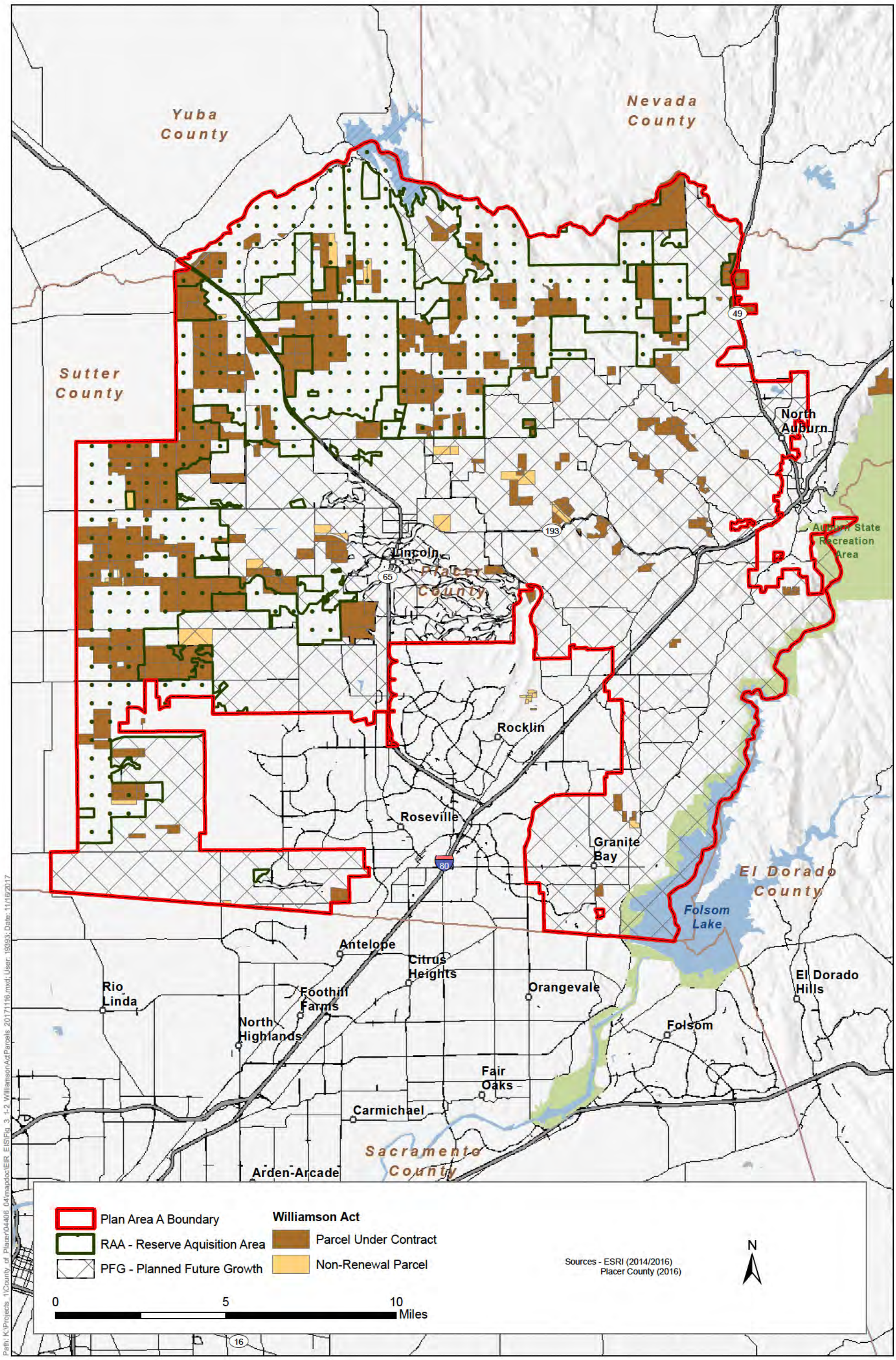

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Figure 3.1-2
Williamson Act Parcels
Placer County Conservation Program—EIS/EIR

3.2 Air Quality, Greenhouse Gases, and Climate Change

This section describes the regulatory and environmental settings for air quality, greenhouse gases (GHGs), and climate change in the Plan Area. Impacts that would result from implementing the proposed action and alternatives are described in Chapter 4, *Environmental Consequences*, along with mitigation measures to reduce impacts, where appropriate.

3.2.1 Regulatory Setting

The agencies of direct importance for air quality and climate change are the U.S. Environmental Protection Agency (USEPA), California Air Resources Board (ARB), Feather River Air Quality Management District (FRAQMD), and Placer County Air Pollution Control District (PCAPCD). USEPA has established federal air quality standards for which ARB and PCAPCD have primary implementation responsibility, in Placer County while ARB and FRAQMD have primary implementation responsibility in Sutter County. ARB, FRAQMD, and PCAPCD are also responsible for ensuring that state air quality standards are met and for developing policies and plans to reduce state and local GHG emissions in their respective jurisdictions.

Federal—Air Quality

Clean Air Act and National Ambient Air Quality Standards

The primary law that governs federal air quality regulations is the Clean Air Act (federal CAA), which was enacted in 1963 and amended in subsequent years (1965, 1967, 1970, 1977, and 1990). The act establishes National Ambient Air Quality Standards (NAAQS) for criteria pollutants and specifies future dates for achieving compliance. Criteria pollutants are ozone; lead; carbon monoxide (CO); nitrogen dioxide (NO_2); sulfur dioxide (SO_2); and particulate matter, which consists of particulate matter less than or equal to 10 microns in diameter (PM10) and particulate matter less than or equal to 2.5 microns in diameter (PM2.5).

The federal CAA requires states to submit a State Implementation Plan (SIP) for areas in nonattainment of the NAAQS. The SIP, which is reviewed and approved by USEPA, must demonstrate how the federal standards would be achieved. Failing to submit a plan or secure approval can lead to denial of federal funding and permits. In cases where the SIP is submitted by the state but fails to demonstrate achievement of the standards, USEPA is directed to prepare a federal implementation plan.

In California, USEPA has delegated authority to prepare SIPs to ARB, which, in turn, has delegated that authority to individual air districts. ARB traditionally has established state air quality standards, maintaining oversight authority in air quality planning, developing programs for reducing emissions from motor vehicles, developing air emissions inventories, collecting air quality and meteorological data, and approving SIPs.

Table 3.2-1. National and State Ambient Air Quality Standards

			NAAQS[a]	
Criteria Pollutant	Average Time	CAAQS	Primary	Secondary
Ozone	1-hour	0.09 ppm	None[b]	None[b]
	8–hour	0.070 ppm	0.070 ppm	0.070 ppm
PM10	24-hour	50 μg/m³	150 μg/m³	150 μg/m³
	Annual mean	20 μg/m³	None	None
PM2.5	24-hour	None	35 μg/m³	35 μg/m³
	Annual mean	12 μg/m³	12.0 μg/m³	15.0 μg/m³
Carbon monoxide	1-hour	20 ppm	35 ppm	None
	8-hour	9.0 ppm	9 ppm	None
	8-hour (Lake Tahoe)	6 ppm	None	None
Nitrogen dioxide	1-hour	0.18 ppm	0.100 ppm	None
	Annual mean	0.030 ppm	0.053 ppm	0.053 ppm
Sulfur dioxide	1-hour	0.25 ppm	0.075 ppm	None
	3-hour	None	None	0.5 ppm
	24-hour	0.04 ppm	0.14 ppm	None
	Annual mean	None	0.030 ppm	None
Lead	30-day average	1.5 μg/m³	None	None
	Calendar quarter	None	1.5 μg/m³	1.5 μg/m³
	Rolling 3-month average	None	0.15 μg/m³	0.15 μg/m³
Sulfates	24-hour	25 μg/m³	None	None
Visibility reducing particles	8-hour	–[c]	None	None
Hydrogen sulfide	1-hour	0.03 ppm	None	None
Vinyl chloride	24-hour	0.01 ppm	None	None

Source: California Air Resources Board 2016a.

CAAQS = California Ambient Air Quality Standards.
PM2.5 = particulate matter less than or equal to 2.5 microns in diameter.
PM10 = particulate matter less than or equal to 10 microns in diameter.
μg/m³ = micrograms per cubic meter.
NAAQS = National Ambient Air Quality Standards.
ppm = parts per million.

[a] NAAQs are divided into primary and secondary standards. Primary standards are intended to protect public health, whereas secondary standards are intended to protect public welfare and the environment.

[b] The federal 1-hour standard of 12 parts per hundred million was in effect from 1979 through June 15, 2005. Although no longer in effect, it is regularly used as a benchmark for State Implementation Plans.

[c] CAAQS for visibility-reducing particles is defined by a pollutant extinction (i.e., dispersion) coefficient of 0.23 per kilometer.

General Conformity

In 1993 the USEPA enacted the federal General Conformity rule (40 Code of Federal Regulations [CFR] Parts 5, 51, and 93). The purpose of the General Conformity rule is to ensure that federal actions do not generate emissions that interfere with state and local agencies' SIPs and emissions-reduction strategies in areas that do not meet NAAQS (*nonattainment* areas) or have not met NAAQS in the past (*maintenance* areas).

The General Conformity rule applies to all federal actions in nonattainment and maintenance areas provided the action is not (1) exempt from General Conformity,[1] (2) covered by a Presumed-to-Conform approved list,[2] or (3) likely to have clearly minimal—or *de minimis*—emissions. In addition, the General Conformity rule applies only to direct and indirect emissions associated with the portions of any federal action that are subject to New Source Review (which is needed for actions that would significantly increase emissions of a regulated pollutant) for which a federal permitting agency has directly caused or initiated, has continued program responsibility for, or can practically control.

The evaluation of whether a General Conformity determination is required is made by comparing annual direct and indirect emissions to the applicable General Conformity *de minimis* thresholds (Tables 3.2-2 and 3.2-3). If the evaluation indicates that emissions exceed a General Conformity *de minimis* threshold, the applicant must perform a conformity determination. A conformity determination is made by satisfying any of the following requirements.

- Showing that the emission increase(s) caused by the federal action are included in the SIP.
- Demonstrating that the State agrees to include the emission increase(s) in the SIP.
- Offsetting the action's emissions in the same or nearby area.
- Mitigating to reduce the emission increase(s).
- Using a combination of the above strategies.

Table 3.2-2. Federal *de minimis* Thresholds for Criteria Pollutants in Nonattainment Areas

Pollutant	Emission Rate (tons per year)
Ozone (ROGs/VOCs or NO_X)	
Serious nonattainment areas	50
Severe nonattainment areas	25
Extreme nonattainment areas	10
Other ozone nonattainment areas outside the ozone transport region[a]	100
Other ozone nonattainment areas inside the ozone transport region[a]	
ROGs/VOCs	50
NO_X	100
CO: All nonattainment areas	100

[1] Exempt actions are either listed as such in the General Conformity Rule or covered by Transportation Conformity, which applies to federally funded transportation projects.

[2] Activities is this category are designated by a federal agency as having emissions below *de minimis* levels or otherwise do not interfere with the applicable SIP or the attainment and maintenance of the NAAQS.

Pollutant	Emission Rate (tons per year)
SO_2 or NO_2: All nonattainment areas	100
PM10	
Moderate nonattainment areas	100
Serious nonattainment areas	70
PM2.5 (direct emissions, SO_2, NO_x, VOCs, and ammonia)	
Moderate NAA's	100
Serious NAA's	70
Lead: All nonattainment areas	25

Source: 40 Code of Federal Regulations 93.153.
NO_X = nitrogen oxides.
PM2.5 = particulate matter less than or equal to 2.5 microns in diameter.
PM10 = particulate matter less than or equal to 10 microns in diameter.
ROGs = reactive organic gases.
SO_2 = sulfur dioxide.
VOCs = volatile organic compounds.
[a] The Ozone Transport Region consists of the states of Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont, and the Consolidated Metropolitan Statistical Area that includes the District of Columbia and northern Virginia (Section 184 of the federal Clean Air Act).

Table 3.2-3. Federal *de minimis* Thresholds for Criteria Pollutants in Maintenance Areas

Pollutant	Emission Rate (tons per year)
Ozone (NO_X, SO_2, or NO_2)	
All maintenance areas	100
Ozone (ROGs/VOCs)	
Maintenance areas inside an ozone transport region[a]	50
Maintenance areas outside an ozone transport region[a]	100
CO: All maintenance areas	100
PM10: All maintenance areas	100
PM2.5 (direct emissions, SO_2, NO_x, VOCs, and ammonia)	
All maintenance areas	100
Lead: All maintenance areas	25

Source: 40 Code of Federal Regulations 93.153.
NO_X = nitrogen oxides.
PM2.5 = particulate matter less than or equal to 2.5 microns in diameter.
PM10 = particulate matter less than or equal to 10 microns in diameter.
ROGs = reactive organic gases.
SO_2 = sulfur dioxide.
VOCs = volatile organic compounds.
[a] The Ozone Transport Region consists of Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont, and the Consolidated Metropolitan Statistical Area that includes the District of Columbia and northern Virginia (Section 184 of the federal Clean Air Act).

Federal—Greenhouse Gases and Climate Change

Although there is currently no federal overarching law specifically related to climate change or the reduction of GHGs, in *Coalition for Responsible Regulation, Inc., et al. v. EPA*, the United States Court of Appeals upheld USEPA's authority to regulate GHG emissions under the federal CAA. In addition, federal case law has made it clear that federal agencies have the responsibility to consider the environmental issue of climate change and GHG emissions within NEPA analysis and to consider the effects of their actions on climate change through the GHG emissions, as well as to analyze the effects of climate change on federal actions.

State—Air Quality

California Clean Air Act and California Ambient Air Quality Standards

In 1988, the state legislature adopted the California Clean Air Act (California CAA), which states that the ARB has adopted ambient air quality standards, based upon the recommendation of the State Department of Health Services, and that attainment of these health-based standards is necessary to protect public health, particularly that of children, older people, and those with respiratory diseases. The California CAA requires that it is in the public's interest that these standards be attained at the earliest practical date through air pollution control plans to attain and maintain the standards that are prepared by air pollution control districts and air quality management districts to endeavor to meet the CAAQS by the earliest practical date. Unlike the federal CAA, the California CAA does not set precise attainment deadlines. Instead, the California CAA establishes increasingly stringent requirements for areas that will require more time to achieve the standards. CAAQS are generally more stringent than the NAAQS, which also includes additional standards for sulfates, hydrogen sulfide, visibility reducing particles, and vinyl chloride. The CAAQS and NAAQS are listed together in Table 3.2-1.

ARB and local air districts bear responsibility for achieving the California's air quality standards, which are to be achieved through district-level air pollution control Triennial Plans.

The California CAA substantially adds to the authority and responsibilities of air districts. The California CAA designates air districts as lead air quality planning agencies, requires air districts to prepare air quality plans, and grants air districts authority to implement transportation control measures. The California CAA also emphasizes the control of "indirect and area-wide sources" of air pollutant emissions. The California CAA gives local air pollution control districts explicit authority to regulate indirect sources of air pollution and to establish traffic control measures.

State Tailpipe Emission Standards

ARB established a series of increasingly strict emissions standards for new off-road diesel equipment, on-road diesel trucks, and harbor craft. New construction equipment used for implementation of the PCCP and Covered Activities, including heavy-duty trucks and off-road construction equipment, would be required to comply with the standards.

Toxic Air Contaminant Regulation

California regulates toxic air contaminants (TACs) primarily through the Toxic Air Contaminant Identification and Control Act (AB 1807, Tanner, 1983) and the Air Toxics "Hot Spots" Information and Assessment Act of 1987 (Hot Spots Act). In the early 1980s, ARB established a statewide

comprehensive air toxics program to reduce exposure to air toxics. AB 1807 was created California's program to reduce exposure to air toxics. The Hot Spots Act supplements the AB 1807 program by requiring a statewide air toxics inventory, notification of people exposed to a significant health risk, and facility plans to reduce these risks (California Air Resources Board 2017).

In August 1998, ARB identified diesel particulate matter (DPM) from diesel-fueled engines as a TAC. In September 2000, ARB approved a comprehensive Diesel Risk Reduction Plan to reduce emissions from both new and existing diesel-fueled engines and vehicles, aiming to reduce DPM (respirable particulate matter) emissions and the associated health risk by 75% in 2010 and by 85% by 2020. The plan identifies 14 measures that ARB will implement over the next several years.

Title 17 of the California Code of Regulations

ARB maintains smoke management guidelines for prescribed burning under Title 17 of the California Code of Regulations. The guidelines provide direction to air pollution control districts in the regulation and control of agricultural burning, including prescribed burning, as a resource management tool and provide increased opportunities for prescribed burning and agricultural burning while minimizing smoke impacts on the public. The Title 17 changes required air districts to adopt a Smoke Management Plan. Because PCAPCD spans three air basins, one plan was adopted for the Mountain Counties Air Basin (MCAB) and the Lake Tahoe Air Basin in 2001. For the Sacramento Valley Air Basin (SVAB), the burn plan is adopted for all the counties in the Sacramento Valley when changes are brought forth.

State—Greenhouse Gases and Climate Change

California has adopted statewide legislation addressing various aspects of climate change and GHG mitigation. Much of this establishes a broad framework for the state's long-term GHG reduction and climate change adaptation program. The former and current governors of California have also issued several executive orders (EOs) related to the state's evolving climate change policy. Brief summaries of key policies, EOs, regulations, and legislation at the state level that are relevant to the proposed action are described below in chronological order.

Assembly Bill 1493—Pavley Rules (2002, Amendments 2009, 2012 Rule-Making)

Assembly Bill (AB) 1493 (Pavley) requires ARB to adopt vehicle standards that will lower GHG emissions from new light duty automobiles to the maximum extent feasible beginning in 2009. The Pavley standards are expected to increase average fuel economy to roughly 54.5 miles per gallon in 2025.

Executive Order S-03-05 (2005)

EO S-03-05 is designed to reduce California's GHG emissions to (1) 2000 levels by 2010, (2) 1990 levels by 2020, and (3) 80% below 1990 levels by 2050.

Assembly Bill 32—California Global Warming Solutions Act (2006)

AB 32 codified the state's GHG emissions target by requiring that the state's global warming emissions be reduced to 1990 levels by 2020. The *2008 Climate Change Scoping Plan* for AB 32 (AB 32 Scoping Plan) identifies specific measures to reduce GHG emissions to 1990 levels by 2020 and requires ARB and other state agencies to develop and enforce regulations and other initiatives for

reducing GHGs. The first update to the AB 32 Scoping Plan was released in February 2014 and included revised GHG reduction estimates based on updated statewide GHG inventories. The update also discusses the need for continued GHG reduction progress post-2020. As discussed below under *Senate Bill 32 (2016)*, ARB drafted the *2017 Climate Change Scoping Plan Update* on January 20, 2017, and it proposes continuing the major programs of the AB 32 Scoping Plan.

Executive Order S-01-07—Low Carbon Fuel Standard (2007)

EO S-01-07 mandates that (1) a statewide goal be established to reduce the carbon intensity of California's transportation fuels by at least 10% by 2020 and (2) a low carbon fuel standard for transportation fuels be established in California.

Executive Order B-30-15 (2015)

EO B-30-15 (2015) establishes a statewide GHG reduction target of 40% below 1990 levels by 2030. As of December 2016, California is on track to meet or exceed the target of reducing GHG emissions to 1990 levels by 2020, which was previously established in AB 32. The State's new emission reduction target will make it possible to reach the overall goal of reducing emissions 80% under 1990 levels by 2050. EO B-30-15 established a medium-term goal for 2030 of reducing GHG emissions by 40% below 1990 levels and requires ARB to update its current AB 32 Scoping Plan to identify measures to meet the 2030 target. The EO supports EO S-3-05.

Senate Bill 32 (2016)

Senate Bill (SB) 32 (2016) requires ARB to ensure that statewide GHG emissions are reduced to at least 40%below the 1990 level by 2030, consistent with the target set forth in EO B-30-15. ARB drafted the *2017 Climate Change Scoping Plan Update* on January 20, 2017, to meet the GHG reduction requirement set forth in SB 32. It proposes continuing the major programs of the previous AB 32 Scoping Plan, including cap-and-trade regulation, the Low Carbon Fuel Standard; more efficient cars, trucks, and freight movement; the Renewable Portfolio Standard; and reducing methane (CH_4) emissions from agricultural and other wastes. The update also addresses for the first time the GHG emissions from natural and working lands in California.

Local—Air Quality

Placer County Air Pollution Control District Regulations

PCAPCD has local air quality jurisdiction over projects in Placer County. Some of the responsibilities of the air district include overseeing stationary-source emissions, approving permits, maintaining emissions inventories, maintaining local air quality stations, overseeing agricultural and non-agricultural burn permits, and reviewing CEQA and NEPA documents for air quality impacts. PCAPCD manages air quality through a comprehensive program that includes long-term planning, regulations, incentives for technical innovation, education, and community outreach. For example, the *2015 Triennial Air Quality Attainment Plan* (2015 Triennial Plan) is prepared for the state ambient air quality standards as per the California CAA and describes the historical trends in ambient air quality levels, provides information on the emission inventories in Placer County, summarizes the progress of emission reductions, and concludes with an overview of the planning progress from 2012 to 2014 in Placer County (Placer County Air Pollution Control District 2015). The air district has also adopted the *2013 PM2.5 Implementation and Maintenance Plan for*

Sacramento PM2.5 Nonattainment Area and the 2017 *Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan* (2017 Ozone SIP) for the federal ambient air quality standards for the Sacramento Federal Non-Attainment Area.

PCAPCD is responsible for adopting and enforcing rules and regulations that have been adopted to achieve and maintain federal and state ambient air quality standards in all areas affected by emission sources under PCAPCD jurisdiction, including the enforcement of all applicable provisions of state and federal law. Portions of the PCCP may be subject to PCAPCD rules (Placer County Air Pollution Control District 2016a). This list of rules may not be all encompassing as additional PCAPCD rules may apply as specific components of the proposed action are identified.

- **Rule 202 (Visible Emissions)**: Prohibits the discharge of air contaminants for a period or periods aggregating more than 3 minutes in any 1 hour.
- **Rule 205 (Nuisance)**: Prohibits the discharge of air contaminants that cause injury, detriment, nuisance, or annoyance to a considerable number of persons or to the public, or which endanger the comfort, repose, health, or safety of any such persons or the public, or which cause or have a natural tendency to cause injury or damage to business or property.
- **Rule 207 (Particulate Matter)**: Prohibits the discharge of particulate matter in excess of 0.1 grain per cubic foot of gas at standard conditions.
- **Rule 228 (Fugitive Dust Emissions)**: Limits the quantity of particulate matter entrained in the ambient air, or discharged into the ambient air, as a result of anthropogenic (human-made) fugitive dust sources by requiring actions to prevent, reduce, or mitigate fugitive dust emissions.
- **Rule 242 (Stationary Internal Combustion Engines)**: Limits emissions of nitrogen oxides (NO_X) and CO from stationary internal combustion engines (if construction requires engines rated at more than 50 brake horsepower).
- **Rule 301 (Nonagricultural Burning Smoke Management):** Establish criteria for the disposal of vegetation from fire hazard reduction burning, mechanized burners, fires set or permitted by public officers, and right of way clearing, levee, ditch, and reservoir maintenance, to better manage smoke in order to reduce its effects.
- **Rule 302 (Agricultural Burning Smoke Management)**: Establishes standards and administrative requirements under which agricultural burning, including prescribed burning, may occur in a way that manages the generation of smoke and reduces the emission of particulates and other air contaminants.
- **Rule 303 (Prescribed Burning Smoke Management)**: Establishes standards and administrative requirements under which agricultural burning, including the burning of agricultural wastes, limited to the growing of crops or raising of fowl or animals, may occur in a way that manages the generation of smoke and reduces the emission of particulates and other air contaminants.
- **Rule 304 (Land Development Smoke Management)**: Establishes standards and administrative requirements under which land development burning may occur in a way that manages the generation of smoke and reduces the emission of particulates and other air contaminants.

Refer to Appendix F for detailed information pertaining to PCAPCD fugitive dust controls and construction equipment emission controls.

Feather River Air Quality Management District

FRAQMD has local air quality jurisdiction over projects in Sutter and Yuba Counties. Responsibilities of the air district are similar to those described above for PCAPCD. The air district has adopted the 2017 Ozone SIP, 2015 Triennial Plan, and the *Yuba City-Marysville PM2.5 Nonattainment Area Resignation Request and Maintenance Plan*.

Portions of the proposed action in Sutter County may be subject to the following rules (California Air Resources Board 2016b). This list of rules may not be all encompassing as additional FRAQMD rules may apply as specific components of the proposed action are identified.

- **Rule 2.0 (Open Burning):** Ensures open burning in the FRAQMD is conducted in a manner that minimizes emissions and smoke and is managed consistent with state and federal law.
- **Rule 3.0 (Visible Emissions):** Prohibits the discharge of air contaminants for a period or periods aggregating more than 3 minutes in any 1 hour.
- **Rule 3.2 (Particulate Matter Concentration):** Prohibits the discharge of particulate matter in excess of 0.3 grains per cubic foot of gas at standard conditions. The concentration must be calculated to 12 percent carbon dioxide (CO_2) when the source involves a combustion process.
- **Rule 3.3 (Dust and Fumes):** Limits dust or fumes total emissions based on process weight rate.
- **Rule 3.16 (Fugitive Dust Emissions):** Regulates operations which periodically may cause fugitive dust emissions into the atmosphere.

Refer to Appendix G for detailed information pertaining to FRAQMD construction equipment emission controls and exhaust emissions offsets.

Placer County General Plan

Excerpted below are the relevant goal, policies, and implementation programs from the *Placer County General Plan* that pertain to air quality (Placer County 2013).

Goal

6.F. To protect and improve air quality in Placer County.

Policies

6.F.1. The County shall cooperate with other agencies to develop a consistent and effective approach to air quality planning and management.

6.F.2. The County shall develop mitigation measures to minimize stationary source and area source emissions.

6.F.3. The County shall support the Placer County Air Pollution Control District (PCAPCD) in its development of improved ambient air quality monitoring capabilities and the establishment of standards, thresholds, and rules to more adequately address the air quality impacts of new development.

6.F.4. The County shall solicit and consider comments from local and regional agencies on proposed projects that may affect regional air quality.

6.F.5. The County shall encourage project proponents to consult early in the planning process with the County regarding the applicability of Countywide indirect and areawide source programs and transportation control measures (TCM) programs. Project review shall also address energy-efficient building and site designs and proper storage, use, and disposal of hazardous materials.

6.F.6. The County shall require project-level environmental review to include identification of potential air quality impacts and designation of design and other appropriate mitigation measures or offset fees to reduce impacts. The County shall dedicate staff to work with project proponents and other agencies in identifying, ensuring the implementation of, and monitoring the success of mitigation measures.

6.F.7. The County shall encourage development to be located and designed to minimize direct and indirect air pollutants.

6.F.8. The County shall submit development proposals to the PCAPCD for review and comment in compliance with CEQA prior to consideration by the appropriate decision making body.

6.F.9. In reviewing project applications, the County shall consider alternatives or amendments that reduce emissions of air pollutants.

6.F.10. The County may require new development projects to submit an air quality analysis for review and approval. Based on this analysis, the County shall require appropriate mitigation measures consistent with the PCAPCD's 1991 Air Quality Attainment Plan (or updated edition).

6.F.11. The County shall apply the buffer standards described in Part 1 of this Policy Document and meteorological analyses to provide separation between possible emission/nuisance sources (such as industrial and commercial uses) and residential uses.

Implementation Programs

6.17. The County shall coordinate with other local, regional, and state agencies, including the PCAPCD and the California Air Resources Board (ARB), in incorporating regional and County clean air plans into County planning and project review procedures. The County shall also cooperate with the PCAPCD and ARB in the following efforts:

a. Enforcing the provision of the California and federal Clean Air Acts, state and regional policies, and established standards for air quality;

b. Establishing monitoring stations to accurately determine the status of carbon monoxide, ozone, nitrogen dioxide, hydrocarbon and PM_{10} concentrations;

c. Developing and implementing clean fuel regulations for vehicle fleets; and,

d. Developing consistent procedures and thresholds for evaluating both project-specific and cumulative air quality impacts for proposed projects.

6.18. The County shall work with the PCAPCD to develop significance thresholds that would trigger requirements for air quality analyses and project mitigation. Those thresholds and mitigation measures shall be incorporated into the criteria and strategies from the Placer County Air Quality Attainment Plan (AQAP, 1991) and the State Implementation Plan (SIP) which were prepared in order to attain state and federal air quality standards.

6.19. The County shall coordinate with the PCAPCD regarding its update to the 1991 AQAP as required every three years. The County shall ensure that the PCAPCD's triennial updates reflect the projected population estimates and vehicle travel associated with the updated General Plan, and include additional air quality mitigation projects to compensate for the increased population and emissions associated with anticipated development.

6.20. The County should coordinate with the PCAPCD and the Sacramento Area Council of Governments (SACOG) relating to the preparation of the State Implementation Plan (SIP) and the associated progress reports which demonstrate the attainment of federal air quality standards. The County should ensure that the SIP reflect any revised General Plan population and vehicle travel activity projections associated with any federal nonattainment area within Placer County.

6.21. The County shall explore alternative financing mechanisms for local air quality improvement programs. The County shall also examine whether grants are available to establish an air quality monitoring program. In addition, the County shall develop a methodology providing project proponent funding or roadway improvements that equitably recovers the costs of those improvements.

6.22. In consultation with the PCAPCD, cities and special districts, transit providers, and major employers in Placer County, the County shall adopt a program to encourage the widespread use of clean fuels. This program shall include the following components:

a. Vigorously pursuing replacement of existing County vehicles that burn gasoline and diesel fuel with vehicles that use clean fuels including, but not limited to, methanol, compressed natural gas (CNG), liquefied petroleum gas (LPG), and electric batteries;

b. Encouraging existing fueling stations in the County to provide clean fuels such as methanol and LPG; and

c. Encouraging bus service companies based in Placer County to use clean fuel buses in their daily operations.

Sutter County General Plan

Excerpted below are the relevant goal and policies from the *Sutter County 2030 General Plan* that pertain to air quality (Sutter County 2011).

Goal

ER 9: Protect, maintain and improve the air quality in Sutter County.

Policies

ER 9.1 Ambient Air Quality Standards. Work with the California Air Resources Board and the Feather River Air Quality Management District (FRAQMD) to meet State and federal ambient air quality standards.

ER 9.2 FRAQMD. Support FRAQMD in its establishment of appropriate standards to address the air quality impacts of new development.

ER 9.5 FRAQMD Review. Submit development proposals to FRAQMD for review and comment in accordance with CEQA prior to consideration by the County's decision making body.

ER 9.6 New Development. Review and ensure new development projects incorporate feasible measures that reduce construction and operational emissions.

ER 9.7 New Sensitive Uses. Require development of new air quality sensitive uses to be located an adequate distance from existing and potential sources of air pollutant emissions consistent with California Air Resources Board recommendations.

ER 9.9 Odors. Require, for uses other than permitted agricultural operations, that adequate buffer distances be provided between odor sources and sensitive receptors.

ER 9.10 Contractor Preference. Give preference to contractors that use low-emission equipment and other practices with air quality benefits for County-sponsored construction projects, and to businesses that practice sustainable operations.

City of Lincoln General Plan

Excerpted below are the relevant goal and policies from the *City of Lincoln General Plan* that pertain to air quality (City of Lincoln 2008).

Goal

HS-3. To reduce the generation of air pollutants and promote non-polluting activities to minimize impacts to human health and the economy of the City.

Policies

HS-3.1 Coordination with Local and Regional Agencies. The City shall cooperate with other local, regional, and State agencies in developing an effective approach to implementing air quality plans that achieve State and Federal Ambient Air Quality Standards. Air quality plans shall incorporate programs developed by the Sacramento Area Council of Governments and the PCAPCD.

HS-3.2 Regional Agency Review of Development Proposals. The City shall solicit and consider comments from local and regional agencies on proposed projects that may affect regional air quality. The City shall submit development proposals to the Placer County Air Pollution Control District for review and comment in compliance with the California Environmental Quality Act (CEQA) prior to consideration by the City.

HS-3.3 Placer County Air Quality Attainment Plan. The City shall continue to support the recommendations found in the Placer County Air Quality Attainment Plan for the reduction of air pollutants.

HS-3.5 Development Requirements. The City shall require developments, where feasible, to be located, designed, and constructed in a manner that would minimize the production of air pollutants and avoid land use conflicts.

HS-3.6 City Review of Development Proposals. The City shall require consideration of alternatives or amendments that reduce emissions of air pollutant when reviewing project applications.

HS-3.8 Air Quality Analysis. The City may require an analysis of potential air quality impacts associated with significant new developments through the environmental review process, and identification of appropriate mitigation measures prior to approval of the project development.

HS-3.9 Dust Suppression Measures. The City shall require contractors to implement dust suppression measures during excavation, grading, and site preparation activities. Techniques may include, but are not limited to, the following:

- Site watering or application of dust suppressants,
- Phasing or extension of grading operations,
- Covering of stockpiles,
- Suspension of grading activities during high wind periods (typically winds greater than 25 miles per hour), and
- Revegetation of graded areas.

HS-3.16 Planning Programs. The City shall support land use, transportation management, infrastructure, and environmental planning programs that reduce vehicle emissions and improve air quality.

Local—Greenhouse Gases and Climate Change

Placer County Air Pollution Control District Regulations

As discussed above, PCAPCD has primary responsibility for air quality management within Placer County. The air district has specified significance thresholds in its *Review of Land Use Projects under CEQA* (Placer County Air Pollution Control District 2016b) for evaluating the significance of GHG emissions from projects located within district boundaries. PCAPCD uses these thresholds to determine the level of significance for GHG emissions associated with a project's construction

emissions and operational emissions. If the event project emissions exceeds the PCAPCD's GHG thresholds, the mitigation measures are included in the PCAPCD's CEQA Handbook which may be used to offset impacts. This also includes offsite mitigation and purchasing of carbon credits (Placer County Air Pollution Control District 2016b). In accordance with the State CEQA guidelines, the analysis includes a cumulative, rather than project-level, evaluation of climate change impacts.

Feather River Air Quality Management District Regulations

As discussed above, FRAQMD has primary responsibility for air quality management within Sutter and Yuba counties. The air district has not adopted a formal plan for reducing GHG emissions but is working with a committee of air districts in the Sacramento Region[3] to develop guidance for evaluating GHG emissions in CEQA and NEPA documents.

Placer County General Plan

Placer County has not identified any policies that target the generation of GHG emissions in its general plan update. Placer County staff are preparing the Climate Action Plan to identify the necessary GHG reduction target and mitigation strategy for unincorporated Placer County.

Sutter County Climate Action Plan

The *Sutter County Climate Action Plan* (Sutter County CAP) was adopted in 2011 concurrently with its 2030 general plan (County of Sutter 2010). The Sutter County CAP was developed to create an emissions baseline from which to benchmark GHG reductions; to provide a plan that is consistent with, and complementary to, the GHG reduction efforts being conducted by the State of California; to guide the development, enhancement and implementation of actions that aggressively reduce GHG emissions; and to provide a policy document with specific measures to be incorporated into the planning process for future development projects. The Sutter County CAP is considered a Qualified GHG Reduction Strategy for tiering purposes under Section 15183.5 of the CEQA Guidelines.

City of Lincoln General Plan

Excerpted below are the relevant goal and policies from the *City of Lincoln General Plan* that pertain to GHGs and energy resources (City of Lincoln 2008).

Goal

OSC-3. To encourage energy conservation in new and existing developments throughout the City.

Policies

OSC-3.1 Energy Conservation Measures. The City shall require the use of energy conservation features in new construction and renovation of existing structures in accordance with state law.

New features that may be applied to construction and renovation include:

- Green building techniques (such as use of recycled, renewable, and reused materials; efficient lighting/power sources; design orientation; building techniques; etc.)
- Cool roofs

[3] Air districts in the region are PCAPCD, Sacramento Metropolitan Air Quality Management District, El Dorado County Air Quality Management District, Feather River Air Quality Management District, and the Yolo-Solano Air Quality Management District.

OSC-3.2 Landscape Improvements for Energy Conservation. The City shall encourage the planting of shade trees along all City streets to reduce radiation heating.

OSC-3.3 Promote Energy Conservation Awareness. The City shall coordinate with local utility providers to provide public education energy conservation programs.

OSC-3.4 Promote Energy Conservation Awareness. The City shall coordinate with local utility providers to provide public education energy conservation programs.

OSC-3.7 Passive and Active Solar Devices. The City shall encourage the use of passive and active solar devices such as solar collectors, solar cells, and solar heating systems into the design of local buildings.

OSC-3.8 Solar Orientation and Building Site Design. The City shall encourage work that building and site design take into account the solar orientation of buildings during design and construction.

OSC-3.9 Shade Tree Planting. The City will encourage the planting of shade trees within residential lots to reduce radiation heating and encourage the reduction of greenhouse gases.

OSC-3.10 Shade Tree Parking Lot Requirements. The City will require commercial and retail parking lots will have 50% tree shading within 15 years to reduce radiation and encourage the reduction of greenhouse gases.

OSC-3.11 Energy Efficient Buildings. The City will encourage the development of energy-efficient buildings and communities.

OSC-3.12 Solar Photovoltaic Systems. The City will promote voluntary participation in incentive programs to increase the use of solar photovoltaic systems in new and existing residential, commercial, institutional and public buildings.

OSC-3.13 Energy Efficient Master Planning. The City will encourage the incorporation of energy-efficient site design such as proper orientation to benefit from passive solar heating and cooling into master planning efforts when feasible.

OSC-3.14 Early Planning for Energy Efficiency. The City will include energy planners and energy efficiency specialists in appropriate pre-application discussions with property owners and developers to identify the potential for solar orientation and energy efficient systems, building practices and materials.

OSC-3.15 California Title 24 Energy Efficiency Standards. The City will explore offering incentives such as density bonus, expedited process, fee reduction/waiver to property owners and developers who exceed California Title 24 energy efficiency standards.

3.2.2 Environmental Setting

Ambient air quality in the program area is affected by climatological conditions, topography, and the types and amounts of pollutants emitted. The following discussion describes relevant characteristics of the SVAB and MCAB, describes key pollutants of concern, summarizes existing ambient pollutant concentrations, and identifies sensitive receptors. This section also provides a discussion of climate change and key GHG emissions.

Regional Climate and Meteorology

Sacramento Valley Air Basin

The western portion of Placer County and all of Sutter County are located in the SVAB, which includes Shasta, Tehama, Butte, Sacramento, Glenn, Colusa, Sutter, Yuba, and Yolo Counties and parts of Solano, and Placer Counties. The SVAB is bounded on the west by the Coast Ranges and on

the north and east by the Cascade Range and Sierra Nevada. The San Joaquin Valley Air Basin is located to the south.

The SVAB has a Mediterranean climate characterized by hot, dry summers and cool, rainy winters. During winter, the north Pacific storm track intermittently dominates Sacramento Valley weather, and fair weather alternates with periods of extensive clouds and precipitation. Periods of dense and persistent low-level fog, which is most prevalent between storms, are also characteristic of winter weather in the valley. The frequency and persistence of heavy fog in the valley diminishes with the approach of spring. The average yearly temperature range for the Sacramento Valley is 20°F to 115°F, with summer high temperatures often exceeding 90°F and winter low temperatures occasionally dropping below freezing.

In general, the prevailing winds are moderate in strength and vary from moist clean breezes from the south to dry land flows from the north. The mountains surrounding the SVAB create a barrier to airflow that can trap air pollutants under certain meteorological conditions. The highest frequency of air stagnation occurs in the autumn and early winter when large high-pressure cells collect over the Sacramento Valley. The lack of surface wind during these periods and the reduced vertical flow caused by less surface heating reduce the influx of outside air and allow air pollutants to become concentrated in a stable volume of air. The surface concentrations of pollutants are highest when these conditions are combined with temperature inversions (warm air over cool air), which trap pollutants near the ground.

As described in the Sacramento Metropolitan Air Quality Management District's *Guide to Air Quality Assessment in Sacramento County*, the ozone season (May through October) is characterized by stagnant morning air or light winds with the Delta sea breeze arriving in the afternoon out of the southwest. Usually the evening breeze transports the airborne pollutants to the north and east. During about half of the days from July to September, however, a phenomenon called the *Schultz eddy* prevents this from occurring. Instead of allowing the prevailing wind patterns to move northward and carry the pollutants out, the Schultz eddy causes the wind pattern to circle back to the south. Essentially, this phenomenon causes the air pollutants to be blown south toward the Sacramento Valley and Yolo County. The eddy normally dissipates around noon when the Delta sea breeze arrives (Sacramento Metropolitan Air Quality Management District 2016).

Mountain Counties Air Basin

The eastern portion of the Plan Area in Placer County is located in the MCAB. The general climate of the region varies based on elevation and proximity to the Sierra Nevada. Due to the complex features of the terrain within the basin, it is possible for various climate types to exist in proximity to one another; the varying patterns of mountains and hills in the area result in a wide variation of temperature, rainfall, and localized wind. Seasonal meteorology varies substantially, and precipitation generally is light in the summer and much heavier in the winter, with temperatures dropping below freezing at night and precipitation being a mixture of rain and snow. The meteorology and topography combine so local conditions predominate in determining the effect of emissions in the basins. Inversions frequently occur in small valleys and trap pollutants, especially in the winter (e.g., PM2.5) In the summer, when longer daylight hours, high temperatures, and stagnant air conditions are suitable for the formation of some criteria pollutants (e.g., ozone).

Pollutants of Concern

Criteria Pollutants

As discussed above, federal and California state governments have established air quality standards for criteria pollutants. The primary criteria pollutants of concern in the Plan Area are ozone (including reactive organic gases [ROGs] and NO_X), CO, and PM. Principal characteristics surrounding these pollutants are discussed below.

- Ozone, or smog, is a photochemical oxidant that is formed when ROGs and NO_X (discussed below) react with sunlight. Ozone poses a health threat to those who suffer from respiratory diseases as well as to healthy people. Additionally, ozone has been tied to crop damage, typically in the form of stunted growth and premature death. Ozone can also act as a corrosive, resulting in property damage such as the degradation of rubber products.
- ROGs are compounds made up primarily of hydrogen and carbon atoms. Internal combustion associated with motor vehicle usage is the major source of hydrocarbons. Other sources of ROGs are emissions associated with the use of paints and solvents, the application of asphalt paving, the use of household consumer products such as aerosols, and brewing and fermenting operations. Adverse effects on human health are not caused directly by ROGs, but rather by reactions of ROGs to form secondary pollutants such as ozone.
- NO_X serves as an integral participant in the process of photochemical smog production. The two major forms of NO_X are nitric oxide (NO) and NO_2. NO is a colorless, odorless gas formed from atmospheric nitrogen and oxygen when combustion takes place under high temperatures and/or high pressures. NO_2 is a reddish-brown gas formed by the combination of NO and oxygen. NO_X acts as an acute respiratory irritant and increases susceptibility to respiratory pathogens.
- CO is a colorless, odorless, toxic gas produced by incomplete combustion of carbon substances, such as gasoline or diesel fuel. The primary adverse health effect associated with CO is interference with normal oxygen transfer to the blood, which may result in tissue oxygen deprivation.
- Particulate matter consists of finely divided solids or liquids such as soot, dust, aerosols, fumes, and mists. Two forms of fine particulates are now recognized—inhalable coarse particles, or PM10, and inhalable fine particles, or PM2.5. Particulate discharge into the atmosphere results primarily from industrial, agricultural, construction, and transportation activities. However, wind on arid landscapes also contributes substantially to local particulate loading. Both PM10 and PM2.5 may adversely affect the human respiratory system, especially in those people who are naturally sensitive or susceptible to breathing problems.

Toxic Air Contaminants

Although state and federal standards have been established for criteria pollutants, no ambient standards exist for TACs. Many pollutants are identified as TACs because of their potential to increase the risk of developing cancer or because of their acute or chronic health risks. For TACs that are known or suspected carcinogens, ARB has consistently found that there are no levels or thresholds below which exposure is risk-free. Individual TACs vary greatly in the risks they present. At a given level of exposure, one TAC may pose a hazard that is many times greater than another.

TACs are identified and their toxicity is studied by the California Office of Environmental Health Hazard Assessment.

Air toxics are generated by a number of sources, including *stationary sources*, such as dry cleaners, gas stations, auto body shops, and combustion sources; *mobile sources*, such as motor vehicles, diesel trucks, ships, and trains; and *area sources*, such as farms, landfills, and construction sites. Adverse health effects of TACs can be carcinogenic (cancer-causing), short-term (acute) noncarcinogenic, and long-term (chronic) noncarcinogenic. Direct exposure to these pollutants has been shown to cause cancer, birth defects, damage to the brain and nervous system, and respiratory disorders.

Asbestos

Naturally occurring asbestos (NOA) can be released from serpentinite and ultramafic rocks when the rock is broken or crushed. According to *A General Location Guide for Ultramafic Rock in California*, the eastern portion of the Plan Area under PCAPCD jurisdiction is located in an area that is known to contain naturally occurring asbestos (California Department of Conservation 2000). ARB's Asbestos Airborne Toxic Control Measure (ATCM) and the applicable air district dust control measures would effectively control unanticipated NOA exposure through a variety of required control measures, including watering. Detailed maps prepared by the California Geological Survey for PCAPCD assessed the likelihood of the presence of NOA in various areas of Placer County. These maps are available on PCAPCD's website.

Diesel Particulate Matter

In August 1998, ARB identified DPM from diesel-fueled engines as TACs. In September 2000, ARB approved a comprehensive Diesel Risk Reduction Plan to reduce emissions from both new and existing diesel-fueled engines and vehicles. The goal of the plan is to reduce DPM (respirable particulate matter) emissions and the associated health risk by 75% in 2010 and by 85% by 2020. The plan identifies 14 measures that ARB will implement over the next several years. Because these measures would be enacted before any construction activities are anticipated to occur, future activities under the proposed Plan would be required to comply with applicable diesel control measures.

Odors

Offensive odors rarely cause physical harm, but they can be unpleasant and lead to considerable distress among the public. This distress often generates citizen complaints to local governments and air districts. According to ARB's (2005) *Air Quality and Land Use Handbook*, land uses associated with odor complaints typically include sewage treatment plants, landfills, recycling facilities, manufacturing, and agricultural activities. ARB provides recommended screening distances for citing new receptors near existing odor sources.

Greenhouse Gases

Present in the Earth's lower atmosphere, GHGs play a critical role in maintaining the Earth's temperature; GHGs trap some of the long-wave infrared radiation emitted from the Earth's surface that would otherwise escape to space. The phenomenon known as the *greenhouse effect* keeps the atmosphere near the Earth's surface warm enough for the successful habitation of humans and other life forms. Increases in fossil fuel combustion and deforestation have exponentially increased

concentrations of GHGs in the atmosphere since the Industrial Revolution, leading to warming of the Earth's lower atmosphere and large-scale changes in the Earth's climate.

The principle anthropogenic GHGs contributing to climate change are CO_2, CH_4, nitrous oxide (N_2O), and fluorinated compounds, including sulfur hexafluoride (SF_6), hydrofluorocarbons (HFCs), and perfluorocarbons (PFCs). Water vapor, the most abundant GHG, is not included in this list because its natural concentrations and fluctuations far outweigh its anthropogenic (human-made) sources. The primary GHGs of concern associated with the PCCP are CO_2, CH_4, and N_2O. Principal characteristics surrounding these pollutants are discussed below.

- CO_2 enters the atmosphere through the burning of fossil fuels (oil, natural gas, and coal), solid waste, trees and wood products, respiration, and also as a result of other chemical reactions (e.g., manufacture of cement, microbrewing). CO_2 is also removed from the atmosphere (or *sequestered*) when it is absorbed by plants as part of the biological carbon cycle.
- CH_4 is emitted during the production and transport of coal, natural gas, and oil. CH_4 emissions also result from livestock and other agricultural practices and by the decay of organic waste in municipal solid waste landfills.
- N_2O is emitted during agricultural (i.e., fertilizer and pesticide application) and industrial activities, as well as during combustion of fossil fuels and solid waste.

Methods have been set forth to describe emissions of GHGs in terms of a single gas to simplify reporting and analysis. The most commonly accepted method to compare GHG emissions is the global warming potential (GWP) methodology defined in the Intergovernmental Panel on Climate Change (IPCC) reference documents. The IPCC defines the GWP of various GHG emissions on a normalized scale that recasts all GHG emissions in terms of carbon dioxide equivalent (CO_2e), which compares the gas in question to that of the same mass of CO_2 (CO_2 has a GWP of 1 by definition).

Table 3.2-4 lists the GWP of CO_2, CH_4, and N_2O, their lifetimes, and abundances in the atmosphere.

Table 3.2-4. Lifetimes and Global Warming Potentials of Key Greenhouse Gases

Greenhouse Gas	Global Warming Potential (100 years)	Lifetime (years)	2015 Atmospheric Abundance
CO_2	1	100–300	400 ppm
CH_4	25	12	1,834 ppb
N_2O	298	114	328 ppb

Sources: California Air Resources Board 2016c; Blasing 2016.
CH_4 = methane.
CO_2 = carbon dioxide.
N_2O = nitrous oxide.
ppb = parts per billion.
ppm = parts per million.

Existing Air Quality Conditions

PCAPCD maintains and operates four ambient air monitoring stations, while ARB maintains and operates one site in Placer County and two sites in Sutter County. The purpose of the monitoring stations is to measure ambient concentrations of the pollutants, and these data and are used to determine whether the ambient air quality meets the NAAQS and CAAQS. Additionally, the monitoring stations provide valuable information for public health. Monitoring data for 3 years (2014–2016) from the Roseville North Sunrise (ARB operated and maintained), Lincoln 1st Street, and North Auburn stations are presented in Table 3.2-5 to show the range of ambient air quality conditions throughout the Plan Area in Placer County. Monitoring data for 3 years (2014–2016) from the Yuba City Almond Street station is also presented in Table 3.2-5 to represent air quality conditions nearest to the Plan Area in Sutter County. Data from the Colfax and Tahoe City stations are not included in Table 3.2-5 because no program activities would occur in eastern Placer County.

Local monitoring data (Table 3.2-5) are used to designate areas as nonattainment, maintenance, attainment, or unclassified for the NAAQS and CAAQS. The four designations are defined as follows.

- **Nonattainment**—assigned to areas where monitored pollutant concentrations consistently violate the standard in question.
- **Maintenance**—assigned to areas where monitored pollutant concentrations exceeded the standard in question in the past but are no longer in violation of that standard.
- **Attainment**—assigned to areas where pollutant concentrations meet the standard in question over a designated period of time.
- **Unclassified**—assigned to areas were data are insufficient to determine whether a pollutant is violating the standard in question.

Table 3.2-5. Ambient Criteria Air Pollutant Monitoring Data (2014–2016)

	Roseville North Sunrise			Lincoln 1st Street			North Auburn			Yuba City Almond Street		
Pollutant Standards	2014	2015	2016	2014	2015	2016	2014	2015	2016	2014	2015	2016
1-Hour Ozone (O_3)												
Maximum Concentration (ppm)	0.097	0.098	0.115	0.107	0.098	0.102	0.097	0.109	0.114	0.103	0.080	0.075
Number of Days Standard Exceeded												
CAAQS 1-Hour (>0.09 ppm)	4	1	5	1	2	3	1	4	5	1	0	0
8-Hour Ozone (O_3)												
State Maximum Concentration (ppm)	0.087	0.085	0.093	0.086	0.082	0.084	0.085	0.100	0.100	0.088	0.074	0.065
National Maximum Concentration (ppm)	0.086	0.084	0.092	0.086	0.082	0.083	0.084	0.100	0.099	0.088	0.074	0.065
National 4th Highest Concentration (ppm)	0.083	0.073	0.084	0.070	0.071	0.081	0.081	0.085	0.085	0.069	0.064	0.063
Number of days standard exceeded												
CAAQS 8-hour (>0.070 ppm)	21	6	21	4	5	12	17	16	27	3	1	0
NAAQS 8-hour (>0.070 ppm)	19	6	20	3	4	11	15	15	27	3	1	0
Nitrogen Dioxide (NO_2)												
Maximum 1-Hour Concentration	54	50	50	NA	NA	NA	NA	NA	NA	49	43	43
Annual Average Concentration	8	8	8	NA	NA	NA	NA	NA	NA	8	7	7
Number of Days Standard Exceeded												
CAAQS 1-Hour (0.18 ppm)	0	0	0	NA	NA	NA	NA	NA	NA	0	0	0
NAAQS 1-Hour (0.100 ppm)	0	0	0	NA	NA	NA	NA	NA	NA	0	0	0
Particulate Matter (PM10)												
State Maximum 24-Hour Concentration	31.8	59.1	39.1	NA	NA	NA	NA	NA	NA	77.6	67.2	67.2
National Maximum 24-Hour Concentration	30.2	35.7	39.2	NA	NA	NA	NA	NA	NA	45.1	68.2	68.2
State Annual Average Concentration	18.0	18.0	NA	NA	NA	NA	NA	NA	NA	NA	23.1	23.1
Number of Days Standard Exceeded												
CAAQS 24-Hour (>50 $\mu g/m^3$)	0	1	0	NA	NA	NA	NA	NA	NA	8	6	6
NAAQS 24-Hour (>150 $\mu g/m^3$)	0	0	0	NA	NA	NA	NA	NA	NA	0	0	0

	Roseville North Sunrise			Lincoln 1st Street			North Auburn			Yuba City Almond Street		
Pollutant Standards	2014	2015	2016	2014	2015	2016	2014	2015	2016	2014	2015	2016
Fine Particulate Matter (PM2.5)												
National Maximum 24-Hour Concentration (μg/m^3)	22.2	29.1	21.2	NA	NA	NA	190.2	109.8	28.6	41.8	36.1	40.1
24-hour Standard 98th Percentile (μg/m^3)	20.6	20.1	20.2	NA	NA	NA	22.5	17.0	18.3	NA	31.4	22.2
National Annual Average Concentration	7.8	8.0	6.8	NA	NA	NA	6.8	7.6	6.1	NA	9.6	8.1
Number of Days Standard Exceeded												
NAAQS 24-Hour (>35 μg/m^3)	0	0	0	NA	NA	NA	4	1	0	2	1	1

Source: California Air Resources Board 2018. Data compiled by ICF.

Note: No data available for carbon monoxide (CO).

CAAQS = California Ambient Air Quality Standards.
NA = data not available.
NAAQS = National Ambient Air Quality Standards.
μg/m^3 = micrograms per cubic meter.
ppm = parts per million.

Tables 3.2-6 and 3.2-7 summarize the attainment status of Placer and Sutter Counties with regard to the NAAQS and CAAQS.

Table 3.2-6. Federal and State Attainment Status for Placer County

Criteria Pollutant	Federal Designation	State Designation
Ozone (8-hr)	Nonattainment (P)	Nonattainment
CO	Attainment	Attainment/Unclassified
PM10	Attainment	Nonattainment
PM2.5 (24-hr)	Nonattainment/Unclassified	None
PM2.5 (Annual)	Attainment/Unclassified	Attainment/Unclassified
NO_2	Attainment	Attainment
SO_2	Attainment	Attainment
Lead	Attainment	Attainment
Sulfates	(No federal standard)	Attainment
Hydrogen Sulfide	(No federal standard)	Unclassified

Sources: California Air Resources Board 2016d; U.S. Environmental Protection Agency 2017.
CO = carbon monoxide.
PM2.5 = particulate matter less than or equal to 2.5 microns.
PM10 = particulate matter less than or equal to 10 microns.
NO_2 = nitrogen dioxide.
SO_2 = sulfur dioxide.
(P) = designation applies to a portion of the county.

Table 3.2-7. Federal and State Attainment Status for Sutter County

Criteria Pollutant	Federal Designation	State Designation
Ozone (8-hr)	Nonattainment (P)	Nonattainment-Transitional
CO	Attainment	Attainment/Unclassified
PM10	Attainment	Nonattainment
PM2.5 (24-hr)	Maintenance	Attainment/Unclassified
NO_2	Attainment	Attainment
SO_2	Attainment	Attainment
Lead	Attainment	Attainment
Sulfates	(No federal standard)	Attainment
Hydrogen Sulfide	(No federal standard)	Unclassified
Visibility	(No federal standard)	Unclassified

Sources: California Air Resources Board 2016d; U.S. Environmental Protection Agency 2017.
CO = carbon monoxide.
PM2.5 = particulate matter less than or equal to 2.5 microns.
PM10 = particulate matter less than or equal to 10 microns.
NO_2 = nitrogen dioxide.
SO_2 = sulfur dioxide.
(P) = designation applies to a portion of the county.

Sensitive Receptors

Sensitive receptors are locations where human populations, especially children, seniors, and sick persons are found, and there is reasonable expectation of continuous human exposure according to the averaging period for ambient air quality standards. Typical sensitive receptors include residences, parks, hospitals, and schools. In general, these sensitive receptors are concentrated in the major cities and small towns in Placer and Sutter Counties. The City of Lincoln, located within the Plan Area, also contains concentrations of sensitive receptors. In addition, scattered rural residences are also located throughout the undeveloped or rural lands of the Plan Area.

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3.3 Biological Resources

This section describes the regulatory and environmental settings for biological resources. Impacts that would result from implementing the proposed action and alternatives are described in Chapter 4, *Environmental Consequences*, along with mitigation measures to reduce impacts, where appropriate.

A large portion of the biological resource information presented below was adapted from the most recent version of the Plan (Appendix A).

3.3.1 Regulatory Setting

Federal

Endangered Species Act

The federal Endangered Species Act (ESA) of 1973 and subsequent amendments provide for the conservation of endangered and threatened species and the ecosystems on which they depend. The two agencies that oversee ESA are the U.S. Fish and Wildlife Service (USFWS), with jurisdiction over plants, wildlife, and resident fish, and the National Oceanic and Atmospheric Administration National Marine Fisheries Service (NMFS), with jurisdiction over anadromous fish and marine fish and mammals.

Section 7

Section 7 of ESA mandates that all federal agencies consult with USFWS and NMFS if they determine that a proposed action may affect a listed species or its habitat. The purpose of consultation with USFWS and NMFS is to ensure that the federal agencies' actions do not jeopardize the continued existence of a listed species or destroy or adversely modify critical habitat for listed species.

Section 9

Section 9 of ESA describes activities that are prohibited. The ESA specifically prohibits the take of any fish or wildlife species listed as endangered. *Take* is defined as the action of or attempt to hunt, harm, harass, pursue, shoot, wound, capture, kill, trap, capture, or collect a species, or attempt to engage in any such conduct. Section 9 prohibitions also apply to threatened species unless a special rule has been defined with regard to take at the time of listing. The term *harm* is further defined as:

> … an act which actually kills or injures wildlife. Such act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering (50 Code of Federal Regulations [CFR] 17.3).

The term *harass* is further defined as:

> …an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering (50 CFR 17.3).

Under Section 9 of ESA, the take prohibition applies only to wildlife and fish species. However, Section 9 does prohibit the unlawful removal and reduction to possession, or malicious damage or destruction of any endangered plant from federal land. Section 9 prohibits acts to remove, cut, dig up, damage, or destroy an endangered plant species in non-federal areas in knowing violation of any state law or in the course of criminal trespass. Candidate species and species that are proposed or under petition for listing receive no protection under Section 9.

Section 10

Section 10(a)(1)(B) of ESA involves the issuance of an incidental take permit (ITP) for any non-federal action that is reasonably certain to take an endangered or threatened species. The ESA requires that applications for ITPs are accompanied by a habitat conservation plan (HCP). The HCP describes how the take of individuals will be offset to the maximum extent practicable by providing for the conservation of the affected species through specific mitigation measures.

Critical Habitat

Critical habitat refers to areas designated by USFWS or NMFS for the conservation of species listed as threatened or endangered under ESA. When a species is proposed for listing under ESA, USFWS or NMFS considers whether there are certain areas essential to the conservation of the species.

Critical habitat is defined in Section 3 of ESA as follows.

1. The specific areas within the geographical area occupied by a species at the time it is listed in accordance with ESA, on which are found those physical or biological features that:
    a. are essential to the conservation of the species, and
    b. may require special management considerations or protection; and
2. Specific areas outside the geographical area occupied by a species at the time it is listed, upon a determination that such areas are essential for the conservation of the species.

Any federal action (permit, license, or funding) in critical habitat requires that federal agency to consult with USFWS and/or NMFS where the action has potential to adversely modify the habitat for the species.

Magnuson-Stevens Fishery Conservation and Management Act

The Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) establishes a management system for national marine and estuarine fishery resources. This legislation requires that all federal agencies consult with NMFS regarding all actions or proposed actions permitted, funded, or undertaken that may adversely affect essential fish habitat (EFH). EFH is defined as "waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity." The legislation states that migratory routes to and from anadromous fish spawning grounds are considered EFH. The phrase *adversely affect* refers to the creation of any effect that reduces the quality or quantity of EFH. Federal activities that occur outside EFH but may nonetheless have an effect on EFH waters and substrate must also be considered in the consultation process.

Under the Magnuson-Stevens Act, effects on habitat managed under the *Pacific Coast Salmon Fishery Management Plan* must also be considered. The Magnuson-Stevens Act states that consultation regarding EFH should be consolidated, where appropriate, with the interagency consultation,

coordination, and environmental review procedures required by other federal statutes, such as NEPA, the Fish and Wildlife Coordination Act, the Clean Water Act (CWA), and ESA. EFH consultation requirements can be satisfied through concurrent environmental compliance if the lead agency provides NMFS with timely notification of actions that may adversely affect EFH, and the notification meets requirements for EFH assessments.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) domestically implements a series of international treaties that provide for migratory bird protection. The current list of species protected by the MBTA can be found in the November 1, 2013, Federal Register (FR) (78 FR 65844–65864). This list contains several hundred species, including essentially all native birds. Permits for take of nongame migratory birds are only needed for specific activities, such as scientific collecting, rehabilitation, propagation, education, taxidermy, and protection of human health and safety and of personal property.

Executive Order 13186: Responsibilities of Federal Agencies to Protect Migratory Birds

Executive Order (EO) 13186 (signed January 10, 2001) directs each federal agency taking actions that would have or would likely have a negative impact on migratory bird populations to work with USFWS to develop a memorandum of understanding (MOU) to promote the conservation of migratory bird populations. Protocols developed under the MOU must include the following agency responsibilities.

- Avoid and minimize, to the extent practicable, adverse impacts on migratory bird resources when conducting agency actions.
- Restore and enhance habitat of migratory birds, as practicable.
- Prevent or abate the pollution or detrimental alteration of the environment for the benefit of migratory birds, as practicable.

The EO is designed to assist federal agencies in their efforts to comply with the MBTA; it does not constitute any legal authorization to take migratory birds.

Fish and Wildlife Coordination Act

The Fish and Wildlife Coordination Act requires consultation with USFWS, NMFS, and the state fish and wildlife agencies where the waters of any stream or other body of water are proposed, authorized, permitted, or licensed to be impounded, diverted, or otherwise controlled or modified under a federal permit or license. Consultation is undertaken for the purpose of preventing loss of and damage to wildlife resources.

Clean Water Act

The federal CWA regulates discharges of pollutants to waters of the United States and serves as the primary federal law protecting the quality of the nation's surface waters, including lakes, rivers, and coastal wetlands.

The CWA empowers the U.S. Environmental Protection Agency (USEPA) to set national water quality standards and effluent limitations and includes programs addressing both point-source and nonpoint-source pollution. Point-source pollution is pollution that originates or enters surface waters at a single, discrete location, such as an outfall structure or an excavation or construction site. Nonpoint-source pollution originates over a broader area and includes urban contaminants in stormwater runoff and sediment loading from upstream areas. CWA operates on the principle that all discharges into the nation's waters are unlawful unless specifically authorized by a permit; permit review is the CWA's primary regulatory tool.

Permits for Fill Placement in Waters and Wetlands (Section 404)

Under CWA, Section 404, the U.S. Army Corps of Engineers (USACE) regulates the discharge of dredged and fill materials into waters of the United States. Waters of the United States subject to jurisdiction under CWA Section 404 are defined in USACE 1986 regulations at 33 CFR 328.3 and in USEPA regulations at 40 CFR 230.3, unless otherwise modified.

Unless an activity is exempt under Section 404(f) of the CWA, applicants must obtain a permit from USACE for all discharges of dredged or fill material into waters of the United States, including wetlands, before proceeding with a proposed activity.

Department of the Army (DA) permits issued by USACE are issued under various forms of authorization. These include individual permits that are issued following a review of individual applications and general permits that authorize a category or categories of activities in specific geographical regions or nationwide (33 CFR 320.1[c]). General permits are DA authorizations issued on a nationwide or regional basis for a category or categories of activities when:

(1) those activities are substantially similar in nature and cause only minimal individual and cumulative environmental impacts; or

(2) the general permit would result in avoiding unnecessary duplication of the regulatory control exercised by another Federal, state, or local agency provided it has been determined that the environmental consequences of the action are individually and cumulatively minimal. (33 CFR 323.2(h)).

General permits issued by USACE include Regional and Programmatic General Permits issued by a division or district engineer after compliance with the procedures of 33 CFR 325, and Nationwide Permits (NWPs), issued by regulation (33 CFR 330) for certain specified activities nationwide. If certain conditions are met, the specified activities can take place without the need for an individual or regional permit (33 CFR 325.5[c][2]).

Compliance with CWA Section 404 requires compliance with several other environmental laws and regulations. USACE cannot issue an individual permit or verify the use of a general permit until the requirements of NEPA, ESA, and the National Historic Preservation Act (see Section 3.9, *Cultural and Paleontological Resources*) have been met. In addition, USACE cannot issue or verify any permit that may result in a discharge of a pollutant into waters of the United States until a water quality certification has been issued pursuant to CWA Section 401.

Permits for Stormwater Discharge (Section 402)

As described in Section 3.6, *Hydrology and Water Quality*, Section 402 of CWA regulates construction-related stormwater discharges to surface waters through the National Pollutant Discharge Elimination System (NPDES) program, administered by USEPA. In California, the State

Water Resources Control Board (State Water Board) is authorized by USEPA to oversee the NPDES program through the Regional Water Quality Control Boards (Regional Water Boards) (see the related discussion under *Porter-Cologne Water Quality Control Act* below). The proposed action is within the jurisdiction of the Central Valley Regional Water Board (Central Valley Water Board).

NPDES permits are required for construction projects that disturb more than 1 acre of land. The NPDES permitting process requires the applicant to file a public notice of intent to discharge stormwater and to prepare and implement a stormwater pollution prevention plan (SWPPP). The SWPPP includes a site map and a description of proposed construction activities. In addition, it describes the best management practices (BMPs) that will be implemented to prevent soil erosion and discharge of other construction-related pollutants (e.g., petroleum products, solvents, paints, cement) that could contaminate nearby water resources. Permittees are required to conduct annual monitoring and reporting to ensure that BMPs are correctly implemented and effective in controlling the discharge of stormwater-related pollutants.

Water Quality Certification (Section 401)

Under CWA Section 401, applicants for a federal license or permit to conduct activities that may result in the discharge of a pollutant into waters of the United States must obtain certification from the state in which the discharge would originate, or, if appropriate, from the interstate water pollution control agency with jurisdiction over affected waters at the point where the discharge would originate. Therefore, all projects that have a federal component and may affect state water quality (including projects that require federal agency approval, such as issuance of a Section 404 permit) must also comply with CWA Section 401.

Executive Order 11990: Protection of Wetlands

EO 11990, signed May 24, 1977, directs all federal agencies to refrain from assisting in or giving financial support to projects that encroach on publicly or privately owned wetlands. It further requires that federal agencies support a policy to minimize the destruction, loss, or degradation of wetlands. Such a project (that encroaches on wetlands) may not be undertaken unless the agency has determined that (1) there are no practicable alternatives to such construction, (2) the project includes all practicable measures to minimize harm to wetlands that would be affected by the project, and (3) the impact will be minor.

Executive Order 13112: Prevention and Control of Invasive Species

EO 13112, signed February 3, 1999, directs all federal agencies to prevent and control the introduction of invasive species in a cost-effective and environmentally sound manner. The EO established the National Invasive Species Council (NISC), which is composed of federal agencies and departments, and a supporting Invasive Species Advisory Committee composed of state, local, and private entities. In 2008, NISC released an updated national invasive species management plan (National Invasive Species Council 2008) that recommends objectives and measures to implement the EO and prevent the introduction and spread of invasive species. The EO requires consideration of invasive species in NEPA analyses, including their identification and distribution, their potential impacts, and measures to prevent or eradicate them.

State

California Endangered Species Act

The California Endangered Species Act (CESA) (California Fish and Game Code Sections 2050–2116) states that all native species or subspecies of a fish, amphibian, reptile, mammal, or plant and their habitats that are threatened with extinction and those experiencing a significant decline that, if not halted, would lead to a threatened or endangered designation will be protected or preserved.

Under Section 2081 of the Fish and Game Code, a permit from CDFW is required for projects that could result in the take of a species that is state-listed as threatened or endangered. *Take* is defined more narrowly under CESA than ESA. Under CESA, *take* of a species means hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch capture, or kill (California Fish and Game Code, Section 86). The state definition of take does not include harm or harass, as the definition of take under ESA does. As a result, the threshold for take under CESA is higher than that under ESA. For example, habitat modification is not necessarily considered take under CESA.

Natural Communities Conservation Planning Act

California Fish and Game Code Sections 2800–2835 detail the state's policies on the conservation, protection, restoration, and enhancement of the state's natural resources and ecosystems. The intent of the legislation is to provide for conservation planning as an officially recognized policy that can be used as a tool to eliminate conflicts between the protection of natural resources and the need for growth and development. In addition, the legislation promotes conservation planning as a means of coordination and cooperation among private interests, agencies, and landowners, and as a mechanism for multispecies and multihabitat management and conservation. The development of natural community conservation plans (NCCPs) is an alternative to obtaining take authorization under Section 2081 of the California Fish and Game Code.

California Native Plant Protection Act

California Fish and Game Code Sections 1900–1913 codify the Native Plant Protection Act of 1977 (NPPA), which is intended to preserve, protect, and enhance endangered or rare native plants in the state. Under Section 1901, a species is *endangered* when its prospects for survival and reproduction are in immediate jeopardy from one or more causes. A species is *rare* when, although not threatened with immediate extinction, it exists in such small numbers throughout its range that it may become endangered if its present environment worsens. The NPPA gave the California Fish and Game Commission the power to designate native plants as endangered or rare, and the act protected endangered and rare plants from take. According to CDFW, a CESA Section 2081 permit for incidental take of listed threatened and endangered plants from all activities is required, except for activities specifically authorized by the NPPA. Because rare plants are not included under CESA, mitigation measures for impacts on rare plants are specified in a formal agreement between CDFW and the project proponent.

California Fish and Game Code Section 1600 (Lake and Streambed Alteration)

Sections 1600–1603 of the Fish and Game Code state that it is unlawful for any person or agency to substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake in California that supports wildlife resources, or to use any material from the streambeds, without first notifying CDFW. A Lake and Streambed Alteration Agreement must be

obtained if effects are expected to occur. A stream is a body of water that flows at least periodically or intermittently through a bed or channel having banks, and that supports wildlife, fish, or other aquatic life. This definition includes watercourses having a surface or subsurface flow that supports or has supported riparian vegetation. CDFW's jurisdiction within altered or artificial waterways is based on the value of those waterways to fish and wildlife.

California Fish and Game Code—Various Sections

The California Fish and Game Code provides protection from take for a variety of species. Section 5050 prohibits take of fully protected amphibians and reptiles. Section 3515 prohibits take of fully protected fish species. Eggs and nests of all birds are protected under Section 3503, nesting birds (including raptors and passerines) are protected under Sections 3503.5 and 3513, birds of prey are protected under Section 3503.5, and fully protected birds are listed under Section 3511. Migratory non-game birds are protected under Section 3800. Fully protected mammals are listed under Section 4700. The California Fish and Game Code defines *take* as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." Except for take related to scientific research, all take of fully protected species is prohibited. CDFW cannot issue a take permit for fully protected species, except under narrow conditions for scientific research or the protection of livestock, or if an NCCP has been adopted.

California Food and Agriculture Code

More than 30 different sections of the California Food and Agriculture Code pertain to the state's mandate to prevent the introduction and spread of injurious animal pests, plant diseases, and noxious weeds. Most of these statutes and their associated regulations (Title 3 of the California Code of Regulations [CCR]) are contained in Food and Agriculture Code Sections 403, 461, 5004, 5021–5027, 5301–5310, 5321–5323, 5401–5404, 5421, 5430–5432, 5434, 5761–5763, 7201, 7206–7207, and 7501–7502. These codes describe procedures and regulations concerning: plant quarantines, regulation of noxious weed seed, emergency pest eradications to protect agriculture, pests as public nuisances, vectors of infestation and infection, the sale, transport and propagation of noxious weeds, and the protection of native species and forests from weeds. California Department of Food and Agriculture enforces most of these statutes and their relevant regulations. Construction and restoration activities associated with the action alternatives must meet the pest and vector control requirements of this code.

Porter-Cologne Water Quality Control Act

Under the Porter-Cologne Act definition, *waters of the state* are "any surface water or groundwater, including saline waters, within the boundaries of the state." Although all waters of the United States that are within the borders of California are also waters of the state, the reverse is not true. Therefore, California retains authority to regulate discharges of waste into any waters of the state, regardless of whether USACE has concurrent jurisdiction under CWA Section 404, and defines *discharges to receiving waters* more broadly than the CWA does.

Waters of the state fall under the jurisdiction of the nine Regional Water Boards. The Plan Area is wholly under the jurisdiction of the Central Valley Water Board. Under this act, each Regional Water Board must prepare and periodically update water quality control basin plans. The basin plan that is in place for the Plan Area is the *Sacramento River Basin and San Joaquin River Basin Water Quality Control Plan*. Each basin plan sets forth water quality standards for surface water and groundwater,

as well as actions to control nonpoint and point sources of pollution. California Water Code Section 13260 requires any person discharging waste, or proposing to discharge waste, in any region that could affect the waters of the state to file a report of discharge (an application for waste discharge requirements) with the applicable Regional Water Board. California Water Code Section 13050 authorizes the State Water Board and the affiliated Regional Water Board to regulate biological pollutants. Aquatic invasive plants discharged to receiving waters are an example of this kind of pollutant. Construction and restoration activities associated with the action alternatives that may discharge wastes into the waters of the state must meet the discharge control requirements of the Porter-Cologne Act.

California Wetlands Conservation Policy

The goals of the California Wetlands Conservation Policy, adopted in 1993 (Executive Order W-59-93), are "to ensure no overall net loss, and achieve a long-term net gain in the quantity, quality, and permanence of wetlands acreage and values in California, in a manner that fosters creativity, stewardship, and respect for private property;" to reduce procedural complexity in the administration of state and federal wetlands conservation programs; and to make restoration, landowner incentive programs, and cooperative planning efforts the primary focus of wetlands conservation.

Local

Placer County General Plan

Excerpted below are the relevant goals and policies from the *Placer County General Plan* that pertain to biological resources (Placer County 2013).

Goal

1.I. To establish and maintain interconnected greenbelts and open spaces for the protection of native vegetation and wildlife and for the community's enjoyment.

Policies

1.I.1. The County shall require that significant natural, open space, and cultural resources be identified in advance of development and incorporated into site-specific development project design. The Planned Residential Developments (PDs) and the Commercial Planned Development (CPD) provisions of the Zoning Ordinance can be used to allow flexibility for this integration with valuable site features.

1.I.2. The County shall require that development be planned and designed to avoid areas rich in wildlife or of a fragile ecological nature (e.g., areas of rare or endangered plant species, riparian areas). Alternatively, where avoidance is infeasible or where equal or greater ecological benefits can be obtained through off-site mitigation, the County shall allow project proponents to contribute to off-site mitigation efforts in lieu of on-site mitigation.

Goal

6.A. To protect and enhance the natural qualities of Placer County's rivers, streams, creeks and groundwater.

Policies

6.A.1. The County shall require the provision of sensitive habitat buffers which shall, at a minimum, be measured as follows: 100 feet from the centerline of perennial streams, 50 feet from centerline of intermittent streams, and 50 feet from the edge of sensitive habitats to be protected, including riparian zones, wetlands, old growth woodlands, and the habitat of special status, threatened or endangered species (see discussion of sensitive habitat buffers in Part I of this Policy Document). Based on more detailed information supplied as a part of the review for a specific project or input from state or federal regulatory agency, the County may determine that such setbacks are not applicable in a particular instance of should be modified based on the new information provided. The County may, however, allow exceptions, such as in the following cases:

1. Reasonable use of the property would otherwise be denied;
2. The location is necessary to avoid or mitigate hazards to the public;
3. The location is necessary for the repair of roads, bridges, trails, or similar infrastructure; or,
4. The location is necessary for the construction of new roads, bridges, trails, or similar infrastructure where the County determines there is no feasible alternative and the project has minimized environmental impacts through project design and infrastructure placement.

6.A.2. The County shall require all development in the 100-year floodplain to comply with the provisions of the Placer County Flood Damage Prevention Ordinance.

6.A.3. The County shall require development projects proposing to encroach into a stream zone or stream setback to do one or more of the following, in descending order of desirability:

a. Avoid the disturbance of riparian vegetation;
b. Replace all functions of the existing riparian vegetation (on-site, in-kind);
c. Restore another section of stream (in-kind); and/or
d. Pay a mitigation fee for in-kind restoration elsewhere (e.g., mitigation banks).

6.A.4. Where stream protection is required or proposed, the County should require public and private development to:

a. Preserve stream zones and stream setback areas through easements or dedications. Parcel lines (in the case of a subdivision) or easements (in the case of a subdivision or other development) shall be located to optimize resource protection. If a stream is proposed to be included within an open space parcel or easement, allowed uses and maintenance responsibilities within that parcel or easement should be clearly defined and conditioned prior to map or project approval;
b. Designate such easement or dedication areas (as described in a. above) as open space;
c. Protect stream zones and their habitat value by actions such as: 1) providing an adequate stream setback, 2) maintaining creek corridors in an essentially natural state, 3) employing stream restoration techniques where restoration is needed to achieve a natural stream zone, 4) utilizing riparian vegetation within stream zones, and where possible, within stream setback areas, 5) prohibiting the planting of invasive, nonnative plants (such as *Vinca major* and eucalyptus) within stream zones or stream setbacks, and 6) avoiding tree removal within stream zones;
d. Provide recreation and public access near streams consistent with other General Plan policies;
e. Use design, construction, and maintenance techniques that ensure development near a creek will not cause or worsen natural hazards (such as erosion, sedimentation, flooding, or water pollution) and will include erosion and sediment control practices such as: 1) turbidity screens and other management practices, which shall be used as necessary to minimize siltation, sedimentation, and erosion, and shall be left in place until disturbed areas; and/or are stabilized with permanent vegetation that will prevent the transport of sediment off site; and 2) temporary vegetation sufficient to stabilize disturbed areas.

f. Provide for long-term stream zone maintenance by providing a guaranteed financial commitment to the County which accounts for all anticipated maintenance activities.

6.A.5. The County shall continue to require the use of feasible and practical best management practices (BMPs) to protect streams from the adverse effects of construction activities and urban runoff and to encourage the use of BMPs for agricultural activities.

6.A.6. The County shall require development projects to comply with the municipal and construction stormwater permit requirements of the Federal Clean Water Act National Pollutant Discharge Elimination System (NPDES) Phase I and II programs and the State General Municipal and Construction permits. Municipal requirements affecting project design and construction practices are enacted through the County's Stormwater Quality Ordinance. Separate construction permits may be required by and obtained through the State Water Resources Control Board.

6.A.7. All new development and redevelopment projects shall be designed so as to minimize the introduction of pollutants into stormwater runoff, to the maximum extent practicable, as well as minimize the amount of runoff through the incorporation of appropriate Best Management Practices.

6.A.8 The County shall support implementation of Low Impact Development site design and Watershed Process Management requirements for new and redevelopment projects in accordance with the NPDES Phase I and II programs, and applicable NPDES permits.

6.A.9. The County shall require that natural watercourses be integrated into new development in such a way that they are accessible to the public and provide a positive visual element.

6.A.10. The County shall discourage grading activities during the rainy season, unless adequately mitigated, to avoid sedimentation of creeks and damage to riparian habitat.

6.A.11. Where the stream zone has previously been modified by channelization, fill, or other human activity, the County shall require project proponents to restore such areas by means of landscaping, revegetation, or similar stabilization techniques as a part of development activities.

6.A.12. The County shall require that newly-created parcels include adequate space outside of watercourses' setback areas to ensure that property owners will not place improvements (e.g., pools, patios, and appurtenant structures), within areas that require protection.

Goal

6.B. To protect wetland communities and related riparian areas throughout Placer County as valuable resources.

Policies

6.B.1. The County shall support the "no net loss" policy for wetland areas regulated by the U.S. Army Corps of Engineers, the U.S. Fish and Wildlife Service, and the California Department of Fish and Wildlife. Coordination with these agencies at all levels of project review shall continue to ensure that appropriate mitigation measures and the concerns of these agencies are adequately addressed.

6.B.2. The County shall require new development to mitigate wetland loss in both federal jurisdictional and non-jurisdictional wetlands to achieve "no net loss" through any combination of the following, in descending order of desirability: (1) avoidance; (2) where avoidance is not possible, minimization of impacts on the resource; or (3) compensation, including use of a mitigation and conservation banking program that provides the opportunity to mitigate impacts to special status, threatened, and endangered species and/or the habitat which supports these species in wetland and riparian areas. Non-jurisdictional wetlands may include riparian areas that are not federal “waters of the United States” as defined by the Clean Water Act.

6.B.3. The County shall discourage direct runoff of pollutants and siltation into wetland areas from outfalls serving nearby urban development. Development shall be designed in such a manner that pollutants and siltation will not significantly adversely affect the value or function of wetlands.

6.B.4. The County shall strive to identify and conserve remaining upland habitat areas adjacent to wetlands and riparian areas that are critical to the survival and nesting of wetland and riparian species.

6.B.5. The County shall require development that may affect a wetland to employ avoidance, minimization, and/or compensatory mitigation techniques. In evaluating the level of compensation to be required with respect to any given project, (a) on-site mitigation shall be preferred to off-site, and in-kind mitigation shall be preferred to out-of-kind; (b) functional replacement ratios may vary to the extent necessary to incorporate a margin of safety reflecting the expected degree of success associated with the mitigation plan; and (c) acreage replacement ratios may vary depending on the relative functions and values of those wetlands being lost and those being supplied, including compensation for temporal losses. The County shall continue to implement and refine criteria for determining when an alteration to a wetland is considered a less-than significant impact under CEQA.

Goal

6.C. To protect, restore, and enhance habitats that support fish and wildlife species so as to maintain populations at viable levels.

Policies

6.C.1. The County shall identify and protect significant ecological resource areas and other unique wildlife habitats critical to protecting and sustaining wildlife populations. Significant ecological resource areas include the following:

a. Wetland areas including vernal pools.

b. Stream zones.

c. Any habitat for special status, threatened, or endangered animals or plants.

d. Critical deer winter ranges (winter and summer), migratory routes and fawning habitat.

e. Large areas of non-fragmented natural habitat, including blue oak woodlands, valley foothill and montane riparian, valley oak woodlands, annual grasslands, and vernal pool/grassland complexes.

f. Identifiable wildlife movement zones, including but not limited to, non-fragmented stream environment zones, avian and mammalian migratory routes, and known concentration areas of waterfowl within the Pacific Flyway.

g. Important spawning and rearing areas for anadromous fish.

6.C.2. The County shall require development in areas known to have particular value for wildlife to be carefully planned and, where possible, located so that the reasonable value of the habitat for wildlife is maintained.

6.C.3. The County shall encourage the control of residual pesticides to prevent potential damage to water quality, vegetation, fish, and wildlife.

6.C.4. The County shall encourage private landowners to adopt sound fish and wildlife habitat management practices, as recommended by California Department of Fish and Wildlife officials, the U.S. Fish and Wildlife Service, the National Marine Fisheries Service, the U.S. Army Corps of Engineers, and the Placer County Resource Conservation District.

6.C.5. The County shall require mitigation for development projects where isolated segments of stream habitat are unavoidably altered. Such impacts should be mitigated on-site with in-kind habitat replacement or elsewhere in the stream system through stream or riparian habitat restoration work where it is clear that offsite replacement provides greater functions and values than onsite replacement.

6.C.6. The County shall support preservation of the habitats of threatened, endangered, and/or other special status species. Where County acquisition and maintenance is not practicable or feasible, federal and state agencies, as well as other resource conservation organizations, shall be encouraged to acquire and manage endangered species' habitats.

6.C.7. The County shall support the maintenance of suitable habitats for all indigenous species of wildlife, without preference to game or non-game species, through maintenance of habitat diversity.

6.C.8. The County shall support the preservation or reestablishment of fisheries in the rivers and streams within the County, whenever possible.

6.C.9. The County shall require new private or public developments to preserve and enhance existing riparian habitat unless public safety concerns require removal of habitat for flood control or other essential public purposes (See Policy 6.A.1.). In cases where new private or public development results in modification or destruction of riparian habitat the developers shall be responsible for acquiring, restoring, and enhancing at least an equivalent amount of like habitat within or near the project area.

6.C.10. The County will use the California Wildlife Habitat Relationships (WHR) system as a standard descriptive tool and guide for environmental assessment in the absence of a more detailed site-specific system.

6.C.11. Prior to approval of discretionary development permits involving parcels within a significant ecological resource area, the County shall require, as part of the environmental review process, a biotic resources evaluation of the sites by a wildlife biologist, the evaluation shall be based upon field reconnaissance performed at the appropriate time of year to determine the presence or absence of special status, threatened, or endangered species of plants or animals. Such evaluation will consider the potential for significant impact on these resources, and will identify feasible measures to mitigate such impacts or indicate why mitigation is not feasible. In approving any such discretionary development permit, the decision-making body shall determine the feasibility of the identified mitigation measures.

Significant ecological resource areas shall, at a minimum, include the following:

a. Wetland areas including vernal pools.

b. Stream zones.

c. Any habitat for special status, threatened or endangered animals or plants.

d. Critical deer winter ranges (winter and summer), migratory routes and fawning habitat.

e. Large areas of non-fragmented natural habitat, including blue oak woodlands, valley foothill and montane riparian, valley oak woodlands, annual grasslands, vernal pool/grassland complexes habitat.

f. Identifiable wildlife movement zones, including but not limited to, non-fragmented stream environment zones, avian and mammalian migratory routes, and known concentration areas of waterfowl within the Pacific Flyway.

g. Important spawning and rearing areas for anadromous fish.

6.C.12. The County shall cooperate with, encourage, and support the plans of other public agencies to acquire fee title or conservation easements to privately-owned lands in order to preserve important wildlife corridors and to provide habitat protection of California Species of Concern and state or federally listed threatened, or endangered plant and animal species, or any species listed in an implementing agreement for a habitat conservation plan and natural communities conservation plan.

6.C.13. The County shall support and cooperate with efforts of other local, state, and federal agencies and private entities engaged in the preservation and protection of significant biological resources from incompatible land uses and development. Significant biological resources include endangered or threatened species and their habitats, wetland habitats, wildlife migration corridors, and locally important species/communities.

6.C.14. The County shall support the management efforts of the California Department of Fish and Wildlife to maintain and enhance the productivity of important fish and game species (such as the Blue Canyon and Loyalton Truckee deer herds) by protecting important natural communities for these species from incompatible urban/suburban, rural residential, agricultural, or recreational development.

Goal

6.D. To preserve and protect the valuable vegetation resources of Placer County.

Policies

6.D.1. The County shall encourage landowners and developers to preserve the integrity of existing terrain and natural vegetation in visually-sensitive areas such as hillsides, ridges, and along important transportation corridors.

6.D.2. The County shall require developers to use native and compatible nonnative species, especially drought-resistant species, to the extent possible in fulfilling landscaping requirements imposed as conditions of discretionary permits or for project mitigation.

6.D.3. The County shall support the preservation of outstanding areas of natural vegetation, including, but not limited to, oak woodlands, riparian areas, and vernal pools.

6.D.4. The County shall ensure that landmark trees and major groves of native trees are preserved and protected. In order to maintain these areas in perpetuity, protected areas shall also include younger vegetation with suitable space for growth and reproduction.

6.D.5. The County shall establish procedures for identifying and preserving special status, threatened, and endangered plant species that may be adversely affected by public or private development projects.

6.D.6. The County shall ensure the conservation of sufficiently large, continuous expanses of native vegetation to provide suitable habitat for maintaining abundant and diverse wildlife.

6.D.7. The County shall support the management of wetland and riparian plant communities for passive recreation, groundwater recharge, nutrient catchment, and wildlife habitats. Such communities shall be restored or expanded, where possible.

6.D.8. The County shall require that new development preserve natural woodlands to the maximum extent possible.

6.D.9. The County shall require that development on hillsides be limited to maintain valuable natural vegetation, especially forests and open grasslands, and to control erosion.

6.D.10. The County shall encourage the planting of native trees, shrubs, and grasslands in order to preserve the visual integrity of the landscape, provide habitat conditions suitable for native wildlife, and ensure that a maximum number and variety of well-adapted plants are maintained.

6.D.11. The County shall support the continued use of prescribed burning, mastication, chipping, and other methods to mimic the effects of natural fires to reduce fuel loads and associated fire hazard to human residents and to enhance the health of biotic communities.

6.D.12. The County shall support the retention of vegetated corridors, consistent with Fire Safe Practices, along circulation routes in order to preserve their rural character.

6.D.13. The County shall support the preservation of native trees and the use of native, drought-tolerant plant materials in all revegetation/landscaping projects.

6.D.14. The County shall require that new development avoid ecologically-fragile areas (e.g., areas of special status, threatened, or endangered species of plants, and riparian areas). Where feasible, these areas should be protected through public or private acquisition of fee title or conservation easements to ensure protection.

Goal

6.E. To preserve and enhance open space lands to maintain the natural resources of the County.

Policies

6.E.1. The County shall support the preservation and enhancement of natural land forms, natural vegetation, and natural resources as open space to the maximum extent feasible. The County shall permanently protect, as open space, areas of natural resource value, including wetlands, riparian corridors, unfragmented woodlands, and floodplains.

6.E.2. The County shall require that new development be designed and constructed to preserve the following types of areas and features as open space to the maximum extent feasible:

a. High erosion hazard areas;

b. Scenic and trail corridors;

c. Streams, riparian vegetation;

d. Wetlands;

e. Significant stands of vegetation;

f. Wildlife corridors; and

g. Any areas of special ecological significance.

6.E.3. The County shall support the maintenance of open space and natural areas that are interconnected and of sufficient size to protect biodiversity sustain viable populations, accommodate wildlife movement, and sustain ecosystems.

6.E.4. The County shall coordinate with local, state, and federal agencies and private organizations to establish visual and physical links among open space areas. Where appropriate, these open space areas are to be connected by scenic corridors, wildlife corridors, and trails. Dedication of easements shall be encouraged, and in many cases, required as lands are developed and built.

Placer Legacy Program

Adopted in June 2000, the Placer Legacy Open Space and Agricultural Conservation Program (Placer Legacy) is a program of Placer County to protect and conserve open space and agricultural lands. The program has been developed to implement the goals, policies, and programs of the *Placer County General Plan* by meeting a number of objectives.

- Maintain a viable agricultural segment of the economy.
- Conserve natural features necessary for access to a variety of outdoor recreation opportunities.
- Retain important scenic and historic areas.
- Preserve the diversity of plant and animal communities.
- Protect endangered and other special-status plant and animal species.
- Separate urban areas into distinct communities, and ensure public safety.

Placer Legacy comprises four primary areas of program work: program startup; natural resource conservation planning activities; program implementation (acquisition, monitoring, development and maintenance); and public outreach.

Program start-up activities included preparing an implementation plan to direct program activities and assembling staff to implement the program. This phase of the program is completed.

Natural resource conservation planning activities involve realizing program objectives through long-range planning efforts, such as watershed planning and the PCCP.

Program implementation activities consist of purchasing properties and conservation easements, monitoring acquired properties and easements, making improvements to acquired properties for public access, stream and creek restoration projects, and maintaining County parks and trails. This component of the program involves working with "willing-seller" property owners to ensure that the potential land acquisition meets the goals of the Placer Legacy program as well as the needs of the property owners. Some improvements entail constructing trails and staging areas, providing restrooms and picnic facilities, and improving road access. Maintenance activities on some properties consist of the installation of field fencing, clearing plant debris, clearing brush to reduce wildfire risk, and ensuring safe use for the public.

Public outreach activities consist of educating the public about the Placer Legacy program through publications, billboards, and ongoing media stories; giving presentations to the Board of Supervisors and interested stakeholders at meetings, workshops, forums, and events.

Placer County Tree Preservation Ordinance

Placer County's Tree Preservation Ordinance provides protection for trees in unincorporated areas within the county. The ordinance requires locating and characterizing protected trees to provide the data needed to prepare a formal protected tree report and subsequent tree removal permit. A formal protected tree report is required before a tree can be removed. This ordinance states that "no person, firm, corporation or county agency shall conduct any development activities within the protected zone of any protected tree on public or private land, or harm, destroy, kill or remove any protected tree unless authorized by a tree permit." Under the ordinance, a protected tree is defined as the following.

- A tall woody plant native to California (excluding foothill pines and plants that are typically shrubs), with a single main stem or trunk at least 6 inches diameter at breast height (dbh), or a multiple trunk with an aggregate of at least 10 inches dbh.
- All native trees regardless of size within riparian zones. A riparian zone is defined as any area within 50 feet from the centerline of a seasonal creek or stream; any area 100 feet from the centerline of a year-round creek, stream, or river; and any area within 100 feet of the shoreline of a pond, lake, or reservoir.
- All landmark trees. A landmark tree is defined as a tree or grove of trees designated by resolution of the County Board of Supervisors to be of historical or cultural value, an outstanding specimen, an unusual species and/or of significant community benefit. Landmark trees may include non-native species.

Trees may be exempted from permitting requirements under several circumstances, including trees (1) that have been identified by an arborist, forester, or county arborist/licensed landscape architect as "dying" or "unhealthy," (2) dead trees, or (3) trees that are in a hazardous condition presenting an immediate danger to health and property.

Under the ordinance, the County may require replacement plantings that can be based on an inch for inch replacement. Replacement plantings may be planted onsite and/or other offsite locations. Maintenance and irrigation is required for 3 years. Alternatively, if the project area is not large enough to support the replacement plantings, the County may require implementation of a revegetation plan or an in-lieu payment of the installation cost into the County's Tree Preservation Fund. Since 2007, the County has also required project proponents to contribute to the conservation of land versus implementing an onsite compensatory replacement planting plan when conditions for onsite replacement are not favorable to woodland restoration.

Sutter County General Plan

Excerpted below are the relevant goals and policies from the *Sutter County General Plan* that pertain to biological resources (Sutter County 2011).

Goal

AG 1 Preserve and protect high-quality agricultural lands for long-term agricultural production.

Policies

AG 1.1 Agricultural Land Preservation. Preserve and maintain agriculturally designated lands for agricultural use and direct urban/suburban and other nonagricultural related development to the cities, unincorporated rural communities, and other clearly defined and comprehensively planned development areas.

AG 1.5 Agricultural Land Conversion. Discourage the conversion of agricultural land to other uses unless all of the following findings can be made:

a. The net community benefit derived from conversion of the land outweighs the need to protect the land for long-term agricultural use

b. There are no feasible alternative locations for the proposed use that would appreciably reduce impacts upon agricultural lands

c. The use will not have significant adverse effects, or can mitigate such effects, upon existing and future adjacent agricultural lands and operations (AG 1-A)

AG 1.6 Interrelationship with Habitat Conservation. Permit agriculturally designated lands to be used for habitat conservation and/or mitigation with approval of a development agreement, provided such use does not interfere or adversely affect existing or planned agricultural uses or impact County flood control operations. (AG 1-A)

AG 1.11 Conservation Easements. Explore, and if determined feasible, identify agricultural mitigation bank areas in which the County will encourage private landowners to voluntarily participate in agricultural conservation easements. (AG 1-B)

AG 1.12 Land Mitigation Program. Explore, and if determined feasible, create an Agricultural Land Mitigation Program. (AG 1-B)

Goal

AG 3 Protect the natural resources needed to ensure that agriculture remains an essential and sustainable part of Sutter County's future.

Policy

AG 3.8 Habitat Protection. Promote wildlife friendly agricultural practices. Encourage habitat protection and management that is compatible with and does not preclude or restrict onsite agricultural production.

Goal

ER 1 Support a comprehensive approach for the conservation, enhancement, and regulation of Sutter County's significant habitat and natural open space resources.

Policy

ER 1.6 Avoidance. Ensure that new development projects avoid, to the extent feasible, significant biological resources (e.g. areas of rare, threatened or endangered species of plants, riparian areas, vernal pools), except where such projects are identified as "Authorized Development" within an adopted Habitat Conservation Plan.

Goal

ER 2 Conserve, protect, and enhance Sutter County's significant natural wetland and riparian habitats.

Policies

ER 2.1 No Net Loss. Require new development to ensure no net loss of state and federally regulated wetlands, other waters of the United States (including creeks, rivers, ponds, marshes, vernal pools, and other seasonal wetlands), and associated functions and values through a combination of avoidance, restoration, and compensation.

ER 2.3 Minimize Surface Runoff. Minimize direct discharge of surface runoff into wetland areas and design new development in such a manner that pollutants and siltation will not significantly affect jurisdictional wetlands.

ER 2.4 Wetland Mitigation Banks. Encourage the creation and use of regional wetland mitigation banks to the extent that they do not conflict with Sutter County agricultural lands and flood control operations. (ER 2-A)

City of Lincoln General Plan

Excerpted below are the relevant goals and policies from the *City of Lincoln General Plan* that pertain to biological resources (City of Lincoln 2008).

Goal

OSC-1. To designate, protect, and encourage natural resources, open space, and recreation lands in the city, protect and enhance a significant system of interconnected natural habitat areas, and provide opportunities for recreation activities to meet citizen needs.

Policies

OSC-1.1 Protect Natural Resources. The City shall strive to protect natural resource areas, fish and wildlife habitat areas, scenic areas, open space areas and parks from encroachment or destruction by incompatible development.

OSC-1.2 Coordinate with Placer County for Open Space Preservation. The City shall coordinate with Placer County and their Placer Legacy program to ensure City issues are incorporated into future plans.

OSC-1.3 Creation of Buffers. In new development areas, the City shall encourage the use of open space or recreational buffers between incompatible land uses.

OSC-1.4 100-year Floodplains. The city will apply open space designations to all lands located within the l00 year floodway as shown on the FIRM panel or as determined by a project drainage plan and approved by the City Engineer/Director of Public Works; The City will also apply open space designations to all 100-year floodplain fringe areas, and/or remaining floodplain fringe areas as determined by a project drainage plan identifying floodplain fringe encroachment areas, and quantifying their impact along with other improvements to show a zero (0) net impact to the upstream, downstream and adjacent properties. Open space designations will apply to all land located within a minimum of 50 feet from the center channel of all perennial and intermittent streams and creeks providing natural drainage, and to areas consisting of riparian habitat. In designating these areas as open space, the city is preserving natural resources and protecting these areas from development.

Goal

OSC-4. To preserve and enhance local streams, creeks, and aquifers.

Policies

OSC-4.3 Protect Surface Water and Groundwater. The City shall ensure that new development projects do not degrade surface water and groundwater.

OSC-4.4 Protection and Management of Flood Plains. The City shall encourage the protection of 100 year floodplains and where appropriate, obtain public easements for purposes of flood protection, public safety, wildlife preservation, groundwater recharge, access and recreation.

Goal

OSC-5. To preserve and protect existing biological resources including both wildlife and vegetative habitat.

Policies

OSC-5.1 Protect Significant Vegetation. The City shall support the preservation of heritage oaks and threatened or endangered vegetative habitat from destruction. A heritage oak shall be defined as a tree with a diameter of 36 inches measured at a point 4.5 feet above grade level (i.e., diameter at breast height or DBH).

OSC-5.2 Management of Wetlands. The City shall support the management of wetland and riparian plant communities for passive recreation, groundwater recharge, and wildlife habitats. Such communities shall be restored or expanded, where possible and as appropriate.

OSC-5.3 Placer Legacy Open Space and Conservation Program. The City will continue to coordinate with Placer County and the Placer Legacy Open Space and Conservation Program to protect habitat areas that support endangered species and other special-status species.

OSC-5.4 Encourage Planting of Native Vegetation. The City shall encourage the planting of native trees, shrubs, and grasslands in order to preserve the visual integrity of the landscape, provide habitat conditions suitable for native vegetation, and ensure that a maximum number and variety of well-adapted plants are maintained.

OSC-5.5 New Development in Sensitive Areas. The City shall require that new development in areas that are known to have particular value for biological resources be carefully planned and where possible avoided so that the value of existing sensitive vegetation and wildlife habitat can be maintained.

OSC-5.6 No Net Loss of Wetlands. The City will maintain a policy of no net loss of wetlands on a project-by-project basis, which may include an entire specific plan area. For the purpose of identifying such wetlands, the City will accept a map delineating wetlands which has been accepted by the U.S. Army Corps of Engineers pursuant to Section 404 of the Clean Water Act of 1972. The term "no net loss" may include mitigation implemented through participation in an off-site mitigation bank or similar mitigation mechanism acceptable to the City and permitting agencies.

OSC-5.7 404 Permit Requirements. The City may require project proponents to obtain 404 Permits, and prepare mitigation plans for, or provide for the avoidance, preservation, and maintenance of identified wetlands prior to submitting applications for land use entitlements.

OSC-5.8 Corps of Engineers Disclaimers. The City may, but need not, accept a Corps of Engineers disclaimer of any jurisdiction over the project of a Corps of Engineers 404 permit as the City's own plan for the achievement of a project's no net loss of wetlands.

OSC-5.9 Wetlands Dedication. All preserved wetlands shall be dedicated to the City or a non-profit organization acceptable to the City and preserved through perpetual covenants enforceable by the City or other appropriate agencies, to ensure their maintenance and survival. With respect to areas dedicated to the City, acceptance shall be conditioned upon establishment of a lighting and landscaping district or other public or private funding mechanisms acceptable to the City.

OSC-5.10 Native Vegetation for Landscaping. The City shall develop a list of native vegetation to be used as a landscape pallet for use within open space / preserve areas. Native plants should also be incorporated into plant palettes used in developed areas by citizens and developers.

OSC-5.11 Requirement for Biological Studies. Prior to project (i.e., specific plan or individual project) approval, the City shall require a biological study to be prepared by a qualified biologist for any proposed development within areas that contain a moderate to high potential for sensitive habitat. As appropriate, the study shall include the following activities: (1) inventory species listed in the California Native Plant Society Manual of California Vegetation, (2) inventory species identified by the USFWS and CDFG, (3) inventory special status species listed in the California NDDB, and (4) field survey of the project site by a qualified biologist.

OSC-5.12 Appropriate Mitigation Measures. The City shall consider using appropriate mitigation measures for future projects (i.e., specific plans or individual projects) based on mitigation standards or protocols adopted by the applicable statute or agency (e.g., USFWS, CDFG, etc.) with jurisdiction over any affected sensitive habitats or special status species.

OSC-5.13 Minimize Lighting Impacts. The City shall ensure that lighting in residential areas and along roadways shall be designed to prevent artificial lighting from reflecting into adjacent natural or open space areas.

Other

California Native Plant Society

The California Native Plant Society has developed and maintains lists of plants of special concern in California, as described above under Special-Status Species. These species have no formal legal protection, but the values and importance of these lists are widely recognized. Plants listed as California Rare Plant Rank (CRPR) 1A, 1B, 2A, and 2B meet the definitions of endangered under California Fish and Game Code Section 1901 and may qualify for state listing. Therefore, for purposes of this analysis, they are considered rare plants pursuant to Section 15380 of CEQA.

3.3.2 Environmental Setting

This section discusses the biological setting in the Plan Area. The Plan Area covers a total of 269,502 acres at elevations ranging from approximately 40 feet above sea level (asl) on the Sacramento Valley floor to 2,300 feet asl in the Sierra Nevada foothills north of Auburn (Figure 1-1). The Plan Area was developed with a focus on areas where growth and development may greatly affect state-protected and federally protected species. As shown in Figure 1-1 and described in Chapter 2, *Proposed Action and Alternatives*, the Plan Area A encompasses approximately 210,216 acres in western Placer County and the city of Lincoln, plus all unincorporated lands within western Placer County. Plan Area B comprises areas where some Covered Activities of the County and the Placer County Water Agency (PCWA) would be conducted within the non-participating cities, a portion of the Coon Creek floodplain in Sutter County, canals in Sutter County that are important for salmonid fish passage, and the Big Gun Conservation Bank in Michigan Bluff. Much of this section's description of the biological setting was derived from Chapter 3, *Physical and Biological Setting*, of the Plan.

The Plan Area was designed to encompass the area within which Covered Activities would be implemented and to provide sufficient land and resources to implement measures to provide for the conservation of Covered Species and habitats affected by the proposed Covered Activities.

Topography

The following discussion is based on information provided in Chapter 3 of the Plan (Appendix A).

The Plan Area straddles portions of the Sacramento Valley and Sierra Nevada foothills and lies within the Great Valley geomorphic province. As a whole, Placer County represents an elevational gradient from the Sacramento Valley to the crest of the Sierra Nevada. The Plan Area occupies the lower elevations of that gradient (Figure 3.3-1).

Elevations in Plan Area A range from approximately 40 feet asl in western Placer County to 1,600 feet asl in the Bear River watershed north of Auburn.

Plan Area B activity sites vary in elevation.

- Subarea B1—Permittee Activity in Non-Participating Cities ranges in elevation from 50 to 500 feet in Roseville, Rocklin, and Loomis. Auburn is at an elevation of 1,000–1,500 feet.
- Subarea B2—PCWA Zone 1 Operations and Maintenance extends from Auburn east to Lake Theodore at an elevation of 2,300 feet.
- Subarea B3—Coon Creek Floodplain Conservation is at an elevation of 60–80 feet.
- Subarea B4—Fish Passage Channel Improvements runs from the cross canal confluence with the Sacramento River at an elevation of 20 feet to the point where it meets the Coon Creek floodplain at an elevation of 60 feet.
- Subarea B5—Big Gun Conservation Bank is at an elevation of 3,500 feet.

Elevation, slope, and aspect strongly determine soils and climate and, hence, influence vegetation and land use. Plan Area A consists of two principal zones: the Valley and the Foothills. The divide between the two zones reflects the slope transition from the flat Valley to the lower Foothills that falls roughly along the 200-foot elevation contour. The Valley zone extends from the Plan's western border to the east to include all of the city of Lincoln.

The alluvial plain of the Valley is essentially flat, rising only 150 feet in nearly 8 miles. Slopes in the lower Foothills and along the Interstate (I-) 80 corridor are generally gentle to moderate, facing west and southwest. In the Bear River and Coon Creek watersheds, the foothill terrain is steeper and more sharply dissected, reflecting its different geology.

Geology and Soils

The following discussion is based on the information provided in Chapter 3, *Physical and Biological Setting*, of the Plan (Appendix A). Plan Area geology influences landforms and soil types, which influence vegetation and plant species distribution that, in turn, help determine the distribution of wildlife species. For example, the vernal pool crustaceans that would be covered by the Plan are closely associated with vernal pool ecosystems that are restricted to particular soil types and geologic substrates with the impervious hardpan that allows pools to form despite small amounts of rainfall.

The Plan Area's general geology reflects a transition from the Sacramento Valley floor to the Sierra Nevada foothills (Figure 3.3-2). The low-elevation Valley consists of Quaternary alluvium and sandstone sediments derived from the Sierra Nevada. Weathering of Sierra Nevada granite and other igneous rock produces sediments, ranging from very fine clay to coarse sand, that are deposited according to the hydrologic regime, usually in layers of different permeability. The Foothills are older, tertiary rocks consisting of granitic granodiorite on the south and metamorphic mafic rocks on the north, with a mixed band of igneous rocks along the fault zones that parallel State Route (SR) 49 and define the eastern edge of the Plan Area. Although mafic rock weathers faster and the resulting soils differ, both formations give rise to the dense clays that accumulate on the Sacramento basin floor.

Soil conditions are generally correlated with landforms. On the Valley terraces, most soils are well drained, moderately deep to deep over an impermeable claypan or hardpan, with a sandy loam or loam surface layer and a dense clay subsoil. The soils on alluvial bottoms are very deep, with a sandy loam or loam surface layer and a sandy loam to clay subsoil. At higher elevations in the Foothills, the soils are generally well-drained sandy loams and loams derived from metamorphic and volcanic parent materials.

The soil survey of western Placer County establishes numerous named associations that vary by texture and composition. Several soil types potentially significant to the conservation strategy are described here.

Hydric Soils

Several soil types in the Valley have dense subsurface clay and hardpan layers that impede water percolation and, therefore, are seasonally saturated. These soils are called hydric soils and they often support wetlands, especially when located in topographic depressions that hold water into the dry season. Most of the Valley soils formed above Quaternary sedimentary deposits show hydric properties and differ mainly in the character of the soils that overlie the hardpan. The soils tend to form vernal pools and other seasonal wetlands wherever local topography and hydrology are favorable.

Drainageway Alluvial Soils

Drainageways that correspond to the major stream courses and their immediate floodplain have greater depth to the hardpan or are effectively incised through it. The soils are well-drained and range from sandy loams to fluvents, a kind of alluvial soil where soil structure development is prevented by repeated deposition of sediment during periodic floods. The xerofluvents mapped for western Placer County are usually dry at the surface during summer in this Mediterranean climate, but the depth to groundwater is shallow enough that they tend to support riparian vegetation.

Mehrten Formation Soils

Mehrten formation soils can support distinct biotic communities. The Mehrten formation is derived from ancient volcanic mudflows approximately 4 million to 10 million years old that arose in the Sierra Nevada and flowed down the eastern foothills to the Central Valley. The mudflows now remain as high-standing, flat-topped ridges. The underlying volcanic rock is impermeable or very slowly permeable, and vernal pools form in the depressions. In western Placer County, northern volcanic mudflow vernal pools are restricted to the Mehrten formation.

Mehrten soils are limited to a band east of SR 65 in Roseville, Rocklin, and southeastern Lincoln. Although Mehrten formation soils cover approximately 4,200 acres of Plan Area A, nearly all of these lands have already been converted to urban and suburban development, with the few remaining patches of this soil type already incorporated into existing reserves.

Serpentine Soil Formations

Many of California's rare plants and unusual natural communities occur on serpentine soils, a chemically hostile substrate that helps better adapted native plants to resist competition from non-native invasive species. In Placer County, serpentine soils are found in small patches around Foresthill, between Auburn and Colfax, and in isolated areas of the Tahoe National Forest. Although a band of ultramafic rock mapped as peridotite and patches of derivative serpentine soils runs north from Auburn and east of SR 49, at the edge of Plan Area A, the Plan Area has no significant extent of serpentine soils, and none of the Covered Species is associated with serpentine soil communities.

Foothills Soil Associations

The more varied geology and topography of the Foothills give rise to numerous soil types that vary in texture, depth, and slope. These soil types contribute to the general mosaic of oak woodland.

Climate

Western Placer County is located within the Sacramento Valley Air Basin, which is relatively flat and bordered by mountains to the east, west, and north. The basin has a Mediterranean climate characterized by hot, dry summers and cool, rainy winters, sometimes with periods of dense and persistent low-level fog that are most prevalent between winter storms. The extreme summer aridity of the Mediterranean climate is caused by sinking air of subtropical high-pressure regions. In the Sacramento Valley, the ocean has less influence than in the coastal areas, giving the interior Mediterranean climate more seasonal temperature variation.

The Plan Area covers the transition from the low elevations of the Sacramento Valley to the Sierra Nevada foothills, with a corresponding transition in climate. Most precipitation results from air masses that move in from the Pacific Ocean during the winter months, from west or northwest. Rainfall increases as the air mass is pushed upward and cools; therefore, the lower western edge of the Plan Area is drier than the higher eastern edge. The normal annual precipitation, which occurs primarily from November through April, ranges across the Plan Area from 18 inches on the west to 36 inches on the east.

Temperature is less variable across the Plan Area. Winter temperature averages 49°F. During the summer months, average daily temperatures range from 58°F to more than 91°F, and daily high temperatures can exceed 110°F.

The inland location and surrounding mountains shelter the area from much of the ocean breezes or morning cloud cover that moderate coastal temperature. The predominant wind direction and speed is from the south-southwest at 10 miles per hour. The Plan Area has nearly 250 sunny days per year.

The heat and summer sun, and typically less than 1 inch of rainfall from May to August, cause rapid drying of open water. The climate, coupled with the extensive hardpan underlying Valley soils, creates the vernal pool condition. When rain fills the pools in the winter and spring, the water collects and remains in the depressions. In the springtime, the water gradually evaporates until the pools become completely dry in the summer and fall.

All of the natural communities and the Covered Species habitat depend on rainfall, and all of them are, to some degree, adapted to the range of normal variation. The local climate is driven mainly by conditions in the Pacific Ocean and affected by global cycles, such as the warming ocean surface during El Niño southern oscillation events. These cycles routinely produce wide variation in rainfall. From 1949 to 2006, annual rainfall for Sacramento ranged from 6.25 to 33.44 inches, with an average of 17.63 inches. The extreme variation is clear in the historical record, even before the likely effects of climate change.

Streams and Watersheds

The following discussion is based on information provided in Chapter 3 of the Plan (Appendix A).

The Plan Area is located on the west slope of the Sierra Nevada in the Lower Sacramento River Basin. Streams drain generally from east to west, eventually reaching the Sacramento River. Altogether, 738 miles of streams are mapped in western Placer County. The Sacramento and American River tributaries define a series of subbasins. Major streams in the Plan Area have extensive natural floodplains on the Valley floor.

Because the Valley and most of the non-participating cities are in the lower-elevation, downstream portion of the watersheds, 31% of the streams there are mapped as major streams, whereas 21% are mapped as major in the higher elevation Foothills. Conversely, 34% of streams in the Foothills are mapped as perennial; only 16% of streams in the Valley are mapped as perennial. However, the distinction between perennial and intermittent is often not meaningful because of the non-seasonal presence of irrigation water.

Western Placer County has extensive water transport facilities and artificial canals. Some 303 miles of irrigation supply and drainage canals are mapped. The supply canals take advantage of the abundant Sierra Nevada runoff in the Bear and American Rivers and connect to a series of small reservoirs in the Foothills. The drainage canals are found in the Foothills and Valley. In the Valley, the canals transport rainfall and irrigation water drainage in the flat alluvial plain. In the Foothills, the canals provide irrigation water for ponds, irrigated pasture, landscaping, and crop production. Although the canals are not natural hydrologic features, they are occasionally the source of perennial seeps that may create small pockets of wetland habitat or other wet areas that are not wetlands or habitat in the Foothills and may serve some aquatic habitat functions in the Valley.

Two major reservoirs are located in Plan Area A: Camp Far West Reservoir on the Bear River to the north and Folsom Reservoir on the American River to the southeast.

Rainfall, and the subsequent groundwater release, is the primary water source for surface flows in the winter and spring. Agricultural and urban runoff, water deliveries for irrigation, and wastewater treatment plant (WWTP) effluent contribute to total stream flow in the spring, summer, and fall. Some watersheds that were once seasonally intermittent are now artificially perennial. Irrigation also transfers water between watersheds. For example, Auburn Ravine receives water imports from the Bear, Yuba, and American Rivers and is used by Pacific Gas & Electric Company (PG&E), Nevada Irrigation District (NID), and PCWA as a conveyance feature.

Unless noted, the watershed descriptions below are based on the *Assessment of Habitat Conditions for Chinook Salmon and Steelhead in Western Placer County, CA*. For each watershed, seasonal flows are discussed in the context of salmonid habitat, if present. The natural pattern for small foothill streams is generally a gradual decrease in flow during the spring, summer, and early fall, until the first rainstorms begin in late fall. Flow is a component of fish habitat. Low-flow conditions can potentially result in lack of depth for adult fish passage, minimal flow over redds (a depression in the gravel of the river created by the salmonid fish males in which the females lay their eggs), increased siltation of redds and reduced levels of oxygen to the eggs, and reduced space for juvenile rearing. A complete description of the watersheds and subbasins constituting the Plan Area is presented in Section 3.5, *Hydrology and Water Quality*.

Bear River Watershed

Headwaters for the Bear River are in the vicinity of Emigrant Gap and Lake Spaulding in Nevada County. The Bear River flows southwest to a point approximately 8 miles north of Auburn where it turns west and flows to its confluence with the Feather River in the vicinity of Nicolaus in Sutter County. The Bear River is the second-largest tributary of the Feather River and is the border between Placer and Nevada Counties.

The Bear River historically experienced high winter flows and low summer flows, but today the timing of flow and volume is highly regulated by releases from reservoir storage and diversions. Camp Far West is the largest storage reservoir on the Bear River. Minimum flow releases are 25 cubic feet per second (cfs) in the spring and 10 cfs during the rest of the year. Bear River flows below the dam are 0 to 40 cfs from June to December. Winter flows during wet years are similar to unimpeded flows, averaging 2,500–5,200 cfs. Summer flows are 30–50% less than the unimpaired flows.

Anadromous fish have access to the Bear River from its confluence with the Feather River upstream for 15 miles to the diversion dam, which blocks farther upstream migration. Habitat for Chinook salmon and steelhead may be limited by inadequate stream flow and the high incidence of fine sediment, which is partially attributable to the relatively low gradient or reduced stream flow. During heavy rain events, flow spills from Camp Far West Reservoir, and Chinook salmon and steelhead may migrate through and spawn in the lower Bear River.

Yankee Slough is a part of the Bear River watershed and flows into the Bear River drainage downstream of SR 65 and outside of the Plan Area in Sutter County. Yankee Slough originates north and east of the unincorporated township of Sheridan in the lower Sierra foothills. Yankee Slough flows perennially due to irrigation runoff. Yankee Slough historically flowed into the American River basin, once a massive marsh complex that is now principally rice fields and urban neighborhoods. Little or no riparian vegetation is present on much of Yankee Slough in Placer County. Outside the Plan Area, Yankee Slough is mostly channelized and serves as drainage facility for agricultural runoff. Some of the largest perennial freshwater marshes in Placer County are along Yankee Slough east of SR 65. There is no evidence that anadromous fish are present within the Yankee Slough watershed.

Coon Creek Watershed

Coon Creek originates east of Auburn near Meadow Vista and flows westward. It is intercepted by the East Side Canal in Sutter County just west of the county line. The East Side Canal then flows into the Cross Canal where it is joined by flows from Markham Ravine and Auburn Ravine. Pleasant Grove Creek enters the Pleasant Grove Creek Canal, which joins the East Side Canal at a confluence in Sutter County, where it then becomes the Cross Canal. The Cross Canal joins the Sacramento River immediately downstream of the confluence of the Feather and Sacramento Rivers near Verona. Coon Creek historically flowed into the American River basin.

Most of Coon Creek's stream flow during the late spring through early fall consists of imported water en route to downstream agricultural diversions. Coon Creek historically had little or no summer flow in the lower reaches. NID discharges 7.5 cfs during the summer and fall (i.e., about April 15 through October 15). Flow in Coon Creek is controlled by releases from Orr Creek Reservoir, operated by NID. The last downstream diversion receiving NID deliveries of water is near Gladding Road. Stream flow is managed to have no excess flow (i.e., essentially dry at Lincoln Boulevard at the old alignment for SR 65).

In the lower reaches of Coon Creek, runs are the most dominant channel structure element, followed by low-gradient riffles, glides, dammed pools, mid-channel pools, lateral scour pools, and channel confluence pools. There are minimal amounts of in-stream cover (i.e., woody debris and undercut banks) and overhead cover (i.e., riparian vegetation). Because of livestock grazing, streamside vegetation is sparse in many places. Channel instability and resultant bank cutting may also prevent the establishment of vegetation. Stream channel substrates consist predominantly of cobble, gravel, sand, and silt- and clay-sized particles.

Doty Ravine, which originates west of Auburn, is the main tributary to Coon Creek. The streambed in the headwaters consists primarily of gravel and cobbles with some larger granitic boulders. Doty Ravine upstream of Gladding Road flows through oak woodland and is bordered by rural-residential and ranch lands. Downstream of Gladding Road, the ravine is highly disturbed because of livestock use.

Doty Ravine receives water from deliveries by NID as well as natural runoff. Import of NID deliveries and conveyance down Doty Ravine is generally completed by October. Winter flows can exceed several thousand cfs, but, during the irrigation season, the flows average less than 20 cfs. All irrigation water is diverted at the Doty South Diversion Dam west of Crosby Herold Road. Downstream of the diversion dam, flow in the stream accretes from dam leakage, groundwater, and agricultural runoff. Outside the irrigation season, flows are about 5 to 6 cfs.

Markham Ravine Watershed

The Markham Ravine watershed is almost entirely on the Valley floor, originating in the low hills northeast of Lincoln and emptying into the East Side Canal approximately 1 mile north of Auburn Ravine in Sutter County. Because of the nearly flat terrain and the extensive history of drainage and irrigation modifications, watershed boundaries are indistinct in the lower reaches.

In its headwaters, the channel of Markham Ravine is poorly defined. Near Lincoln Boulevard, the channel becomes more distinct and passes through industrial, light industrial, and rapidly urbanizing areas. West of Lincoln, the channel passes through a mixture of farms and ranches, including pastures for grazing and rice and grain fields. In this reach of Markham Ravine, stream flow is artificially augmented by irrigation return flows and urban runoff. There are no effluent discharges into the ravine. The presence of relatively permanent flow allows the establishment of riparian and wetland vegetation. Beavers are active west of Lincoln, resulting in small impoundments forming seasonal and perennial marshes.

Auburn Ravine Watershed

Auburn Ravine originates on the north side of Auburn and flows west to its confluence with the East Side Canal in Sutter County and then into the Cross Canal and the Sacramento River. The elevation of the basin ranges from 30 to 1,600 feet asl.

In its headwaters, Auburn Ravine is characterized by a high-gradient, incised channel with steep-sided banks. Large boulders and cobbles dominate the substrate. The channel includes scour pools, waterfalls, and high-velocity chutes. Riparian vegetation is abundant. In its middle reaches downstream to Lincoln, the stream's gradient decreases substantially, and the substrate is characterized by sand, gravel, and cobbles. Pools and riffles are common, and trees and shrubs dominate the riparian zone. The channel contains large woody debris and bank erosion increases relative to the upper reach.

Within the Lincoln city limits, Auburn Ravine has a very a low gradient and sandy substrate. Riparian vegetation is characterized by a relatively open tree canopy with an understory dominated by blackberries and shrubs. Downstream from Lincoln, rice farms and livestock ranches border the stream. In some places, Auburn Ravine is contained within levees and riparian vegetation may be absent. Stream channel substrate is mostly clay and fine sediments, with occasional pieces of large woody debris. Grazing and channel maintenance activities restrict the development of riparian vegetation. The lower 2.5 miles of Auburn Ravine was rerouted and leveed to flow into the East Side Canal.

Winter flow in Auburn Ravine is dominated by runoff from rainfall events and effluent from the City of Auburn WWTP, which contributes discharge year-round. Winter flows range from less than 3 cfs to an estimated 100-year flow event that exceeds 14,000 cfs.

Because NID, PG&E, and PCWA use Auburn Ravine as a water conveyance feature, summer flows are high relative to natural conditions. NID, PCWA, and PG&E transport water from the Bear, Yuba, and American Rivers through Auburn Ravine, creating above-normal spring and summer flow conditions. In addition to water imports, NID and PCWA customers indirectly affect Auburn Ravine hydrology through customer return flows. Additionally, inflows from the Auburn and Lincoln wastewater treatment facilities can also augment flows. In September or October, flow is substantially decreased as irrigation demands diminish or cease and PG&E conducts an annual outage for maintenance. Flow during the fall may often be less than 3 cfs. Auburn Ravine's artificially high flow in the summer months provides more, and substantially different, aquatic habitat than would exist under natural flow conditions. More natural flow conditions during September and October (prior to the onset of the rainy season) result in a reduction of the area of aquatic habitat relative to habitat available in the summer.

Pleasant Grove Creek Watershed

The Pleasant Grove Creek watershed and its constituent Curry Creek are located in western Placer County, including the western portions of Roseville and Rocklin and eastern Sutter County. Both creeks empty into the Pleasant Grove Creek Canal, which drains to the Sacramento River via the Cross Canal.

The watershed consists of five major drainages: Curry Creek, Lower Pleasant Grove Creek, Kaseberg Creek, South Branch Pleasant Grove Creek, and Upper Pleasant Grove Creek. In general, slopes are very flat, less than 5%, particularly in the lower watershed. These creeks were historically dry or very nearly dry in the summer months but are now mostly perennial because of urban runoff and agricultural irrigation return flows. The Pleasant Grove WWTP, operated by the City of Roseville, also augments natural stream flow, on average, by 11 cfs per day.

The dominant land cover types in the watershed are annual grassland, urban and suburban, and agriculture. Urban and suburban land uses in the watershed are currently confined to unincorporated Placer County, Roseville and Rocklin, and Loomis, but significant growth in urban and suburban land uses is expected to convert agricultural lands and grasslands during the next 10–20 years, including non-residential development in the unincorporated Sunset Industrial Area.

The Pleasant Grove Creek watershed was historically dominated by agriculture, which remains the dominant land use in the lower portions. In the lower watershed, farmers grow white, wild, and organic rice. Agriculture in the middle portion of the watershed involves primarily rice farming and cattle ranching on unirrigated grasslands.

Dry Creek Watershed

Major tributaries of Dry Creek are Antelope Creek, Secret Ravine, Miners Ravine, Strap Ravine Creek, Linda Creek, Clover Valley Creek, and Cirby Creek. The gradient of the main stem of Dry Creek is low, generally less than 1%. The channel is well defined with sandy substrate and bordering riparian vegetation.

The middle portion of the Dry Creek watershed has been subjected to extreme development pressure by relatively recent growth, primarily in Roseville and Rocklin. The lower portions of the watershed are currently experiencing similar growth. The upper watershed largely consists of rural residential property in the unincorporated area of the Loomis Basin and Penryn and suburban development in unincorporated Granite Bay. Urbanization has exacerbated flooding in the lower watershed, particularly in Sacramento County.

Water quality concerns have arisen because of the perceived increase in sedimentation and potential contamination from nonpoint sources such as stormwater runoff and drainage. Given these concerns, the Dry Creek Conservancy has collected a large amount of physical and biological data on the watershed. The Office of Environmental Health Hazard Assessment is analyzing the data, including data on water quality indicators, to gain a better understanding of the stressors in the watershed.

As with most of the streams in the Plan Area, late summer flows in Dry Creek are largely urban runoff and releases from WWTPs and PCWA facilities and its customers' return flows. The City of Roseville's Dry Creek WWTP drains into Dry Creek west of I-80.

American River Watershed

The North Fork American River defines the southeast border of Placer County and, with the South Fork in El Dorado County, forms Folsom Lake. The California Department of Parks and Recreation manages land along the North Fork. The Middle Fork of the American River is outside the Plan Area; however, a portion of the Middle Fork's watershed includes Plan Subarea B5—the Big Gun Conservation Bank for California red-legged frog near the unincorporated town site of Michigan Bluff, 21 miles east of Auburn.

Communities and Land Cover Types

All information on communities and land cover types was obtained from Chapter 3 of the Plan. This information was based on extensive land cover mapping conducted for the PCCP and, therefore, represents the best available landscape-scale data on biological resources in the Plan Area (see Chapter 3 of the Plan for details on the methods used for land cover mapping).

In the Plan and this document, the term *community* is used to mean land cover types that are grouped together because of similarity in vegetation type, vegetation structure, ecological function, and current land use. The Plan Area contains 12 community types, as listed in Table 3.3-1

The term *land cover type* is used to describe the specific mapping units for each of the community types, as listed in Table 3.3-1. The mapped land cover types in the Plan Area are generally based on the California Wildlife Habitat Relationship (CWHR or WHR) system used by CDFW. The distribution of land cover types in the Plan Area is depicted in Figure 3.3-3. The Plan uses the term *constituent habitat* to describe habitat elements within land cover types that could not be mapped and measured directly using aerial photography. Constituent habitats comprise wetlands and riparian vegetation that occur within other non-wetland and non-riparian land cover types. Section 3.3. of the Plan includes a discussion of the methods used to estimate these constituent habitats. The estimated acreages of these constituent habitats are presented in Table 3.3-2.

Descriptions of the land cover types and, where applicable, the constituent habitats are provided below. These descriptions contain information summarized from Chapter 3 of the Plan, which contains additional detailed information about these communities' environmental conditions, environmental gradients, invasive species, and ecosystem function.

Some of the land cover types occurring in the Plan Area are, for the purposes of this EIS/EIR, identified as special-status natural communities. These communities are considered special status because they include specific vegetation alliances that are recognized by CDFW as of limited distribution statewide or within a county or region (California Natural Diversity Database [CNDDB] Rank of S1–S3), or because they require focused analysis under federal and state laws and regulations, as discussed in Section 3.3.1, *Regulatory Setting*. Special-status natural communities may be of special concern to resource agencies and conservation organizations for a variety of reasons, including their locally or regionally declining status or because they provide important habitat to common and special-status species. Many of these habitats are monitored and reported in the CNDDB. The land cover types in the Plan Area that are considered special-status natural communities are indicated by an asterisk in Table 3.3-1. In addition, depending on specific locations and conditions, some areas of canal, reservoir, urban open water, urban riparian, and urban wetland could be regulated and considered special-status communities.

Table 3.3-1. Communities and Land Cover Types

Community Name	Land Cover Type	Total Acreage in Plan Area A	Valley	Foothills
Grassland		**34,760**	**10,264**	**24,496**
	Annual grassland	21,887	1,565	20,323
	Pasture	12,873	8,699	4,174
Vernal Pool Complex[a]		**45,065**	**44,278**	**788**
	Vernal pool complex–high density*	10,138	10,138	–
	Vernal pool complex–intermediate density*	13,818	13,818	–
	Vernal pool complex–low density*	21,109	20,322	788
Aquatic/Wetland Complex		**3,433**	**1,969**	**1,464**
	Marsh complex*	2,370	1,544	826
	Pond*	1,063	425	638
Riverine/Riparian Complex	Riverine/riparian*	**6,685**	**2,424**	**4,262**
Oak Woodland		**50,870**	**1,763**	**49,107**
	Blue oak woodland*	9,937	966	8,971
	Foothill chaparral*	217	–	217
	Interior live oak woodland*	535	–	535
	Mixed oak woodland*	20,351	442	19,908
	Oak-foothill pine woodland*	11,037	355	8,320
	Oak savanna*	8,674	–	11,037
	Rock outcrop	119	–	119
Valley Oak Woodland	Valley oak woodland*	**1,364**	**184**	**1,180**
Rice Agriculture	Rice	**19,580**	**19,580**	**–**
Field Agriculture		**2,757**	**1,162**	**1,594**
	Alfalfa	176	176	–
	Cropland	2,512	970	1,542
	Eucalyptus	70	17	53

Community Name	Land Cover Type	Total Acreage in Plan Area A	Valley	Foothills
Orchard and Vineyard Agriculture		**2,618**	**1,685**	**933**
	Orchard	2,522	1,685	837
	Vineyard	70	–	96
Managed Open Water		**5,317**	**513**	**4,804**
	Canal	145	145	–
	Reservoir	4,804	–	4,804
	Urban open water	368	368	–
Rural Residential		**18,871**	**4,823**	**14,049**
	Rural residential	15,568	4,434	11,134
	Rural residential forested	3,303	388	2,915
Urban		**18,510**	**12,053**	**6,457**
	Urban and suburban	14,777	9,487	5,289
	Urban golf course	914	434	481
	Urban park	375	36	340
	Urban riparian	104	3	101
	Urban wetland	21	4	17
	Urban woodland	77	6	70
	Barren/Industrial	764	605	158
	Road	1,477	1,477	–

Source: Appendix A: Table 3-13.

* These are considered special-status land cover types, as defined in the discussion above. Note that only certain specific associations mapped as foothill chaparral are listed as sensitive in the CNDDB, and most areas of chaparral would not be considered sensitive.

[a] Vernal pool complex density classes defined in Plan Section 3.3.1.2 as: High Density >5%; Intermediate Density 1–5%; and Low Density <1%

Constituent Habitats

The Plan uses the term *constituent habitat* to describe habitat elements within land cover types that cannot be exhaustively mapped and measured using aerial photography. Constituent habitats are discussed in detail in Section 3.3, *Biological Setting Methodology*, of the Plan and are summarized below from language taken directly from that document.

Constituent habitats include wetlands and riparian vegetation that require actual ground-level access and detailed cartography that is not available uniformly throughout Plan Area A, or the Plan Area as a whole, to properly characterize and quantify. The analysis of these constituent wetland and riparian habitats is based on estimates of their presence in the various land cover types. The constituent habitats identified for this Plan are listed in Table 3.3-2, along with the natural communities with which they are most commonly associated. Note that the constituent habitats may be found in different land cover types across different communities.

Wetland, riverine, and riparian habitat features have regulatory significance and are important for Covered Species. Their occurrence in the Plan Area is usually in small patches or distributed in a mosaic that cannot consistently be mapped using the programmatic land cover type mapping methodology. These features usually occur in association with certain land cover types; therefore they are termed *constituent habitats*. Their presence in Plan Area A was estimated in the Plan by applying a density factor to land cover mapping. More detail on the development of these estimates are provided in Section 3.3.1.3, *Estimating Constituent Habitats,* of the Plan.

Table 3.3-2. Estimated Extent of Constituent Habitats in Plan Area A (acres)

	All Plan Area A	Valley	Foothills
Vernal Pool Complex (VPC) Constituent Habitats			
Vernal Pool	790	789	1
Seasonal Wetland in VPC	845	842	2
Seasonal Swales	602	599	3
Vernal Pool Total	2,237	2,230	6
Aquatic/Wetland Complex Constituent Habitats			
Fresh Emergent Marsh	1,112	633	479
Lacustrine	1,061	507	555
Non-Vernal Pool Seasonal Wetland	677	378	299
Aquatic/Wetland Total	2,850	1,517	1,333
Riverine/Riparian Complex Constituent Habitat			
Riverine	868	565	304
Riparian	4,651	1,454	3,196
Riverine/Riparian Total	5,519	2,019	3,500

Source: Appendix A: Table 3-14.

Grassland

The grassland community in the Plan Area is defined as annual grassland and pasture land cover types. Although vernal pool complex lands are also grasslands, they are treated as a separately defined community to focus on the conservation issues of covered vernal pool species. Figure 3.3-4 shows the distribution of grassland and vernal pool complex in the Plan Area A.

Land Cover Types

Annual Grassland

In western Placer County, annual grasslands occur naturally at the lower elevations below 300 feet asl. Annual grasslands in the Valley portion of the Plan Area are dominated by non-native grasses and forbs, with few trees. Nearly all of the vernal pool complex also functions as annual grassland. Taken together, nearly half of the Valley landscape is in some form of annual grassland. In the Valley, there are still a few remnant examples of native grasslands, often found around the edges of wetlands or moist bottomlands. These are patchy with poorly defined boundaries.

Foothill grasslands comprise mostly open annual grassland–oak woodland/savanna with widely scattered blue oaks (*Quercus douglasii*), interior live oaks (*Quercus wislizeni*), and valley oaks (*Quercus lobata*). Annual grasslands occur in the understory of open mixed oak, blue oak, interior live oak, and valley oak woodlands, in openings in oak–foothill pine woodland and foothill chaparral land cover types. Where tree canopy exceeds an estimated 5%, land cover was mapped as savanna. Nearly all of the oak savanna mapped in the Foothills functions ecologically as annual grassland. Taken together, roughly one-quarter of the Foothills landscape is annual grassland.

Species characteristic of annual grassland include slender wild oat (*Avena fatua*), ripgut brome *(Bromus diandrus*), soft chess (*Bromus hordeaceus*), medusa-head (*Elymus caput-medusae*), and foxtail barley (*Hordeum jubatum*). Red-stemmed filaree (*Erodium cicutarium*) is a dominant forb. Dominant non-native forbs include rose clover (*Trifolium hirtum*), bur clover (*Medicago polymorpha*), little hop clover (*Trifolium dubium*), storksbill (*Erodium botrys*), and dove-foot geranium (*Geranium molle*).

Despite the dominance of introduced species, dry annual grasslands are still home to many native plant species, particularly native bulbs and early- and late-season annual wildflowers, such as California poppy (*Eschscholzia californica*), popcornflower (*Plagiobothrys* spp.), fiddlenecks (*Amsinckia* spp.), brodiaeas (*Brodiaea* spp.), Ithuriel's spear (*Triteleia laxa*), winecup clarkia (*Clarkia purpurea*), johnny-tucks (*Triphysaria eriantha*), common madia (*Madia elegans*), cream cups (*Platystemon californicus*), and goldfields (*Lasthenia* spp.). On poor, rocky soils, both native Foothill bunchgrasses and forbs are more abundant than in the long-grazed open grasslands of the county's lowest elevations. Characteristic grasses here include natives, such as California melic (*Melica californica*), squirreltail (*Elymus elymoides*), one-sided bluegrass (*Poa secunda*), purple needlegrass (*Stipa pulchra*), and blue wildrye (*Elymus glaucus*) as well as non-natives, such as soft chess, hedgehog dogtail (*Cynosurus echinatus*), and ripgut brome.

Annual grasslands provide abundant food and cover for high numbers of rodents and other small mammals. Consequently, several raptors, including red-tailed hawk (*Buteo jamaicensis*), red-shouldered hawk (*Buteo lineatus*), Swainson's hawk (*Buteo swainsoni*), and American kestrel (*Falco sparverius*), thrive in annual grasslands. Other characteristic wildlife species include western yellow-bellied racer (*Coluber constrictor mormon*), California whipsnake (*Masticophis lateralis*

lateralis), gopher snake (*Pituophis catenifer*), western kingbird (*Tyrannus verticalis*), western bluebird (*Sialia mexicana*), western meadowlark (*Sturnella neglecta*), black-tailed jackrabbit (*Lepus californicus*), California ground squirrel (*Spermophilus beecheyi*), Botta's pocket gopher (*Thomomys bottae*), and American badger (*Taxidea taxus*). Exotic and invasive animal species characteristic of annual grasslands in the county include wild turkey (*Meleagris gallopavo*), European starling (*Sturnus vulgaris*), house mouse (*Mus musculus*), black rat (*Rattus rattus*), and wild pig (*Sus scrofa*).

Pasture

The pasture land cover type covers a range of grazing intensity and irrigation practices. Areas mapped as pasture are differentiated from annual grassland and vernal pool complex lands in that they show more extensive terrain modification to accommodate irrigation and from mechanical tilling for planting. Pasture lands are included in the grassland community rather than in the field crop community because merely discontinuing irrigation converts pasture lands into annual grassland.

Irrigated pastures occur throughout western Placer County. In the lower Foothills and Valley they tend to be located on floodplains, are more extensive in size, and are used for intensive cattle rearing. In the Foothills, pastures tend to be small irrigated fields for small-scale livestock rearing, usually associated with rural-residential areas.

Vegetation in irrigated pasture is generally a mixture of perennial grasses and legumes that form a dense ground cover. Native plant species are nearly absent from irrigated pastures because they are unable to compete with the vigorous pasture species and non-native wetland species, such as perennial ryegrass (*Festuca perennis*), fescues (*Festuca* spp.), dallisgrass (*Paspalum dilatatum*), orchard grass (*Dactylis glomerata*), velvet grass (*Holcus lanatus*), Bermuda grass *(Cynodon dactylon*), curly dock (*Rumex crispus*), barnyard grass (*Echinochloa crus-galli*), and white clover (*Trifolium repens*). Himalayan blackberry (*Rubus armeniacus*) is common and invasive in irrigated pastures in western Placer County; other potentially occurring noxious weeds include bull thistle (*Cirsium vulgare*), perennial pepperweed (*Lepidium latifolium*), nimblewell (*Muhlenbergia schreberi*), and Johnson grass (*Sorghum halepense*). Native species in irrigated pastures are generally found only in wetland settings.

Some birds that typically forage in the county's irrigated pastures include great blue heron (*Ardea herodias*), great egret (*Ardea alba*), Canada goose (*Branta canadensis*), American kestrel, California quail (*Callipepla californica*), western kingbird, American crow (*Corvus brachyrhynchos*), western meadowlark, Brewer's blackbird (*Euphagus cyanocephalus*), and red-winged blackbird (*Agelaius phoeniceus*).

Constituent Habitats

Prior to modification, most of the Valley pasture land was annual grasslands and, because of the pervasive underlying hardpan, most of it could have functioned as a vernal pool complex. Some elements of vernal pool constituent habitats are found associated with pasture lands, usually around the edges where irrigation water ponds are present on the remaining hardpan soil substrate. Table 3-10 in Chapter 3 of the Plan lists a low-density occurrence for vernal pool constituent habitats in Valley grasslands (0.3%) and pasture lands (0.4%).

In the Valley and in the Foothills, the grassland community is also associated with small amounts of aquatic/wetland (0.3–0.5%) and riverine/riparian (0.1–0.2%) constituent habitats, as shown in

Tables 3-11 and 3-12 in Chapter 3 of the Plan. The presence of these constituent habitats is a result of flood irrigation on small pastures and where grassland is mapped in the stream system and incorporates portions of riverine waters.

Vernal Pool Complex

Vernal pools are present in seasonally flooded depressions in annual grasslands, and their biological characteristics are determined by a combination of specific climatic, soil, hydrologic, and topographic conditions. Endemic vernal pool species carry out their entire lifecycle in vernal pool wetlands. Because the wetland watershed includes the surrounding upland areas, the pools and grassland together constitute the vernal pool complex. The description of the grassland community above applies to the grassland portion of the vernal pool complex, as well.

Land Cover Types

The vernal pool complex community comprises three vernal pool complex land cover types— high density, intermediate density, and low density—that differ in nominal wetland density as described in more detail below. Vernal pool complex lands at different densities are scattered broadly across the Valley portion of the Plan Area and extend only a short distance into the Foothills (Figure 3.3-4).

Vernal Pool Complex—High Density

Vernal pool complex—high density is a mapping unit that represents the mosaic of vernal pool wetlands, seasonal wetlands, swales, and uplands. This land cover type contains more than 5% vernal pool wetland density. Areas mapped as vernal pool complex—high density are estimated on average to comprise 4.5% vernal pool wetlands, 4.0% seasonal wetlands, and 2.0% seasonal swales, for a total of 10.5% of vernal pool constituent habitats.

Vernal Pool Complex—Intermediate Density

This land cover type includes a suite of vernal pool habitat types. It contains 1–5% wetland density within the vernal pool complex natural community. Areas mapped as vernal pool complex—intermediate density have roughly half of the wetland density as vernal pool complex—high density.

Vernal Pool Complex—Low Density

Th3 vernal pool complex—low density land cover type contains less than 1% wetland density within the vernal pool complex natural community. This land cover type is intended to capture the large amount of Valley annual grasslands and pasture lands that retain small but appreciable vernal pool ecological function. In the Valley, areas mapped as vernal pool complex—low density are most likely, on average, to show 0.2% delineated vernal pools and larger amounts of seasonal wetlands or seasonal swales. In the Foothills, the fringe of grasslands on the extreme western edge adjoining the Valley has topographic conditions that may allow a very low density of vernal pool–type constituent habitats. Of more than 25,000 acres of grassland and pasture mapped in the Foothills, about 3% is considered to be vernal pool complex—low density, with a wetland factor half of that of the Valley.

The vernal pool complex natural community is intermixed with grassland, field agriculture, and rice agriculture. As a generalization, areas mapped as vernal pool complex—high density have the greatest proportion of minimal disturbance and the least proportion of high disturbance. Intermediate- and low-density vernal pool complex land often shows greater amounts of disturbance.

Vernal pools are classified on the basis of physical, geographical, and biological factors. Several types of restrictive soil layers have been described, two of which occur in western Placer County: hardpans and volcanic flows. Hardpans are formed when silica minerals are leached, redeposited, and then cemented lower down the soil profile. They occur on alluvial terraces on the east side of the Central Valley. Northern hardpan vernal pools are most common in the Southeastern Sacramento Valley Vernal Pool Region where they occur in complexes of many small pools and swales among mima mounds on soils of the Pentz-Pardee-Red Bluff, Redding-Corning, and San Joaquin series. Northern volcanic mudflow vernal pools occur on the Exchequer soils that formed on the lahars (mudflows) of the Mehrten Formation. Placer County contains most of the small number of volcanic mudflow vernal pools in the southeastern portion of the Sacramento Valley (Appendix A).

Native plants typical of vernal pools include several species of downingias (*Downingia* spp.), goldfields, popcornflowers, woolly marbles (*Psilocarphus* spp.), buttercups (*Ranunculus* spp.), and clovers (*Trifolium* spp.) as well as common hedgehyssop (*Gratiola ebracteata*), Great Valley button celery (*Eryngium castrense*), common spike-rush (*Eleocharis macrostachya*), mesamints (*Pogogyne* sp.), quillwort (*Isoetes* spp.), purslane speedwell (*Veronica peregrina* ssp*. xalapensis*), and white navarretia (*Navarretia leucocephala*). Non-native species commonly found in vernal pools in western Placer County include perennial ryegrass, small quaking grass (*Briza minor*), soft chess, hawkbit (*Leontodon saxatilis* ssp*. longirostris*), hyssop loosestrife (*Lythrum hyssopifolium*), and cut-leaved geranium (*Geranium dissectum*) (Appendix A).Vernal pools provide habitat for animals that can tolerate the extreme range of conditions that characterize these ecosystems. Many are specialized animals that are able to complete their life cycles in the short period during which pools are wet. These include crustaceans, such as vernal pool fairy shrimp (*Branchinecta lynchi*); clam shrimp (Order: Conchostraca); vernal pool tadpole shrimp (*Lepidurus packardi*); conservancy fairy shrimp (*Branchinecta conservatio*); seed shrimp (Class: Ostracoda), water fleas (*Daphnia* sp.); and other invertebrates, such as beetles (Families: Dytiscidae and Hydrophilidae), water boatmen (Family: Corixidae), and aquatic larvae of damselflies and dragonflies (Order: Odonata).

The aquatic habitat of vernal pools supports amphibians that use the pools for breeding. Western spadefoot (*Spea hammondii*) has been found in vernal pool complexes in the non-participating city of Roseville and may occur in the vernal pool complexes in the Plan Area, though there are no known occurrences to date. Sierran treefrogs (*Pseudacris sierra*) and western toads (*Anaxyrus boreas*) may be common in vernal pool complexes in the Plan Area.

In addition to the wildlife associated with annual grasslands, vernal pool wetlands in vernal pool complexes are important habitat for migratory birds, including sandpipers and herons, as well as waterfowl, and vernal pool complexes are important to the continuity of wetland habitats along the Pacific Flyway. Other birds, such as raptors (hawks, falcons, and kites) and a variety of songbirds, use vernal pool complexes for foraging and as water sources. Burrowing owls may use burrows in mima mounds in the surrounding annual grasslands (Appendix A). Many wildlife species use both the vernal pools and the surrounding annual grassland habitat of the vernal pool complex. For example, many of the typical vernal pool annual plants are pollinated by bee species that nest in the surrounding uplands and forage in annual grasslands when the pools dry out.

Constituent Habitats

Three constituent habitats associated with vernal pool complex may function as vernal pools and may be habitat for covered vernal pool species: vernal pool wetland, seasonal wetland in vernal pool complex, and seasonal swales.

The likely presence of these constituent habitats in an area is estimated by applying the presence factors shown in Table 3-10 in Chapter 3 of the Plan to the land cover types there. The vernal pool complex community is the primary association for vernal pool constituent habitats. However, other communities and land cover types may contain vernal pool complex constituent habitats, including those shown in Table 3-10 in Chapter 3 of the Plan.

Vernal Pool Wetland

Vernal pools are seasonally inundated wetlands found in depressions that have a shallow impervious layer such as a clay pan or indurated hardpan (an aquitard). The aquitard layer perches water and prevents percolation so that water loss from vernal pools occurs only through evaporation and evapotransporation. Vernal pools are inhabited by a suite of specialized plants, such as Vasey's coyote thistle (*Eryngium vaseyi*), slender popcornflower (*Plagiobothrys stipitatus*), Fremont's goldfields (*Lasthenia fremontii*), and downingia (*Downingia* spp.), which are able to tolerate several months of inundation and anaerobic conditions followed by months of hot, dry weather. Vernal pools are sometimes difficult to separate from other types of seasonal wetlands; hydrology and flora are used to make the distinction.

Seasonal Wetland in a Vernal Pool Complex

Seasonal wetland is a general term for seasonally saturated wetlands that are not defined as vernal pools or other specific wetland types. They are often depressional or bermed wetlands that have wetland hydrology lasting until early or mid-spring but become dry before emergent marsh species can become established. Seasonal wetlands often support the same species as wetland swales in addition to generalist species such as hyssop loosestrife (*Lythrum hyssopifolia*), rushes (*Juncus* spp.), and Italian ryegrass. Wetlands defined as seasonal wetlands in a vernal pool complex for the purpose of the Plan are seasonal wetlands that occur within the vernal pool/grassland matrix but do not typically inundate for a long enough period to support typical vernal pool flora. They often consist of wetland features that were historically vernal pools but have been degraded as a result of past activities such as agricultural disking.

Seasonal Swales

Wetland swales are conveyance systems that occur on sloped topography. Water may flow during rainy periods in wetland swales, but not with enough intensity or duration to create the bed-and-bank morphology that defines riverine systems. Wetland swales are usually dominated by species that can occur in either wetlands or uplands, such as Italian ryegrass (*Lolium perenne [Festuca perennis]*) and curly dock (*Rumex crispus*). Upland swales lack extended soil saturation and have an upland flora that is not dominated by plant species dependent on wetlands or typical of vernal pools. Seasonal swales in a vernal pool complex are those that convey water within the vernal pool/grassland matrix.

Aquatic/Wetland Complex

The aquatic/wetland complex community consists of aquatic vegetation and wildlife that is not primarily riverine or riparian and not primarily associated with vernal pools. The complex is defined by the two mapped land cover types, marsh complex and pond (Figure 3.3-5). Within these two land cover types are inclusions of constituent habitats that were not mapped individually. The constituent habitats in marsh complex and pond include fresh emergent wetland, lacustrine, and non-vernal pool seasonal wetland, which are described below.

The aquatic/wetland community provides habitat for amphibians, reptiles, and various bird species, which are discussed below for each land cover type.

Land Cover Types

Marsh Complex

The marsh complex land cover type is a mapping unit that represents the mosaic of wetlands and uplands found around year-round water.

Pond

The pond land cover type is a mapping unit that represents small patches of open water and most closely represents lacustrine ecosystems. Nearly all of the ponds in the Plan Area are artificial impoundments, and therefore, the pond land cover type includes small reservoirs, stock ponds, and off-stream impoundments. The pond land cover type is distinct from the reservoir land cover type, which the Plan includes in the managed open water community. The distinction reflects the marked difference in ecological function and the habitat value of small ponds. Ponds in the Plan Area typically occur on relatively flat land and are shallow, with a perimeter that expands or contracts substantially based on the water depth. This variable fringe of the pond creates conditions that allow the formation of the area mapped as marsh complex land cover.

Constituent Habitats

The key constituent habitats for the aquatic/wetland complex are described below. The likely presence of these constituent habitats in an area was estimated as described in Section 3.3.1.1 of the Plan.

Fresh Emergent Marsh

Fresh emergent marsh is distinguished from deep-water aquatic habitats and wet meadows or grassland habitats by the presence of tall, perennial grass-like plants that are rooted in soils and permanently or seasonally flooded or inundated. They are often associated with small human-made ponds and natural drainage ways that are enhanced by intentional or unintentional releases of irrigation water. Fresh emergent marsh can also occur as a fringe around reservoirs where the slopes are gentle enough to create a rim of shallow water and where water levels do not fluctuate widely; this condition is mapped as the pond land cover type.

Unmaintained roadside and agricultural ditches can also support these ecosystems. Small marshes can also be found along low-gradient reaches of rivers and streams in backwater areas or ponded overflow channels. In the Foothills, flood irrigation often creates small wetlands that form around drainageways or small basins.

In western Placer County, characteristic freshwater marsh species include broadleaf cattail (*Typha latifolia*), common tule (*Schoenoplectus acutus* var. *occidentalis*), common spike-rush, common rush (*Juncus effusus*), Baltic rush (*Juncus balticus*), floating water-primrose (*Ludwigia peploides*), lanceleaf water-plantain (*Alisma lanceolatum*), and water pepper (*Persicaria hydropiperoides*). Goodding's black willow (*Salix gooddingii*) and sandbar willow (*Salix exigua*) are woody plants that tolerate flooding and are occasionally found around the margins of fresh emergent marshes. Most individual occurrences of fresh emergent marsh in the county are less than 1 acre in extent; some larger, restored fresh emergent marshes exist in the western part of Plan Area A, near Sheridan.

Compared to some other terrestrial large-patch ecosystems in western Placer County, fresh emergent marshes support a relatively low number of vertebrate species. This is because most reptiles and small mammals (i.e., most rodents) avoid flooded areas and permanently saturated soils. In contrast, many species, including large numbers of birds, such as ducks, waders (e.g., herons and egrets), shorebirds, and blackbirds (including tricolored blackbird), are drawn to marshes, mudflats, and other wetland habitats (Appendix A).

Characteristic waterbirds that nest in fresh emergent marshes in western Placer County include Canada goose, mallard (*Anas platyrhynchos*), cinnamon teal (*Anas cyanoptera*), gadwall (*Anas strepera*), Virginia rail (*Rallus limicola*), sora (*Porzana carolina*), American coot (*Fulica americana*), common gallinule (*Gallinula galeata*), killdeer (*Charadrius vociferus*), and Wilson's snipe (*Gallinago delicata*). These species are joined by a host of migratory waterfowl in fall and spring, with many remaining in the county throughout the winter and spring. Typical migratory and wintering waterfowl include American wigeon (*Anas americana*), northern shoveler (*Anas clypeata*), northern pintail (*Anas acuta*), green-winged teal (*Anas crecca*), ring-necked duck (*Aythya collaris*), bufflehead (*Bucephala albeola*), common goldeneye (*Bucephala clangula*), and ruddy duck (*Oxyura jamaicensis*) (Appendix A).

Amphibians in these habitats include California newt (*Taricha torosa*), California toad (*Bufo boreas halophilus*), and Sierran treefrog (*Pseudacris sierra).* Western pond turtle (*Emys marmorata*), giant garter snake (*Thamnophis gigas*), valley garter snake (*Thamnophis sirtalis fitchii*), and western aquatic garter snake (*Thamnophis couchii*) are the only reptiles that regularly occur in fresh emergent marshes of western Placer County. The most common mammals in these habitats are a variety of foraging bats, vagrant shrew (*Sorex vagrans*), dusky shrew (*Sorex monticolus*), ornate shrew (*Sorex ornatus*), American beaver (*Castor canadensis*), and muskrat (*Ondatra zibethicus*).

Non–Vernal Pool Seasonal Wetland

For the purposes of this analysis, non–vernal pool seasonal wetlands are defined as isolated wetlands and swales (those not part of a larger complex) that pond water or have saturated soil during the rainy season but that lack endemic vernal pool species. Seasonal wetlands are typically not found in well-defined depressions but occur in a variety of topographic situations, such as shallow basins in annual grassland or along ephemeral drainage ways and swales. They also occur as transitional zones between fresh emergent marsh and annual grassland in small shallow valleys that are gradually exposed as water levels fall during the dry season.

Where seasonal wetlands occur within vernal pool complexes, they form hydrological complexes composed of vernal pools, swales, and seasonal wetlands within an upland grassland matrix. This condition is considered to be part of the vernal pool–type wetland and an attribute of the vernal pool complex community, <u>not</u> the aquatic/wetland complex community.

Seasonal wetlands occur throughout the Plan Area of western Placer County. Individual seasonal wetlands are typically small, and most occur within grazed annual grassland and irrigated pasture ecosystems. Some larger areas occur adjacent to fresh emergent marshes in agricultural settings in the western part of the Plan Area.

Seasonal wetlands support a lower diversity of plant species than adjacent fresh emergent marsh and have a higher proportion of non-native species. Typical plant species characteristic of seasonal wetland ecosystems in western Placer County include Mediterranean barley (*Hordeum marinum* ssp. *gussoneanum*), perennial ryegrass, curly dock, Baltic rush, and hyssop loosestrife. During the summer, seasonal wetlands may support late-season upland plants such as common spikeweed (*Centromadia fitchii*), common tarweed (*Holocarpha virgata*), vinegar weed (*Trichostema lanceolatum*), and turkey-mullein (*Eremocarpus setigerus*).

Similar to fresh emergent marshes, non-vernal pool seasonal wetlands support a relatively low number of vertebrate species compared to many other land cover types in western Placer County. This low number of vertebrate species is because many small mammal species (e.g., most rodents) avoid seasonally flooded areas and saturated soils. In contrast, many species, including large numbers of waterbirds, are drawn to seasonal wetland ecosystems (Appendix A). Characteristic waterbirds that visit seasonal wetlands in western Placer County include snowy egret (*Egretta thula*), black-crowned night-heron (*Nycticorax nycticorax*), white-faced ibis (*Plegadis chihi*), Canada goose, mallard, cinnamon teal, American wigeon, gadwall, killdeer, and Wilson's snipe.

Lacustrine

Lacustrine ecosystems are defined as inland natural ponds and lakes as well as artificial features such as stock ponds or small reservoirs.

Seasonally, reservoirs, irrigation and stock watering ponds, and other artificial water bodies provide important habitat for many wildlife species, including western pond turtle, California red-legged frog (*Rana draytonii*), waterfowl, shorebirds, and other migratory waterbirds (Appendix A). Lacustrine ecosystems in western Placer County are used as wintering grounds or temporary stopovers for resting and foraging waterfowl during migration. Typical waterfowl species include Canada goose, snow goose (*Chen caerulescens*), white-fronted goose (*Anser albifrons*), mallard, northern pintail, American wigeon, gadwall, cinnamon teal, green-winged teal, canvasback (*Aythya valisineria*), and ruddy duck. Other waterbirds that frequent lacustrine ecosystems include great blue heron, green heron (*Butorides virescens*), great egret, snowy egret, pied-billed grebe (*Podilymbus podiceps*), western grebe (*Aechmophorus occidentalis*), common loon (*Gavia immer*), and American white pelican (*Pelecanus erythrorhynchos*). Shorebirds (such as spotted sandpiper (*Actitis macularia*), western sandpiper (*Calidris mauri*), least sandpiper (*Calidris minutilla*), killdeer, and Wilson's phalarope (*Phalaropus tricolor*) and swallows—such as northern rough-winged swallow (*Stelgidopteryx serripennis*), tree swallow (*Tachycineta bicolor*), violet-green swallow (*Tachycineta thalassina*), and cliff swallow (*Petrochelidon pyrrhonota*)—are also common visitors to lacustrine ecosystems.

Riverine/Riparian Complex

Riverine and associated riparian ecosystems, including riparian habitat, are present in a diverse mosaic around the streams and rivers in the Plan Area (Figure 3.3-5). Other closely associated land cover types and constituent habitats are interspersed within the riverine/riparian complex: grasslands, valley oak woodland, fresh emergent wetland, off-channel wetlands (not mapped as a

land cover type, but included in the riverine type), and seasonal wetlands. This mosaic is mapped as a single riverine/riparian complex land cover type.

The riverine/riparian complex community has strong associations with the riverine and riparian habitat types. Therefore, the discussion of this community appears below under these constituent habitats.

The riverine aquatic habitat nominally represents the entire stream ecosystem for aquatic species including the salmonid fish. Because of the difficulty in mapping the narrow stream course itself, riverine/riparian land cover type appears discontinuously, which inadequately represents the continuity of the stream environment. For this reason, riverine habitat is also represented by the linear measure of streams.

Chinook salmon and Central Valley steelhead use 122 miles, or roughly 60%, of all major streams in western Placer County. They occur in the Bear River and the Coon Creek, Auburn Ravine, and Dry Creek stream systems.

Land Cover Types/Constituent Habitats

Due to the small patch size of some riparian habitats and linear nature of the streams, these biological resources were mapped as a complex and identified as constituent habitats in the Plan.

Riverine

Riverine systems occurring in western Placer County include perennial, intermittent, and ephemeral streams. The larger streams in the Plan Area and vicinity, such as the Bear River and American River, are perennial today and always have been perennial. Intermittent streams receive some input from groundwater discharge in addition to precipitation runoff and seasonal flow. They typically do not flow in the late summer and fall. Some streams in the Plan Area were historically intermittent but have been changed to perennial because of inter-basin irrigation water transfers, urban runoff, treated effluent discharges, and inputs of water destined for downstream uses (e.g., Pleasant Grove Creek, Markham Ravine). Ephemeral streams receive no input from groundwater and flow only during and following storm events in response to precipitation runoff. The flow regime in a stream profoundly affects its ecology, in particular its ability to support fish and other aquatic organisms.

Invertebrates that might be found in the county's rivers and creeks include mayflies (Order: Ephemeroptera), alderflies (Order: Megaloptera), stoneflies (Order: Plecoptera), dragonflies (Order: Odonata), damselflies (Order: Odonata), water striders (Family: Gerridae), and caddisflies (Family: Trichoptera). These provide food for fish and other aquatic wildlife. Emerging aquatic insects are a major food source for many bird and bat species that forage over open waters.

Fish-eating birds, such as ospreys (*Pandion haliaetus*) and bald eagles (*Haliaeetus leucocephalus*), forage for fish near the surface of pools and shallow waters along the Bear River. Belted kingfishers (*Megaceryle alcyon*), double-crested cormorants (*Phalacrocorax auritus*), and common mergansers (*Mergus merganser*) also forage for fish in streams and reservoirs. Many amphibians and reptiles depend on riverine ecosystems; these include California newt, western toad, foothill yellow-legged frog, coast garter snake (*Thamnophis elegans terrestris*), western aquatic garter snake, and western pond turtle.

Characteristic mammals in riverine ecosystems include several bat species, northern river otter (*Lontra canadensis*), American mink (*Neovison vison*), muskrat, and American beaver.

Riverine ecosystems in western Placer County support a diverse fish fauna despite their history of disturbance. The dominant native fish in cold, high-gradient, high-elevation streams are rainbow trout (*Oncorhynchus mykiss*), riffle sculpin (*Cottus gulosus*), Sacramento sucker (*Catostomus occidentalis*), speckled dace (*Rhinichthys osculus*), and California roach (*Hesperoleucus symmetricus*). In western Placer County, the upstream reaches and tributaries of the Bear River, North Fork American River, Auburn Ravine, Doty Ravine, and Upper Coon Creek support these same fish species.

The dominant native fish species in the small, warm tributaries of larger streams are Sacramento pikeminnow (*Ptychocheilus grandis*), hardhead (*Mylopharodon conocephalus*) and Sacramento sucker. California roach are also present in streams that are usually intermittent in summer, with constant flow during winter and spring. Summer water temperatures in isolated pools may exceed 86ºF. California roach is the main permanent-resident native fish in these streams. The non-native green sunfish (*Lepomis cyanellus*) may displace California roach in some areas. In western Placer County, streams of this type may include tributaries of the Bear River (upstream of Camp Far West Reservoir), Pleasant Grove Creek, Coon Creek, Doty Ravine, Auburn Ravine, Antelope Creek, Linda Creek, Secret Ravine, and Miners Ravine, as well as intermittent reaches of Doty Ravine, Secret Ravine, and Miners Ravine.

Low- to mid-elevation streams with deep rock pools and broad, shallow riffles, clear water, high dissolved oxygen levels, low conductivity, and moderate summer water temperatures of 66ºF to 72ºF support Sacramento pikeminnow and Sacramento sucker, which are generally the most abundant fishes, along with hardhead in cooler reaches. Other native fishes may include speckled dace, California roach, riffle sculpin, and rainbow trout; downstream of permanent barriers, anadromous species such as Central Valley steelhead, Central Valley fall-run Chinook salmon, and Pacific lamprey (*Entosphenus tridentata*) are also known to occur.

Fall-run Chinook salmon adults enter freshwater in the fall and spawn in through the fall and into early winter, and juveniles leave the streams in the spring. Steelhead and rainbow trout may occupy the cool upper reaches year-round. Non-native species such as green sunfish, smallmouth (*Micropterus dolomieu*) and largemouth bass (*Micropterus salmoides*), carp (*Cyprinus carpio*), and black bullhead (*Ameiurus melas*) may dominate the fish community, especially in the lower reaches near the Valley floor. In western Placer County, Sacramento pikeminnow, hardhead, and Sacramento sucker streams include the lower reaches of the North Fork of the American River above Folsom Reservoir, the Bear River upstream and downstream from Camp Far West Reservoir, Coon Creek, Doty Ravine, Auburn Ravine, Antelope Creek, Secret Ravine, Miners Ravine, and Dry Creek. Markham Ravine, Pleasant Grove Creek, and Curry Creek may also support these species. Steelhead trout, Sacramento sucker, and pikeminnow have been found to generally be the dominant species in Auburn Ravine. Sacramento sucker and pikeminnow were dominant species in Coon Creek, but very few steelhead trout were found. Nearly 10% of the total catch on Auburn Ravine was non-native fishes during winter 2004 and spring 2005 sampling events. Coon Creek had a much larger proportion of non-native species; nearly 20% of the total catch was non-native fish in winter of 2004 and more than 30% was non-native fish during spring and summer sampling efforts in 2005 (Appendix A). This prevalence of non-native species is most likely due to the higher temperatures and lower flows found in Coon Creek.

In the low-gradient warm waterways on the Valley floor, native resident fishes include Sacramento pikeminnow, Sacramento sucker, and hitch (*Lavinia exilicauda*). Anadromous species, including fall-run Chinook salmon and steelhead, pass through these reaches to spawning areas upstream. Non-native species, including largemouth bass, black crappie (*Pomoxis nigromaculatus*), white crappie (*Pomoxis annularis*), black bullhead, red shiner (*Cyprinella lutrensis*), threadfin shad (*Dorosoma petenense*), and carp, dominate the fish community. Streams of this type include the lower reaches of the Bear River upstream from the confluence with the Feather River, the Cross Canal, and the lower reaches of Dry Creek.

Riparian

These ecosystems are widely distributed in western Placer County. Riparian constituent habitat includes both the narrower definition of the CWHR class valley foothill riparian habitat as stands of deciduous trees near perennial streams and the broader definition of riparian vegetation: herbs, forbs, and shrubs occurring in the riparian corridor without a woodland overstory. These ecosystems are dependent on surface and subsurface water sources (e.g., groundwater) in streams and floodplains. Riparian ecosystems are often characterized by highly variable successional stages of vegetation that are influenced by frequent disturbances associated with flooding, droughts, and grazing.

In western Placer County, riparian habitat of varying types occurs along most perennial and intermittent streams. The most significant stands occur on the American and Bear River corridors and along Coon Creek, lower Auburn Ravine, and lower Dry Creek. Significant stands are generally restricted to low-gradient depositional reaches with some floodplain development. Along most other creeks in western Placer County, this ecosystem occurs as narrow and generally discontinuous bands of trees, rarely occurs on intermittent streams, and never occurs on ephemeral streams that flow only during storm events. On high-energy, bedrock-constrained river systems, the riparian corridors are patchy and quite narrow, limited laterally by steep side slopes, and usually not more than one tree canopy wide. Willow scrub is generally persistent but in an early successional stage that is eventually over-topped by valley oak, cottonwood, or alder in mature riparian habitat (Appendix A).

Riparian habitat is dominated by willows (*Salix* spp.) and Fremont cottonwood (*Populus fremontii*) or white alder (*Alnus rhombifolia*). In drier settings, riparian habitat can be dominated by stands of valley oak. Interior live oak can be an important associated species in some riparian habitat ecosystems. Two or more age classes may be present in valley oak, Fremont cottonwood, or mixed riparian forests. Age classes and structural diversity are reduced in riparian forests that are heavily grazed by livestock, affected by development adjacent to the stream, or dominated by noxious weeds such as Himalayan blackberry, red sesbania (*Sesbania punicea*), tree-of-heaven (*Ailanthus altissima)*, or giant reed (*Arundo donax*).

Early successional stages of riparian habitat are often dominated by sparse or dense stands of herbs and forbs such as willowherb (*Epilobium ciliatum* ssp. *ciliatum*), tall flatsedge (*Cyperus eragrostis*), torrent sedge (*Carex nudata*), horsetail (*Equisetum* spp.), and common rush. Common shrubs include mulefat (*Baccharis salicifolia*) and low-growing willows.

Species composition in a riparian corridor is determined largely by the depth of the summer water table and the frequency of flooding. On frequently flooded low terraces at or near the active channel, common riparian species in western Placer County include sandbar willow, water smartweed

(*Persicaria amphibium*), willowherb, tall flatsedge, torrent sedge, horsetail, common rush, occasional white alder, and, at the lowest elevations, mulefat.

Higher floodplain surfaces and terraces may support more diverse riparian habitat. The tall, dense canopies of mature valley oak and Fremont cottonwood riparian forest in the Central Valley and Sierra Nevada foothills typically have a subcanopy tree layer of white alder, Oregon ash (*Fraxinus latifolia*), several species of willow, and California black walnut (*Juglans californica*). Lianas of wild grape (*Vitis vinifera*) up to 50 feet high further contribute to the habitat values (Appendix A). White alder is a common sub-canopy component of mixed riparian forests of western Placer County, but at higher elevations, it frequently occurs in pure stands. Where interior live oaks are dominant, common understory species include poison-oak (*Toxicodendron diversilobum*), California buckeye (*Aesculus californica*), hoary coffeeberry (*Frangula californica* ssp. *tomentella*), blue elderberry (*Sambucus nigra* ssp. *caerulea*), and coyote brush (*Baccharis pilaris*). Two non-native cottonwood species, silver poplar (*Populus alba*) and Lombard poplar (*Populus nigra*), can be abundant in riparian habitats in urbanized stream reaches and near old town or mining sites.

Common shrubs associated with multilayered riparian habitat include the noxious weeds and Himalayan blackberry as well as native species such as snowberry (*Symphoricarpos* spp.), wild rose (*Rosa* spp.), blue elderberry, poison-oak, spice bush (*Calycanthus occidentalis*), western ninebark (*Physocarpus capitatus*), California blackberry (*Rubus ursinus*), and shrubby willows.

Characteristic forbs and grasses include Douglas's mugwort (*Artemisia douglasiana*), Santa Barbara sedge (*Carex barbarae*), clustered field sedge (*Carex praegracilis*), blue wildrye, deer grass (*Muhlenbergia rigens*), common yarrow (*Achillea millefolium*), bracken fern (*Pteridium aquilinum*), and stinging nettle (*Urtica dioica*) as well as weedy non-native species such as common verbena (*Verbena lasiostachys*), velvet grass, Bermuda grass, and pennyroyal (*Mentha pulegium*). The herbaceous layer of riparian habitat is often sparse due to a well-developed and sometimes diverse shrub layer, often containing quantities of downed wood and debris from previous flood events. In areas where the shrub layer has been removed or grazed, these ecosystems may have a grassy understory of native and non-native grasses, sedges (*Carex* spp.), rushes (*Juncus* spp.), and forbs.

Birds are found in particularly high diversity and numbers in riparian habitats of western Placer County. Characteristic breeding birds include belted kingfisher, downy woodpecker (*Picoides pubescens*), black phoebe (*Sayornis nigricans*), warbling vireo (*Vireo gilvus*), western scrub-jay (*Aphelocoma californica*), bushtit (*Psaltriparus minimus*), Bewick's wren (*Thryomanes bewickii*), house wren (*Troglodytes aedon*), American robin (*Turdus migratorius*), orange-crowned warbler (*Oreothlypis celata*), yellow-breasted chat (*Icteria virens*), black-headed grosbeak (*Pheucticus melanocephalus)*, lazuli bunting (*Passerina amoena*), spotted towhee (*Pipilo maculatus*), song sparrow (*Melospiza melodia*), house finch (*Haemorhous mexicanus*), and lesser goldfinch (*Spinus psaltria*). Riparian areas are also attractive to migratory species, including a variety of flycatchers, vireos, warblers, tanagers, and grosbeaks.

Most amphibians, reptiles, and mammals use riparian corridors for cover, shade, and as a source of water. Amphibians and reptiles in riparian habitats include Ensatina (*Ensatina eschscholtzii*), California slender salamander (*Batrachoseps attenuatus*), Sierran treefrog, California toad (*Anaxyrus boreas halophilus*), western yellow-bellied racer, common terrestrial garter snake, California whipsnake, Pacific gopher snake (*Pituophis catenifer catenifer*), northern Pacific rattlesnake (*Crotalus oreganus oreganus*), Skilton's skink (*Plestiodon skiltonianus skiltonianus*), California alligator lizard (*Elgaria multicarinata multicarinata*), and western fence lizard (*Sceloporus*

occidentalis). Bats frequently forage for insects over riparian areas in river canyons, and many individuals may roost in riparian trees. Some bat species may also use abandoned mine shafts and tunnels as roosts. Riparian habitats are especially important for migratory mule deer (*Odocoileus hemionus*) (Appendix A).

Oak Woodland

The oak woodland community occurs mainly in the Foothills and comprises diverse dominant tree species, which are represented by five woodland land cover types (Figure 3.3-6). Two non-woodland land cover types that have minor extent and are associated with woodland geographically are mapped with the oak woodland community. These land cover types are as follows:

- Blue oak woodland
- Interior live oak woodland
- Mixed oak woodland
- Oak-foothill pine woodland
- Oak savanna
- Foothill chaparral
- Rock outcrop

The mosaic of communities across the landscape creates linkages between the oak woodland and vegetation types that are not dominated by oaks, such as annual grassland, riparian habitat associated with perennial and intermittent streams and, at the eastern portion of Plan Area A, conifer forests. As a result, many of the wildlife species associated with these other vegetation types utilize oak woodlands at least in part to meet their habitat requirements.

Land Cover Types

Blue Oak Woodland

Oak woodlands dominated by blue oak were mapped as blue oak woodland when they had greater than 30% canopy-cover, were not associated with perennial streams, had less than 10% canopy cover of foothill pine (*Pinus sabiniana*), and could be distinguished by aerial photograph interpretation or field assessments. Blue oak woodland is the dominant interior foothill woodland, forming an almost continuous belt around the Central Valley. CDFW considers blue oak woodland a sensitive biotic community. Blue oak woodland dominates the lower elevations of western Placer County. In Plan Area A, it occurs at elevations of 90–1,600 feet. Above elevations of approximately 1,500 feet in Placer County, blue oak woodland occurs mainly on gently sloping, well-drained, nutrient-poor dry sites where trees grow slowly. On nutrient-poor soils, blue oaks of 8 inches in diameter may be up to 100 years old. Blue oak woodland intergrades with annual grassland at lower elevations and with oak-foothill pine woodland, foothill chaparral, or ponderosa pine forest at higher elevations (Appendix A).

In blue oak woodlands, blue oak generally dominates the tree layer, often in association with widely scattered emergent foothill pines. On some soils, blue oak and interior live oak occurs as co-dominants. The shrub layer in blue oak woodland is generally sparse, except for scattered poison-oak, hoary coffeeberry, buckbrush (*Ceanothus cuneatus*), California buckeye, and whiteleaf

manzanita (*Arctostaphylos viscida*) that generally occur only on rock outcrops or poor soils where trees are often very small. Dominant species in the understory include non-native grasses such as wild oat, soft chess, ripgut brome, foxtail barley, hedgehog dogtail, and rattail fescue (*Festuca myuros*), and forbs such as rose clover, hedge parsley (*Torilis arvensis*), and hairy vetch (*Vicia villosa*). Common noxious weeds include yellow star-thistle, Italian thistle (*Carduus pycnocephalus*), and medusa-head as well as many non-native annual grasses. Characteristic native species include California poppy, brodiaea, fiddlenecks, popcornflowers, winecup clarkia, soap plant (*Chlorogalum pomeridianum*), Ithuriel's spear, and goldfields. The understory of blue oak woodlands in western Placer County can support a wide diversity of colorful native perennial and annual wildflowers.

Amphibians and reptiles in blue oak woodland are mostly those that are associated with open annual grassland ecosystems: California slender salamander, western toad, western yellow-bellied racer, common garter snake (*Thamnophis* sp.), California whipsnake, California king snake (*Lampropeltis californiae*), gopher snake, Gilbert's skink (*Plestiodon gilberti*), Skilton's skink, southern alligator lizard, and western fence lizard. Oak woodland savanna and grassland components of this community attracts bird species such as American kestrel, lark sparrow (*Chondestes grammacus*), western meadowlark, and Bullock's oriole (*Icterus bullockii*), while oaks provide food for various songbirds and nesting sites for cavity nesters, such as woodpeckers, oak titmouse (*Baeolophus inornatus*), ash-throated flycatcher (*Myiarchus cinerascens*), house wren, Bewick's wren, and violet-green swallow. Mammals typical of these ecosystems include mule deer, California ground squirrel, and western gray squirrel (*Sciurus griseus*).

Interior Live Oak Woodland

Oak woodlands dominated by interior live oak were mapped as interior live oak woodland when they had greater than 30% canopy cover, were not associated with perennial streams, had less than 10% canopy cover of foothill pine, and could be distinguished by aerial photograph interpretation or field assessments.

Interior live oak woodland is widespread throughout the foothill region surrounding the Central Valley, from Shasta County south to the Kern River. However, interior live oak woodland has a restricted distribution in western Placer County, occurring at elevations of about 300–600 feet. Interior live oak woodland typically occurs on north-facing slopes and in drainages and stream canyons. Steep terrain and limited forage often reduces the potential for grazing in live oak woodland. In the Granite Bay and Folsom Lake area, interior live oaks are common on flat terrain. At elevations above approximately 1,500 feet in Placer County, they occur in a wider variety of settings, from steep, rocky canyon slopes to gentle slopes or ridges on nutrient-poor soils. The vegetation type is considered to be resilient to wildfire because of its ability to stump-sprout after fire. Live oak will often replace blue oak after catastrophic fire because it is a more successful sprouter, and interior live oak woodland is typically interspersed with blue oak woodland (Appendix A).

Dense shade and a thick, persistent layer of leaf litter directly under the oak canopy typically precludes development of an herbaceous layer. Few weedy annual grasses are present, and the shrub layer is often sparse or absent. Where light permits development of an herbaceous layer, dominant species in the understory of interior live oak woodland include non-native species that are somewhat shade tolerant, such as hedgehog dogtail, hedge parsley, chickweed (*Cerastium* spp.), and the noxious weed Italian thistle. Common native species include blue wildrye, miner's lettuce (*Claytonia perfoliata*), foothill sanicle (*Sanicula crassicaulis*), hairy wood rush (*Luzula comosa*), and western buttercup (*Ranunculus occidentalis*). At woodland edges or in canopy openings, such as rock

outcrops, common shrubs include hoary coffeeberry, whiteleaf manzanita, poison-oak, toyon (*Heteromeles arbutifolia*), and pink honeysuckle (*Lonicera hispidula*). In these canopy openings, common non-native herbaceous associates include slender wild oat, yellow star-thistle, and ripgut brome, in addition to those mentioned above. Native forbs and bunchgrasses are best represented on poor, rocky soils and include white globe lily (*Calochortus albus*), twining snakelily (*Dichelostemma volubile*), brodiaeas, many-flowered brodiaea (*Dichelostemma multiflorum*), soap plant, California melic, one-sided bluegrass (*Poa secunda*), purple needlegrass, common madia, and goldback fern (*Pentagramma triangularis*).

Interior live oak woodland often supports many of the wildlife species associated with foothill chaparral because the two land cover types are often intermixed on the same hillsides. The primary distinction between the two habitats is the presence, in interior live oak woodland, of larger trees, which offer a more complex structural framework and cavities for nesting by larger birds such as red-tailed hawk and great horned owl (*Bubo virginianus*).

Mixed Oak Woodland

In this land cover type, canopy cover exceeded 30%, there was less than 10% canopy cover of foothill pine, and the woodlands were not associated with perennial streams. There was no single clearly dominant oak species that could be discerned through aerial photograph interpretation. The principal oak species present in mixed oak woodland is blue oak. In mixed oak woodland, blue oak occurs in association with a variety of other trees, including interior live oak, canyon live oak (*Quercus chrysolepis*), Pacific madrone (*Arbutus menziesii*), tanoak (*Notholithocarpus densiflorus*), big-leaf maple, and foothill pine.

Mixed oak woodland occurs throughout the foothills of the Sierra Nevada and Coast Ranges and is widespread in western Placer County, occurring at elevations of about 70–1,600 feet.

Oak-Foothill Pine Woodland

Oak-foothill pine woodland is distinguished from other oak woodland types by having a component of foothill pine that exceeds 10% of the total canopy cover (Appendix A).

In Plan Area A, oak-foothill pine woodland occurs at elevations of about 190–1,600 feet. At the lowest elevations, oak-foothill pine woodland intergrades with annual grassland and oak woodland savanna. At mid to high elevations, it intergrades with blue oak woodland. At higher elevations, oak-foothill pine woodland merges with foothill chaparral or ponderosa pine forest. On gentle, grassy slopes at lower elevations in the county, oak-foothill pine woodlands occur as open park-like stands that are usually dominated by scattered blue oak, with foothill pine occurring sparsely on the more shallow and rocky soils (Appendix A). At higher elevations, interior live oak replaces blue oak, especially on steep, rocky soils on north-facing slopes. At these higher elevations, and in river canyons, foothill pine becomes more abundant.

Oak-foothill pine woodland usually has an understory of shrubs and an herbaceous layer dominated by non-native annual grasses. Where the woodland is a dense mix of foothill pine, interior live oak, blue oak, and black oak, the shrub layer is more developed and the herbaceous layer sparser. In western Placer County, common shrubs in such habitats include whiteleaf manzanita, buckbrush, deer brush (*Ceanothus integerrimus*), poison-oak, hoary coffeeberry, bush penstemon (*Keckiella* spp.), silver bush lupine (*Lupinus albifrons*), pink honeysuckle, chaparral honeysuckle (*Lonicera interrupta*), California buckeye, and western redbud (*Cercis occidentalis*). Native perennial

bunchgrasses such as California melic, one-sided bluegrass, blue wildrye, and purple needlegrass are usually present in canopy openings. Shade-tolerant forbs and grasses are often sparse in the shade of the oaks; these species include miner's lettuce, western buttercup, foothill sanicle, goldback fern, and non-native hedgehog dogtail and hedge parsley. Native forbs are usually sparse and best represented on rock outcrops. The shrub and herbaceous layers of open oak-foothill pine woodland at low elevations in western Placer County are characterized by foothill chaparral species, including shrubby California buckeye, whiteleaf manzanita, buckbrush, toyon, hoary coffeeberry, and poison-oak. Dominant species in the herbaceous layer include non-native wild oat, slender wild oat, ripgut brome, and rose clover. Widely scattered native forbs include brodiaeas, Ithuriel's spear, fiddlenecks, and California poppy. Noxious weeds are most common along road edges and other disturbed or ruderal areas. The most frequent noxious weed and invasive non-native species include yellow star-thistle, Italian thistle, medusa-head, spring vetch (*Vicia sativa*), black mustard (*Brassica nigra*), and Klamath weed (*Hypericum perforatum*).

In oak-foothill pine woodlands, grass seeds, fruits of various shrubs, oak acorns, and foothill pine seeds all provide nutritious food sources for a wide variety of rodents, squirrels, larger mammals, and granivorous birds. Western scrub-jays, acorn woodpeckers (*Melanerpes formicivorus*), western gray squirrels, and other acorn specialists are common in these mixed woodlands. Newly emerged oak leaves in the spring support an abundance of insects that attract large numbers of migrating and nesting flycatchers, vireos, warblers, and other insectivorous birds. In areas where shrubs are present, birds such as spotted towhee, California towhee (*Pipilo crissalis*), white-crowned sparrow (*Zonotrichia leucophrys*), golden-crowned sparrow (*Zonotrichia atricapilla*) (winter only), wrentit (*Chamaea fasciata*), and blue-gray gnatcatcher (*Polioptila caerulea*) may occur. Characteristic amphibians and reptiles include California slender salamander, western toad, western yellow-bellied racer, common garter snake, California whipsnake, gopher snake, western rattlesnake (*Crotalis viridis*), Skilton's and Gilbert's skinks, southern alligator lizard, and western fence lizard.

Oak Savanna

Oak woodlands with between 5 and 30% canopy cover were mapped as oak woodland savanna. There are two types of oak woodland savanna in western Placer County. On upland hillsides and broad ridges, the dominant oak species is blue oak. Associated trees and shrubs include California buckeye, toyon, and poison-oak. This blue oak–dominated savanna commonly occurs within a diverse mosaic composed of other oak woodlands, riparian habitats, and annual grassland land cover types. On valley floodplains and terraces, oak woodland savanna is dominated by valley oak. In both types, community structure is characterized by limited shrub cover and an understory composed of annual grasses and forbs.

Foothill Chaparral

Foothill chaparral ecosystems in western Placer County are characterized by high topographic and geologic diversity. For the Plan Area, foothill chaparral is defined as shrub-dominated habitat with less than 10% cover of trees. Widely scattered emergent pines or oaks are common but generally represent less than 10% of the overall cover. Foothill chaparral occurs sparsely, intermixed with the various Foothills woodland land cover types, and is included as a component of the overall oak woodland community.

Foothill chaparral ecosystems include successional habitats in mixed oak woodland or lower-elevation ponderosa pine forest as well as persistent chaparrals on poor soils. The largest stands of foothill chaparral in western Placer County are on the slopes of the American River canyon and

north and east of Auburn, east of Plan Area A and partly in Plan Area B4, the PCWA operations and maintenance facility. Only about 217 acres of foothill chaparral are mapped in Plan Area A, at elevations of about 460–1,500 feet; they are most common between mixed oak woodland and ponderosa pine forest.

Foothill chaparral often occurs in settings that are too hot, dry, rocky, and steep to support tree-dominated habitats (Appendix A). It generally occurs on south-facing slopes, transitioning to interior live oak woodland or ponderosa pine forest on north-facing slopes.

Whiteleaf manzanita, buckbrush, and shrubby interior live oaks are the dominant species in foothill chaparral ecosystems of western Placer County. Foothill chaparral ecosystems in western Placer County may exhibit a wide diversity of native shrubs, including hoary coffeeberry, western redbud, birchleaf mountain mahogany (*Cercocarpus betuloides*), chamise (*Adenostoma fasciculatum*), Lemmon's ceanothus (*Ceanothus lemmonii*), Sierra plum (*Prunus subcordata*), yerba santa (*Eriodictyon californicum*), Fremont silk-tassel (*Garrya fremontii*), service berry (*Amelanchier* spp.), deer brush, Oregon white oak (*Quercus garryana*), shrubby interior live oak, chaparral honeysuckle, chaparral clematis (*Clematis lasiantha*), and poison-oak.

Many animal species frequent foothill chaparral ecosystems because they provide abundant food supplies, shelter, and nesting sites; some species can be found in their highest abundance in these communities. Approximately 120 vertebrate species—53 breeding species and 67 visitors—occur in these ecosystems in the Plan Area.

Dusky-footed woodrats (*Neotoma fuscipes*) and deer mice (*Peromyscus maniculatus*), both very common in foothill chaparral, provide abundant food for snakes and carnivorous mammals. A number of other mammals occupy these dense thickets where they can avoid human disturbance. Mountain lion (*Felis concolor)*, black bear (*Ursus americanus)*, coyote (*Canis latrans*), gray fox (*Urocyon cinereoargenteus*), and ring-tailed cat (*Bassariscus astutus*) are among the larger mammals that frequent these habitats. Other common mammals include western gray squirrel, California ground squirrel, and brush rabbit (*Sylvilagus bachmani*). Gopher snake, California whipsnake, western rattlesnake, and California kingsnake (*Lampropeltis getulus*) are commonly found in foothill chaparral ecosystems, along with smaller snakes such as western yellow-bellied racer, ringneck snake (*Diadophis* spp.) and sharp-tailed snake (*Contia tenuis*). Skilton's skink, Gilbert's skink, southern alligator lizard, and western fence lizard are also common to abundant in these communities. The most common amphibian is California slender salamander, which can be readily found during the rainy season but retreats far underground in summer.

Numerous bird species either nest in foothill chaparral ecosystems or use them seasonally. Common breeding species include Anna's hummingbird (*Calypte anna*), western scrub-jay, blue-gray gnatcatcher, wrentit, spotted towhee, California towhee, and lazuli bunting. Birds can be particularly abundant in foothill chaparral in winter, perhaps because the ecosystem lies below the snow zone and because many native shrubs (e.g., toyon) produce fruits that attract species such as American robin, cedar waxwing (*Bombycilla cedrorum*), Townsend's solitaire (*Myadestes townsendi*), and hermit thrush (*Catharus guttatus*). Ruby-crowned kinglet (*Regulus calendula*) and Hutton's vireo (*Vireo huttoni*) are typical wintering and resident insectivorous birds that forage primarily in evergreen foliage.

Rock Outcrop

Natural barren areas comprise features such as rock outcrops and cliffs. In all cases, barren rock or soil dominates the ground layer, and tree and shrub cover is typically sparse or absent. Pockets of foothill chaparral and annual grassland may be present within natural barren areas. Rock outcrop is included as a component of the overall oak woodland community.

Shrubs range from 1 to 6 feet in height, and dominant species usually include chamise, whiteleaf manzanita, buckbrush, and shrubby interior live oak. Small, scattered stands of conifer forest within barren areas are dominated by foothill pine and incense cedar.

Despite their steep gradients and lack of vegetation, cliffs and rock outcrops are surprisingly rich in wildlife values. Various birds and mammals find safety and breeding sites within rocky crevices. Typical rock and cliff birds include white-throated swift (*Aeronautes saxatalis*), canyon wren (*Catherpes mexicanus*), rock wren (*Salpinctes obsoletus*), common raven (*Corvus corax*) (nesting), and an assortment of nesting raptors. Various snakes and lizards, including western fence lizard, western sagebrush lizard (*Sceloporus graciosus graciosus*), and western rattlesnake, favor rocky cliffs and outcrops. Most amphibians in the county avoid dry, barren habitats.

Constituent Habitats

The mapping methodology conducted for the land cover types that constitute the oak woodland community excludes potential riverine and wetland. Accordingly, there are no appreciable constituent habitats associated with this community. Some oak savanna may contain 0.2% riverine habitat where small, narrow streams are present but not associated with riparian tree canopy.

Valley Oak Woodland

Because of its conservation importance, valley oak woodland is treated as a separate community, comprising one land cover type (Figure 3.3-6).

Land Cover Type

Woodlands dominated by valley oak were mapped as valley oak woodland when they had greater than 30% canopy cover, were not associated with perennial streams, and could be distinguished by aerial photograph interpretation or field assessments.

In valley oak woodlands, large and broad-crowned valley oak trees occur in stands and blend into riparian habitats of valley oak or mixed tree species along stream courses and on active floodplains. The shrub layer, if present, contains bird-dispersed native species such as poison-oak, hoary coffeeberry, and toyon. Himalayan blackberry, a noxious weed species, may be common. The understory is often grazed and consists of a thick carpet of non-native annual grasses and forbs. Occasional native forbs and grasses found in the understory of valley oak woodlands in western Placer County include blue wildrye, western buttercup, and popcornflower.

Amphibians and reptiles in valley oak woodland are mostly those of open annual grassland ecosystems: California slender salamander, western toad, western yellow-bellied racer, common garter snake, California whipsnake, gopher snake, Skilton's and Gilbert's skinks, southern alligator lizard, and western fence lizard. Various bird species use valley oak woodlands, and are similar to those listed for blue oak woodland.

Constituent Habitats

In many places, valley oak woodland could be mapped as riparian because it is associated with the stream system. In the Plan, valley oak woodland and riparian habitat are treated essentially the same for mitigation; therefore, the mapping distinction is immaterial. The stream system association results in a small amount (0.2%) of riverine habitat present in areas that have been mapped as valley oak woodland, as shown in Table 3-12 in Chapter 3 of the Plan.

Rice Agriculture

The rice agriculture community is represented solely by the rice land cover type. Rice is considered at the community level in the Plan because of its large extent in the Valley and its relationship to historic vernal pool complex lands and potential vernal pool restoration (Figure 3.3-7).

Land Cover Type

All land in rice production in Plan Area A is in the Valley, at elevations from 45 to 140 feet. Mapped rice fields include fields that are under current cultivation and fields that are temporarily fallow but have water control structures in place. Rice is planted in April and May and harvested in September and October. Fields are flooded at the time of setting the rice seedlings in the spring and often again after harvest to control pests and to provide waterfowl habitat for hunting clubs. Rice is grown as a monoculture, using flooding, tillage, and/or herbicides to eliminate unwanted vegetation; remaining vegetation is generally confined to the berms, ditches, and canals between and around fields and is dominated by wetland plants, both native and non-native. Typical plants found in uncleared ditches and canals include bulrush, cattail, nutsedge (*Cyperus* spp.), rushes, Harding grass (*Phalaris aquatica*), purpletop vervain (*Verbena bonariensis*), and Bermuda grass.

Flooded rice fields in the Plan Area attract wintering and migrating waterfowl, waders, shorebirds, and gulls. Large concentrations (more than 10,000 individuals) of northern pintails congregate in flooded rice fields prior to spring migration (Appendix A). In spring, these fields often support foraging resident species such as black-crowned night-heron, Canada goose, cinnamon teal, mallard, gadwall, and killdeer.

In winter, flooded rice fields support large numbers of overwintering killdeer, greater yellowlegs (*Tringa melanoleuca*), long-billed curlew (*Numenius americanus*), dunlin (*Calidris alpina*), least sandpiper, long-billed dowitcher (*Limnodromus scolopaceus*), Wilson's snipe, and American pipit (*Anthus rubescens*). During these winter months, especially after the hunting season, large flocks of waterfowl forage in flooded rice fields. These concentrations of shorebirds and waterbirds attract raptors, especially northern harrier (*Circus cyaneus*), peregrine falcon (*Falco peregrinus*), and bald eagle. When rice fields are not flooded, rodent populations in the fields may also attract raptors, including white-tailed kite (*Elanus leucurus*), red-tailed hawk, Swainson's hawk, American kestrel, and short-eared owl (*Asio flammeus*) (Appendix A).

Rice fields, their associated waterways, and adjacent uplands provide the most important agricultural habitat for giant garter snakes, particularly in the Sacramento Valley (Appendix A). Abandoned contoured rice fields established in historic vernal pool landscapes often retain remnant areas of vernal pool vegetation and seasonal pools that can support listed vernal pool invertebrates, such as vernal pool fairy shrimp and vernal pool tadpole shrimp.

Field Agriculture

Field agriculture is represented by three land cover types: two crops and the geographically associated eucalyptus woodlands (Figure 3.3-7).

- Alfalfa
- Cropland
- Eucalyptus

Land Cover Types

Alfalfa

Small amounts of alfalfa are grown in western Placer County as a hay crop in irrigated fields. Alfalfa is a perennial plant that lives for 5 years or more and is harvested several times in the growing season. Herbicides are generally used to control weeds and eliminate unwanted vegetation. Any vegetation remaining on field margins may include a variety of introduced grasses and legumes, but noxious weeds and other non-native invasive plants may also be present.

Several open-country raptor species that occur in western Placer County (e.g., Swainson's hawk, white-tailed kite, northern harrier, red-tailed hawk, and American kestrel) use alfalfa fields, where they forage on the abundant rodent prey. Because alfalfa is planted in such a small amount in the Plan Area, this type of crop most likely provides limited habitat values for species in the Plan Area. When flooded for irrigation, these fields are used extensively for foraging by wading birds and for nesting by several species of ducks.

Cropland

Row crops are generally monotypic agricultural fields of herbaceous species, varying in height from 1 to 6 feet. Most row crops are annual species, although a few of the species that are grown in Western Placer County, such as strawberries, are perennial. Major row crops in western Placer County are grain, vegetable crops, and miscellaneous crops (e.g., corn and oats). Most crops are planted in spring and harvested in summer or fall. The crops are grown using tillage or herbicides to eliminate unwanted vegetation (Appendix A). Small-scale row crop production is increasing in the Foothills because of the continued growth of farmers markets and other direct farm-to-market initiatives.

Areas were mapped as unidentified croplands if they were plowed or fallow agricultural fields or if the crop could not be identified as one of the other subtypes. Most of these areas are likely to be a temporary habitat in the fallow period of the annual cycle of cultivation of row crops. The dominant plant species in temporary fallow croplands and the margins of row crops include a variety of introduced grasses and legumes, including noxious weeds and other non-native invasive plants. The major noxious weeds subject to biological control measures in western Placer County are yellow star-thistle, Italian thistle, Klamath weed, skeleton weed (*Chondrilla juncea*), and puncture vine; many other noxious and invasive plants have the potential to occur in and around row crops. In moist areas near irrigation ditches and farm ponds, noxious weeds such as Johnson grass and Bermuda grass are often present.

Row crops support relatively few native wildlife species. In the Plan Area, these ecosystems support about 47 vertebrate species—six breeding species and 41 visitors. Most of these species do not breed in active row crops, but a few mammals (e.g., black-tailed jackrabbit, desert cottontail [*Sylvilagus audubonii*], Botta's pocket gopher, and California ground squirrel) may have natal burrows along the margins of fields. Typical birds that forage in the county's row crops include great blue heron, great egret, northern harrier, red-tailed hawk, Swainson's hawk, American kestrel, California quail, mourning dove (*Zenaida macroura*), western kingbird, American crow, western meadowlark, Brewer's blackbird, and red-winged blackbird. Row crop production is typically small in scale and associated with organic farm operations.

Eucalyptus Woodland

Eucalyptus woodland is lumped with the field agriculture community because of its geographic affiliation. Eucalyptus groves have been planted as windbreaks and for firewood in various rural-residential forested and agricultural areas in western Placer County. Most of these groves are small (less than 5 acres).

Eucalyptus trees (*Eucalyptus* spp.) flower in winter, producing large quantities of nectar. The trees are highly attractive to a variety of nectar- and insect-foraging birds. Anna's hummingbird, rufous hummingbird (*Selasphorus rufus*), ruby-crowned kinglet, bushtit, yellow-rumped warbler (*Setophaga coronata*), American goldfinch (*Spinus tristis*), and house finch are among the species that are especially abundant in eucalyptus groves of the Plan Area. Eucalyptus woodland at the edges of croplands offers suitable nesting habitat for Swainson's hawks.

Orchards and Vineyards Agriculture

Orchards and vineyards are considered together as a separate other agriculture community type in the Plan, mainly so that the effects analysis and conservation strategy can segregate their land area from the other agricultural lands that have some value for species covered by the Plan (Figure 3.3-7).

Land Cover Types

Orchards

Orchards in western Placer County are often found near and interspersed within annual grassland, mixed, blue, interior, and valley oak woodlands ecosystems. They are frequently adjacent to streams or irrigation canals. Acreage of orchards in the western Placer County has increased by 44% in recent years (Placer County Agriculture Department n.d.; Placer County Agriculture Weights and Measures n.d.).

Orchards are generally monotypic, tree-dominated habitats, although pruning to facilitate harvest results in trees that range in height from 15 to 30 feet (Appendix A). The crowns do not overlap, and trees are uniformly spaced in straight rows. Most orchards are irrigated by sprinkler or drip irrigation and are intensively managed. Trees are replaced when they become old or diseased, generally by 40 years of age for fruit trees and upwards of 80 years for walnuts. There are many abandoned orchards in western Placer County, particularly around Ophir, Penryn, and Newcastle in the Sierra Nevada foothills; some of these abandoned orchards are open and grassy, with scattered old fruit trees, while others contain dense shrubs and regenerating oak trees (predominately blue oak).

Walnuts, plums, peaches, oranges, apples, and pears are the most commonly planted crops in orchards in western Placer County (Appendix A). Below the fruit trees, the understory is either bare soil or a periodically mowed herbaceous layer of non-native species, such as soft chess, annual ryegrass, wild oats, orchard grass, winter vetch, black mustard, red-stemmed filaree, dove-foot geranium, little hop clover, bur clover, or rose clover. In moist areas near irrigation ditches and farm ponds, noxious weeds such as Johnson grass and Bermuda grass are often present.

In the Plan Area, orchards support about 55 vertebrate species—12 breeding species and 43 visitors. Most of these species do not breed in active orchards, but a few mammals (e.g., black-tailed jackrabbit, desert cottontail, Botta's pocket gopher, and California ground squirrel) may have natal burrows along the margins of orchards. Birds that typically visit orchards in western Placer County include white-tailed kite, red-tailed hawk, American kestrel, California quail, mourning dove, red-breasted sapsucker (*Sphyrapicus ruber*), western kingbird, yellow-billed magpie (*Pica nuttalli*), and American crow. Bats, such western red bat (*Lasiurus blossevillii*), use orchards for roosting.

Vineyard

Rolling hills of deeper, well-drained soils in the middle elevations are the most likely setting for vineyards in western Placer County.

Structurally, vineyards are composed of a single species of grape cultivar planted in rows and supported on wood and wire trellises. Vineyards are managed intensively. The soil under the vines is generally sprayed and barren to prevent the growth of grasses and other herbs, which may transmit pests and diseases to the grapevines. Forbs may be allowed to grow between the rows as a cover crop to control erosion; such cover crops usually consist of introduced clover and other legumes and annual winter grasses. Drip irrigation is often employed. The overall cover is somewhat sparse, composed of young to mature long-lived woody vines that may persist for more than 40 years but are generally replaced earlier due either to fluctuations in product prices or decreases in productivity (Appendix A).

Aside from the grape cultivars, the sparse herbaceous layer, if present, typically consists of introduced annual weeds, unless the areas between vineyard rows are specifically seeded with a cover crop. Typical species include soft chess, black mustard, perennial ryegrass, slender wild oat, orchard grass, red-stemmed filaree, dove-foot geranium, little hop clover, and rose clover. Noxious weeds such as Bermuda grass and Johnson grass may also be present, particularly in moist areas.

In the Plan Area, vineyards support 52 vertebrate species—seven breeding species and 45 visitors. Native birds that typically forage in vineyards in western Placer County include mourning dove, western scrub-jay, American crow, western bluebird, white-crowned sparrow, golden-crowned sparrow, dark-eyed junco (*Junco hyemalis*), and house finch. Flocks of introduced European starlings may visit vineyards, especially in fall when they may cause damage to ripening grapes (Appendix A). Although there are relatively few acres of vineyard in production (265 acres as of 2016) (Placer County Agriculture Weights and Measures n.d.), agricultural trends in western Placer County indicate that vineyard acreage will increase over the proposed permit term.

Managed Open Water

The managed open water community was created to differentiate highly artificial open water from ponds in the aquatic/wetland community that would have lacustrine ecological function as a constituent habitat. The managed open water community comprises three land cover types.

- Canal
- Reservoir
- Urban Open Water

Reservoirs and urban open water have common wildlife associations similar to lacustrine.

Land Cover Types

Canal

The canal land cover type was created to differentiate highly managed water conveyance systems from altered streams and artificial channels that have enough natural character to have aquatic and riverine and riparian habitats associated with them. By contrast, areas mapped as the canal land cover type have concrete lining and bare earthen perimeters that are maintained free of vegetation.

Canals in the Valley below an elevation of 100 feet would be suitable aquatic habitat for giant garter snakes, especially when located adjacent to more productive aquatic habitat such as marsh complex and rice. Giant garter snakes are able to use canals for feeding and barren canal-side berms or access roads for sunning.

Canals are commonly associated with unscreened water diversions that may entrain fish, including salmonids if present.

Reservoir

The reservoir land cover type was created specifically to account for Camp Far West Reservoir on the Bear River and Folsom Lake on the American River, which border Placer County on the north and south, respectively. The reservoir land cover type is distinct from the pond land cover type included under aquatic/wetland complex community, which includes smaller reservoirs with distinctly different biology. The reservoir land cover type is excluded from the Plan effect and conservation analysis.

Reservoirs are different from natural lakes in their physical and biological characteristics. Most reservoirs fluctuate on an annual basis, being gradually drawn down in summer to supply water for irrigation, power generation, or agriculture. However, even a fluctuation of as little as 3–6 feet can prevent plants from establishing at the shoreline or aquatic plant beds from developing. Large reservoirs are usually built in steep-sided canyons with only small areas of shallow-water habitat.

Large reservoirs annually attract large concentrations of wintering gulls that roost along their shorelines. The largest gull roost in the Plan Area is near Granite Bay on the Placer County side of Folsom Lake (Appendix A). The reservoirs are stocked with non-native fish species for sport fishing. Species such as catfish (*Ameiurus* spp.), bass (*Micropterus* spp.), and sunfish (*Lepomis* spp.) are present in the reservoirs (CalFish 2016).

Water level fluctuation and limited shallow-water habitat result in a lack of cover for young fishes in shallow water and a lack of habitat diversity for adult fishes. The fish fauna at the dam end of a reservoir is often different from the fauna at the mouth of the river that supplies the reservoir (Appendix A). The dam end is usually deep and stratifies in summer, with a warmer layer near the surface and a cooler layer at the bottom.

Dams are commonly associated with unscreened water diversions that may entrain fish, including covered salmonids.

Urban Open Water

The urban open water land cover type was created to account for intensively managed open water, including WWTP ponds, water ski parks, and landscape and golf course ponds in the Valley. Urban open water is distinct from the pond land cover type, which is part of the aquatic/wetland complex community and has a strong association with functioning lacustrine ecosystems that urban open water does not have.

Many of these ponds were created by excavation and damming of seasonal creeks. These ponds are typically constructed for industrial or intensive recreational use and are maintained with a bare shoreline or with vegetation frequently maintained by mowing and trimming.

Constituent Habitats

Although the managed open water community contains open water, it is not considered in the Plan as having value as lacustrine habitat in a functioning aquatic/wetland ecosystem and is not assigned a constituent habitat factor.

The two large reservoirs lack a well-developed fringe of wetland and riparian plants because of their steep-sided slopes and fluctuations in water level.

Rural-Residential

The rural-residential community is an aggregation of two very low-density (1–10 acres per dwelling unit) residential development land cover types, based on land use categories used by the Placer County Planning Services Division.

- Rural-residential
- Rural-residential forested

Land Cover Types

Rural-residential

Rural-residential areas were defined as areas developed with 0.1–1 dwelling unit per acre and less than 70% tree canopy cover. Areas mapped as rural-residential include small pockets of remnant oak woodland land cover types, often with shrubs and lower branches cleared to reduce fuel loads and small paddocks grazed by a variety of livestock. Large residential lots may have most of the native vegetation removed and replaced with mowed annual grassland, lawns, and widely scattered trees; such management techniques are often intended to reduce the risk of fire.

Large ungrazed lots in rural-residential areas often become infested with weedy, non-native species, especially yellow star-thistle. Characteristic horticultural and pasture species that are known to invade wildlands near rural-residential areas locally include French broom (*Genista monspessulana*), tree-of-heaven, black locust (*Robinia pseudoacacia*), English ivy (*Hedera helix*), periwinkle (Vinca major), pampas grass (*Cortaderia selloana*), giant reed, scarlet wisteria (Se*sbania grandiflora*) pennyroyal, wild oat, tall fescue (*Festuca arundinacea*), and aquatic species, such as parrot's feather (*Myriophyllum aquaticum*), and water hyacinth (*Eichornia crassipes*). Other less serious invaders include hairy vetch, orchard grass, perennial ryegrass, rose clover, and red-stemmed filaree. Many other unintentional introductions are also common in urban and rural-residential areas of the county. These include noxious weeds such as Himalayan blackberry, which can dominate large areas; Italian thistle; knapweeds (*Centaurea* spp.); Klamath weed; field bindweed (*Convolvulus arvensis*); bull thistle; medusa-head; and other invasive species, such as fennel, black mustard, and woolly mullein (*Verbscum thapsus*). Other abundant non-native plants in these ecosystems include hedgehog dogtail, hedge parsley, dove-foot geranium, ripgut brome, red brome (*Bromus madritensis* ssp. *rubens*), velvet grass, dallisgrass, and many more.

Rural-residential areas may support about 122 vertebrate species—65 breeding species and 57 visitors. Native species that may occur in rural-residential areas include yellow-billed magpie, American crow, western scrub-jay, house wren, and brown-headed cowbird (*Molothrus ater*). The high densities of exotic fruits and flowers, birdbaths, and hummingbird and seed feeders attract Anna's hummingbird, rufous hummingbird, California towhee, spotted towhee, golden-crowned sparrow, white-crowned sparrow, and American goldfinch. Likewise, produce from vegetable gardens and pet food, when left out overnight, attract resident mammals such as Virginia opossum (*Didelphis virginiana*), Norway rat (*Rattus norvegicus*), black rat, house mouse, raccoon (*Procyon lotor*), and striped skunk (*Mephitis mephitis)*.

Burrowing owl (*Athene cunicularia*) may occur in open rural-residential areas in the Valley that are interspersed with grassland and barren areas and have artificial and/or natural burrows.

Rural-residential Forested

Rural-residential forested areas were defined as areas developed with 0.1–1 unit per acre and more than 70% cover of large, mature trees. Undeveloped lots or the natural portion of developed lots in rural-residential forested areas may support remnant patches of mature oak woodland land cover types, unless they have been previously cleared. However, some native species, particularly oaks, may die prematurely as a result of regular surface irrigation, grading near the base of trees, or root damage caused by trenching and excavation (Appendix A).

Rural-residential forested areas support about 122 vertebrate species—70 breeding species and 52 visitors. Native species that may occur in unnaturally high densities in rural-residential forested areas include raccoon, Botta's pocket gopher, cliff swallow, yellow-billed magpie, American crow, Steller's jay (*Cyanocitta stelleri*), western scrub-jay, brown-headed cowbird, and Brewer's blackbird. Non-native animals that frequent rural-residential forested areas of western Placer County include house sparrow, European starling, wild turkey, American bullfrog (*Lithobates catesbeiana*), black rat, Norway rat, and house mouse.

Constituent Habitats

Areas mapped as rural-residential in the Valley include patches of functional vernal pool complex. These areas are associated with a small amount (0.8%) of vernal pool constituent habitat, as shown in Table 3-10 in Chapter 3 of the Plan.

Urban

Land Cover Types

The urban community represents a variety of developed land cover types, generally based on the Placer County Planning Services Division land use categories where urban and suburban is defined as greater than one dwelling unit per acre (Figure 3.3-8).

- Urban/Suburban
- Urban Golf Course
- Urban Parks
- Urban Riparian
- Urban Wetland
- Urban Woodland
- Barren/Industrial
- Road

Urban and Suburban

Urban and suburban areas were mapped where development was denser than one dwelling unit per acre or located along with intensive non-residential land uses, including commercial, industrial, office, and related uses. Ornamental plantings in the older neighborhoods of Auburn, Lincoln, and Granite Bay are often introduced evergreen and deciduous trees that may be as old as 100 years. These ornamental species range from approximately 20 to 50 feet high at maturity and are typically much smaller and younger than the occasional remnant oaks and pines in these neighborhoods. Urban neighborhoods that were built in the last 40 or 50 years tend to have younger or smaller trees and less structural diversity than older neighborhoods. In outlying suburban areas, mature native oaks and pines are also present between the buildings. Intensively developed areas with highly manicured yards typically have very low wildlife habitat values. Small lawns and mature hedges in urban and suburban areas include many introduced fruiting species that may be attractive to birds and other wildlife.

Urban and suburban areas tend to support a low diversity of wildlife. However, some species thrive in urban and suburban areas and tend to be in greater abundance than in natural habitats. Urban and suburban areas in the Plan Area support about 67 vertebrate species—25 breeding species and 42 visitors. Some wildlife typical of urban and suburban habitats include feral and free-ranging cats (*Felis catus*) and dogs (*Canis lupus familiaris*), raccoons, striped skunks, opossums, coyotes, western scrub-jays, Steller's jays, and American crows.

Urban Parks and Golf Courses

Urban parks were defined as isolated city parks, playgrounds, or grass fields. Parks in the Plan Area range from large areas that may include remnant patches of valley oak woodland, with a diverse and multilayered understory (e.g., McBean Park in Lincoln and Granite Bay Park in Granite Bay)) to small, heavily landscaped and managed playgrounds and ball fields. However, most developed parks in the Plan Area are dominated by lawn grass, along with a few mature trees.

Golf courses support about 131 vertebrate species—70 breeding species and 61 visitors. Wildlife species typically found in these areas are Canada goose, American coot, red-shouldered hawk, northern flicker (*Colaptes auratus*), black phoebe, white-breasted nuthatch (*Sitta carolinensis*), northern mockingbird (*Mimus polyglottos*), western tanager (*Piranga ludoviciana*), bobcat (*Lynx rufus*), and mule deer.

Urban Riparian

Urban riparian areas are creeks and riparian habitats (often occurring as greenbelts) that are surrounded by urban and suburban development. They are generally disturbed by human activities, including transportation and recreational uses. The creeks are often straightened and channeled, and the riparian habitat is generally traversed by footpaths and bicycle paths. Wooded riparian areas within or close to urban and suburban areas that appeared to be undisturbed and unused for recreation were mapped as riparian habitat.

Placement of bridges, roads, paved areas, and structures within the lower floodplains of perennial streams in many instances has resulted in the removal of native vegetation and unnaturally narrowed channels that make them more prone to flooding and erosion. The native riparian species in urban areas are frequently displaced by noxious weeds and other invasive non-native species, such as Himalayan blackberry, that can form a single-species monoculture over miles of affected stream corridor. In outlying communities, suburban developments often have more mature vegetation and greater wildlife species diversity (Appendix A).

Despite their small size, urban riparian areas support about 137 vertebrate species—83 breeding species and 54 visitors. Urban riparian habitats usually support more species than other urban habitat types (Appendix A). Strips of habitat (greenbelts) along streams can make urban areas much more attractive to birds and other wildlife as well as to people. Some typical native species that might be found in urban greenbelt areas of western Placer County include Anna's hummingbird, cedar waxwing, American robin, black-headed grosbeak, house finch, Bullock's oriole, Douglas squirrel (*Tamiasciurus douglasii*), western gray squirrel, and mule deer.

Urban riparian provides habitat for western pond turtle and potential habitat for California red-legged frog. Most of the major salmonid streams pass through urban areas, and steelhead are observed in highly disturbed stream environments.

Urban Wetland

Urban wetland includes vernal pools, seasonal wetlands, and fresh emergent marshes that are surrounded by urban and residential development. These areas are much less than 1% of the Plan Area.

Urban wetlands support about 34 vertebrate species—20 breeding species and 14 visitors. Native species that might be found in urban wetlands are California newt, Sierran treefrog, mallard, American coot, red-winged blackbird, and muskrat. Urban wetlands may provide habitat for western pond turtle.

Urban Woodland

Urban woodland includes city parks with predominantly tree-dominated vegetation, windbreaks with mostly non-native trees, and remnant patches of the former tree cover, usually oak woodland land cover types, that are disturbed and surrounded by urban development. Species composition of urban woodland often varies with the age of the community, reflecting the changing preferences of homeowners and designers. Common landscape tree species include sugar maple (*Acer saccharum*), red maple (*Acer rubrum*), deodar cedar (*Cedrus deodara*), linden tree (*Tilia* spp.), Modesto ash (*Fraxinus velutina*), Washington hawthorn (*Crataegus phaenopyrum*), and English holly (*Ilex aquifolium*). In newer developments, frequently planted trees include liquidambar (*Liquidambar styraciflua*), European birch (*Betula* spp.), weeping willow (*Salix babylonica*), coast redwood (*Sequoia sempervirens*), purple-leaf plum (*Prunus* spp.), and eastern dogwood (*Cornus florida*). Locally native oak and conifer species are rarely planted and are not widely available in local nurseries.

Urban woodland areas support many of the same vertebrate species that occur in urban riparian areas. Strips of urban woodland (greenbelts) can make urban areas much more attractive to birds and other wildlife as well as to people. Some of the native species that might be found in urban greenbelt areas of western Placer County include Anna's hummingbird, cedar waxwing, western bluebird, American robin, black-headed grosbeak, house finch, Bullock's oriole, Douglas squirrel, western gray squirrel, and mule deer.

Barren/Industrial Lands

Barren/industrial lands are historically and recently disturbed sites such as landfills and graded non-agricultural lands. Barren rock or soil dominates the ground layer, and tree and shrub cover is typically sparse or absent. Vegetation is usually absent and wildlife values are low.

Artificially disturbed lands support only about 14 vertebrate species. Two breeding species and 12 visitors occur in these areas. Local landfills may attract large numbers of foraging and roosting gulls, especially in winter.

Roads

Roads were mapped as a specific land cover type only in the Valley, outside of areas that were otherwise mapped as urban/suburban. The area mapped includes both the paved roadway itself and the adjoining right-of-way. This land cover type was created to account for the rather extensive existing network of roads that amount to 1.6% of the Valley outside of the existing urban and suburban area.

Special-Status Species

Special-status species are defined as plants and animals that are legally protected under ESA, CESA, or other regulations and taxa that meet the criteria for listing, even if not currently included on any list, as described in Section 15380 of the CEQA Guidelines. Special-status species are species, subspecies, or varieties that fall into one or more of the categories listed below.

- Species that are listed or proposed for listing as threatened or endangered under ESA.
- Species that are proposed or candidates for listing under ESA.
- Species listed as threatened or endangered under CESA.
- Species that are candidates for listing under CESA.
- Species that meet the definitions of rare or endangered under CEQA (State CEQA Guidelines Section 15380).
- Animals listed as California species of special concern on CDFW's Special Animals List (California Department of Fish and Wildlife 2017a).
- Animals that are fully protected in California under the California Fish and Game Code (Sections 3511 [birds], 4700 [mammals], and 5050 [reptiles and amphibians]).
- Plants listed as rare under the NPPA (California Fish and Game Code Section 1900 et seq.).
- Plants ranked as "rare, threatened, or endangered in California" (CRPR 1B and 2).
- Plants about which more information is needed to determine their status and plants of limited distribution (CRPR 3 and 4) that may be included as special-status species on the basis of local significance or recent biological information, or because they are taxa closely associated with a habitat that is declining at a significant rate.

Special-Status Plants

A total of 18 special-status plant species were identified as occurring or having the potential to occur in the Plan Area. Profiles for each species are provided in Table 3.3-3, including listing status, geographic distribution, habitat requirements, and specific occurrence data in the Plan Area. Many of the species are known in the Plan Area from only one or two occurrences. None of the species is federally listed as threatened or endangered, and only one species, Boggs Lake hedge hyssop (*Gratiola heterosepala*), is state listed as endangered. None of the 18 special-status plants would be covered under the proposed Plan.

Special-Status Fish and Wildlife

A total of 51 special-status wildlife and 3 special-status fish species are known to occur or have the potential to occur in the Plan Area. Refer to Table 3.3-4 for a summary of legal status, distribution, habitat, and likelihood for occurrence in the proposed Plan area for each of these special-status species. Of the 54 special-status wildlife and fish species, 14 would be covered under the proposed Plan (Table 3.3-4). Detailed species accounts for the Covered Species are presented in Appendix D, *Species Accounts,* of the Plan. These species accounts include a description of the species models (habitat descriptions) used in the Plan for estimating effects and planning species conservation. The EIS/EIR has adopted these species models for the analysis except for the models for tricolored blackbird and valley elderberry longhorn beetle. A discussion of the habitats identified for these two species is presented following Tables 3.3-3 and 3.3-4.

Table 3.3-3. Special-Status Plants Identified as Potentially Occurring in the Plan Area

Common Name *Scientific Name*	Legal Status[a] Federal/State/CRPR	Habitat and Distribution in California	Known Occurrences in the Plan Area	Covered in Plan
Big-scale balsamroot *Balsamorhiza macrolepis* var. *macrolepis*	–/–/1B.2	Sometimes on serpentine soils in chaparral, cismontane woodland, valley and foothill grassland; 295–5,102 feet. Scattered occurrences in the Coast Ranges and Sierra Nevada foothills.	Known from historic collections near Roseville and Lincoln; unknown whether still extant in Placer County	No
Hispid bird's-beak *Chloropyron molle* ssp. *hispidum*	–/–/1B.1	Meadow and seep, valley and foothill grassland, playa, on alkaline soils; below 510 feet. Central Valley in Alameda, Fresno, Kern, Merced, Placer, and Solano Counties.	One occurrence present in Roseville	No
Brandegee's clarkia *Clarkia biloba* ssp. *brandegeeae*	–/–/4.2	Chaparral, cismontane woodland, lower coniferous forest, often on road cuts; 240–3,000 feet. Northern Sierra Nevada foothills, from Butte County to El Dorado County.	Four occurrences present along the Foothill portion of the Plan Area	No
Streambank spring beauty *Claytonia parviflora* ssp. *grandiflora*	–/–/4.2	Vernally moist areas in oak-pine woodland; 500–3,900 feet. Sierra Nevada foothills and Tehachapi Mountains.	Three occurrences outside of the Plan Area along the North Fork of the American River east of Auburn	No
Dwarf downingia *Downingia pusilla*	–/–/2B.2	Wet areas in valley and foothill grassland, vernal pools; below 1,460 feet. Inner North Coast Ranges, southern Sacramento Valley, northern and central San Joaquin Valley.	Twenty-one occurrences present in the Valley portion of the Plan Area	No
Stinkbells *Fritillaria agrestis*	–/–/4.2	Chaparral, cismontane woodland, pinyon-juniper woodland, valley and foothill grassland, on clay or serpentinite substrate; 30–5,100 feet. At scattered localities in the Sacramento and San Joaquin Valleys, Sierra Nevada foothills, and South Coast Ranges.	Present historically in grasslands between Rocklin and Lincoln; only one recent observation, in Rocklin	No
Butte County fritillary *Fritillaria eastwoodiae*	–/–/3.2	Oak woodland, grassy openings in chaparral, and Ponderosa pine forest; 165–4,900 feet. Sierra Nevada foothills, from Shasta County to Yuba County.	One occurrence in the B2 PCWA O&M Area along the North Fork of the American River east of Auburn	No
Boggs Lake hedge-hyssop *Gratiola heterosepala*	–/E/1B.2	Clay soils in areas of shallow water, lake margins of swamps and marshes, vernal pool margins; 33–7,792 feet. Inner North Coast Ranges, central Sierra Nevada foothills, Sacramento Valley, and Modoc Plateau.	One extant occurrence in the Valley portion of the Plan Area and one occurrence in Roseville within Plan Area B1.	No

Common Name *Scientific Name*	Legal Status[a] Federal/State/CRPR	Habitat and Distribution in California	Known Occurrences in the Plan Area	Covered in Plan
Hogwallow starfish *Hesperevax caulescens*	–/–/4.2	Vernal pools, clay flats in grassland; below 985 feet. Broadly ranging in California, primarily in the Central Valley and adjacent foothills, also in South Coast Ranges, Peninsular Ranges.	Present in grasslands in Valley portion of the Plan Area (Preston pers. comm.)	No
Ahart's dwarf rush *Juncus leiospermus* var. *ahartii*	–/–/1B.2	Vernal pools; from 100–325 feet. East edge of Sacramento Valley from Butte County to Sacramento County.	One occurrence in Lincoln, possibly extirpated	No
Red bluff dwarf rush *Juncus leiospermus* var. *leiospermus*	–/–/1B.1	Vernally mesic sites in chaparral, valley and foothill grassland, cismontane woodland; 110–3,315 feet. Shasta, Tehama, and Butte Counties.	One reported occurrence in Roseville	No
Dubious pea *Lathyrus sulphureus* var. *argillaceus*	–/–/3	Chaparral, oak woodland; 490–903 feet. Interior North Coast Ranges, Cascade Range foothills, northern Sierra Nevada foothills.	One historic occurrence near Auburn	No
Legenere *Legenere limosa*	–/–/1B.1	Vernal pools; below 2,900 feet. Primarily in the lower Sacramento Valley, also from North Coast Ranges, northern San Joaquin Valley and the Santa Cruz mountains.	Two extant occurrences in Valley portion of the Plan Area	No
Sylvan microseris *Microseris sylvatica*	–/–/4.2	Grassland, oak woodland, open grassy areas in chaparral; below 5,580 feet. Scattered locations in California, primarily in the interior North Coast Ranges, eastern San Francisco Bay, interior South Coast Ranges, Sierra Nevada foothills, and Tehachapi Mountains.	Two known occurrences in Roseville and Lincoln	No
Hoary navarretia *Navarretia eriocephala*	–/–/4.3	Seasonally wet clay flats in grassland, oak woodland; below 1,310 feet. Sacramento Valley, northern Sierra Nevada foothills.	Known mostly from historic collections between Roseville and Sheridan	No
Pincushion navarretia *Navarretia myersii* ssp. *myersii*	–/–/1B.1	Vernal pools; 65–1,080 feet. Eastern edge of the Central Valley, from Placer County to Merced County.	One occurrence reported from near Lincoln	No
Adobe navarretia *Navarretia nigelliformis* ssp. *nigelliformis*	–/–/4.2	Vernal pools and clay flats; below 3,280 feet. Central Valley and adjacent foothills.	Known from a single collection south of Lincoln	No

Common Name *Scientific Name*	Legal Status[a] Federal/State/CRPR	Habitat and Distribution in California	Known Occurrences in the Plan Area	Covered in Plan
Sanford's arrowhead *Sagittaria sanfordii*	–/–/1B.2	Freshwater marshes, sloughs, canals, and other slow-moving shallow water habitats; below 2,130 feet. Scattered locations in the Central Valley and Coast Ranges.	Only one known occurrence in the Plan Area where the species was part of inoculum for the Silvergate Mitigation Bank (Wildlands 2003.), although Plan Area is within species range and contains suitable habitat	No

Sources: California Department of Fish and Wildlife 2017b; California Consortium of Herbaria 2017; Preston pers. comm.; Wildlands 2003.

[a] Status explanations:

Federal

– = No listing status.

State

E = Listed as endangered under CESA.
– = No listing status.

California Rare Plant Rank (CRPR)

1B = List 1B species: rare, threatened, or endangered in California and elsewhere.
2B = List 2 species: rare, threatened, or endangered in California but more common elsewhere.
3 = List 3 species: more information is needed about this plant.
4 = List 4 species: limited distribution; species on a watch list.
.1 = Seriously endangered in California (over 80% of occurrences threatened—high degree and immediacy of threat).
.2 = Fairly endangered in California (20–80% occurrences threatened).
.3 = Not very threatened in California (less than 20% of occurrences threatened/low degree and immediacy of threat or no current threats known).

Table 3.3-4. Special-Status Fish and Wildlife Species Considered for Analysis (in the Plan Area)

Common Name *Scientific Name*	Status[a] Federal/ State	Other	Habitat and Distribution in California	Known Occurrences in the Plan Area	Covered in Plan
Invertebrates					
Conservancy fairy shrimp *Branchinecta conservatio*	E/–	G1 S1	Found in large turbid vernal pools. Occurs from Butte and Tehama Counties to Ventura County.	CNDDB (2017) occurrences in the Plan Area.	Yes
Vernal pool fairy shrimp *Branchinecta lynchi*	T/–	G3 S3	Occurs in the Central Valley from Shasta County to Tulare County and the central and southern Coast Ranges from northern Solano County to Ventura County.	CNDDB (2017) occurrences in the Plan Area. Final designated critical habitat is in the Plan Area.	Yes
Vernal pool tadpole shrimp *Lepidurus packardi*	E/–	G3 S2S3	Occupies a variety of vernal pool habitats Central Valley of California and San Francisco Bay Area.	CNDDB (2017) occurrences in the Plan Area.	Yes
California linderiella *Linderiella occidentalis*	–/–	G2G3 S2S3	Vernal pools, swales, and other ephemeral wetlands. Central Valley and central coastal California.	CNDDB (2017) occurrences in the Plan Area.	No
Valley elderberry longhorn beetle *Desmocerus californicus dimorphus*	T/–	G3T2 S2	Elderberry shrubs, typically in riparian habitats. Central Valley, including the BDCP Plan Area, below approximately 3,000 feet elevation.	CNDDB (2017) occurrences in the Plan Area.	Yes
Ricksecker's water scavenger beetle *Hydrochara rickseckeri*	–/–	G2? S2?	Aquatic, known to occur in vernal pools. Recorded in central coastal California and southern Sacramento Valley, known to occur in Solano County near Jepson Prairie.	CNDDB (2017) occurrences in the Plan Area.	No
Blennosperma vernal pool andrenid bee *Andrena blennospermatis*	–/–	G2 S2	Upland areas near vernal pools. Occurs in central California between Lake and San Joaquin Counties; known from locations east and west of the Plan Area.	CNDDB (2017) occurrences in the Plan Area.	No
Morrison bumble bee *Bombus morrisoni*		G4? S1S2	Associated primarily with arid environments. Food plants are Cirsium, Cleome, Helianthus, Lupinus, Chrysothamnus, and Melitlotus. Occurs in the Sierra-Cascade crest east to the Intermountain West and south into Mexico (Koch et al. 2012).	CNDDB (2017) occurrences in the Plan Area.	No

Common Name *Scientific Name*	Status[a] Federal/ State	 Other	Habitat and Distribution in California	Known Occurrences in the Plan Area	Covered in Plan
Amphibians					
Foothill yellow-legged frog *Rana boylii*	–/C	G2G3 S2S3	Foothill ponds and streams with emergent vegetation and open areas for basking, minimum 11–20 weeks of water for larval development, and upland refugia for aestivation. Occurs primarily in the foothills of the central Coast Ranges, with isolated populations in the Sierra Nevada.	CNDDB (2017) occurrence in the Plan Area. Final designated critical habitat is in the Plan Area.	Yes
Foothill yellow-legged frog *Rana boylii*	–/SSC	G3 S3	Associated with rocky streams in valley foothill woodlands, riparian, mixed conifer, chaparral and wet meadow habitat. Require permanent water or at least streams where pools persist through the dry season. In California, occurs in the Cascade Mountains, the Coast Ranges, and the Sierra Nevada foothills.	No CNDDB (2017) occurrences in the Plan Area.	Yes
Western spadefoot *Spea hammondii*	–/SSC	G3 S3	In winter, breeds in vernal pools and seasonal wetlands with a minimum 3-week inundation period; in summer, aestivates in grassland habitat, in soil crevices and rodent burrows. Range includes the Central Valley, South Coast Ranges, and foothills.	CNDDB (2017) occurrences in the Plan Area	No
Reptiles					
Western pond turtle *Emys marmorata*	–/SSC	G3G4 S3	Forages in ponds, marshes, slow-moving streams, sloughs, and irrigation/drainage ditches; nests in nearby uplands with low, sparse vegetation. Range spans across California west of the Sierra-Cascade crest, below 5,000 feet in elevation.	CNDDB (2017) occurrences in the Plan Area.	Yes
Blaniville's horned lizard *Phrynosoma blainvilli*	–/SSC	G3G4 S3S4	Variety of open habitats, including chaparral, oak savanna, and grassland; found primarily in areas with sandy, friable soils, scattered shrubs, and abundant ant colonies. Range includes most of western central and southwestern California below 8,000 feet elevation.	No CNDDB (2017) occurrences in the Plan Area. Could occur in foothills in eastern part of the Plan Area.	No

Common Name *Scientific Name*	Status[a] Federal/ State	 Other	Habitat and Distribution in California	Known Occurrences in the Plan Area	Covered in Plan
Giant garter snake *Thamnophis gigas*	T/T	G2 S2	Forages in slow-moving streams, sloughs, ponds, marshes, inundated floodplains, rice fields, and irrigation/drainage ditches; also requires upland refugia not subject to flooding during the snake's inactive season. Range spans the southern Sacramento and northern San Joaquin Valleys.	No CNDDB (2017) occurrences in the Plan Area; however, there are numerous records in Sutter and Sacramento Counties just west of the Plan Area. The westernmost portion of the Plan Area represents potential habitat.	Yes
Birds					
Short-eared owl *Asio flammeus*	–/SSC (nesting)	G5 S3	Nests on the ground among herbaceous vegetation, such as grasses or cattails; forages in grasslands, agricultural fields, and marshes. Breeding range is patchily distributed throughout the State, including portions of the Sacramento and San Joaquin Valleys, northeastern California, and a few scattered coastal sites.	No CNDDB (2017) records but numerous eBird (2016) records throughout the valley portion of the Plan Area. Observed at Duncan Peak, Stanford Ranch, and Brewer Road (Jones & Stokes 2003).	No
Long-eared owl *Asio otus*	–/SSC (nesting)	G5 S3?	Uses riparian deciduous forest, conifer forests, and mixed forests. Uncommon yearlong resident throughout California except the Central Valley, some coastal areas, and Coachella and Imperial Valleys of Southern California.	No CNDDB (2017) or eBird (2016) records. Suitable habitat is present in oak woodland in the easternmost portion of the Plan Area. Observed near Foresthill (Jones & Stokes 2003).	No
Grasshopper sparrow *Ammodramus savannarum*	–/SSC (nesting)	G5 S3	Nests and forages in dense grasslands; favors a mix of native grasses, forbs, and scattered shrubs. Breeding range spans much of the Central Valley and California coast, but populations are typically localized and disjunct; most individuals migrate, although some may be present year-round.	CNDDB (2017) occurrence in the Plan Area.	No
Burrowing owl *Athene cunicularia*	BCC/SSC (nesting)	G4 S3	Nests and forages in grasslands, agricultural fields, and low scrub habitats, especially where ground squirrel burrows are present; occasionally inhabits artificial structures and small patches of disturbed habitat. Year-round range includes the Central Valley and Delta and portions of the central coast, eastern California, and southern California	CNDDB (2017) occurrences in the Plan Area.	Yes

Common Name *Scientific Name*	Status[a] Federal/ State	Other	Habitat and Distribution in California	Known Occurrences in the Plan Area	Covered in Plan
Golden eagle *Aquila chrysaetos*	BCC/ FP, WL (nesting, wintering)	G5 S3	Nests and forages in a variety of open habitats, including grassland, shrubland, and cropland; most common in foothill habitats; rare foothill breeder; nests in cliffs, rock outcrops, and large trees. Winter range spans most of California; breeding range excludes the Central Valley floor.	No CNDDB (2017) records but numerous eBird (2016) records throughout the Plan Area.	No
Bald eagle *Haliaeetus leucocephalus*	BCC/E, FP (nesting, wintering)	G5 S2	Nests in large trees with open branchwork. Often chooses large tree in a stand to build a platform nest. Forages primarily in large inland fish-bearing waters with adjacent large trees or snags, and occasionally in uplands with abundant rabbits, other small mammals, or carrion. Breeding range includes the Sierra Nevada, Cascade Range, and portions of the Coast Ranges; winter range expands to include most of the state except southeastern California (although the species occurs along the Colorado River).	No CNDDB (2017) records but numerous eBird (2016) records throughout the Plan Area. Uncommon migrant and non-breeding visitor to most large lakes, reservoirs, and rivers in Placer County; regular at Folsom Lake and Camp Far West (Jones & Stokes 2003)	No
American peregrine falcon *Falco peregrinus anatum*	BCC/FP (nesting)	G4T4 S3S4	Nests on high cliffs, banks, dunes, or mounds in a scrape on a depression or ledge in an open site. Will occasionally use manmade structures and tree or snag cavities or old nests of other raptors. Forages in a wide variety of habitats, but is most common near water, where shorebirds and waterfowl are abundant. Year-round range includes the Sierra Nevada, Cascade Range, northeastern California, Coast Ranges, and coast; winter range expands to include the Central Valley and the Delta and additional portions of eastern and southern California.	No CNDDB (2017) records but numerous eBird (2016) records throughout the Plan Area. Appears to use Plan Area during fall and winter. Plan Area may not provide suitable nesting habitat.	No
Merlin *Falco columbarius*	–/WL (wintering)	G5 S3S4	Forages in a wide variety of habitats, but in the Central Valley is most common around agricultural fields and grasslands. Winter range encompasses most of California except the highest elevations; does not breed in California.	No CNDDB (2017 records but numerous eBird (2016) records throughout the Plan Area. Rare non-breeding visitor to Placer County (Jones & Stokes 2003),	No

Common Name *Scientific Name*	Status[a] Federal/ State	 Other	Habitat and Distribution in California	Known Occurrences in the Plan Area	Covered in Plan
Prairie falcon *Falco mexicanus*	BCC/WL (nesting)	G5 S4	Nests in a scrape on a sheltered ledge of a cliff overlooking a large, open area. Sometimes nests on old raven or eagle stick nest on cliff, bluff, or rock outcrop. Forages most commonly in grasslands and low shrublands; also forages in agricultural fields. Year-round range includes eastern California, the Coast Ranges, and much of southern California; winter range expands to include the Delta, Central Valley, and coastal California.	No CNDDB (2017) records but numerous eBird (2016) records throughout the Plan Area. Appears to use Plan Area during fall and winter. Plan Area may not provide suitable nesting habitat.	No
Northern harrier *Circus cyaneus*	–/SSC (nesting)	G5 S3	Nests on the ground among herbaceous vegetation, such as grasses or cattails; forages in grasslands, agricultural fields, and marshes. Breeding range encompasses much of lowland California; winter range expands to include the remaining lowland areas.	No CNDDB (2017) records but numerous eBird (2016) records throughout the valley portion of the Plan Area.	No
White-tailed kite *Elanus leucurus*	–/FP (nesting)	G5 S3S4	Forages in ponds, marshes, slow-moving streams, sloughs, and irrigation/drainage ditches; nests in nearby uplands in valley/foothill riparian or other trees associated with compatible foraging habitat. Year-round range spans the Central Valley, Coast Ranges and coast, Sierra Nevada foothills, and Colorado River.	CNDDB (2017) occurrences in the Plan Area.	No
Cooper's hawk *Accipiter cooperii*	–/WL (nesting)	G5 S4	Nests and forages primarily in riparian habitats and other wooded habitats. Year-round range spans most of the wooded portions of California.	No CNDDB (2017) records but numerous eBird (2016) records throughout the Plan Area.	No
Ferruginous hawk *Buteo regalis*	BCC/WL (wintering)	G4 S3S4	Forages most commonly in grasslands and shrublands; also forages in agricultural fields. Winter range spans most of California except the higher elevations of the Sierra Nevada and northern Coast Ranges; does not nest in California.	No CNDDB (2017) records but numerous eBird (2016) records throughout the valley portion of the Plan Area.	No
Swainson's hawk *Buteo swainsoni*	BCC/T (nesting)	G5 S3	Nests in isolated trees, open woodlands, and woodland margins; forages in grasslands and agricultural fields. Breeding range spans the Central Valley and Delta west of Suisun Marsh, northeastern California, and a few additional scattered sites; most of the population migrates south of California in fall/winter, although a small number winters in the Delta.	CNDDB (2017) occurrences in the Plan Area.	Yes

Common Name *Scientific Name*	Status[a] Federal/ State	 Other	Habitat and Distribution in California	Known Occurrences in the Plan Area	Covered in Plan
Osprey *Pandion haliaetus*	–/WL (nesting)	G5 S4	Forages exclusively in fish-bearing waters; nests close to water on a platform of sticks on top of large snags, in dead-topped trees, on cliffs, or on human-made structures. Breeding range includes most of northern California, the central Coast Ranges, and the southern Sierra Nevada; winter range also includes the central coast and additional portions of southern California.	CNDDB (2017) occurrence in the Plan Area.	No
Purple martin *Progne subis*	–/SSC (nesting)	G5 S3	Nests in tree cavities, bridges, utility poles, lava tubes, and buildings; forages in foothill and low montane oak and riparian habitats, and less frequently in coniferous forests and open or developed habitats. Breeding range includes the Sierra Nevada, Cascade Range, portions of the Coast Ranges and coast, and parts of southern California; extirpated from the Delta, and nesting in the Central Valley has been reduced to transportation structures in and around the city of Sacramento.	CNDDB (2017) occurrence in Plan Area.	No
Redhead *Aythya americana*	–/SSC (nesting)	G5 S3S4	Nests in freshwater emergent wetlands with dense patches of tules or cattails interspersed with open water more than 3 feet deep; forages by diving in deep open water. Year-round range is patchily distributed through portions of the Central Valley, northeastern California, and southern California	No CNDDB (2017) records but numerous eBird (2016) records throughout the valley portion of the Plan Area. Rare spring, fall, and winter visitor to large lakes and reservoirs of Placer County (Jones & Stokes 2003).	No
Great blue heron *Ardea herodias*	–/, (rookeries)	G5 S4	Nests colonially in tall trees; forages in freshwater and saline marshes, shallow open water, and occasionally cropland or low, open upland habitats, such as pastures. Year-round range spans most of California except the eastern portion of the State and the highest elevations; winter range expands to include eastern California.	CNDDB (2017) occurrences in the Plan Area.	No
California black rail *Laterallus jamaicensis coturniculus*	BCC/T, FP	G3G4T1 S1	Nests and forages in saline, freshwater, or brackish emergent marshes with gently grading slopes and upland refugia with vegetative cover beyond the high-water line. Year-round range includes Suisun Marsh, San Pablo Bay, Morro Bay, a few patches in the Sierra Nevada foothills, and portions of southern California; winter range expands to include San Francisco Bay and the Marin County coast.	CNDDB (2017) occurrences in the Plan Area.	Yes

Common Name *Scientific Name*	Status[a] Federal/ State	 Other	Habitat and Distribution in California	Known Occurrences in the Plan Area	Covered in Plan
White-faced ibis *Plegadis chihi*	–/WL (rookeries) (nesting colony)	G5 S3S4	Forages in wetlands and irrigated or flooded croplands and pastures; breeds colonially in dense freshwater marsh. Year-round resident in scattered locations in the Central Valley and southern California; also nests in northeastern California.	No CNDDB (2017) records but numerous eBird (2016) records throughout the Valley portion of the Plan Area.	No
Yellow warbler *Setophaga petechia*	BCC/SSC (nesting)	G5 S3S4	Nests and forages in early successional riparian habitats. Range includes coastal and northern California and the Sierra Nevada below approximately 7,000 feet; mostly extirpated from the southern Sacramento and San Joaquin Valleys.	No CNDDB (2017) records but numerous eBird (2016) records throughout the Plan Area.	No
Yellow-breasted chat *Icteria virens*	–/SSC (nesting)	G5 S3	Nests and forages in riparian thickets of willow and other brushy tangles near water and thick understory in riparian habitat. Breeding range includes the northern Sacramento Valley, Cascade Range, Sierra Nevada foothills, northwestern California, most of the Coast Ranges, the Colorado River, and other scattered sites; migrates south of California in fall/winter.	No CNDDB (2017) records but there are eBird (2016) records in the eastern portion of the Plan Area. Probably common to uncommon breeder in riparian habitats in the foothills and middle elevations of Placer County	No
Song sparrow ("Modesto" population) *Melospiza melodia*	–/SSC	G5 S3?	Nests and forages primarily in emergent marsh, riparian scrub, and early successional riparian forest habitats, and infrequently in mature riparian forest and sparsely vegetated ditches and levees. Year-round range includes the Delta east of Suisun Marsh, the Sacramento Valley, and the northern San Joaquin Valley.	CNDDB (2017) occurrences. Modesto song sparrow is a common marsh and riparian resident of valley floor in western Placer County	No
Tricolored blackbird *Agelaius tricolor*	BCC/C (nesting)	G2G3 S1S2	Nests colonially in large, dense stands of freshwater marsh, riparian scrub, and other shrubs and herbs; forages in grasslands and agricultural fields. Year-round resident throughout the Central Valley and the central and southern coasts, with additional scattered locations throughout California.	CNDDB (2017) occurrences in the Plan Area.	Yes

Common Name *Scientific Name*	Status[a] Federal/ State	 Other	Habitat and Distribution in California	Known Occurrences in the Plan Area	Covered in Plan
Bank swallow *Riparia riparia*	–/T (nesting)	G5 S2	Nests in vertical banks or bluffs, typically adjacent to water, devoid of vegetation, and with friable, eroding soils; forages in a wide variety of habitats. Breeds in much of lowland and riparian California, with 75% nesting colonies along the Sacramento and Feather Rivers and their tributaries; additional breeding locations are scattered throughout the northern and central portions of the state; migrates south of California in fall/winter.	CNDDB (2017) nest occurrence in the Plan Area on the north bank of the Bear River east of Wheatland.	No
Mammals					
American badger *Taxidea taxus*	–/SSC	G5 S3	Found in drier, open shrub, forest, and herbaceous habitats with friable soils. Year-round range spans all of California except the Humboldt and Del Norte coasts.	No CNDDB (2017) occurrences in the Plan Area. Plan Area is within species' known distribution and habitat is suitable.	No
Ringtail *Bassariscus astutus*	–/FP	G5 SNR	Large acreages of oak woodland, riparian, and other dense brush habitats with rock recesses or hollow snags for cover. Year-round range spans much of California except the San Joaquin Valley, northeastern California, and portions of southern California.	No CNDDB (2017) occurrences in the Plan Area but suitable habitat is present and it is within the species' range.	No
Pallid Bat *Antrozous pallidus*	–/SSC	G5 S3	Deserts, grasslands, shrublands, woodlands, and forests; most common in open, dry habitats; typically roosts in rock crevices, also in tree hollows, bridges, and buildings, in colonies ranging from 1 to more than 200 individuals. Year-round range spans nearly all of California.	No CNDDB (2017) occurrences in the Plan Area but the species could roost and forage in the Plan Area.	No
Townsend's big-eared bat *Corynorhinus townsendii*	–/C	G3G4 S2	This species may use several alternate roost sites (Woodruff and Ferguson 2005). Typically roosts in colonies of fewer than 100 individuals in caves or mines; occasionally roosts in buildings or bridges, and rarely, hollow trees; forages in all habitats except alpine and subalpine, although most commonly in mesic forests and woodlands. Year-round range spans most of California except the highest elevations of the Sierra Nevada south of Lake Tahoe.	CNDDB (2017) occurrence in the Plan Area.	No

Common Name *Scientific Name*	Status[a] Federal/ State	 Other	Habitat and Distribution in California	Known Occurrences in the Plan Area	Covered in Plan
Spotted bat *Euderma maculatum*	–/SSC	G4S3	Roosts primarily in rock crevices; uses arid deserts and open pine forests set in rocky terrain; females may favor ponderosa pine forests during reproduction. Occurs throughout eastern and southern California, the central Sierra Nevada, and the Sierra Nevada foothills bordering the San Joaquin Valley; probably occurs in other portions of the state where habitat is suitable.	No CNDDB (2017) occurrences in the Plan Area but the species could roost and forage in the Plan Area.	No
Silver-haired bat *Lasionycteris noctivagans*	–/–	G5 S3S4	Tree-roosting species that is associated with mixed conifer forests. The species uses cavities, spaces under bark and other structural openings in trees and snags to shelter their small maternity colonies during the spring and summer. Silver-haired bats are known to move their roosts frequently during the summer, while remaining in the same general area. As a result, stands with multiple suitable roost trees and snags are likely necessary for this species. Silver-haired bats may hibernate in tree hollows, or in rock formations such as abandoned mines and caves. Occurs throughout California. Primarily associated with coniferous and mixed conifer/hardwood forests but also occurs in lower elevations during seasonal migrations and winter.	No CNDDB (2017) occurrences in the Plan Area but the species could roost and forage in the Plan Area.	No
Western red bat *Lasiurus blossevillii*	–/SSC	G5 S3	Mature riparian broadleaf forest in the Central Valley is primary summer breeding habitat for the species in California (females and pups). Riverside orchards may also be used as maternity roosts. Roosts alone or in small family groups in tree foliage, occasionally shrubs; prefers habitat edges and mosaics with trees that are protected from above and open below with open areas for foraging, including grasslands, shrublands, and open woodlands. Unsubstantiated records of hibernation in leaf litter during the winter. Year-round range spans the Central Valley, Sierra Nevada foothills, Coast Ranges, and coast except Humboldt and Del Norte Counties.	No CNDDB (2017) occurrences in the Plan Area but the species could roost and forage in the Plan Area.	No

Common Name *Scientific Name*	Status[a] Federal/ State	 Other	Habitat and Distribution in California	Known Occurrences in the Plan Area	Covered in Plan
Hoary bat *Lasiurus cinereus*	–/–	G5 S4	Ranges widely in North America, but populations in the Central Valley are most likely non-reproductive or migratory. Typically roosts alone in a variety of broadleaf tree species such as cottonwood and sycamore; also found roosting in conifers. May be found in a range of vegetation and roost substrates during migration.	No CNDDB (2017) occurrences in the Plan Area but the species could roost and forage in the Plan Area.	No
Fringed myotis *Myotis thysanodes*	–/–	G4S3	Found in open woodlands in the Sierra Nevada, Klamath Mountains, Coast Ranges, and Transverse and Peninsular Ranges.	No CNDDB (2017) occurrences in the Plan Area but the species could roost and forage in the Plan Area.	No
Yuma myotis *Myoits yumanensis*	–/–	G5 S4	Widely distributed in California. Strongly associated with water sources. Roosts in a variety of structures including bridges, buildings, caves, mines, trees and rock crevices. Has been known to roost in cliff swallow nests. Typically forages low over water.	No CNDDB (2017) occurrences in the Plan Area but the species could roost and forage in the Plan Area.	No
Long-eared myotis *Myotis evotis*	–/–	G5 S3	Forms colonial maternity roosts in trees, and is particularly associated with, though not limited to, conifer forest. Is also known to roost in anthropogenic structures and rock formations. Sierra Nevada, Klamath Mountains, Coast Ranges, and Transverse and Peninsular Ranges.	No CNDDB (2017) occurrences in the Plan Area but the species could roost and forage in the Plan Area.	No
Long-legged myotis *Myotis volans*	–/–	G5 S3	Most common in woodlands and forests above 4,000 feet but occurs from sea level to 11,000 feet. Mountains throughout California; absent from Central Valley and desert areas.	No CNDDB (2017) occurrences in the Plan Area but the species could roost and forage in the Plan Area.	No
Small-footed myotis *Myotis ciliolabrum*	–/–	G5 S3	Occurs through much of California, except the northwest and coastal areas. Particularly associated with coniferous forests and rocky xeric habitats. Typically roosts in rock crevices in mines, caves and occasionally in buildings, bridges and other human structures. Forages over a variety of habitats.	No CNDDB (2017) occurrences in the Plan Area but the species could roost and forage in the Plan Area.	No

Common Name *Scientific Name*	Status[a] Federal/ State	 Other	Habitat and Distribution in California	Known Occurrences in the Plan Area	Covered in Plan
Fish					
Central Valley steelhead *Oncorhynchus mykiss*	T/SSC	G5T2Q S2	Occurs in Sacramento and San Joaquin Rivers and their major tributaries. Small to large perennial rivers and creeks with cold water flows and suitable spawning gravel.	Yes, present in drainages in the Plan Area.	Yes
Central Valley fall-/late fall-run Chinook salmon *Oncorhynchus tshawytscha*	SC/SSC	G5T2T3Q S2?	Occurs in Sacramento and San Joaquin Rivers and their major tributaries. Large perennial rivers and creeks with cold water flows and suitable spawning gravel.	Yes, present in drainages in the Plan Area.	Yes
Hardhead *Mylopharodon conocephalus*	–/SSC	G3 S3	Occurs in the Sacramento and San Joaquin River systems. Undisturbed portions of larger streams at low and middle elevations here they prefer large, deep, rock or sand-bottomed pools.	Yes, present in drainages in the Plan Area.	No
Pacific lamprey *Lampetra ayresii*	–/SSC	G4 S4	Occurs in Sacramento and San Joaquin Rivers and their associated tributaries. Adults live in the ocean and migrate into fresh water to spawn. Juveniles (ammocoetes) live in fresh water for 5–7 years before migrating downstream to the ocean. (Moyle 2002)	Yes, present in drainages in the Plan Area.	No

Sources: California Department of Fish and Wildlife (CNDDB) 2017b.

[a] Status

Federal Listing Categories:

E = Listed as endangered under the federal Endangered Species Act (ESA).
T = Listed as threatened under the ESA.
PT = Proposed for listing as threatened under the ESA.
BCC = U.S. Fish and Wildlife Service bird of conservation concern.
C = Candidate for listing under the ESA.
SC = Species of Concern.
– = No status.

State Listing Categories:

E = Listed as endangered under the California Endangered Species Act (CESA).
T = Listed as threatened under CESA.
C = Candidate for protection under CESA.
FP = Fully protected under the California Fish and Game Code.
SSC = California species of special concern.
WL = California Department of Fish and Wildlife watch list.
CFGC = Rookeries protected under the California Fish and Game Code.
– = No status.

Table 3.3-4 (Continued)

Other:

NatureServe Conservation Status (shown only for species without legal status)**:**

GH	=	Possibly Extinct (species)—Missing; known from only historical occurrences but still some hope of rediscovery
G1	=	Critically Imperiled—At very high risk of extinction because of extreme rarity (often 5 or fewer populations), very steep declines, or other factors
G2	=	Imperiled—At high risk of extinction because of very restricted range, very few populations (often 20 or fewer), steep declines, or other factors
G3	=	Vulnerable—At moderate risk of extinction because of a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors
G4	=	Apparently Secure—Uncommon but not rare; some cause for long-term concern because of declines or other factors
G5	=	Secure—Common; widespread and abundant
G#G#	=	Range Rank—A numeric range rank (e.g., G2G3) is used to indicate the range of uncertainty in the status of a species or community
G#?	=	Question mark indicated uncertainty as to status of a species
SH	=	Possibly Extirpated (Historical)—Species or community occurred historically in the State, and there is some possibility that it may be rediscovered
S1	=	Critically Imperiled—Critically imperiled in the State because of extreme rarity (often 5 or fewer occurrences) or because of some factor(s) such as very steep declines making it especially vulnerable to extirpation from the State
S2	=	Imperiled—Imperiled in the State because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the State
S3	=	Vulnerable—Vulnerable in the State because of a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation
S4	=	Apparently Secure—Uncommon but not rare; some cause for long-term concern because of declines or other factors
S#S#	=	Range Rank—A numeric range rank (e.g., S2S3) is used to indicate the range of uncertainty in the status of a species or community
S#?	=	Question mark indicates uncertainty as to status of a species
SNR	=	Not ranked
T	=	Infraspecific Taxon (trinomial)—The status of infraspecific taxa (subspecies or varieties) are indicated by a “T-rank” following the species’ global rank State Rank Lower numbers equate to higher vulnerability
Q	=	Q following the T-rank denotes the taxon’s information taxonomic status

Tricolored Blackbird

The PCCP model for tricolored blackbird habitat distribution only includes areas below 300 feet in elevation; however, the species is known to occur at elevations above 4,000 feet and, in adjacent El Dorado County, has been found up to 1,640 feet in elevation (California Department of Fish and Wildlife 2017b). Airola et al. (2015a:65) found active colonies in the Sierra Nevada foothills up to 1,720 feet in elevation. The maximum elevation in the Plan Area is 1,600 feet.

Tricolored blackbirds in the Sierra Nevada foothills have been observed primarily nesting in blackberry thickets (Airola et al. 2015b:97). The species is also known to nest in triticale, wheat, mustard, and milk thistle (Holyoak et al. 2014:5; Meese 2014:9). Airola et al. (2015b:99) identify suitable tricolored blackbird habitat in Placer County generally west of SR 49.

For the purposes of this analysis and using information from Airola et al. (2015b) and Meese (2014), the EIS/EIR team modified the tricolored blackbird habitat distribution model. Below is a summary of the modified model, and tricolored habitat in the Plan Area is shown in Table 3.3-5. Additional information is presented in Section 4.3.

Nesting Habitat

The PCCP model for tricolored blackbird nesting habitat included fresh emergent marsh up to 300 feet in elevation the Plan Area. The model was modified for this analysis to include all fresh emergent marsh in the Plan Area, added blackberry thickets in the foothills, and added wheat and triticale. To estimate the extent of this nesting habitat in the foothills, the GIS dataset associated with CDFW's *Northern Sierra Nevada Foothills Vegetation Project* (Menke et al. 2011) was queried for the *Rubus armeniacus* vegetation alliance (Himalayan blackberry) in the Plan Area. Because the PCCP mapping data for croplands did not include crop types, crop type data for the Plan Area were obtained from the U.S. Department of Agriculture's CropScape—Cropland Data Layer (U.S. Department of Agriculture 2009). These data did not include the weedy vegetation types the species is known to nest in, such as mustard and thistle, but did include triticale and wheat. Though crop types often change from year to year, the intent for this analysis is to provide an estimate of what these acreages could be in a given year.

Foraging Habitat

The PCCP model for tricolored blackbird foraging habitat included vernal pool complex, grasslands, alfalfa, and cropland up to 300 feet in elevation in the Plan Area. The model was modified for this analysis to include all of these land covers in the Plan Area and added rice. Rice is considered to be a preferred foraging habitat for tricolored blackbird (Shuford and Gardali 2008:440).

Table 3.3-5. Modeled Tricolored Blackbird Habitat in the Plan Area

Modeled Tricolored Habitat in Plan Area	Acres
Foraging	
Vernal pool complex	45,065
Grassland	24,746
Alfalfa	176
Cropland	2,512
Rice	19,580
Total foraging habitat	104,952
Nesting	
Fresh emergent marsh	1,112
Triticale	181
Wheat	1,795
Blackberry thicket	1,202
Total nesting habitat	4,290

Note: The Plan identifies 60,974 acres of suitable foraging habitat and 633 acres of suitable nesting habitat for this species in the Plan Area.

Valley Elderberry Longhorn Beetle

The PCCP model for valley elderberry longhorn beetle includes valley oak woodland and riverine/riparian up to 650 feet in elevation. Valley elderberry longhorn beetle is known to occur up to 3,000 feet in elevation (U.S. Fish and Wildlife Service 1999) and in Placer County has been documented up to 1,875 feet in elevation (California Department of Fish and Wildlife 2017b). The species is also known to occur in urban riparian areas and, in fact, has been found along urban streams in areas of Roseville, Rocklin, and Sacramento (California Department of Fish and Wildlife 2017b). The model was modified for this analysis to include valley oak woodland, riverine/riparian, and urban riparian throughout the Plan Area. The acreages of these habitats are summarized in Table 3.3-6.

Table 3.3-6. Modeled Valley Elderberry Longhorn Beetle Habitat in the Plan Area

Habitat	Acres
Valley oak woodland	1,364
Riverine/riparian	6,685
Urban riparian	104
Total Habitat	8,153

Note: The Plan identifies 6,367 acres of suitable habitat for this species in the Plan Area.

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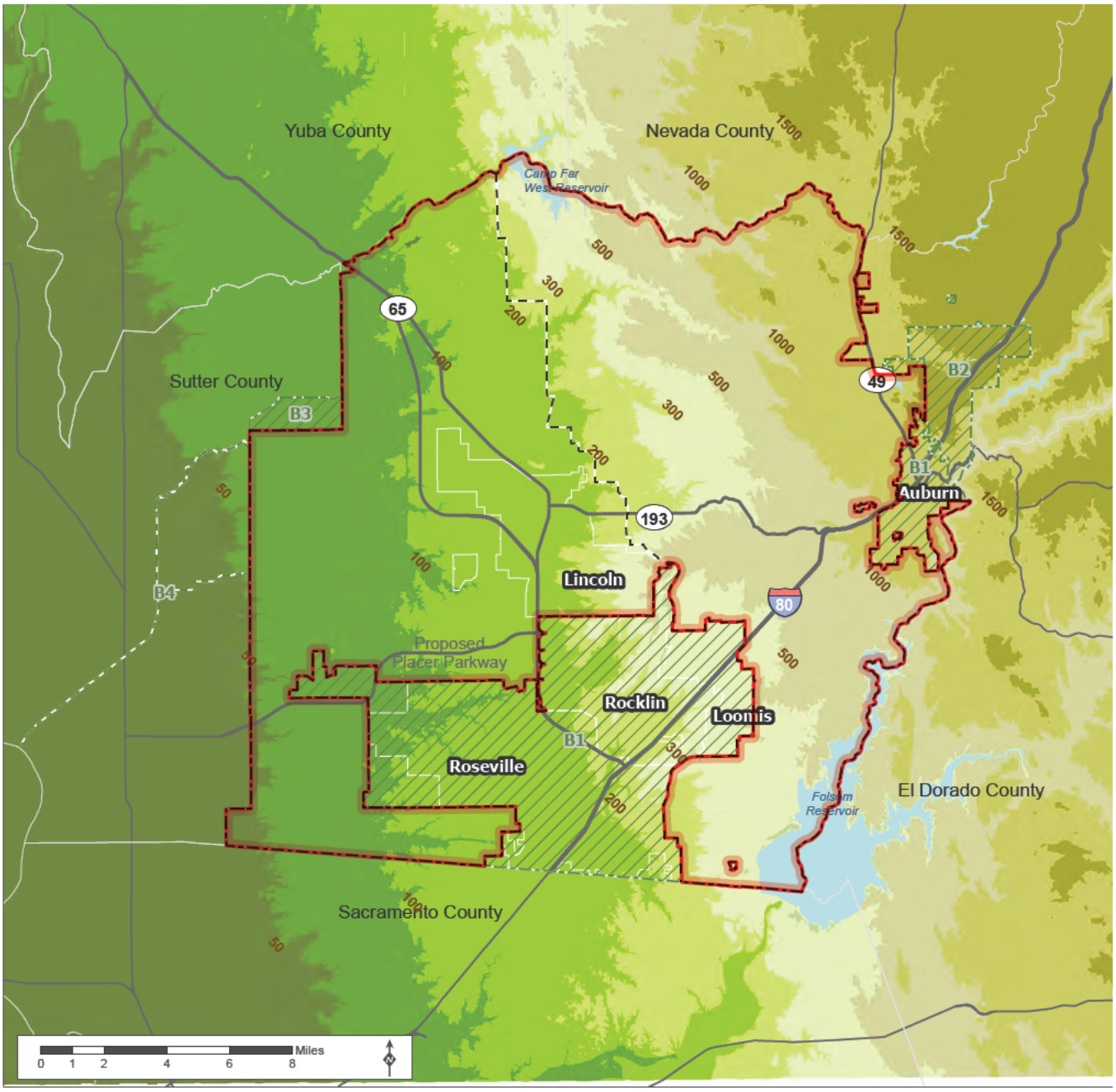


Source: Placer County, 2014; MIG | TRA, 2015; USGS

ELEVATION
Feet above sea level

- 50
- 100
- 200
- 300
- 500
- 1000
- 1500

Major Road
Valley/Foothill Divide

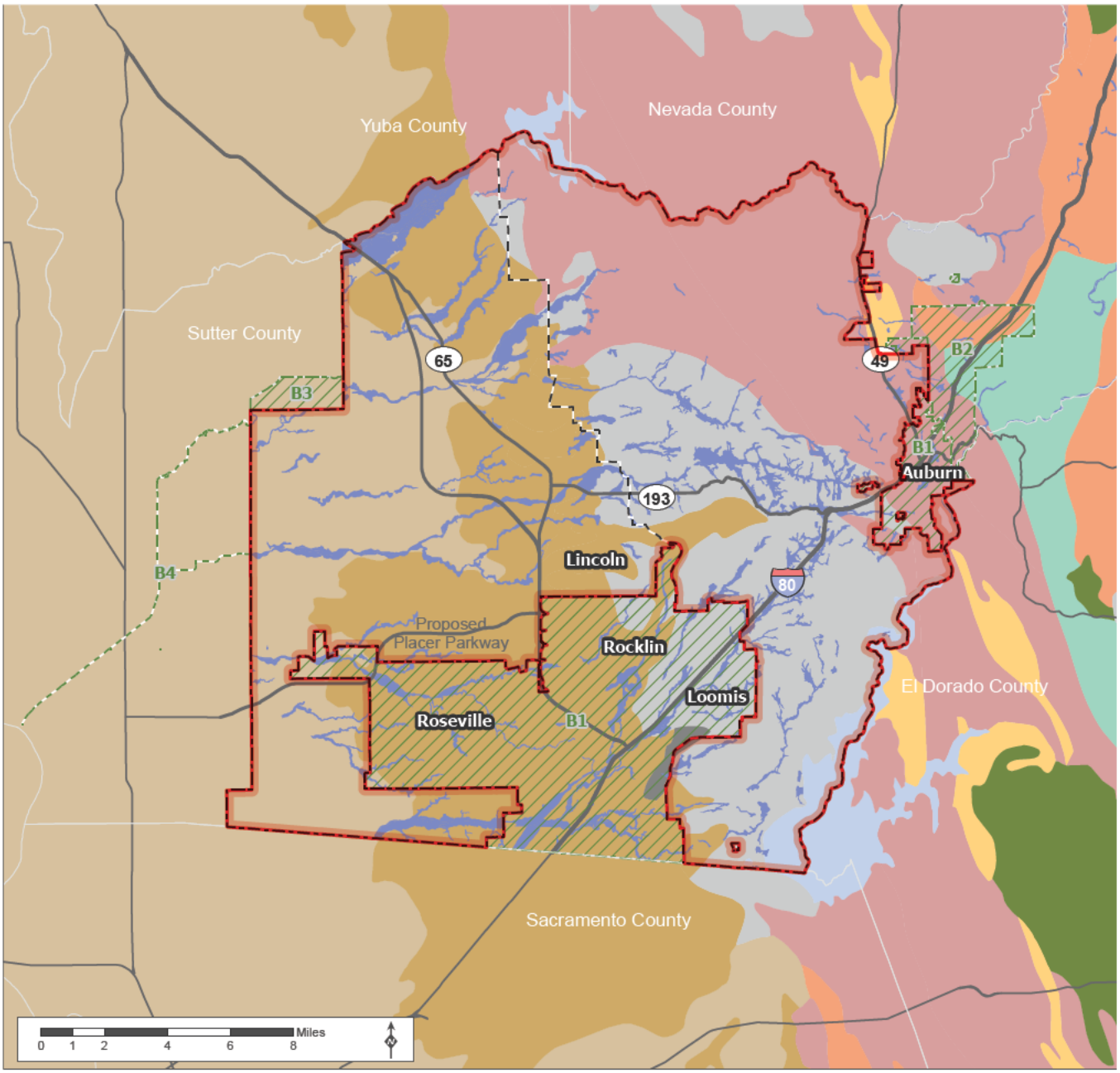
Plan Area A
Plan Area A Boundary

Plan Area B
B1 Non-Participating Cities
B2 PCWA O&M
B3 Coon Creek Floodplain
B4 Fish Passage Improvement
B5 Big Gun Conservation Bank (not shown)

Source: Appendix A.

Graphics ... 04406.04 (7-12-2018) tg

Figure 3.3-1
Topography
Placer County Conservation Program – EIS/EIR



Source: Placer County, 2014; California Geologic Survey, GIS Data for the Geologic Map of California, 2000, reference field ROCKTYPE_1 ; NRCS

Geologic Unit
- alluvium
- andesite
- gabbro
- granodiorite
- mafic volcanic rock
- peridotite
- sandstone
- schist
- slate
- water

Soil Type
mapped in Placer County only
- Xerofluvent

- Major Road
- Valley/Foothill Divide

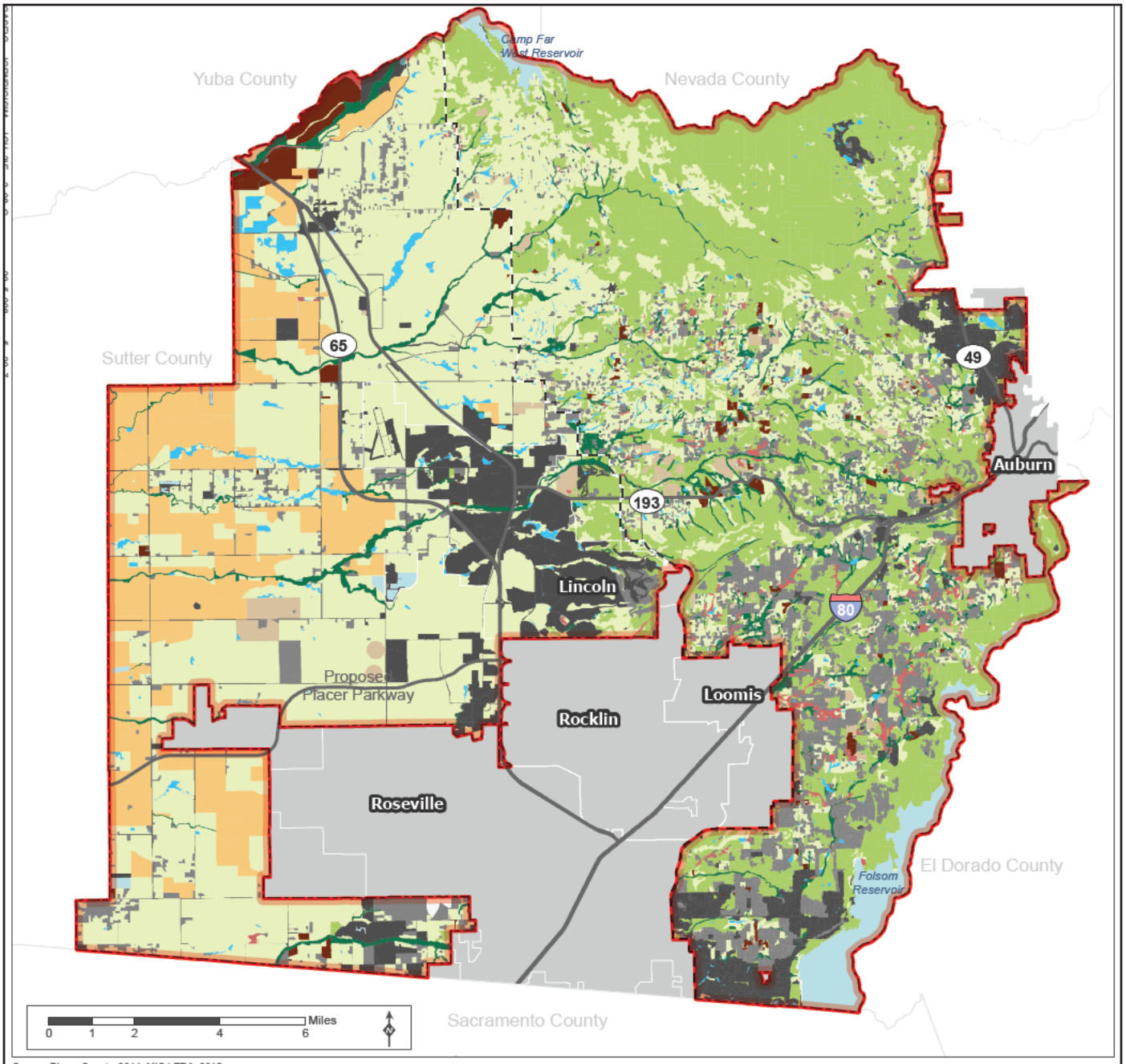
Plan Area A
- Plan Area A Boundary

Plan Area B
- B1 Non-Participating Cities
- B2 PCWA O&M
- B3 Coon Creek Floodplain
- B4 Fish Passage Improvement
- B5 Big Gun Conservation Bank (not shown)

Source: Appendix A.

Graphics ... 04406.04 (7-12-2018) tg

Figure 3.3-2
Geology and Soils
Placer County Conservation Program – EIS/EIR



Source: Placer County, 2014; MIG | TRA, 2015

Community and Land Cover Type

Natural Communities
- Vernal Pool Complex and Grassland
- Aquatic/Wetland Complex
- Riverine/Riparian Complex
- Oak Woodland
- Valley Oak Woodland

Semi-Natural Communities and Other Agriculture
- Rice Agriculture
- Field Agriculture
- Orchard and Vineyard Agriculture

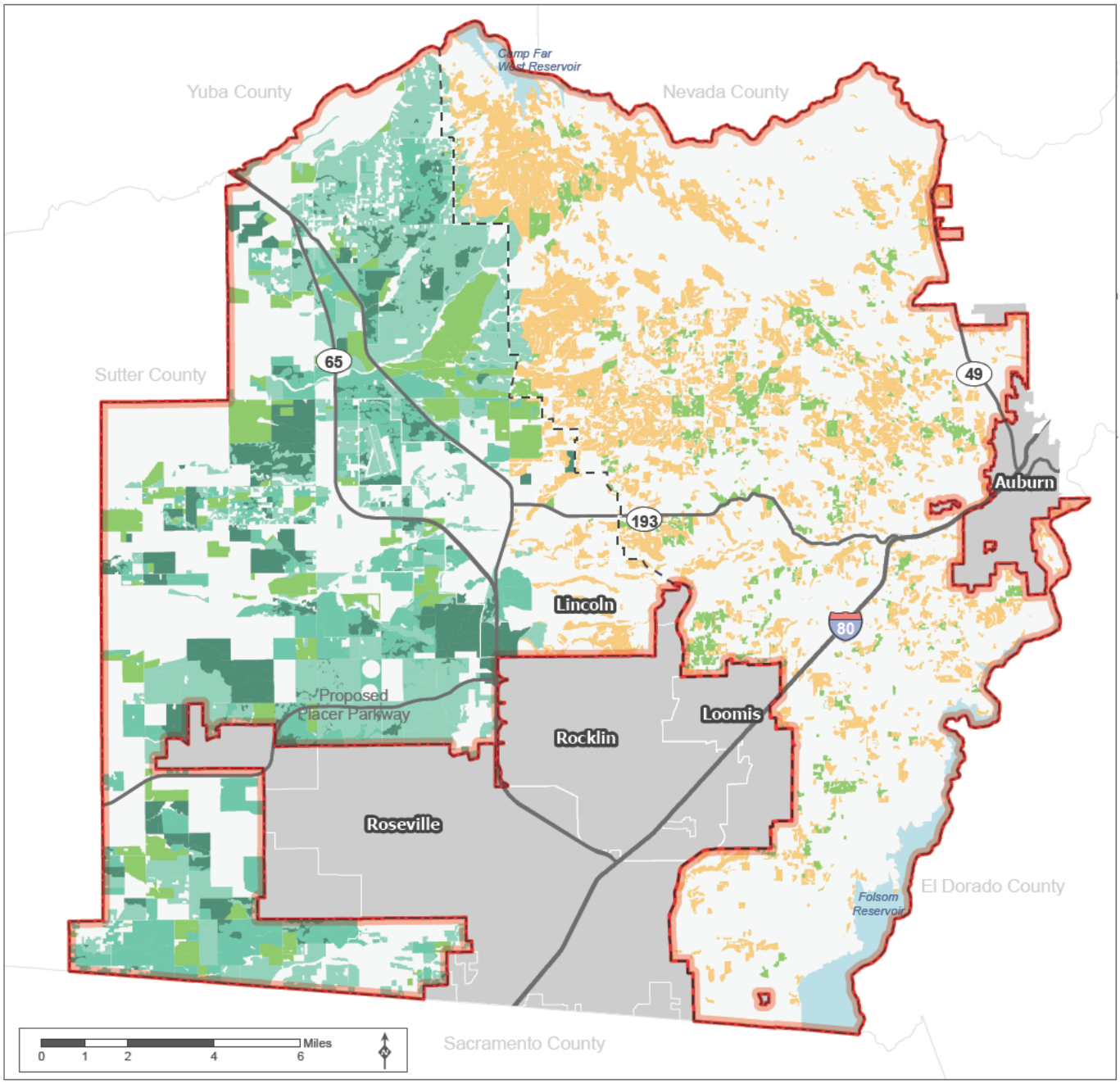
Urban (Non-natural) Communities
- Managed Open Water
- Rural Residential
- Urban

- Non-Participating City
- Valley/Foothill Divide
- Plan Area A Boundary

Source: Appendix A.

Graphics ... 04406.04 (7-12-2018) tg

Figure 3.3-3
Land Cover Types
Placer County Conservation Program – EIS/EIR



Source Placer County 2014 MIG | TRA 2015

Community and Land Cover Type

Grassland

- Annual Grassland
- Pasture

Vernal Pool Complex

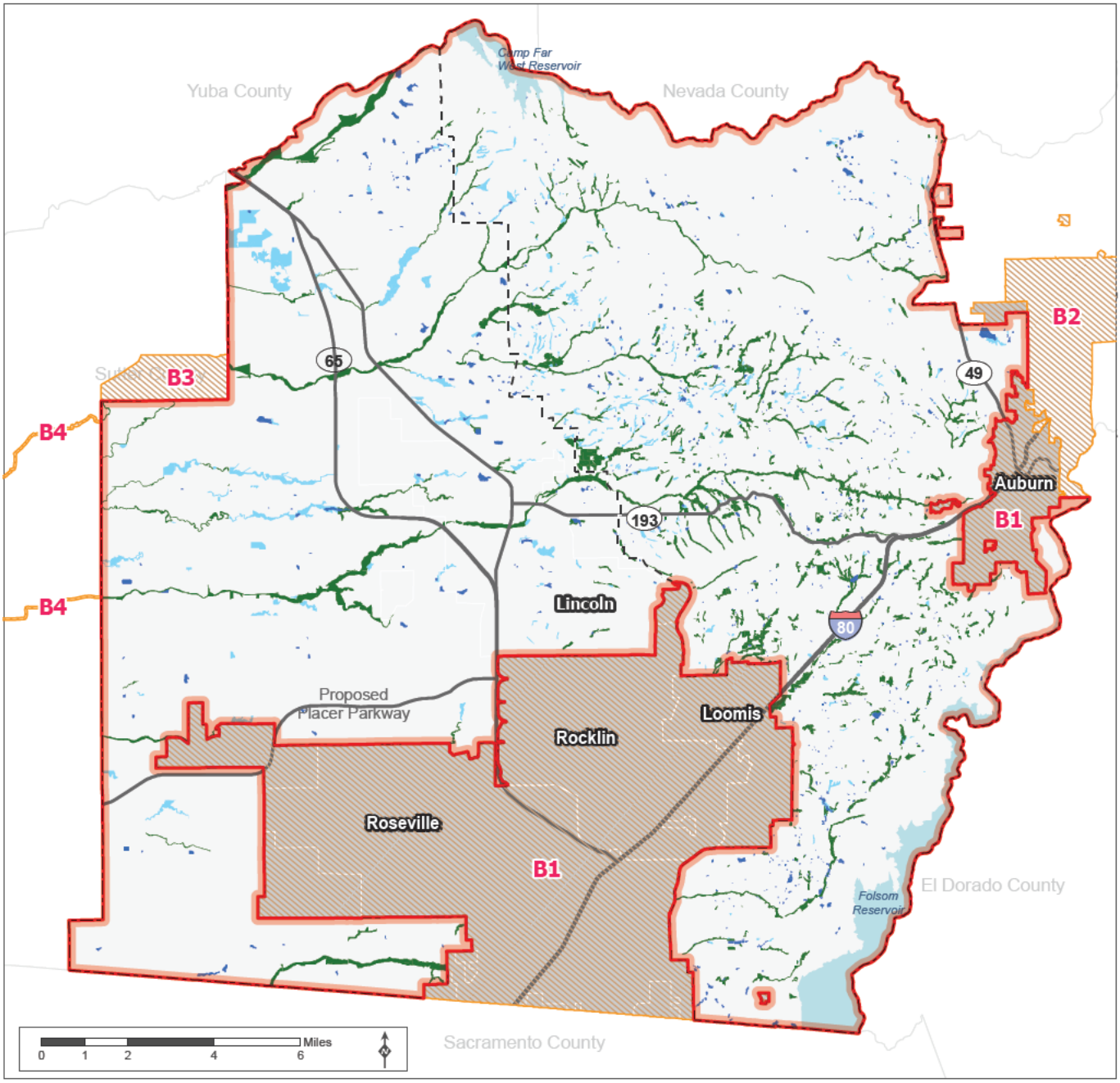
- VPC High Density
- VPC Intermediate Density
- VPC Low Density

- Non-Participating City
- Major Road
- Valley/Foothill Divide
- Plan Area A Boundary

Source: Appendix A.

Graphics ... 04406.04 (7-12-2018) tg

Figure 3.3-4
Grassland and Vernal Pool Complex
Placer County Conservation Program – EIS/EIR



Source Placer County 2014 MIG | TRA 2015

Community and Land Cover Type

Aquatic/Wetland Complex

- Marsh Complex
- Pond

Riverine/Riparian Complex

- Riverine/Riparian

- Non-participating City
- Major Road
- Valley/Foothill Divide

Plan Area A

- Plan Area A Boundary

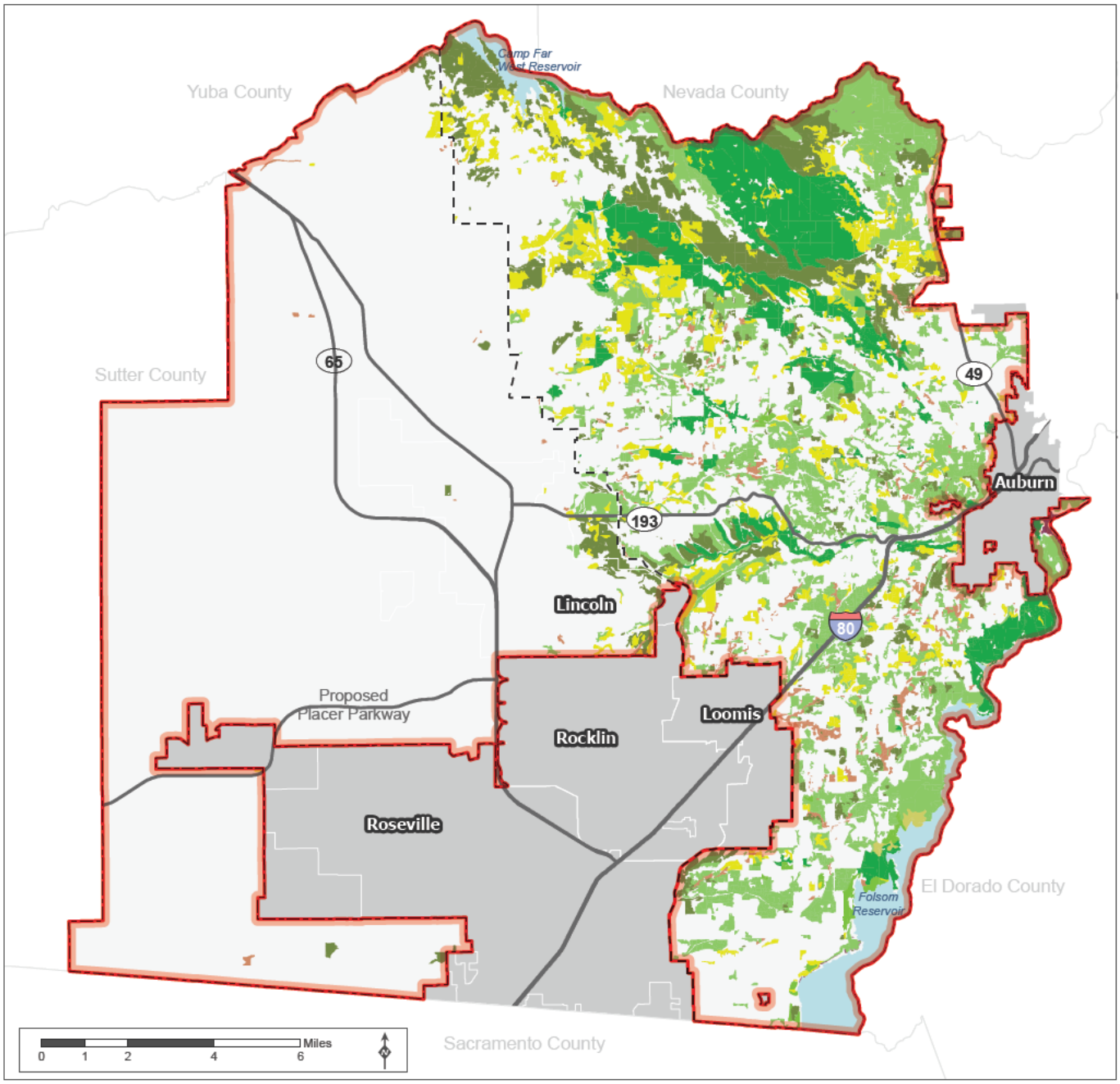
Plan Area B

- B1: Non-Participating Cities
- B2: PCWA O&M
- B3: Coon Creek Floodplain
- B4: Fish Passage Improvement
- B5: Big Gun Conservation Bank (not shown)

Source: Appendix A.

Graphics ... 04406.04 (7-12-2018) tg

Figure 3.3-5
Aquatic/Wetland Complex and Riverine/Riparian Complex
Placer County Conservation Program – EIS/EIR



Source Placer County 2014 MIG | TRA 2015

Community and Land Cover Type

Oak Woodland

- Blue Oak Woodland
- Foothill Chaparral
- Interior Live Oak Woodland
- Mixed Oak Woodland
- Oak-Foothill Pine Woodland
- Oak Savanna
- Rock outcrop

Valley Oak Woodland

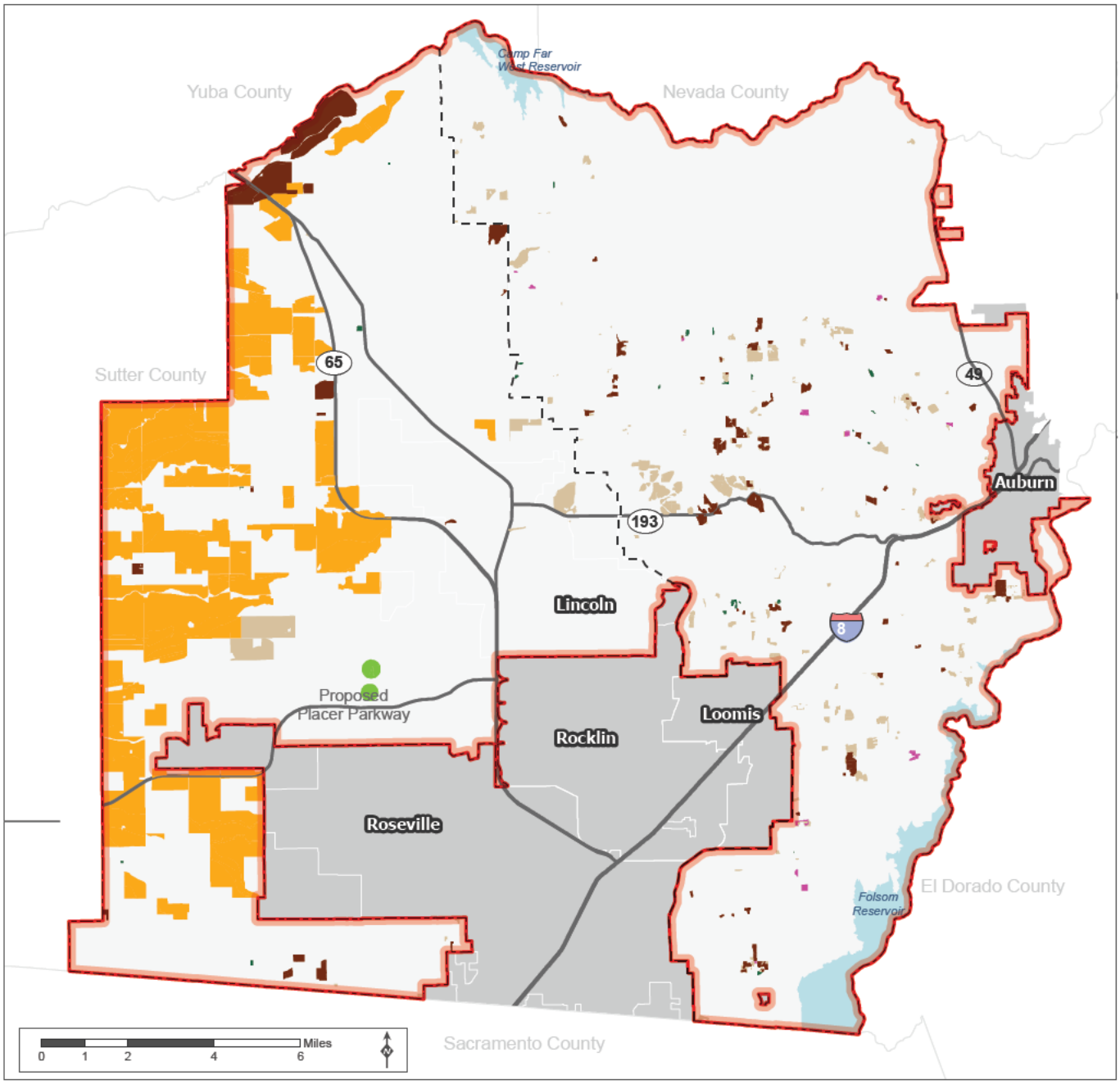
- Valley Oak Woodland

- Non-participating City
- Major Road
- Valley/Foothill Divide
- Plan Area A Boundary

Source: Appendix A.

Graphics ... 04406.04 (7-12-2018) tg

Figure 3.3-6
Oak Woodland and Valley Oak Woodland
Placer County Conservation Program – EIS/EIR



Source Placer County 2014 MIG | TRA 2015

Community and Land Cover Type

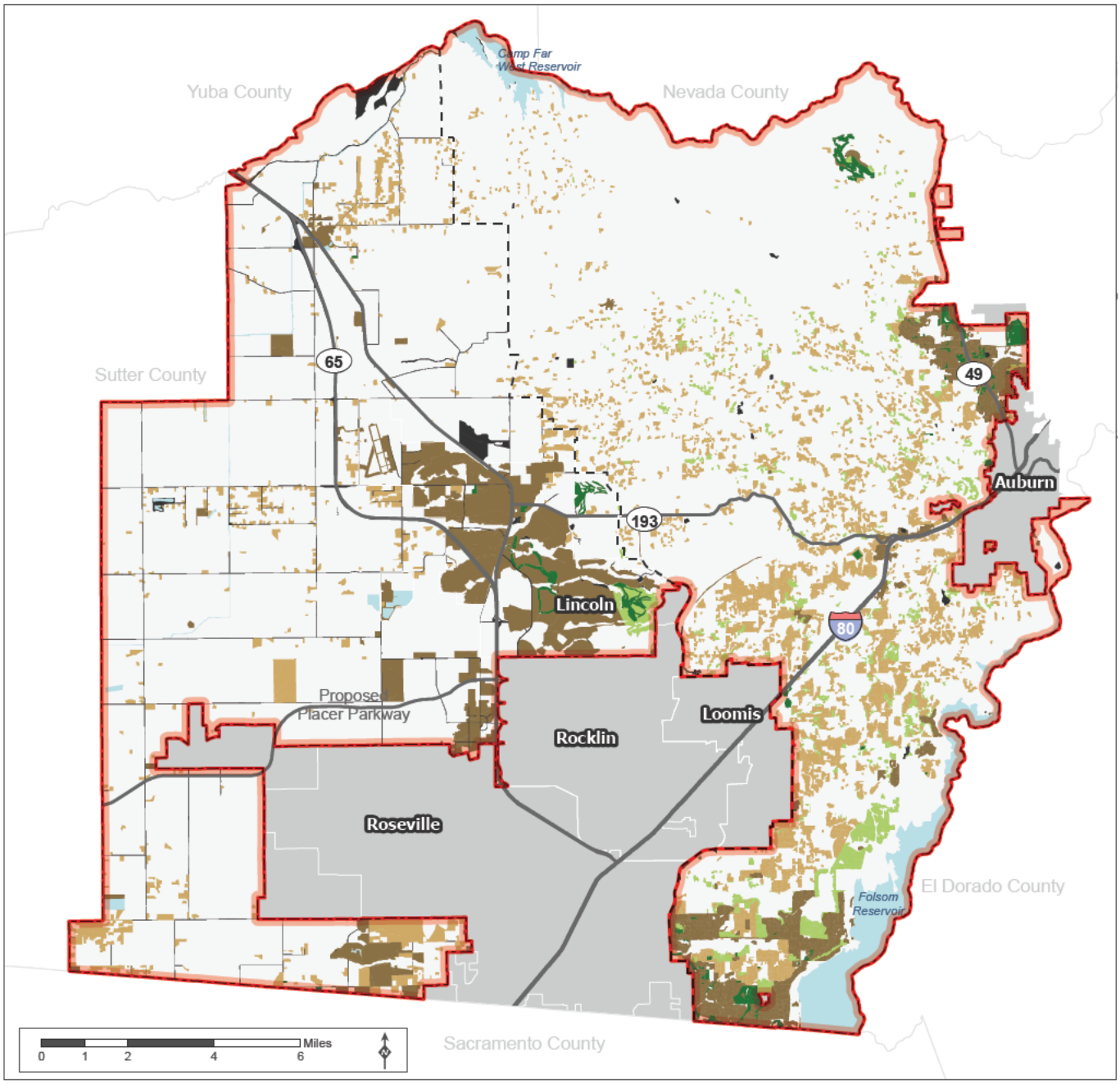
Semi-natural and Other Agriculture Communities

- Alfalfa
- Cropland
- Eucalyptus
- Orchard
- Rice
- Vineyard
- Non-participating City
- Valley/Foothill Divide
- Plan Area A Boundary

Source: Appendix A.

Graphics ... 04406.04 (7-12-2018) tg

Figure 3.3-7
Agriculture and Semi-Natural Communities
Placer County Conservation Program – EIS/EIR



Source Placer County 2014 MIG | TRA 2015

Community and Land Cover Type

Urban (Non-Natural) Communities

- Canal
- Reservoir
- Urban open water
- Rural residential
- Rural residential forested
- Urban and suburban
- Barren/Industrial Road
- Urban golf course
- Urban park
- Urban riparian
- Urban wetland
- Urban woodland

- Non-participating City
- Major Road
- Valley/Foothill Divide
- Plan Area A Boundary

Source: Appendix A.

Graphics ... 04406.04 (7-12-2018) tg

Figure 3.3-8
Urban and Non-Natural Communities
Placer County Conservation Program – EIS/EIR

3.4 Cultural and Paleontological Resources

This section describes the regulatory and environmental settings for cultural and paleontological resources in the Plan Area. Impacts that would result from implementing the proposed action and alternatives are described in Chapter 4, *Environmental Consequences*, along with mitigation measures to reduce impacts, where appropriate.

3.4.1 Regulatory Setting

Federal—Cultural Resources

Section 106 of the National Historic Preservation Act

Section 106 of the National Historic Preservation Act (NHPA) requires federal agencies to take into account the effects of their undertakings on historic properties and afford State and tribal historic preservation offices, and the public, a reasonable opportunity to comment on such undertakings. The implementing regulations for Section 106 of the NHPA, at 36 Code of Federal Regulations (CFR) 800, define how the U.S. Fish and Wildlife Service (USFWS) can meet these requirements through a consultation process. The goal of consultation is to identify historic properties potentially affected by the federal undertaking, assess its effects, and seek ways to avoid, minimize, or mitigate any adverse effects on historic properties.

The USFWS's permit issuing officer has the obligation to fulfill Section 106 consultation requirements. Issuance of an incidental take permit and implementation of the habitat conservation plan's (HCP's) conservation requirements for Covered Species is a "federal undertaking." USFWS may use its public involvement procedures under NEPA or other program requirements to satisfy the public involvement requirements for the NHPA. Cultural resources are a NEPA factor, and the NHPA regulations encourage coordination and incorporation of NHPA consultation with the NEPA process. Also, early coordination is advantageous as voluntary adoption of compliance requirements by the applicant may streamline NEPA (i.e., reducing uncertainty and managing for it through surveys and proper preservation may decrease the level of analysis from an EIS to a mitigated environmental assessment).

The USFWS may establish, in consultation with the Advisory Council on Historic Preservation, alternative consultation procedures. Although these have not been established USFWS-wide, Regions and field offices may develop local consultation procedures with their corresponding State and tribal historic preservation offices. As noted above, the NHPA regulations allow USFWS to coordinate with other programs. Some States' cultural resource requirements have similar NHPA goals and can be coordinated to meet both State and federal needs. These State consultations can be incorporated into USFWS review to minimize duplicative effort by the USFWS and HCP applicants. As such, the Permit Applicants have developed a *Draft Cultural Resources Management Plan* (CRMP) (Placer County 2016a) for the Plan (referred to as the *PCCP* in the CRMP). For Covered Activities that have the potential to affect historic properties, the applicants or project proponents under their jurisdictions, will follow the procedures identified in the CRMP, which includes the following nine-step process:

1. Define the Area of Potential Effects.
2. Conduct a records search with the Information Center (IC) of the California Historical Resources Information System (CHRIS) for previous surveys and documented cultural resources in the area.
3. Conduct a sacred-lands search with the Native American Heritage Commission (NAHC).
4. Provide written notification of the proposed project to the Native American contacts obtained from the NAHC.
5. Conduct a cultural resources field survey commensurate with the level of the undertaking's potential to affect historic properties.
6. Record newly identified cultural resources.
7. Determine eligibility of newly identified sites under the criteria for inclusion in the NRHP.
8. Develop a report that includes survey and site descriptions, site inventory forms, determinations of eligibility of cultural resources under the NRHP, and management recommendations. The report shall also include a project location map specifically identifying where the proposed activities will occur to support a determination of effect; map(s) of the area surveyed and where previously and newly identified sites are located; figures; tables; photographs; and copies of Information Center, NAHC, and tribal correspondence.
9. Identify avoidance, other protection measures, or mitigation measures for sites determined significant.

Other agencies that may take actions related to the PCCP may implement Section 106 compliance according to that agency's policies and procedures.

Other federal agencies may implement and follow their own procedures for ensuring Section 106 NHPA compliance, or they may utilize the process identified above. The U.S. Army Corps of Engineers is expected to follow its implementing regulations at 33 CFR 325, Appendix C.

National Register of Historic Places Eligibility Criteria

Resources that are eligible for listing in the NRHP possess the quality of significance in American history, architecture, archaeology, and/or culture and possess integrity of location, design, setting, materials, workmanship, feeling, and/or association. To be eligible for listing, resources must possess significance in one or more of the following criteria.

- Association with events that have made a contribution to the broad pattern of our history.
- Association with the lives of people significant in our past.
- Embody the distinct characteristics of a type, period, or method of construction, or represent the work of a master, or possess high artistic values, or represent a significant and distinguishable entity whose components may lack individual distinction.
- Have yielded, or are likely to yield, information important in prehistory or history (36 CFR 60.4).

As mentioned above, eligibility for listing in the NRHP requires that a resource not only meet one of the four significance criteria but that it also possesses integrity. *Integrity* is the ability of a property to convey its significance. The evaluation of a resource's integrity must be grounded in an

understanding of that resource's physical characteristics and how those characteristics relate to its significance.

Federal—Paleontological Resources

Paleontological Resources Act of 2009

The Paleontological Resources Act of 2009 (Pub. L. No. 111-11, Subtitle D) includes provisions for the protection and preservation of paleontological resources. The law also prohibits the collection of paleontological resources from federal land without a permit, except in the case of noncommercial collecting that complies with other regulations for that federal land.

State—Cultural Resources

California Register of Historical Resources

A cultural resource may be eligible for inclusion in the California Register of Historical Resources (CRHR) if any of the following apply.

1. It is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.
2. It is associated with the lives of persons important in our past.
3. It embodies the distinctive characteristics of a type, period, region, or method of construction; represents the work of an important creative individual; or possesses high artistic values.
4. It has yielded, or may be likely to yield, information important in prehistory or history.

To be considered a *historical resource* for the purpose of CEQA, the resource must also have *integrity*, which is the authenticity of a resource's physical identity evidenced by the survival of characteristics that existed during the resource's period of significance. Resources, therefore, must retain enough of their historic character or appearance to be recognizable as historical resources and to convey the reasons for their significance (14 California Code of Regulations 4852[b]). Integrity is generally evaluated with regard to the retention of location, design, setting, materials, workmanship, feeling, and association. It must also be judged with reference to the particular criteria under which a resource is eligible for listing in the CRHR.

Public Resources Code Section 21083.2

A *unique archaeological resource* is defined in Section 21083.2 of the California Public Resources Code (PRC) as an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria.

- It is associated with an event or person of recognized significance in California or American history or of recognized scientific importance in prehistory.
- It can provide information that is of demonstrable public interest and is useful in addressing scientifically consequential and reasonable research questions.
- It has a special or particular quality such as oldest, best example, largest, or last surviving example of its kind (PRC Section 21083.2).

In most situations, resources that meet the definition of a unique archaeological resource also meet the definition of *historical resource*. Consequently, it is current professional practice to evaluate cultural resources for significance based on their eligibility for listing in the CRHR. For the purposes of this CEQA cultural resources study, a resource is considered significant if it meets the CRHR eligibility (significance and integrity) criteria.

California Health and Human Safety Code, Section 7050.5

With respect to the potential discovery of human remains, Section 7050.5 of the California Health and Human Safety Code states the following.

(a) Every person who knowingly mutilates or disinters, wantonly disturbs, or willfully removes any human remains in or from any location other than a dedicated cemetery without authority of law is guilty of a misdemeanor, except as provided in Section 5097.99 of the Public Resources Code [PRC]. The provisions of this subdivision shall not apply to any person carrying out an agreement developed pursuant to subdivision (l) of Section 5097.94 of the [PRC] or to any person authorized to implement Section 5097.98 of the [PRC].

(b) In the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the coroner of the county in which the human remains are discovered has determined, in accordance with Chapter 10 (commencing with Section 27460) of Part 3 of Division 2 of Title 3 of the Government Code, that the remains are not subject to the provisions of Section 27491 of the Government Code or any other related provisions of law concerning investigation of the circumstances, manner and cause of any death, and the recommendations concerning the treatment and disposition of the human remains have been made to the person responsible for the excavation, or to his or her authorized representative, in the manner provided in Section 5097.98 of the [PRC]. The coroner shall make his or her determination within two working days from the time the person responsible for the excavation, or his or her authorized representative, notifies the coroner of the discovery or recognition of the human remains.

(c) If the coroner determines that the remains are not subject to his or her authority and if the coroner recognizes the human remains to be those of a Native American, or has reason to believe that they are those of a Native American, he or she shall contact, by telephone within 24 hours, the Native American Heritage Commission [NAHC].

Of particular relevance to historical resources is subsection (c), requiring the coroner to contact the NAHC within 24 hours if discovered human remains are thought potentially to be of Native American origin. After notification, NAHC will follow the procedures outlined in PRC Section 5097.98, which include notification of most likely descendants (MLDs), if possible, and recommendations for treatment of the remains. Also, knowing or willful possession of Native American human remains or artifacts taken from a grave or cairn is a felony under California law (PRC Section 5097.99).

Public Resources Code Section 5097.9

PRC Section 5097.9 states that no public agency or private party on public property shall "interfere with the free expression or exercise of Native American Religion." The code further states the following.

> No such agency or party [shall] cause severe or irreparable damage to any Native American sanctified cemetery, place of worship, religious or ceremonial site, or sacred shrine … except on a clear and convincing showing that the public interest and necessity so require.

County and city lands are exempt from this provision, except for parklands larger than 100 acres.

Assembly Bill 52

Assembly Bill (AB) 52 (Chapter 532, Statutes of 2014) establishes a formal consultation process for California Native American tribes as part of CEQA and equates significant impacts on tribal cultural resources with significant environmental impacts (PRC 21084.2). PRC Section 21074 defines tribal cultural resources as follows:

- Sites, features, places, sacred places, and objects with cultural value to descendant communities or cultural landscapes defined in size and scope that are either:
    - Included in or eligible for listing in the CRHR
    - Included in a local register of historical resources.
- A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of PRC Section 5024.1.

Sacred places can include Native American sanctified cemeteries, places of worship, religious or ceremonial sites, and sacred shrines. In addition, both unique and non-unique archaeological resources, as defined in PRC Section 21083.2, can be tribal cultural resources if they meet the criteria detailed above. The lead agency relies upon substantial evidence to make the determination that a resource qualifies as a tribal cultural resource when it is not already listed in the CRHR or a local register.

AB 52 defines a *California Native American Tribe* (Tribe) as a Native American tribe located in California that is on the contact list maintained by the Native American Heritage Commission (PRC 21073). Under AB 52, formal consultation with Tribes is required prior to determining the level of environmental document if a Tribe has requested to be informed by the lead agency of proposed projects and if the Tribe, upon receiving notice of the project, accepts the opportunity to consult within 30 days of receipt of the notice. AB 52 also requires that consultation, if initiated, address project alternatives and mitigation measures for significant effects, if specifically requested by the Tribe. AB 52 states that consultation is considered concluded when either the parties agree to measures to mitigate or avoid a significant effect on tribal cultural resources, or when either the Tribe or the agency concludes that mutual agreement cannot be reached after making a reasonable, good-faith effort. Under AB 52, any mitigation measures recommended by the agency or agreed upon with the Tribe may be included in the final environmental document and in the adopted mitigation monitoring program if they were determined to avoid or lessen a significant impact on a tribal cultural resource. If the recommended measures are not included in the final environmental document, then the lead agency must consider the four mitigation methods described in PRC Section 21084.3 (PRC 21082.3[e]). Any information submitted by a Tribe during the consultation process is considered confidential and is not subject to public review or disclosure. It will be published in a confidential appendix to the environmental document unless the Tribe consents to disclosure of all or some of the information to the public.

Consultation requirements under AB 52 only apply to projects with notices of preparation (NOPs) issued after July 1, 2015. Because this EIS/EIR NOP was issued prior to July 1, 2015, as described in Chapter 1, consultation requirements under AB 52 do not apply to this EIS/EIR.

State—Paleontological Resources

Public Resources Code Sections 5097.5 and 30244

Several sections of the PRC also protect paleontological resources. Section 5097.5 prohibits "knowing and willful" excavation, removal, destruction, injury, and defacement of any paleontological feature on public lands (lands under state, county, city, district, or public authority jurisdiction, or the jurisdiction of a public corporation), except where the agency with jurisdiction has granted express permission. Section 30244 requires reasonable mitigation for impacts on paleontological resources that occur as a result of development on public lands.

Local—Cultural Resources

Placer County General Plan

Excerpted below are the relevant goal, policies, and implementation program from the *Placer County General Plan* that pertain to cultural resources (Placer County 2013).

Goal

5.D. To identify, protect, and enhance Placer County's important historical, archaeological, paleontological, and cultural sites and their contributing environment.

Policies

5.D.1. The County shall assist the citizens of Placer County in becoming active guardians of their community's cultural resources.

5.D.2. The County shall solicit the cooperation of the owners of cultural and paleontological resources, encourage those owners to treat these resources as assets rather than liabilities, and encourage the support of the general public for the preservation and enhancement of these resources.

5.D.3. The County shall solicit the views of the Native American Heritage Commission, State Office of Historic Preservation, North Central Information Center, and/or the local Native American community in cases where development may result in disturbance to sites containing evidence of Native American activity and/or to sites of cultural importance.

5.D.4. The County shall coordinate with the cities and municipal advisory councils in the County to promote the preservation and maintenance of Placer County's paleontological and archaeological resources.

5.D.5. The County shall use, where feasible, incentive programs to assist private property owners in preserving and enhancing cultural resources.

5.D.6. The County shall require that discretionary development projects identify and protect from damage, destruction, and abuse, important historical, archaeological, paleontological, and cultural sites and their contributing environment. Such assessments shall be incorporated into a Countywide cultural resource data base, to be maintained by the Division of Museums.

5.D.7. The County shall require that discretionary development projects are designed to avoid potential impacts to significant paleontological or cultural resources whenever possible. Unavoidable impacts, whenever possible, shall be reduced to a less than significant level and/or shall be mitigated by extracting maximum recoverable data. Determinations of impacts, significance, and mitigation shall be made by qualified archaeological (in consultation with recognized local Native American groups), historical, or paleontological consultants, depending on the type of resource in question.

5.D.8. The County shall, within its power, maintain confidentiality regarding the locations of archaeological sites in order to preserve and protect these resources from vandalism and the unauthorized removal of artifacts.

5.D.9. The County shall use the State Historic Building Code to encourage the preservation of historic structures.

5.D.10. The County will use existing legislation and propose local legislation for the identification and protection of cultural resources and their contributing environment.

5.D.11. The County shall support the registration of cultural resources in appropriate landmark designations (i.e., National Register of Historic Places, California Historical Landmarks, Points of Historical Interest, or Local Landmark). The County shall assist private citizens seeking these designations for their property.

5.D.12. The County shall consider acquisition programs (i.e. Placer Legacy Open Space and Agricultural Conservation Program) as a means of preserving significant cultural resources that are not suitable for private development. Organizations that could provide assistance in this area include, but are not limited to, the Archaeological Conservancy, the Native American community, and local land trusts.

Implementation Program

5.4. The County shall prepare, adopt, and implement procedures for review and approval of all County-permitted projects involving ground disturbance and all building and/or demolition permits that will affect buildings, structures, or objects 45 years of age or older.

Placer County Code

Cultural and historic resources are addressed in Chapter 15 (Building and Development), Article 15.60 of the Placer County Code, Chapter 17 (Zoning), Article 17.52 and Chapter 18 (Environmental Review), Article 18 Appendix A. Chapter 15, Article 15.60 provides guidance for the protection, enhancement, perpetuation, and use of cultural resources. Specific sections of the Placer County Code identify the establishment of a historical advisory board (Article 15.60.030.A), the establishment of an official County register of cultural/historical resources and districts (Article 15.60.060), and future cultural/historic district and cultural/historic preservation plans (Article 15.60.140).

Chapter 17, Article 17.52 establishes “combining districts” that further refine regulatory requirements for each zone district in the county. Section 17.52.070 establishes a “Design Historical” (-Dh) combining district for “areas, places, sites, structures or uses that have special historical interest”. Properties that have a –Dh combining districts are required to obtain approval of a design review for new construction, the modification of existing historical buildings or the demolition of structures within the district. The –Dh combining district also has unique parking and setback standards to account for the non-conforming conditions that may be present in areas that were constructed prior to 1920.

Sutter County General Plan

Excerpted below are the relevant goal and policies from the *Sutter County General Plan* that pertain to cultural resources (Sutter County 2011).

Goal

ER 8. Identify, protect, and enhance Sutter County's important cultural and paleontological resources to increase awareness of the County's heritage.

Policies

ER 8.1 Identification. Identify cultural resources, which include prehistoric, historic, paleontological, and archeological resources, throughout the County to provide adequate protection of these resources.

ER 8.2 Preservation. Ensure the preservation of significant cultural and paleontological resources, including those recognized at the national, state, and local levels. (ER 8-A through ER 8-D)

City of Lincoln General Plan

Excerpted below are the relevant goal and policies from the *City of Lincoln General Plan* that pertain to cultural resources (City of Lincoln 2008:7-8 through 7-10).

Goal

OSC-6. To preserve and protect existing archaeological, historical, and paleontological resources for their cultural values.

Policies

OSC-6.1 Evaluation of Historic Resources. The City shall use appropriate State and Federal Standards in evaluating the significance of historical resources that are identified in the City.

OSC-6.2 Historic Structures and Sites. The City shall support public and private efforts to preserve, rehabilitate, and continue the use of historic structures.

OSC-6.3 Archaeological Resources. The City shall support efforts to protect and recover archaeological resources.

OSC-6.4 Historical Resources Inventory. The City shall prepare a historical resources inventory and use State and Federal Standards in evaluating historical resources for their significance.

OSC-6.5 Mitigation Monitoring for Historical Resources. The City shall develop standards for monitoring of mitigation measures established for the protection of historical resources prior to development.

OSC-6.6 State Historic Building Code. The City shall establish construction standards for the protection of historic resources during development and use the State Historic Building Code for designate properties.

OSC-6.7 Discovery of Archaeological Resources. In the event that archaeological resources are discovered during site excavation, grading, or construction, work on the site will be suspended until the significance of the features can be determined by a qualified archaeologist. If significant resources are determined to exist, the archaeologist shall make recommendations for protection or recovery of the resource.

OSC-6.8 Archaeological Resource Surveys. Prior to project approval, the City shall require project applicant to have a qualified professional archaeologist conduct the following activities within the area of potential effects (APE): (1) conduct a record search at the North Central Information Center located at California State University Sacramento and other appropriate historical repositories to determine the extent of previously recorded sites and surveys within the project area, and to develop a historical context within which sites can be evaluated for significance, (2) conduct a field survey to locate, map, and record prehistoric and historic resources, and (3) prepare cultural resource inventory and evaluation reports meeting California Office of Historic Preservation Standards to

document the results of the record search and field survey, and to provide significance evaluations and management recommendations for any identified historical resources within the APE.

OSC-6.9 Native American Resources. The City shall consult with Native American representatives, including appointed representatives from United Auburn Indian Community, to discuss concerns regarding potential impacts to cultural resources and to identify locations of importance to Native Americans, including archaeological sites and traditional cultural properties. Coordination with the Native American Heritage Commission should begin at the onset of the review of a proposed project.

OSC-6.10 Discovery of Human Remains. Consistent with CEQA Guidelines (Section 15064.5), if human remains are discovered during project construction, it is necessary to comply with state laws relating to prohibitions on disinterring, disturbing, or removing human remains from any location or other than a dedicated cemetery (California Health and Safety Code Section 7050.5). If any human remains are discovered or recognized in any location on the project site, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until:

A. The Placer County Coroner/Sheriff has been informed and has determined that no investigation of the cause of death is required; and

   If the coroner determines that the remains are Native American origin,

   1. The coroner shall contact the Native American Heritage Commission (NAHC) within 24 hours.
   2. The NAHC shall identify the person or persons it believes to be the most likely descendent (MLD) for the deceased Native American.
   3. The MLD shall have an opportunity to make a recommendation to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in Public Resources Code Section 5097.98.

B. Native American Heritage Commission was unable to identify a descendant or the descendant failed to make a recommendation within 24 hours after being notified by the commission.

C. The County has notified the United Auburn Indian Community (UAIC) Tribal Council and solicited their input.

Local—Paleontological Resources

Placer County General Plan

Excerpted below are the relevant goal and policies from the *Placer County General Plan* that pertain to paleontological resources (Placer County 2013).

Goal

5.D. To identify, protect, and enhance Placer County's important historical, archaeological, paleontological, and cultural sites and their contributing environment.

Policies

5.D.2. The County shall solicit the cooperation of the owners of cultural and paleontological resources, encourage those owners to treat these resources as assets rather than liabilities, and encourage the support of the general public for the preservation and enhancement of these resources.

5.D.4. The County shall coordinate with the cities and municipal advisory councils in the County to promote the preservation and maintenance of Placer County's paleontological and archaeological resources.

5.D.6. The County shall require that discretionary development projects identify and protect from damage, destruction, and abuse, important historical, archaeological, paleontological, and cultural sites and their contributing environment. Such assessments shall be incorporated into a Countywide cultural resource data base, to be maintained by the Division of Museums.

5.D.7. The County shall require that discretionary development projects are designed to avoid potential impacts to significant paleontological or cultural resources whenever possible.

Unavoidable impacts, whenever possible, shall be reduced to a less than significant level and/or shall be mitigated by extracting maximum recoverable data. Determinations of impacts, significance, and mitigation shall be made by qualified archaeological (in consultation with recognized local Native American groups), historical, or paleontological consultants, depending on the type of resource in question.

Placer County Code

Paleontological resources are addressed in Chapter 15 (Building and Development), Article 15.60 of the Placer County Code. This article provides protection of scientifically important natural features, which include significant geological, botanical or paleontological object(s).

Sutter County General Plan

Excerpted below are the relevant goal and policies from the *Sutter County General Plan* that pertain to paleontological resources (Sutter County 2011).

Goal

ER 8. Identify, protect, and enhance Sutter County's important cultural and paleontological resources to increase awareness of the County's heritage.

Policies

ER 8.1 Identification. Identify cultural resources, which include prehistoric, historic, paleontological, and archeological resources, throughout the County to provide adequate protection of these resources.

ER 8.2 Preservation. Ensure the preservation of significant cultural and paleontological resources, including those recognized at the national, state, and local levels. (ER 8-A through ER 8-D)

City of Lincoln General Plan

Excerpted below are the relevant goal and policy from the *City of Lincoln General Plan* that pertain to paleontological resources (City of Lincoln 2008).

Goal

OSC-6. To preserve and protect existing archaeological, historical, and paleontological resources for their cultural values.

Policy

OSC-6.7 Discovery of Archaeological/Paleontological Resources. In the event that archaeological/paleontological resources are discovered during ground disturbing activities, the City shall require that grading and construction work within 100 feet of the find shall be suspended until

the significance of the features can be determined by a qualified professional archaeologist/ paleontologist as appropriate. The City will require that a qualified archeologist/ paleontologist make recommendations for measures necessary to protect the find; or to undertake data recovery, excavation, analysis, and curation of archaeological/paleontological materials, as appropriate.

3.4.2 Environmental Setting

Cultural Resources

Prehistoric Setting

The history of human occupation and use of the Sacramento Valley and northern Sierra Nevada foothills is characterized by a number of related trends taking place throughout the last 10,000 years. Archaeologically visible cultural patterns can be attributed to responses to gradual changes in climate, resource availability, and human population growth. The cultural responses to these changes include technological specialization, resource intensification, sedentism, and the development of regional economic networks. The prehistory of these two geographic areas follows similar but varying temporal outlines, depending on the geographic area under consideration.

Sacramento Valley

It is probable that humans have inhabited the Sacramento Valley for the last 10,000 years. However, evidence of early occupation is likely deeply buried under alluvial sediments deposited during the late Holocene, although rare archaeological remains of the early period have been identified in and around the Central Valley. Early archaeological manifestations are categorized as the Farmington Complex, which is characterized by core tools and large, reworked percussion flakes.

Later periods are better understood because of more abundant representation in the archaeological record. Fredrickson (1973:7-6) identified three general patterns of cultural manifestations for the period between 4500 B.P. and 2000 B.P.: the Windmiller Pattern (4500–3000 B.P.), the Berkeley Pattern (3500–2500 B.P.), and the Augustine Pattern (2500–2000 B.P.).

Ethnographic Setting

Generally, Placer County is located within the lands occupied and used by the Nisenan, or Southern Maidu. The language of the Nisenan is classified in the Maiduan family of the Penutian linguistic stock and within the Nisenan language were three main dialects identified by geographic regions: the Southern Hill Nisenan, the Northern Hill Nisenan, and the Valley Nisenan (Kroeber 1925; Shipley 1978). The western boundary of Nisenan territory was the western bank of the Sacramento River with the eastern boundary was “the line in the Sierra Nevada mountains where the snow lay on the ground all winter” (Littlejohn 1928:10-15). Generally, the Nisenan territory spanned along the drainages of the American, Bear, Yuba, and lower Feather Rivers (Kroeber 1925).

Nisenan settlement locations depended primarily on elevation, exposure, and proximity to water and other resources. Permanent villages usually were located on low rises along major watercourses. Brush shelters were used in the summer and at temporary camps during food-gathering rounds. The Nisenan occupied permanent settlements from which specific task groups set out to harvest the seasonal bounty of flora and fauna that the rich valley environment provided. Within the Nisenan were the Valley Nisenan, whose economy involved riparian resources, in

contrast to the Hill Nisenan, whose resource base consisted primarily of acorn and game procurement (Wilson and Towne 1978:387–397).

Historic Setting

Although Spaniards and trappers explored areas within Placer County in the early 19th century, Euroamerican influence was not significant in the region until the California Gold Rush (1848–1852). During the Gold Rush, the influx of miners and those who offered support services overwhelmed the indigenous people and natural resources. Mining camps were established throughout the region along gold-bearing streams and rivers, and some developed into economic hubs. In 1851, Placer County was established by combining the southern portions of Yuba and Sutter Counties, and the town of Auburn—known as a hub for mining—was chosen as the county seat. However, because the streams running through the Central Valley portion of Placer County did not cross gold-bearing deposits, the Roseville area did not experience the population boom that occurred in Sacramento and the Sierra foothills (Placer County 2016a).

During the first few years after statehood was granted to California in 1850, much of what is now the Plan Area was given by the United States government to the state and railroads. Because of thin soils and a lack of water, the Roseville area provided only limited agricultural support of the Gold Rush miners. However, other portions of western Placer County were better suited to agriculture (Placer County 2016a).

After the Gold Rush, many miners purchased or homesteaded land and began farming. Lands in the Plan Area were used primarily for grazing and dry farming of crops such as wheat and hay. Ranchers raised cattle on grasslands of the open range and on large ranches. Although wheat production continued, many farmers transitioned into growing nuts and fruits, which became Placer County's most profitable agricultural endeavor. Farmers found the terrain, soil, and climate were favorable for orchard crops, particularly plums, peaches, and pears. In particular, a micro-climate known as the thermal belt provided an annual low mean temperature that was above freezing and which promoted successful citrus and other fruit cultivation. Early fruit growers utilized the warmer air from the thermal belt for the successful cultivation of their fruit and citrus crops on Placer County hillsides (Placer County 2016a).

The introduction of the railroad into Placer County provided ranchers an easily available means of transporting their products to larger markets. The Central Pacific Railroad from Sacramento to Roseville was completed in 1864, and the transcontinental railroad was completed only 5 years later. By 1886, transportation fees had decreased because of competition among the railroads, enabling Placer County fruit growers to greatly expand production. Several other advancements during the 1880s bolstered the fruit industry. Irrigation with water that was transported over long distances encouraged growth of orchards. Refrigerated fruit railroad cars were introduced, which enabled growers to ship their products when ripe and full-flavored, thus increasing demand. In addition, fruit dryers introduced in the 1870s were able to salvage excess fruit, allowing for increased profit margins for growers (Placer County 2016a).

As orchard crops from Placer County were being sold throughout the United States and world markets, fruit quickly became the most valuable cash crop in the county. Wheat prices slowly declined, in part because of commodity competition from successful rice production in the nearby Sacramento Valley, and the vast wheat fields of western Placer County were subdivided for growing orchard crops (Placer County 2016a).

Agriculture activities, particularly the growing of vegetable crops, continued to expand in Placer County into the mid-1900s. In the early 1900s, new canning techniques increased the efficiency of preserving fruits and vegetables. Other new techniques in farming, including the use of gasoline engine-powered tractors, reduced the need for horses on ranch and farm properties. These new technologies made farming on smaller tracts of land more feasible. The overall success of farmers and ranchers in the early 1900s led to an increase in farming families and properties. Many ranching properties of hundreds or thousands of acres were divided and subdivided into smaller tracts of 160 acres or less that could still be farmed successfully. According to Placer County Agricultural Crop Reports, prepared by the county's Agricultural Commissioner, the largest cash crops produced and sold in the county between 1940 and 1960 were primarily plums, pears, peaches, rice, and wheat (Placer County 2016a).

The foothill regions of Placer County became prominent agricultural centers and agricultural production remained the economic backbone of the area for decades (Placer County 2016a). The agricultural industry continued to thrive in Placer County throughout the 20th century and into the 21st century (Placer County 2016a).

The town of Lincoln was surveyed and platted in 1864 on the Central California Railroad line from Folsom to Marysville. The town was named after Charles Lincoln Wilson, who had built the railroad, which reached the town on October 31, 1861. Thanks to several trains passing through daily, the town prospered and grew to approximately 500 residents during the following few years. However, in 1866, the rail stop was moved to Wheatland, cutting off most of the shipping on which Lincoln had relied (Placer County 2016a).

Although the railroad and freight economy declined, fruit crops, dry land agriculture, and cattle ranching continued to compose a large part of the early economy in Lincoln. In 1873, several coal beds were discovered, leading to development of such mines as the Lincoln Coal Mine and the Clipper Coal Mine. Large amounts of clay were found within the Lincoln Coal Mine. The clay was of such high quality that Chicago businessman Charles Gladding established Gladding, McBean and Company, which used the clay to manufacture sewer pipe that was distributed throughout California. By the 1890s, the company was also making fire brick, ornamental pottery, chimney pipes, and world-renowned terra cotta facades. In recent times, Gladding, McBean has been a major contributor to the economy of Lincoln, along with Sierra Pacific Industries' sawmill, located just north of Lincoln (Placer County 2016a).

Cultural Resource Type and Sensitivity

Archaeological Resources

Previous studies in the general region provide reasonable expectations for the range of archaeological property types likely to occur in western Placer County. Recorded prehistoric site types include habitation (long-term occupation) sites, limited occupation sites, hunting/processing camps, lithic reduction stations, quarries, rock art sites, bedrock milling features, and burial locations. Sites may be classified as more than one type. For example, habitation sites may be associated with rock art. The most common prehistoric sites found in the western Placer County area are temporary occupation sites. Ethnographic site types mirror prehistoric site types but display artifacts or features that indicate contact and interaction with Euroamerican populations. Historic period archaeological site types and features include the remains of mining camps,

farmsteads, ranches, railroad features, structures and linear features (e.g., roads and trails), camps, privies, and refuse scatters.

The prehistoric archaeological sensitivity of western Placer County is generally considered high, particularly in areas near water sources or on terraces along watercourses. In particular, major watersheds in the Sierra Nevada foothills possess river and stream terraces that are rich in archaeological resources. In the Sacramento Valley, land along the margins of the American, Bear, and Sacramento Rivers and other major waterways are rich in prehistoric archaeological resources, although such resources are usually found on natural rises that would have protected the inhabitants from frequent floods. Additional prehistoric deposits may be buried in similar locations—in natural buried contexts such as under alluvial deposits and in cultural buried contexts such as below or within constructed levees.

The locations of historic period archaeological sites are more difficult to predict because historical populations had greater ease of transportation and were not dependent on proximity to water and vegetal resources as prehistoric populations. Nevertheless, historic period sites are likely to be located near areas that were used for farming, ranching, mining, settlement, or transportation corridors.

Historic Resources

Historic period cultural resources that may be present in the Plan Area are associated with the themes represented by the historic events summarized above (mining, transportation, agriculture, and municipalities). Concentrations of historic resources are expected adjacent to transportation corridors (historic highways, railroads, and navigable waterways); on rural ranch lands (irrigation features such as ditches and canals); in areas of natural resources extraction (rock, soil, mineral, and timber); and within historic neighborhoods and business districts. The characterization provided at the end of this section of the types of historic resources in the county is based on a review of the California Historic Resources Inventory (HRI) and listings of California State Historical Landmarks and California Points of Historical Interest.

The HRI is maintained by the State Office of Historic Preservation, and identifies properties that have been surveyed, as well as properties that appear eligible, have been determined eligible for listing, or are listed in the NRHP or CRHR. In general, listing a property in the NRHP involves submission of a formal nomination form that requires concurrence from SHPO, the State Historical Resources Commission, and the Keeper of the National Register. Properties that are evaluated and found, with SHPO concurrence, to be eligible for listing under one or more of the NRHP criteria but are never nominated are afforded the same protections for federally funded projects as listed properties. Properties listed or found eligible for listing in the NRHP are also automatically eligible for the CRHR. The HRI also includes buildings that have been identified as historically significant by local government agencies. The property types listed in the HRI are typically non-archaeological in nature (for confidentiality reasons) and encompass numerous architectural and engineering features associated with such themes.

Of the resources listed in the HRI in western Placer County, 76 properties have been listed on the NRHP (State Office of Historic Preservation 2012). The property types that are typically found in western Placer County include the following:

- **Ranching and agriculture**: roads, fences/rock walls, farmhouses, barns, ancillary buildings, irrigation ditches, ponds, windmills, tankhouses, and silos.

- **Mining**: mine shafts, quarries, adits, tailings, water conveyance ditches, reservoirs, mining equipment, and building ruins.
- **Hydroelectric power**: dams, reservoirs, canals, pumps, transmission lines, siphons, and roads.
- **Early transportation**: roads, railroads, trails, tunnels, and bridges.
- **Rural and urban development**: residential structures, shops, churches, community buildings, cemeteries, and schools.

Paleontological Resources

Local Geology

The geology of the Plan Area is shown on Figure 3.4-1.

The topography of the Plan Area is directly related to its geology. The lower elevations, which are in valley portion of the Plan area, are characterized by relatively young alluvial deposits. The Pleistocene age deposits of the Riverbank, Modesto, and Turlock Lake Formations are widespread in the Central Valley portion of the Plan Area. Younger Holocene deposits, such channel and levee deposits, are found overlying these deposits in drainages and in scattered locations. Higher in the valley to the east is the Tertiary age Merhten Formation, which is an andesitic conglomerate and sandstone.

The higher elevations in the foothills are made up of much older igneous rocks. These rocks, which occur as linear bands, are the Mesozoic age Penryn pluton and Copper Hills Volcanics and the Paleozoic age metavolcanics.

Paleontological Sensitivity of the Geologic Units

Paleontological sensitivity is a qualitative assessment based on the paleontological potential of the stratigraphic units present, the local geology and geomorphology, and other factors relevant to fossil preservation and potential yield. According to the Society of Vertebrate Paleontology (2010), standard guidelines for sensitivity are (1) the potential for a geological unit to yield abundant or significant vertebrate fossils or to yield a few significant fossils, large or small, vertebrate, invertebrate, or paleobotanical remains and (2) the importance of recovered evidence for new and significant taxonomic, phylogenetic, paleoecological, or stratigraphic data (Table 3.4-1).

Table 3.4-1. Paleontological Sensitivity Ratings

Potential	Definition
High	Rock units from which vertebrate or significant invertebrate, plant, or trace fossils have been recovered are considered to have a high potential for containing additional significant paleontological resources. Paleontological potential consists of both (a) the potential for yielding abundant or significant vertebrate fossils or for yielding a few significant fossils, large or small, vertebrate, invertebrate, plant, or trace fossils and (b) the importance of recovered evidence for new and significant taxonomic, phylogenetic, paleoecologic, taphonomic, biochronologic, or stratigraphic data.
Undetermined	Rock units for which little information is available concerning their paleontological content, geologic age, and depositional environment are considered to have undetermined potential. Further study is necessary to determine if these rock units have high or low potential to contain significant paleontological resources.

Potential	Definition
Low	Reports in the paleontological literature or field surveys by a qualified professional paleontologist may allow determination that some rock units have low potential for yielding significant fossils. Such rock units will be poorly represented by fossil specimens in institutional collections, or based on general scientific consensus, will only preserve fossils in rare circumstances and the presence of fossils is the exception not the rule.
None	Some rock units, such as high-grade metamorphic rocks (e.g., gneisses and schists) and plutonic igneous rocks (e.g., granites and diorites), have no potential to contain significant paleontological resources. Rock units with no potential require neither protection nor mitigation measures relative to paleontological resources.

Source: Society of Vertebrate Paleontology 2010.

It is also important to recognize that unlike archaeological sites, which are narrowly defined, paleontological sites are defined by the entire extent (both areal and stratigraphic) of a unit or formation. In other words, once a unit is identified as containing vertebrate fossils, or other rare fossils, the entire unit is a paleontological site (Society of Vertebrate Paleontology 2010:2). For this reason, the paleontological sensitivity of geologic units is described and analyzed broadly, rather than being limited to county boundaries.

The University of California Museum of Paleontology (UCMP) database contains five records of vertebrate fossils found in the county (University of California Museum of Paleontology 2016a). These records are for a Pleistocene mammoth near Rocklin; Miocene reptile, mammal, and bony fish near Lincoln; and a late Cretaceous cartilaginous fish.

In addition, numerous fossils have been documented in the Granite Bay area. Paleontologists have collected crinoids, nautilus, sharks and other fish, mollusks, and dinosaur fossils in the Chico Formation (Hilton and Antuzzi N.D.). Paleontologist monitoring a road-widening project collected a large piece of petrified wood from the Ione Formation. This specimen is on display at the Placer County Community Development Resource Center (Placer County 2016b).

Although it is not possible to make a determination of the sensitivity for paleontological resources of each geologic unit because of the Plan Area's size, many of the geologic units in the valley and lower elevations of the foothills are highly sensitive for paleontological resources.

Records for the most widespread geologic formations in the Plan Area are summarized in Table 3.4-2. Most of the valley is immediately underlain by the Riverbank Formation of Late Pleistocene, with some small areas on the western edge of the Plan Area underlain by the Modesto Formation. The eastern edge of the valley is underlain by the Turlock Lake Formation (Wagner et al. 1981) (Figure 3.4-1). These deposits represent sediment eroded from the uplifting Sierra Nevada. California's Pleistocene sedimentary units—especially those that, like the Modesto and Riverbank Formations, record deposition in continental settings—are typically considered highly sensitive for paleontological resources because of the large number of recorded fossil finds in such units throughout the state.

Table 3.4-2. Paleontological Resources by Geologic Unit

Geologic Unit	Fossils	UCMP Vertebrate Records	Paleontological Sensitivity
Quaternary alluvium (Holocene)	No known fossils (2016b)[a] and likely too young to contain fossils. Holocene materials are not typically evaluated as paleontologically sensitive, because biological remains are not considered fossils unless they are older than 10,000 years.	None	Low
Quaternary levee and channel deposits	Likely too young to contain fossils (2016b)	None	Low
Modesto Formation (Pleistocene)	Include horse, mammoth camel, pocket gopher, bison, and ground sloth (2016c)	27	High
Riverbank Formation (Pleistocene)	Include ground sloth, dire wolf, horse, rabbit, bird, wood rat, bison, camel, coyote, antelope, deer, and mammoth, as well as clam, fish, turtle, frog, snake (2016d)	350 (see note on Turlock Lake Formation below)	High
Turlock Lake Formation (Pleistocene)	Include horses, ground sloths (Jefferson's ground sloth and Harlan's ground sloth), saber-toothed cat, Armbruster's wolf, scimitar-toothed cat, llama, Tetrameryx irvingtonensis Stirton (ancestor to modern pronghorn), deer, camel, mammoth, smooth-tooted pocket gopher, Capromeryx (pronghorn-like ungulates), coyote, Miracinonyx trumani (American cheetah-like cat), turtle, and tortoise (Dundas et al. 1996) (2016e)	228 (recorded as Riverbank Formation but identified as Turlock Lake Formation in Dundas et al. 1996)	High
Laguna Formation (Plio-Pleistocene)	No vertebrate fossils known (2016f); however, the alluvial nature of this unit and its degree of consolidation indicate fossils are likely present	None	High
Mehrten Formation (Tertiary)	Include extinct horse, primitive rhinoceros, camel, and tortoise (2016g)	315	High
Ione Formation (Tertiary)	No vertebrate fossils known but abundant plant fossils related to magnolias, cycads, and lilies (2016h). May contain vertebrate fossils based on depositional environment and preservation potential	No vertebrate records	High
Chico Formation	Include mammals, reptiles, sharks and other fish, and birds	26	High
Penryn pluton (Mesozoic)	Plutonic igneous rock so does not contain fossils	None	None
Copper Hills Volcanics (Mesozoic)	Mainly pillow lava and lava flow so unlikely to contain fossils	None	Low
Metavolcanics (Paleozoic)	Metamorphosed so unlikely to contain fossils	None	Low

[a] All dates are references to University of California, Berkeley, Museum of Paleontology (2016a–h, 2018) searches conducted by ICF.

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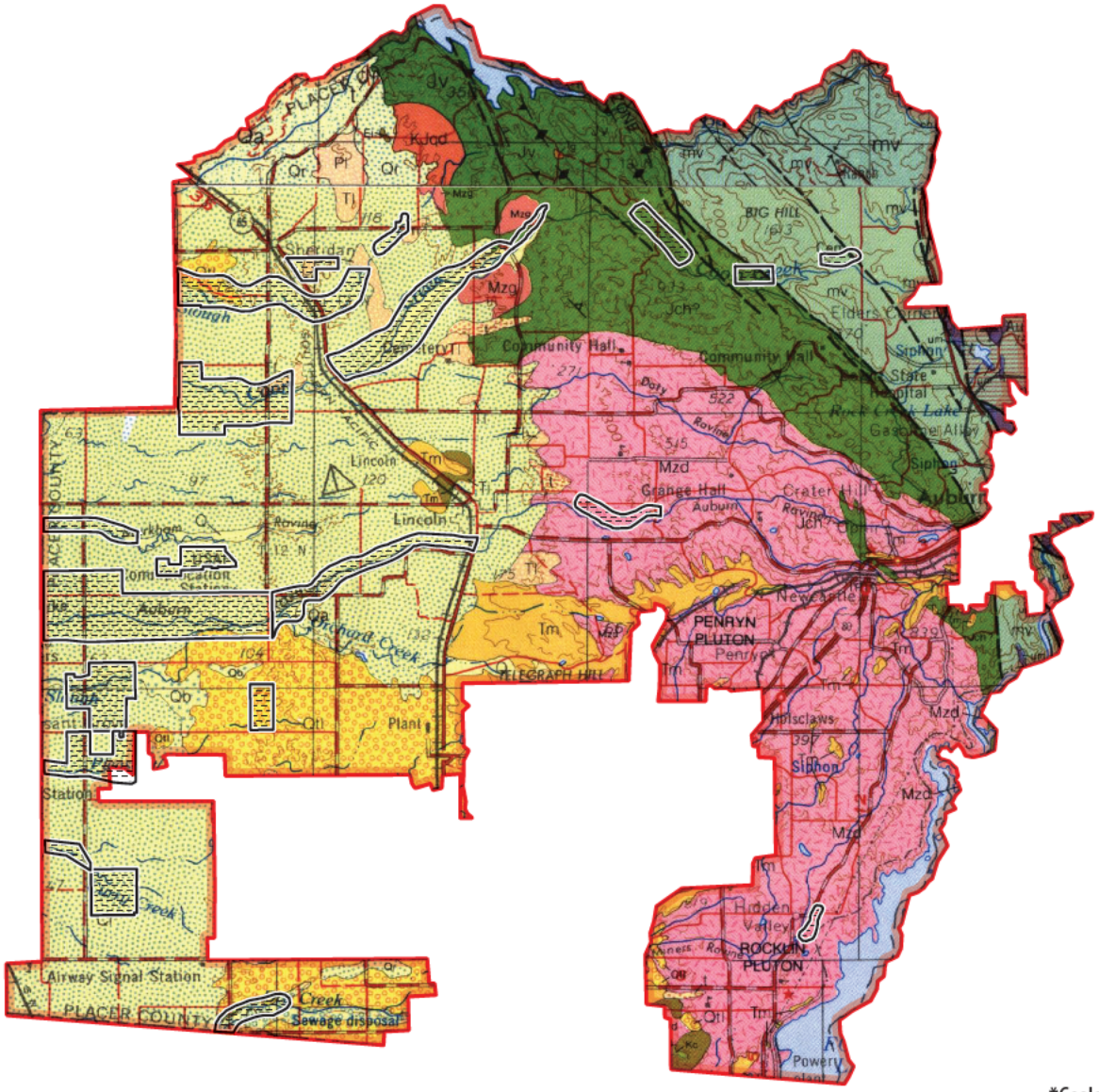

Source: Wagner et al., 1981; Saucedo & Wagner, 1992.

Explanation

CENOZOIC

Quarternary

Holocene

- Alluvium
- Mine and dredge tailings
- Levee and channel deposits
- Basin deposits (Alluvium)

Pleistocene

- Modesto Formation (Alluvium)*
- Riverbank Formation (Alluvium)*
- Turlock Lake Formation (Sand, silt, and gravel)*

Tertiary

Pliocene

- Laguna Formation (Consolidated alluvial deposits)*

Miocene

- Mehrten Formation (Andesitic conglomerate, sandstone, and breccia)*

Eocene

- Ione Formation (Quartzose sandstone and kaolinitic clay)*

MESOZOIC

- Copper Hill Volcanics
- Mesozoic dioritic rocks
- Mesozoic granite rocks
- Ultramafic rocks

PALEOZOIC

- Metavolcanic rocks

- Plan Area A Boundary
- Potential Restoration Areas

N

0 1 2 3 4 5
Miles

*Geologic units with a High rating for paleontological sensitivity are shown in blue.

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Figure 3.4-1
Geologic Map of the Plan Area with Paleontological Sensitivity Rating for Geologic Units with High Rating
Placer County Conservation Program – EIS/EIR

3.5 Hydrology and Water Quality

This section describes the regulatory and environmental settings for hydrology and water quality in the Plan Area. Impacts that would result from implementing the proposed action and alternatives are described in Chapter 4, *Environmental Consequences*, along with mitigation measures to reduce impacts, where appropriate.

3.5.1 Regulatory Setting

Federal

Clean Water Act

The federal Clean Water Act (CWA) is the primary federal law that establishes regulations relating to water resource issues and protects the quality of the nation's surface waters, including lakes, rivers, and coastal wetlands. It operates on the principle that all discharges into the nation's waters are unlawful unless specifically authorized by a permit. Permit review is the CWA's primary regulatory tool.

In California, the State Water Resources Control Board (State Water Board) is the agency with partial responsibility for implementing the CWA, in conjunction with the U.S. Army Corps of Engineers (USACE). Typically, all regulatory requirements are implemented by the State Water Board through nine Regional Water Quality Control Boards (Regional Water Boards) established throughout the state. The Plan Area is within Region 5, the Central Valley Regional Water Quality Control Board (Central Valley Water Board).

The following CWA sections pertain to the Plan Area.

Section 303: Impaired Waters

California adopts water quality standards to protect beneficial uses of state waters as required by CWA Section 303 and the Porter-Cologne Water Quality Control Act of 1969 (discussed below). Under Section 303(d) of the CWA, states, territories, and authorized tribes are required to develop a list of water quality–limited segments. In California, the State Water Board develops the list of water quality–limited segments; the U.S. Environmental Protection Agency (USEPA) approves each state's list. Waters on the list do not meet water quality standards, even after point sources of pollution have installed the minimum required levels of pollution control technology.

Section 303(d) also establishes the total maximum daily load (TMDL) process to guide the application of state water quality standards. A TMDL defines the maximum amount of a pollutant that a water body can receive and still meet water quality standards. TMDL is measured as the sum of the individual waste load allocations from point sources, load allocations from nonpoint sources, and background loading, plus an appropriate margin of safety. TMDLs can lead to more stringent National Pollutant Discharge Elimination System (NPDES) permits (CWA Section 402). Section 303(d) impaired waters in the Plan Area are described for each major surface water feature in Section 3.5.2, *Environmental Setting,* below.

Section 401: Water Quality Certification

Under CWA Section 401, applicants for a federal permit or license to conduct activities that may result in the discharge of a pollutant into waters of the United States must obtain certification from the state in which the discharge would originate or, if appropriate, from the interstate water pollution control agency with jurisdiction over affected waters at the point where the discharge would originate. Therefore, all projects that have a federal component and may affect state water quality (including projects that require federal agency approval, such as issuance of a CWA Section 404 permit, discussed below) must comply with CWA Section 401. In California, the authority to grant water quality certification has been delegated to the State Water Board, and certification is issued by one of the nine geographically separated Regional Water Boards. Water quality certifications require evaluation of potential effects in light of water quality standards and CWA Section 404 criteria governing discharge of dredged and fill materials into waters of the United States. Under the CWA, the Regional Water Board must issue or waive a Section 401 water quality certification for a project to be permitted under CWA Section 404.

Section 402: Permits for Discharge to Surface Waters

CWA Section 402 regulates point- and nonpoint-source discharges to surface waters through the NPDES program, administered by EPA. In California, the State Water Board is authorized by EPA to oversee the NPDES program through the Regional Water Boards (see related discussion in this section under *Porter-Cologne Water Quality Control Act*). The NPDES program provides for both general permits (those that cover a number of similar or related activities) and individual permits. The NPDES Stormwater Program regulates municipal, construction, industrial, and California Department of Transportation (Caltrans) stormwater discharges.

Municipal Stormwater Activities

CWA Section 402 mandates permits for municipal stormwater discharges, which are regulated under the NPDES General Permit for Municipal Separate Storm Sewer Systems (MS4). MS4s are synonymous with stormwater collection, conveyance, and treatment facilities, including open channel and piped flow that is routed through pretreatment vaults, treatment basins, and possibly other treatment structures prior to discharge into surface waters or land. Phase I MS4 regulations cover municipalities with populations greater than 100,000, certain industrial processes, or construction activities disturbing an area of 5 acres or more. Phase II (Small MS4) regulations require that stormwater management plans be developed by municipalities with populations smaller than 100,000 and construction activities disturbing 1 or more acres of land. Placer County is a designated municipal permittee under the NPDES. Placer County shares a permit with El Dorado County and the City of South Lake Tahoe under the Phase 1 NPDES program. The west slope of Placer County outside of the incorporated cities in the Plan Area is permitted under the Phase II NPDES program.

MS4 permits require that cities and counties develop and implement programs and measures to reduce the discharge of pollutants in stormwater discharges to the maximum extent possible, including management practices, control techniques, system design and engineering methods, and other measures, as appropriate. As part of permit compliance, these permit holders have created stormwater management plans for their respective locations. These plans outline the requirements for municipal operations, industrial and commercial businesses, construction sites, and planning and land development. These requirements may include multiple measures to control pollutants in stormwater discharge. During implementation of specific projects under the program, project

applicants will be required to follow the guidance contained in the stormwater management plans as defined by the permit holder in that location.

The State Water Board is advancing low impact development in California as a means of complying with municipal stormwater permits. Low impact development incorporates site design, including using vegetated swales and retention basins and minimizing impermeable surfaces to manage stormwater to maintain a site's predevelopment runoff rates and volumes.

California Department of Transportation Municipal Stormwater Permit

The State Water Board has identified Caltrans as an owner/operator of an MS4 pursuant to federal regulations. This MS4 permit covers all Caltrans rights-of-way, properties, facilities, and activities in the state.

The Caltrans MS4 Permit contains three basic requirements.

1. Caltrans must comply with the requirements of the Construction General Permit (see below).
2. Caltrans must implement a year-round program in all parts of the state to effectively control stormwater and non-stormwater discharges.
3. Caltrans stormwater discharges must meet water quality standards through implementation of permanent and temporary (construction) best management practices (BMPs), to the Maximum Extent Practicable, and other measures as the State Water Board determines to be necessary to meet the water quality standards.

To comply with the permit, Caltrans developed the *Statewide Storm Water Management Plan* (SWMP) to address stormwater pollution controls related to highway planning, design, construction, and maintenance activities throughout California. The SWMP assigns responsibilities within Caltrans for implementing stormwater management procedures and practices as well as training, public education and participation, monitoring and research, program evaluation, and reporting activities. The SWMP describes the minimum procedures and practices Caltrans uses to reduce pollutants in stormwater and non-stormwater discharges. It outlines procedures and responsibilities for protecting water quality, including the selection and implementation of BMPs.

Construction Activities

The General NPDES Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Order 2009-0009-DWQ) (Construction General Permit) regulates stormwater discharges for construction activities CWA Section 402. Dischargers whose projects disturb 1 or more acres of soil, or whose projects disturb less than 1 acre but are part of a larger common plan of development that in total disturbs 1 or more acres, are required to obtain coverage under the Construction General Permit. The Construction General Permit requires the development and implementation of a Stormwater Pollution Prevention Plan (SWPPP). The SWPPP must list BMPs that the discharger will use to protect stormwater runoff and document the placement and maintenance of those BMPs. Additionally, the SWPPP must contain a visual monitoring program; a chemical monitoring program for "non-visible" pollutants, to be implemented in case of a BMP failure; and a monitoring plan for turbidity and potential of hydrogen (pH) for projects that meet defined risk criteria (State Water Resources Control Board 2013). The requirements of the SWPPP are based on the construction design specifications detailed in the final design plans of a project and the hydrology and geology of the site expected to be encountered during construction.

Dewatering Activities

While small amounts of construction-related dewatering are covered under the Construction General Permit, the Central Valley Water Board has also adopted a General Order for Dewatering and Other Low Threat Discharges to Surface Waters (General Dewatering Permit). This permit applies to various categories of dewatering activities and likely would apply to the proposed PCCP if construction related to the Covered Activities required dewatering in greater quantities than that allowed by the Construction General Permit and discharged the effluent to surface waters. The General Dewatering Permit contains waste discharge limitations and prohibitions similar to those in the Construction General Permit. To obtain coverage, the applicant must submit a notice of intent and a Pollution Prevention and Monitoring Program (PPMP) to the Central Valley Water Board. The PPMP must include a description of the discharge location, discharge characteristics, primary pollutants, receiving water, treatment systems, spill prevention plans, and other measures necessary to comply with discharge limits. A representative sampling and analysis program must be prepared as part of the PPMP and implemented by the permittee, along with recordkeeping and quarterly reporting requirements during dewatering activities. For dewatering activities that are not covered by the General Dewatering Permit, an individual NPDES permit and waste discharge requirements (WDRs), which regulate point discharges with preconditions that make them exempt and not subject to the Federal Water Pollution Control Act, must be obtained from the Central Valley Water Board.

Section 404: Permits for Fill Placement in Waters and Wetlands

CWA Section 404 regulates the discharge of dredged and fill materials into "waters of the United States," which are defined at 33 Code of Federal Regulations (CFR) 328.3, 40 CFR 230.3. Section 404 permits must be issued by USACE for all discharges of dredged or fill material into waters of the United States before proceeding with a proposed activity. While USACE is the permitting authority, the USEPA also has responsibilities under CWA Section 404, including review and approval of jurisdictional determinations and exemptions, commenting on applications for permits, CWA Section 401 water quality certification for some tribes, and enforcement.

Applicants must obtain a permit from USACE for all discharges of dredged or fill material into waters of the United States, including wetlands, before proceeding with a proposed activity. As part of the wetland delineation and verification process, USACE may conduct an approved jurisdictional determination to determine whether aquatic resources in the Plan Area are considered waters of the United States and therefore regulated under Section 404. The Section 404 permits are linked to the issuance of Section 401 water quality certifications. If no waters of the United States are located within a survey area, a Section 404 permit is not required. However, WDRs are required by the State Water Board or a Regional Water Board in lieu of a Section 401 water quality certification because aquatic resources that are not considered to be waters of the United States may be waters of the State.

Compliance with Section 404 requires compliance with other environmental laws and regulations. USACE cannot issue an individual permit or verify the use of a general permit until the requirements of NEPA, the federal Endangered Species Act, and the National Historic Preservation Act have been met. In addition, USACE cannot issue or verify any permit that may result in a discharge of a pollutant into waters of the United States until a Section 401 water quality certification or a waiver of certification has been issued by the State Water Board or a Regional Water Board. USACE must also ensure compliance with the USEPA's Section 404(b)(1) *Guidelines for Specification of Disposal*

Sites for Dredged or Fill Material, which, in part, states that "no discharge of dredged or fill material shall be permitted if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences" (40 CFR 230.10[a]). Certain activities identified at 33 United States Code (USC) 1344 are exempt from the Section 404 of the CWA.

General Bridge Act

The General Bridge Act of 1946 gives the U.S. Coast Guard authority over the location and plans for bridges over navigable waters of the United States that are "subject to the ebb and flow of the tide" and which may be used as a means to transport interstate or foreign commerce. Under the act, the Coast Guard may place conditions on such bridges in the interest of public navigation.

Executive Order 11988—Floodplain Management

Executive Order 11988, Floodplain Management, requires federal agencies to prepare floodplain assessments for proposed projects located in or affecting floodplains. An agency proposing to conduct an action in a floodplain must consider alternatives to avoid adverse effects and incompatible development in the floodplain. If the only practicable alternative involves siting in a floodplain, the agency must minimize potential harm to or development in the floodplain and explain why the action is proposed in the floodplain.

National Flood Insurance Program

In 1968, Congress created the National Flood Insurance Program (NFIP) in response to the rising cost of taxpayer-funded disaster relief for flood victims and the increasing amount of damage caused by floods. The NFIP makes federally backed flood insurance available for communities that agree to adopt and enforce floodplain management ordinances to reduce future flood damage. The Federal Emergency Management Agency (FEMA) manages the NFIP. FEMA creates Flood Insurance Rate Maps (FIRMs) that designate 100-year floodplain zones and delineate flood hazard areas. A 100-year floodplain zone is the area that has a 1 in 100 (1%) chance of being flooded in any 1 year based on historical data.

Projects may have to demonstrate compliance with FEMA regulations. A Conditional Letter of Map Revision (CLOMR) is FEMA's comment on a proposed project that would, upon construction, affect the hydrologic or hydraulic characteristics of a flooding source and thus result in the modification of the existing regulatory floodway, the effective Base Flood Elevations (BFEs), or the Special Flood Hazard Area (SFHA). The letter does not revise an effective NFIP map; it indicates whether the project, if built as proposed, would be recognized by FEMA. FEMA charges a fee for processing a CLOMR to recover the costs associated with the review. Building permits cannot be issued based on a CLOMR, because a CLOMR does not change the NFIP map.

A Letter of Map Revision (LOMR) is FEMA's modification to an effective FIRM, or Flood Boundary and Floodway Map (FBFM), or both. The LOMR officially revises the FIRM or FBFM, and sometimes the Flood Insurance Study (FIS) report, and when appropriate, includes a description of the modifications. The LOMR is generally accompanied by an annotated copy of the affected portions of the FIRM, FBFM, or FIS report. All requests for changes to effective maps, other than those initiated by FEMA, must be made in writing by the chief executive officer (CEO) of the community or an official designated by the CEO. Because a LOMR officially revises the effective NFIP map, it is a public

record that the community must maintain. Any LOMR should be noted on the community's master flood map and filed by panel number in an accessible location.

State

The Porter–Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (Porter-Cologne Act), passed in 1969, complements the CWA. It established the State Water Board and divided the state into nine regions, each overseen by a Regional Water Board. The State Water Board is the primary state agency responsible for protecting the quality of the state's surface and groundwater supplies, although much of its daily implementation authority is delegated to the Regional Water Boards, which are responsible for implementing CWA Sections 401, 402 and 303(d). In general, the State Water Board manages both water rights and statewide regulation of water quality, while the Regional Water Boards focus exclusively on water quality within their regions.

The Porter-Cologne Act provides for the development and periodic review of Water Quality Control Plans (basin plans) for each region. The *Basin Plan for the Sacramento and San Joaquin Rivers Basin* (Basin Plan) (California Regional Water Quality Control Board 2011) identifies beneficial uses of the river and its tributaries and water quality objectives to protect those uses. Basin plans are implemented primarily by using the NPDES permitting system to regulate waste discharges so that water quality objectives are met (see discussion of the NPDES system under *Clean Water Act* section above). Basin plans are updated every 3 years and provide the technical basis for determining WDRs and taking enforcement actions.

A basin plan must do the following.

- Identify beneficial uses of water to be protected.
- Establish water quality objectives for the reasonable protection of the beneficial uses.
- Establish a program of implementation for achieving the water quality objectives.

The Central Valley Water Board is responsible for implementing its basin plan for the Sacramento and San Joaquin Rivers Basin, which covers the Plan Area (California Regional Water Quality Control Board 2011).

Beneficial uses represent the services and qualities of a water body (i.e., the reasons the water body is considered valuable). The Central Valley Water Board Basin Plan describes beneficial uses for the waters in the Sacramento River watershed. Table 3.5-1 lists the beneficial uses for water bodies that are within or have influence on the hydrology of the Plan Area and could be affected by Covered Activities.

Table 3.5-1. Designated Beneficial Uses for Water Bodies within the Plan Area

Beneficial Uses	Bear River	North Fork American River	Folsom Lake
Municipal and Domestic	E	E	E
Agriculture—Irrigation	E	E	E
Agriculture—Stock Watering	E		
Industrial Process Water			
Industrial Service Supply			P
Hydropower	E		E
Rec-1—Contact	E	E	E
Rec-1—Canoeing & Rafting	E	E	
Rec-2—Other Non-Contact	E	E	E
Freshwater Habitat—Warm	E	P	E
Freshwater Habitat—Cold	E	E	E
Migration—Warm	P		
Migration—Cold	P		
Spawning—Warm	P		E
Spawning—Cold	P	E	
Wildlife Habitat	E	E	E
Navigation			

Source: California Regional Water Quality Control Board 2011.
E = Existing Beneficial Use.
P = Potential Beneficial Use.

Water quality objectives represent the standards necessary to protect and support designated beneficial uses. The Regional Water Boards have set water quality objectives for all surface waters in their respective regions (including the Sacramento River Basin) for the following substances and parameters: ammonia, bacteria, biostimulatory substances, chemical constituents, color, dissolved oxygen, floating material, oil and grease, pH, pesticides, radioactivity, salinity, sediment, settleable material, suspended material, tastes and odors, temperature, toxicity, and turbidity. Water quality objectives can consist of numerical and/or narrative criteria.

Another method the Central Valley Water Board uses to implement the Basin Plan criteria is by issuing WDRs. WDRs are issued to any entity that discharges to a surface water body and does not meet certain water quality criteria such as those related to sediment. The WDR/NPDES permit also serves as a federally required NPDES permit (under the CWA) and incorporates the requirements of other applicable regulations.

State Implementation Plan

In 1994, the State Water Board and USEPA agreed to a coordinated approach for addressing priority toxic pollutants in inland surface waters, enclosed bays, and estuaries of California. In March 2000, the State Water Board adopted a State Implementation Plan (SIP) for priority toxic pollutant water quality criteria contained in the California Toxics Rule. The SIP applies to discharges of toxic pollutants into inland surface waters, enclosed bays, and estuaries of California subject to regulation under the state's Porter-Cologne Act (Division 7 of the Water Code) and the federal CWA. Such

regulation may occur through the issuance of NPDES permits or other relevant regulatory approaches. The goal of this policy is to establish a standardized approach for permitting discharges of toxic pollutants to non-ocean surface waters in a manner that promotes statewide consistency. As such, SIP is a tool to be used in conjunction with watershed management approaches and, where appropriate, the development of TMDLs to ensure achievement of water quality standards (water quality criteria or objectives and the beneficial uses they are intended to protect, as well as the state and federal antidegradation policies).

Groundwater Planning Legislation Passed in 2014

This section summarizes important groundwater planning legislation passed in 2014. Since the Sustainable Groundwater Management Act was passed, a Groundwater Sustainability Agency (GSA) has been created in Placer County that covers a majority portion of this plan (West Placer GSA). In addition, a second GSA that covers a portion of this plan was also formed (South Sutter Water District GSA). Both of these agencies are working with other GSAs in the groundwater basin—identified as the North American Subbasin (NASb) by the California Department of Water Resources (DWR)–to develop a groundwater sustainability plan for the NASb by 2022. Until the plan is developed and adopted, only annual monitoring information and groundwater sustainability plan development will be available for use.

Senate Bill 1168

DWR is responsible for identifying the extent of monitoring of groundwater elevations within each groundwater basin or subbasin and for prioritizing groundwater basins and subbasins based on specified considerations, including any information deemed relevant by DWR. Senate Bill 1168, the Sustainable Groundwater Management Act, specifies that relevant information may include adverse impacts on local habitat and local streamflows. The bill requires DWR to categorize the priority of each basin as high, medium, low, or very low and requires the initial priority for each basin to be established no later than January 31, 2015. This bill authorizes a local agency to request that DWR revise the boundaries of a basin and requires DWR, by January 1, 2016, to adopt regulations on the methodology and criteria to be used to evaluate the proposed revision. This bill requires all groundwater basins designated as high- or medium-priority basins and subject to critical conditions of overdraft to be managed under a groundwater sustainability plan or coordinated groundwater sustainability plans by January 31, 2020, and requires all other groundwater basins designated as high- or medium-priority basins to be managed under a groundwater sustainability plan or coordinated groundwater sustainability plans by January 31, 2022, except as specified. This bill requires a groundwater sustainability plan to be developed and implemented to meet the sustainability goal, established as prescribed, and requires the plan to include prescribed components. This bill also encourages and authorizes basins designated as low- or very low priority basins to be managed under groundwater sustainability plans.

Senate Bill 1319

SB 1319 additionally authorizes the State Water Board to designate certain high- and medium-priority basins as probationary if, after January 31, 2025, prescribed criteria are met, including that the State Water Board determines that the basin is in a condition where groundwater extractions result in significant depletions of interconnected surface waters. This bill adds to the prescribed determinations that would prevent the State Water Board from designating the basin as a probationary basin for a specified time period and requires that the State Water Board exclude from

probationary status any portion of a basin for which a groundwater sustainability agency demonstrates compliance with the sustainability goal.

California Fish and Game Code, Sections 1601–1607

Under Sections 1601–1607 of the California Fish and Game Code, California Department of Fish and Wildlife (CDFW) is responsible for the protection and conservation of the state's fish and wildlife resources. CDFW regulates projects that affect the flow, channel, or banks of rivers, streams, and lakes. Sections 1601 and 1603 require public agencies and private individuals respectively to notify and enter into a streambed or lakebed alteration agreement with CDFW before beginning construction of a project that will divert, obstruct, or change the natural flow or the bed, channel, or bank of any river, stream, or lake, or use materials from a streambed. Because CDFW includes under its jurisdiction streamside and riparian habitats that may not qualify as wetlands under the federal CWA definition, as well as a broader definition of the lateral jurisdiction, CDFW jurisdiction may be broader than USACE jurisdiction.

Section 1601 contains additional prohibitions against the disposal or deposition of debris, waste, or other material containing crumbled, flaked, or ground pavement where it can pass into any river, stream, or lake. Sections 1601–1607 may apply to any work undertaken within the 100-year floodplain of any body of water or its tributaries, including intermittent stream channels. In general, however, it is construed as applying to work within the active floodplain and/or associated riparian habitat of a wash, stream, or lake that provides benefits to fish and wildlife. Sections 1601–1607 typically do not apply to drainages that lack a defined bed and banks, such as swales, or to very small bodies of water and wetlands such as vernal pools.

Central Valley Flood Protection Act

Central Valley Flood Protection Plan

The Central Valley Flood Protection Act of 2008 required preparation of the *Central Valley Flood Protection Plan* (CVFPP), as set forth in Water Code, Section 9614. DWR adopted the CVFPP on June 29, 2012. The CVFPP proposes a "systemwide investment approach" for integrated, sustainable flood management in areas currently protected by facilities of the State Plan of Flood Control. The CVFPP includes the following elements.

- A description of the Flood Management System, its performance, and the challenges to modifying it.
- A description of the facilities included in the State Plan of Flood Control.
- A description of probable impacts of projected climate change, land-use patterns, and other potential challenges.
- An evaluation of needed infrastructure improvements and identification of facilities recommended for removal.
- A description of both structural and nonstructural methods for providing an urban level of flood protection to currently urbanized areas in the Central Valley.

Central Valley Flood Protection Board

The Central Valley Flood Protection Board (CVFPB) (formerly the California Reclamation Board) of the State of California regulates the modification and construction of levees and floodways in the Central Valley defined as part of the Sacramento Valley and San Joaquin Valley flood control projects. Rules promulgated in Title 23 of the California Code of Regulations (CCR) (Title 23, Division 1, Article 8 [Sections 111–137]) regulate the modification and construction of levees to ensure public safety. Title 23, CCR Sections 6 and 7 stipulate permitting authority to the CVFPB. Section 6(a) outlines the need to obtain a permit from the CVFPB for

> Every proposal or plan of work, including the placement, construction, reconstruction, removal, or abandonment of any landscaping, culvert, bridge, conduct fence, projection, fill, embankment, building…. that involves cutting into the levee wholly or in part within any area for which there is an adopted plan of flood control, must be approved by the board prior to the commencement of work.

Section 7(a) requires that "Prior to submitting an encroachment permit application to the board, the application must be endorsed by the agency responsible for maintenance of levees within the area of the proposed work…."

Urban Level of Flood Protection Criteria

DWR adopted the Urban Level of Flood Protection Criteria in November 2013 to strengthen the link between land use planning and flood management. Under the Central Valley Flood Protection Act,

> 'Urban level of flood protection' means the level of protection that is necessary to withstand flooding that has a 1-in-200 chance of occurring in any given year using criteria consistent with, or developed by, the Department of Water Resources. 'Urban level of flood protection' shall not mean shallow flooding or flooding from local drainage that meets the criteria of the national Federal Emergency Management Agency standard of flood protection" (Government Code Section 65007[n]).

The criteria apply to land use decisions of cities and counties in the Central Valley and are intended to restrict urban development in areas that lack protection from flooding that have a 1-in-200 chance of occurring in any given year.

Pesticide Regulation

California Department of Pesticide Regulation (DPR) is the lead agency for regulating the registration, sales, and use of pesticides in California. It is required by law to protect the environment, including surface waters, from environmentally impacts of pesticides by prohibiting, regulating, or controlling the uses of such pesticides. DPR has both a Surface Water and Groundwater Protection Program that addresses sources of pesticide residues in surface waters and have preventive and response components that reduce the presence of pesticides in surface and groundwater. The preventive component includes local outreach to promotion of management practices that reduce pesticide runoff and prevent continued movement to groundwater in contaminated areas. In order to promote cooperation to protect water quality from the adverse effects of pesticides, DPR and the State Water Board signed a Management Agency Agreement. The Management Agency Agreement and its companion document, *The California Pesticide Management Plan for Water Quality*, are intended to coordinate interaction, facilitate communication, promote problem solving, and ultimately assure the protection of water quality.

Local

Placer County General Plan

Excerpted below are the goals, policies, and implementation programs from the *Placer County General Plan* that pertain to hydrology and water quality (Placer County 2013).

Water Resources

Goal

6.A. To protect and enhance the natural qualities of Placer County's rivers, streams, creeks and groundwater.

Policies

6.A.2. The County shall require all development in the 100-year floodplain to comply with the provisions of the Placer County Flood Damage Prevention Ordinance.

6.A.3. The County shall require development projects proposing to encroach into a stream zone or stream setback to do one or more of the following, in descending order of desirability:

a. Avoid the disturbance of riparian vegetation;

b. Replace all functions of the existing riparian vegetation (on-site, in-kind);

c. Restore another section of stream (in-kind); and/or

d. Pay a mitigation fee for in-kind restoration elsewhere (e.g., mitigation banks).

6.A.4. Where stream protection is required or proposed, the County should require public and private development to:

a. Preserve stream zones and stream setback areas through easements or dedications. Parcel lines (in the case of a subdivision) or easements (in the case of a subdivision or other development) shall be located to optimize resource protection. If a stream is proposed to be included within an open space parcel or easement, allowed uses and maintenance responsibilities within that parcel or easement should be clearly defined and conditioned prior to map or project approval;

b. Designate such easement or dedication areas (as described in a. above) as open space;

c. Protect stream zones and their habitat value by actions such as: 1) providing an adequate stream setback, 2) maintaining creek corridors in an essentially natural state, 3) employing stream restoration techniques where restoration is needed to achieve a natural stream zone, 4) utilizing riparian vegetation within stream zones, and where possible, within stream setback areas, 5) prohibiting the planting of invasive, non-native plants (such as Vinca major and eucalyptus) within stream zones or stream setbacks, and 6) avoiding tree removal within stream zones;

d. Provide recreation and public access near streams consistent with other General Plan policies;

e. Use design, construction, and maintenance techniques that ensure development near a creek will not cause or worsen natural hazards (such as erosion, sedimentation, flooding, or water pollution) and will include erosion and sediment control practices such as: 1) turbidity screens and other management practices, which shall be used as necessary to minimize siltation, sedimentation, and erosion, and shall be left in place until disturbed areas; and/or are stabilized with permanent vegetation that will prevent the transport of sediment off site; and 2) temporary vegetation sufficient to stabilize disturbed areas.

f. Provide for long-term stream zone maintenance by providing a guaranteed financial commitment to the County which accounts for all anticipated maintenance activities.

6.A.5. The County shall continue to require the use of feasible and practical best management practices (BMPs) to protect streams from the adverse effects of construction activities and urban runoff and to encourage the use of BMPs for agricultural activities.

6.A.6. The County shall require development projects to comply with the municipal and construction stormwater permit requirements of the Federal Clean Water Act National Pollutant Discharge Elimination System (NPDES) Phase I and II programs and the State General Municipal and Construction permits. Municipal requirements affecting project design and construction practices are enacted through the County's Stormwater Quality Ordinance. Separate construction permits may be required by and obtained through the State Water Resources Control Board.

6.A.7. All new development and redevelopment projects shall be designed so as to minimize the introduction of pollutants into stormwater runoff, to the maximum extent practicable, as well as minimize the amount of runoff through the incorporation of appropriate Best Management Practices.

6.A.8. The County shall support implementation of Low Impact Development site design and Watershed Process Management requirements for new and redevelopment projects in accordance with the NPDES Phase I and II programs, and applicable NPDES permits.

6.A.9. The County shall require that natural watercourses be integrated into new development in such a way that they are accessible to the public and provide a positive visual element.

6.A.10. The County shall discourage grading activities during the rainy season, unless adequately mitigated, to avoid sedimentation of creeks and damage to riparian habitat.

6.A.11. Where the stream zone has previously been modified by channelization, fill, or other human activity, the County shall require project proponents to restore such areas by means of landscaping, revegetation, or similar stabilization techniques as a part of development activities.

6.A.12. The County shall require that newly-created parcels include adequate space outside of watercourses' setback areas to ensure that property owners will not place improvements (e.g., pools, patios, and appurtenant structures), within areas that require protection.

6.A.13. The County shall protect groundwater resources from contamination and further overdraft by pursuing the following efforts:

a. Identifying and controlling sources of potential contamination;

b. Protecting important groundwater recharge areas;

c. Encouraging the use of surface water to supply major municipal and industrial consumptive demands;

d. Encouraging the use of treated wastewater for groundwater recharge; and

e. Supporting major consumptive use of groundwater aquifer(s) in the western part of the County only where it can be demonstrated that this use does not exceed safe yield and is appropriately balanced with surface water supply to the same area.

6.A.14. The County shall help ensure that open space located in reservoir is preserved and protected to assure adequate performance of those reservoirs. The watershed is defined as those lands draining into a reservoir and having an immediate effect upon the quality of water within that reservoir. Those lands located within the watershed and within 5,000 feet of the reservoir shall be considered as having an immediate effect. Following are key watersheds labeled “immediate," because of their current domestic usage and proximity to urban areas and "future," because of current non- domestic usage and/or distance from urban areas.

6.A.15. The County shall encourage the protection of floodplain lands and, where appropriate, acquire public easements for purposes of flood protection, public safety, wildlife preservation, groundwater recharge, access and recreation.

6.D.7 The County shall support the management of wetland and riparian plant communities for passive recreation, groundwater recharge, nutrient catchment, and wildlife habitats. Such communities shall be restored or expanded, where possible.

Implementation Programs

6.1. In consultation with the Placer County Flood Control District, cities in the County, and downstream counties, the County shall develop guidelines for creek maintenance practices that ensure native vegetation is not removed unnecessarily. These guidelines should also ensure that maintenance is scheduled to minimize disruption of wildlife breeding practices.

6.2. The County shall inform the public and prospective developers about those sections of the California Fish and Game Code that apply to diversion or obstruction of stream channels and pollution of waterways with detrimental material. This shall be done through distribution of educational materials with building permits and as a part of project review.

6.3. The County shall cooperate with interested state agencies and private conservation organizations to provide public interpretative services at select locations on County- owned or -managed property that contains creek resources to increase public knowledge and appreciation of such resources.

6.4. The County shall prepare, adopt, and implement a comprehensive surface and groundwater management program to ensure the long-term protection and maintenance of surface and groundwater resources.

6.5. The County shall prepare and implement a stormwater quality program pursuant to the requirements of the National Pollutant Discharge Elimination System and the State Water Resources Control Board phase I and II permits that defines design standards that reduce pollutants in discharges.

The design standards shall, at a minimum, address the following:

a. Mitigate peak storm water runoff discharge rates to reduce the potential for downstream erosion.

b. Conserve natural areas in order to minimize the amount off disturbance and maximize natural cover.

c. Minimize the discharge of storm water pollutants associated with impervious surfaces directly connected to storm water conveyance systems.

d. Minimize impervious surfaces

e. Protect slopes and channels from erosion

f. Public identification of the storm drain system to reduce or eliminate dumping of improper materials into the storm water conveyance system.

g. Develop design standards for outdoor material storage and transportation storage areas.

h. Develop mechanisms to insure monitoring and maintenance of BMP areas.

Flood Hazards

Goal

8.B. To minimize the risk of loss of life, injury, damage to property, and economic and social dislocations resulting from flood hazards.

Policies

8.B.1. The County shall promote flood control measures that maintain natural conditions within the 100-year floodplain of rivers and streams.

8.B.2. The County shall continue to participate in the Federal Flood Insurance Program.

8.B.3. The County shall require flood proofing of structures in areas subject to flooding.

8.B.4. The County shall require that the design and location of dams and levees be in accordance with all applicable design standards and specifications and accepted state- of-the-art design and construction practices.

8.B.5. The County shall coordinate with neighboring jurisdictions to mitigate the impacts of new development in Placer County that could increase or potentially affect runoff onto parcels downstream in a neighboring jurisdiction.

8.B.6. The County shall prohibit the construction of facilities essential for emergencies and large public assembly in the 100-year floodplain, unless the structure and access to the structure are free from flood inundation.

8.B.7. The County shall require flood control structures, facilities, and improvements to be designed to conserve resources, incorporate and preserve scenic values, and to incorporate opportunities for recreation, where appropriate.

8.B.8. The County shall require that flood management programs avoid alteration of waterways and adjacent areas, whenever possible.

Implementation Programs

8.4. The County shall continue to maintain flood hazard maps and other relevant floodplain data and shall revise or update this information as new information becomes available.

8.5. The County will continually review and revise its applicable portions of the County Emergency Operations Plan that concern Dam Failure. The Office of Emergency Services will continue to provide public information on dam failure preparedness and response.

8.6. The County shall continue to implement and enforce its Flood Damage Prevention Ordinance.

Flood Protection

Goal

4.F. To protect the lives and property of the citizens of Placer County from hazards associated with development in floodplains and manage floodplains for their natural resource values.

Policies

4.F.1. The County shall require that arterial roadways and expressways, residences, commercial and industrial uses and emergency facilities be protected, at a minimum, from a 100- year storm event.

4.F.2. The County shall recognize floodplains as a potential public resource to be managed and maintained for the public's benefit.

4.F.3. The County shall continue to work closely with the U.S. Army Corps of Engineers, the Resource Conservation District, the Federal Emergency Management Agency, the State Department of Water Resources, the Central Valley Flood Protection Board, and the Placer County Flood Control and Water Conservation District, in defining existing and potential flood problem areas.

4.F.4. The County shall require evaluation of potential flood hazards prior to approval of development projects. The County shall require proponents of new development to submit accurate topographic and flow characteristics information and depiction of the 100-year floodplain boundaries under fully developed, unmitigated runoff conditions.

4.F.5. The County shall attempt to maintain natural conditions within the 100-year floodplain of all rivers and streams except under the following circumstances:

a. Where work is required to manage and maintain the stream's drainage characteristics and where such work is done in accordance with the Placer County Flood Damage Prevention Ordinance, California Department of Fish and Wildlife regulations, and Clean Water Act provisions administered by the U.S. Army Corps of Engineers.

4.F.6. The County shall continue to coordinate efforts with local, state, and federal agencies to achieve adequate water quality and flood protection.

4.F.7. The County shall cooperate with the Placer County Flood Control and Water Conservation District, surrounding jurisdictions, the cities in the County, and other public agencies in planning and implementing regional flood control improvements, plans, and programs.

4.F.8. The County shall, where possible, view flood waters as a resource to be used for waterfowl habitat, aquifer recharge, fishery enhancement, agricultural water supply, and other suitable uses.

4.F.9. The County shall continue to implement floodplain zoning and undertake other actions required to comply with state floodplain requirements, and to maintain the County's eligibility under the Federal Flood Insurance Program.

4.F.10. The County shall preserve or enhance the aesthetic qualities of natural drainage courses in their natural or improved state compatible with flood control requirements and economic, environmental, and ecological factors.

4.F.11. To the extent that funding is available, the County shall work to solve flood control problems in areas where existing development has encroached into a floodplain.

4.F.12. The County shall promote the use of natural or non-structural flood control facilities, including off-stream flood control basins, to preserve and enhance creek corridors.

4.F.13. The County shall continue to implement and enforce its Grading, Erosion and Sediment Control Ordinance and Flood Damage Prevention Ordinance.

4.F.14. The County shall ensure that new storm drainage systems are designed in conformance with the Placer County Flood Control and Water Conservation District's Stormwater Management Manual and the County's Land Development Manual.

Stormwater Drainage

Goal

4.E. To manage rainwater and stormwater at the source in a sustainable manner that least inconveniences the public, reduces potential water-related damage, augments water supply, mitigates storm water pollution, and enhances the environment.

Policies

4.E.1. The County shall encourage the use of natural stormwater drainage systems to preserve and enhance natural features.

4.E.2. The County shall support efforts to acquire land or obtain easements for drainage and other public uses of floodplains where it is desirable to maintain drainage channels in a natural state.

4.E.3. The County shall consider using stormwater of adequate quality to replenish local groundwater basins, restore wetlands and riparian habitat, and irrigate agricultural lands.

4.E.4. The County shall ensure that new storm drainage systems are designed in conformance with the Placer County Flood Control and Water Conservation District's Stormwater Management Manual and the County Land Development Manual.

4.E.5. The County shall continue to implement and enforce its Grading, Erosion and Sediment Control Ordinance and Flood Damage Prevention Ordinance.

4.E.6. The County shall continue to support the programs and policies of the watershed flood control plans developed by the Flood Control and Water Conservation District.

4.E.7. The County shall prohibit the use of underground storm drain systems in rural and agricultural areas, unless no other feasible alternatives are available for conveyance of stormwater from new development or when necessary to mitigate flood hazards.

4.E.8. The County shall consider recreational opportunities and aesthetics in the design of stormwater ponds and conveyance facilities.

4.E.9. The County shall encourage good soil conservation practices in agricultural and urban areas and carefully examine the impact of proposed urban developments with regard to drainage courses.

4.E.10. The County shall strive to improve the quality of runoff from urban and suburban development through use of appropriate site design measures including, but not limited to vegetated swales, infiltration/sedimentation basins, riparian setbacks, oil/grit separators, rooftop and impervious area disconnection, porous pavement, and other best management practices (BMPs).

4.E.11. The County shall require new development to adequately mitigate increases in stormwater peak flows and/or volume. Mitigation measures should take into consideration impacts on adjoining lands in the unincorporated area and on properties in jurisdictions within and immediately adjacent to Placer County.

4.E.12. The County shall encourage project designs that minimize drainage concentrations and impervious coverage and maintain, to the extent feasible, natural site drainage conditions.

4.E.13. The County shall require that new development conforms with the applicable programs, policies, recommendations, and plans of the Placer County Flood Control and Water Conservation District.

4.E.14. The County shall require projects that have significant impacts on the quantity and quality of surface water runoff to allocate land as necessary for the purpose of detaining post-project flows, evapotranspiring, infiltrating, harvesting/using, and biotreating stormwater, and/or for the incorporation of mitigation measures for water quality impacts related to urban runoff.

4.E.15. The County shall require that new development in primarily urban development areas incorporate low impact development measures to reduce the amount of runoff, to the maximum extent practicable, for which retention and treatment is required.

4.E.16. The County shall identify and coordinate mitigation measures with responsible agencies for the control of storm drainage systems, monitoring of discharges, and implementation of measures to control pollutant loads in urban storm water runoff (e.g., California Regional Water Quality Control Board, Placer County Environmental Health Division, Placer County Department of Public Works, CDRA Engineering and Surveying Division, Placer County Flood Control and Water Conservation District).

4.E.17. The County shall strive to protect domestic water supply canal systems from contamination resulting from spillage or runoff.

4.E.18. The County shall, wherever feasible, require that proponents of new projects encase, or otherwise protect from contamination, domestic water supply canals where they pass through developments with lot sizes of 2.3 acres or less; where subdivision roads are constructed within 100 feet upslope or upstream from canals; and within all commercial, industrial, institutional, and multi-family developments.

4.E.19. The County shall require that proponents of new projects fence domestic water supply canals where they pass through development with lot sizes between 2.3 and 4.6 acres; and on a case-by-case basis as determined by the entity responsible for the canal. This fencing shall be installed inside the project property line, and the proponent or subsequent landowner shall be responsible for fence maintenance. Said fencing shall be designed to impede pedestrian trespass of the canal area and to impede any dumping of materials into the canal.

4.E.20. The County shall continue to implement and enforce its Stormwater Quality Ordinance.

Implementation Programs

4.12. The County shall prepare and adopt ordinances and programs as necessary and appropriate to implement and fund current and future watershed management, flood control, water quality protection, and water conservation plans of the Placer County Flood Control and Water Conservation District.

4.13. The County shall prepare and adopt ordinances and programs as necessary and appropriate to implement required actions under state and federal stormwater quality programs.

4.14. The County shall develop brochures and other methods to educate the public and developers regarding the potential impacts of development on drainage, flooding, and water quality.

Sunset Industrial Area Plan

Excerpted below are the goal and policy from the *Sunset Industrial Area Plan* that pertain to hydrology and water quality (Placer County 1997). Placer County is moving forward with the *Sunset Area Plan*. This area plan would replace the 1997 *Sunset Industrial Area Plan*.

Public Facilities and Services

Goal

3.E. To collect and dispose of stormwater in a manner that least inconveniences the public, reduces potential water-related damage, and enhances the environment.

Policy

3.E.7. The County shall require that new development adequately mitigate increases in stormwater peak flow and/or volumes to 90% of pre-project levels. Detention facilities should be constructed at the project site or within a larger project's development area where join facilities are warranted. Mitigation measures should take into consideration impacts on adjoining lands in the unincorporated area and on properties in jurisdictions within and immediately adjacent to Placer County. At such time that a regional stormwater detention program is developed, new projects shall participate in the implementation of the regional program, as deemed necessary.

Placer County Grading, Erosion, and Sediment Control Ordinance

Placer County requires a grading permit prior to any land disturbance or other construction activity that would cause a ground disturbance for the following common activities (Placer County 2016).

- Fill or excavation greater than 250 cubic yards.
- Cuts or fills exceeding 4 feet in depth.
- Structural retaining walls exceeding 4 feet in total height, as measured from bottom of footing to the top of the wall and/or supporting a surcharge.
- Soil or vegetation disturbances exceeding 10,000 square feet.
- Grading within or adjacent to a drainage course or wetland.
- Grading within a floodplain.

Placer County Flood Control and Stormwater Policies

The Placer County Flood Control and Water Conservation District (PCFCWCD) was created in 1984 by the State Legislature as a Special District separate from County government to address flood control issues arising with growth. PCFCWCD is supported through a cooperative effort by the County and the Cities of Auburn, Lincoln, Rocklin, and Roseville, and the Town of Loomis. District policies and activities are largely guided by the consensus of participating members. PCFCWCD is empowered to control flood and storm waters throughout the county. PCFCWCD has no direct influence over the County or the cities regarding land use and planning matters; however, PCFCWCD does develop drainage plans for entire watersheds that cross jurisdictional boundaries. These drainage plans specify the flood control improvements needed to serve planned development in the area and are used to set drainage fees assessed against new development.

The primary responsibilities of PCFCWCD that relate to water quality and hydrology are as follows.

- Implementing regional flood control projects.
- Developing and implementing master plans for selected watersheds in the county.
- Providing technical support and information on flood control for the cities, the county, and the development community.
- Operating and maintaining an ALERT flood warning system.
- Reviewing proposed development projects to ensure they meet District standards.
- Developing hydrologic and hydraulic models for county watersheds.
- Providing technical support for Office of Emergency Services activities.
- Managing on behalf of Placer County the annual stream channel maintenance program within the Dry Creek and Cross Canal Watersheds.
- The *West Placer Storm Water Quality Design Manual* was prepared by Placer County, the Cities of Lincoln, Auburn, and Roseville, and the Town of Loomis to address increases in frequency and intensity of stormwater runoff (Placer County et al. 2016). The manual emphasizes the use of low impact development (LID) techniques that preserve elements of a project site's pre-development hydrologic function. The manual promotes the following low impact development goals.
    - Minimize adverse impacts of storm water runoff on water quality, biological integrity of receiving waters, and beneficial uses of water bodies.
    - Minimize the percentage of impervious surfaces on land development projects and implement mitigation measures to approximately preserve the overall pre-development water balance through infiltration, evapotranspiration, and capture and use of storm water.
    - Minimize pollutant loadings from impervious surfaces such as roof tops, parking lots, and roadways through the use of properly designed, technically appropriate storm water controls, including source control measures or good housekeeping practices, LID planning and design strategies, and treatment control BMPs.
    - Guide proper selection, design and maintenance of storm water BMPs to address pollutants generated by land development, minimize post-development surface flows and velocities, assure long-term functionality of BMPs, and avoid vector breeding.

In addition, projects in unincorporated Placer County are reviewed for compliance with Section 5 of the *Placer County Land Development Manual*, which regulates the design of storm drainage to ensure that drainage from a project site does not damage existing drainage systems or property or cause a hazard.

Sutter County General Plan

Excerpted below are the relevant goals and policies from the *Sutter County General Plan* that pertain to hydrology and water quality (Sutter County 2011).

Water Resources

Goal

Ag 3. Protect the natural resources needed to ensure that agriculture remains an essential and sustainable part of Sutter County's future

Policies

AG 3.1 Efficient Water Management. Support the efficient management and use of agricultural water resources where economically feasible to support agriculture.

AG 3.3 Water Quality and Quantity. Support efforts to maintain water resource quality and quantity for the irrigation of productive farmland.

AG 3.6 Groundwater Resources. Support the efforts of the local water agencies to promote groundwater recharge, conjunctive use, conservation of significant recharge areas, and other activities to protect and manage Sutter County's groundwater resources.

Goal

ER 6. Preserve and protect the County's surface water and groundwater resources.

Policies

ER 6.1 Integrated Water Management Programs. Integrate water management programs that emphasize multiple benefits and balance the needs of agricultural, rural, and urban users.

E**R 6.2 Surface Water Resources.** Protect the surface water resources in the County including the Sacramento, Feather and Bear Rivers and their significant tributaries.

ER 6.3 Groundwater Sustainability. Protect the sustainability of groundwater resources.

ER 6.4 Groundwater Recharge Areas. Require new development to preserve and enhance areas that provide important groundwater recharge, stormwater management, and water quality benefits, such as undeveloped open spaces, natural habitat, river and riparian corridors, wetlands, and natural drainage areas.

ER 6.5 Regional Coordination on Groundwater Use. Coordinate with local and regional jurisdictions and water agencies on groundwater use to minimize overdraft conditions of aquifers.

ER 6.6 Groundwater Protection. Regulate stormwater collection and conveyance, as necessary, to protect groundwater supplies from contamination.

ER 6.10 Stormwater Quality. Control pollutant sources from construction and operational activities, and improve stormwater runoff quality, through the use of stormwater protection measures in accordance with County, state, and federal regulations.

ER 6.11 New Development. Require new development to protect the quality of water resources and natural drainage systems through site design, and use of source controls, stormwater treatment, runoff reduction measures, best management practices, and Low Impact Development.

ER 6.12 Natural Watercourses. Require new development to integrate natural watercourses and provide buffers between waterways and urban development to minimize disturbance of watercourses and to protect water quality.

Implementation Programs

ER 6-A. Develop a Countywide Groundwater Sustainability Plan consistent with state regulations in order to protect groundwater quality and supply and participate in the development and implementation of an Integrated Regional Water Management Plan.

ER 6-D. Require new development that incorporates or is adjacent to natural watercourses to consult with the U.S. Army Corps of Engineers, California Department of Fish and Game, and/or the Regional Quality Control Board to determine the appropriate buffer width between waterways and urban development.

Stormwater Drainage

Goal

I 3. Ensure stormwater runoff is collected and conveyed safely and efficiently.

Policies

I 3.1 Availability. Require new development to study, coordinate, and plan the provision of stormwater services to support the new development and demonstrate the availability of longterm, safe, and reliable stormwater collection, and conveyance.

I 3.2 Infrastructure Planning. Establish stormwater collection master plans for areas served, or to be served, by County-owned or County-operated stormwater systems. Ensure that the required infrastructure is successfully planned and designed.

I 3.4 Efficient Infrastructure. Require stormwater infrastructure that is to be owned or operated by the County to be designed and constructed to minimize the long-term life cycle costs of the infrastructure. Require the plans and design of stormwater infrastructure to be owned and/or operated by another public agency or private utility be approved by the servicing agency/utility.

I 3.8 New Development. Require new development to provide stormwater systems supporting the development based on the following guidelines for stormwater collection and conveyance:

a. Urban development shall utilize underground storm drain systems sized to collect and convey peak flows from the 10-year storm; and may utilize overland flow systems and open channels sized to convey peak flows from the 100-year storm. Detention facilities shall be consolidated at publicly owned points in the system.

b. Rural development and suburban development shall utilize underground storm drain systems where feasible and cost effective as determined by the County, sized to collect and convey peak flows from the 10-year storm; and may utilize overland flow systems and open channels sized to convey peak flows from the 100-year storm. If utilizing an underground system is not feasible, detention facilities and open channels for stormwater collection and conveyance may be utilized, provided these systems prevent property damage from a 100-year storm event.

c. Agricultural areas may utilize detention facilities and open channels for stormwater collection and conveyance, provided these systems prevent property damage from a 100-year storm event.

I 3.10 Mitigation of Stormwater Flows. Require new development to adequately mitigate increases in stormwater flow rates and volume.

3.11 Stormwater Quality. Ensure that new development protects water quality in runoff, streams, and rivers.

Implementation Programs

I 3-A. Review new development applications in unincorporated areas to ensure that adequate stormwater service will be available through the County, or other service providers (including the State for any State-owned pump stations), to serve the new development. Require evidence of service availability. If the use of State-owned pump stations is proposed, sufficient capacity shall be demonstrated through completion of a drainage study that is incorporated into any countywide or master drainage study.

I 3-C. Develop a Countywide stormwater master plan consistent with this General Plan; require design of stormwater systems to be consistent with the approved master plan; and ensure stormwater systems are constructed consistent with the approved designs.

I 3-H. Review new development to ensure that proposed stormwater systems are adequate and appropriate for the type of development and are consistent with federal, state, and local codes and standards, and master plans.

I 3-J. Condition new development to adequately study and plan local drainage for the development. Require that new development conform to the relevant County, State, and Federal requirements and standards governing stormwater drainage and water quality.

Flood Protection

Goal

PHS 1. Minimize the potential for loss of life, personal injury, and property damage associated with floods.

Policies

PHS 1.1 Flood Data and Information. Use the best available flood hazard information from local, regional, state and federal agencies when updating floodplain mapping, land use plans, and emergency response plans to inform land use and public facilities investment decisions.

PHS 1.3 Minimum Standard of Flood Protection. Require a minimum of 100-year flood protection for development, in accordance with local, state, and federal requirements to avoid or minimize the risk of flood damage.

PHS 1.4 Urban Level of Flood Protection. Require development in urban and urbanizing areas to provide 200-year flood protection in accordance with State requirements to avoid or minimize the risk of flood damage.

PHS 1.6 Floodwater Diversion Prevention. Require new flood management projects or developments within areas subject to 100- or 200-year floods to be done in a manner that will not cause floodwaters to be diverted onto adjacent property or increase flood hazards to properties located elsewhere unless secured through a flood easement or fee title buyout.

PHS 1.9 Inter-Agency Coordination. Coordinate efforts with local, regional, state, and federal agencies to maintain and improve the existing levee system to protect life and property. Ensure that dams, levees, and supporting facilities are properly operated and maintained to incorporate recreational opportunities, conserve natural habitat, and preserve scenic values, and provide adequate long-term flood protection.

PHS 1.10 Integrated Water Management. Continue involvement with implementation of regional flood management facility improvements and an integrated water management approach to provide regional self-reliance and sustainability, contributing to the development and implementation of an integrated water management plan, in collaboration with the neighboring counties.

PHS 1.11 Central Valley Flood Protection Board Collaboration. Require projects that are located within the jurisdictional area regulated by the Central Valley Flood Protection Board to consult with, and obtain applicable permits from, the Board.

Implementation Programs

PHS 1-A. Work with local, regional, state, and federal agencies to maintain an adequate flood management information base, identify strategies to mitigate flooding impacts, develop funding mechanisms to finance the local share of flood management responsibilities, and pursue funding to improve flood protection in Sutter County.

PHS 1-B. Evaluate whether new development should be located within flood hazard areas. If new development is located within a flood hazard area, the County's Floodplain Management Ordinance will dictate specific construction methods required, such as elevation and floodproofing, to minimize flood damage.

PHS 1-F. Require new development to be consistent with regional flood improvement efforts, and contribute its fair-share basis to regional solutions to improve flood protection to meet state and federal standards Require projects that are located within the jurisdictional area regulated by the Central Valley Flood Protection Board to consult with and obtain applicable permits from the Board.

Sutter County Floodplain Management Ordinance

Sutter County's floodplain ordinance (Sutter County Code Section 1780) is intended to protect public health and safety and to minimize damage to property and infrastructure from flooding. The ordinance applies to lands that have at least a 1% chance of flooding in any given year. Among other things, the ordinance restricts alteration of natural floodplains, stream channels, and natural protective barriers. The ordinance restricts filling, dredging, or development that might increase flood damage, and it regulates the construction of flood barriers.

City of Lincoln General Plan

Excerpted below are the relevant goals and policies from the *City of Lincoln General Plan* that pertain to hydrology and water quality (City of Lincoln 2008).

Public Facilities and Services Element

Goal

PFS-1. To ensure that adequate public services and facilities are provided to meet the needs of residents of the city.

Policy

PFS-1.4 Compliance with Federal and State Standards for Surface Water Protection. The City shall comply with the requirements of the CWA and other regulations with the intent of minimizing the discharge of pollutants to surface waters.

Goal

PFS-2. Ensure provision of a water system with adequate supply transmission, distribution and storage facilities to meet the needs of existing and future development.

Policies

PFS-2.5. The City shall not allow development within newly annexed areas until a potable water supply is obtained through Placer County Water Agency (PCWA) or Nevada Irrigation District (NID) or, where appropriate, other water districts.

PFS-2.7 Groundwater Supplies. The City shall consider development of groundwater supplies in the western portions of the City's sphere of influence to provide emergency back up and to supplement the domestic supply provided by the PCWA and NID.

PFS-2.11 Groundwater Recharge. The City shall evaluate groundwater recharge capabilities as necessary, but at least every five years and ensure adequate long-term protection of groundwater resources.

PFS-2.19 Regional Sustainability of Groundwater Supplies. The City shall work in concert with the County of Placer, other cities and local water purveyors to share groundwater data, develop a mutually beneficial Integrated Regional Water Resources Management Program, define the long-term sustainability of the groundwater basin, and work to manage groundwater uses in ways that facilitate the basin's sustainability.

Goal

PFS-4. To ensure provision and sizing of adequate storm drainage facilities to accommodate existing and planned development.

Policies

PFS-4.1 Adequate Storm Drainage Facilities. The City shall provide storm drainage facilities with sufficient capacity to protect the public and private property from storm water damage. The facilities will also be implemented in a manner that reduces all public safety and/or environmental impacts associated with the construction, operation, or maintenance of any required drainage improvements (i.e., drainage basins, etc.).

PFS-4.2 Development Requirements. The City shall encourage project designs that minimize drainage concentrations and impervious coverage and avoid floodplain areas and, where feasible, be designed to provide a natural water course appearance.

PFS-4.3 Facilities Management. The City shall manage drainage facilities in accordance with local, state, and federal guidelines.

PFS-4.4 Stormwater Detention Basins. The City shall design stormwater detention basins to ensure public safety, to be visually unobtrusive and to provide temporary or permanent wildlife habitat values and where feasible, recreational uses.

PFS-4.5 Regional Drainage and Flood Control Efforts. For purposes of coordination, the City shall consider other regional drainage and flood control efforts that are underway in preparing a Drainage Management Plan.

PFS-4.6 Preproject Conditions. The City will require new development to provide storm-water detention sufficient to limit outflow per Figure 7-1 of the City's Stormwater Management Manual (February 1994), or as revised.

Master Drainage Plans shall be designed to require new development to provide, or contribute towards, stormwater detention to reduce post- development peak flow from a 100 year event to pre-development flow rate less 10 percent of the difference between the estimated pre-development and the post-development unmitigated peak flow rates. The Master Drainage Plan shall identify appropriate locations to achieve such post- development flows. This criterion is principally designed to address the 100- year event with appropriate consideration given for the feasibility of mitigating 2-year and 10-year events.

PFS-4.7 Stormwater Runoff. The City shall require new development to provide stormwater-retention sufficient for the incremental runoff from an eight-day 100 year storm.

PFS-4.8 Discharge of Urban Pollutants. The City shall require appropriate runoff control measures as part of future development proposals to minimize discharge of urban pollutants (such as oil and grease) into area drainages.

PFS-4.9 100-year Floodplain. The City will discourage development or major fill or structural improvements (except for flood control purposes) within the 100-year floodplain as regulated by FEMA. Requests for fill and improvements within the floodplain may be approved by the City based upon a detailed hydraulic volumetric analysis prepared to evaluate impacts and provide for any mitigation measures to be provided as a part of the development to the satisfaction of the City Engineer / Public Works Director. Recreational activities that do not conflict with habitat uses may be permitted within the floodplain.

PFS-4.10 Erosion Control Measures. The City shall require adequate provision of erosion control measures as part of new development to minimize sedimentation of streams and drainage channels.

PFS-4.11 Stormwater Management Manual. The City shall require drainage designs and practices to be in accordance with the Stormwater Management manual of the Placer County Flood Control District unless alternative methods are approved by the City Engineer.

PFS-4.12 Drainage Management Plan Costs. The City shall require that the cost to develop new or modify existing Drainage Management Plans be allocated to applicants proposing development within the City's Sphere of Influence.

PFS-4.13 Maintenance of Detention Basins. The City shall require City maintenance of detention basins with financing by a separate drainage or special assessment district. When private facilities are used for detention, maintenance will be privately financed.

Open Space and Conservation Element

Goal

OSC-1. To designate, protect, and encourage natural resources, open space, and recreation lands in the city, protect and enhance a significant system of interconnected natural habitat areas, and provide opportunities for recreation activities to meet citizen needs.

Policies

OSC-1.4 100-year Floodplains. The city will apply open space designations to all lands located within the l00 year floodway as shown on the FIRM panel or as determined by a project drainage plan and approved by the City Engineer/Director of Public Works; The City will also apply open space designations to all 100-year floodplain fringe areas, and/or remaining floodplain fringe areas as determined by a project drainage plan identifying floodplain fringe encroachment areas, and quantifying their impact along with other improvements to show a zero (0) net impact to the upstream, downstream and adjacent properties. Open space designations will apply to all land located within a minimum of 50 feet from the center channel of all perennial and intermittent streams and creeks providing natural drainage, and to areas consisting of riparian habitat. In designating these areas as open space, the city is preserving natural resources and protecting these areas from development.

OSC-1.6 Soil Erosion. The City shall require new development to implement measures that minimize soil erosion from wind and water related to construction. Measures may include, but not be limited to the following:

- Grading requirements that limit grading to the amount necessary to provide stable areas for structural foundations, street rights-of-way, parking facilities, or other intended uses; and/or

- Construction techniques that utilize site preparation, grading, and best management practices that provide erosion and sediment control to prevent construction-related contaminants from leaving development sites and polluting local waterways.

Goal

OSC-4. To preserve and enhance local streams, creeks, and aquifers.

Policies

OSC-4.1 Identify and Protect Aquifers. The City will protect local aquifers and water recharge areas.

OSC-4.2 Develop Groundwater Management Plan. The City shall develop and periodically update a groundwater management plan to protect local aquifers.

OSC-4.3 Protect Surface Water and Groundwater. The City shall ensure that new development projects do not degrade surface water and groundwater.

OSC-4.4 Protection and Management of Flood Plains. The City shall encourage the protection of 100 year floodplains and where appropriate, obtain public easements for purposes of flood protection, public safety, wildlife preservation, groundwater recharge, access and recreation.

OSC-4.6 Best Management Practices. The City shall continue to require the use of feasible and practical best management practices (BMPs) to protect surface water and groundwater from the adverse effects of construction activities and urban runoff. Additionally, The City shall require, as part of its Storm Water NPDES Permit and ordinances, to implement the Pollution Prevention Plan (SWPPP) during construction activities for any improvement projects, new development and redevelopment projects for reducing pollutants to the maximum extent practicable.

Health and Safety Element

Goal

HS-6. To minimize the risk of life and property of the City's residents from flood hazards.

Policies

HS-6.1 Flood Protection. The City shall ensure that adequate flood protection is provided throughout the community.

HS-6.2 Drainage and Flood Control Facilities. The City will continue to cooperate and coordinate efforts with the Placer County Flood Control and Water Conservation District for the construction, operation, and maintenance of drainage and flood control facilities and where feasible provide for their joint use. This includes cooperation with Placer County, cities within Placer County, and Sutter County and special districts to provide regional flood control protection.

HS-6.3 Master Drainage Plans. The City shall require master drainage plans as a condition of approval for large development projects.

HS-6.4 New Residential Construction. The City shall require new residential construction to have its lowest habitable floor elevated above the base flood level elevation, determined by FEMA standards.

HS-6.5 Stream Channels. The City shall prohibit development along stream channels that would reduce the stream capacity, increase erosion, or cause deterioration of the channel.

HS-6.6 Flood Insurance Program. The City shall continue to participate in the National Flood Insurance Program.

City of Lincoln Construction Stormwater Runoff Control Ordinance

The City of Lincoln Ordinance No. 876B describes the provisions, procedures, requirements, and enforcement actions related to managing stormwater and erosion to protect and enhance water quality of watercourses and water bodies in a manner pursuant to and consistent with the federal CWA by reducing pollutants in stormwater discharges associated with construction activity to the maximum extent practical and by prohibiting non-authorized non-stormwater discharges to the stormwater conveyance system.

City of Lincoln Post-Construction Stormwater Runoff Control Ordinance

The City of Lincoln Ordinance No. 826B describes the provisions, procedures, requirements, maintenance, inspection, and enforcement actions related to post-construction stormwater monitoring. The purpose of the ordinance is to protect and enhance the water quality of watercourses and water bodies in a manner pursuant to and consistent with the federal CWA by reducing pollutants in stormwater discharges to the maximum extent practical and by prohibiting non-stormwater discharges to the stormwater system.

Lincoln Groundwater Master Plan

Prior to being a joint partner in the development of the *Western Placer County Groundwater Management Plan* (WPCGMP), the City of Lincoln completed and adopted a SB 1938–compliant groundwater management plan (GMP) in 2003 to better manage and protect its groundwater. The GMP mission statement is to "ensure a viable resource for use by the City [Lincoln] to meet backup, emergency and peak demands without adversely affecting adjacent areas." In 2005, the City of Lincoln installed five new multi-completion monitoring wells to better manage groundwater activities (City of Lincoln 2003).

The following BMOs are included in the GMP.

- Maintain groundwater elevations at a level that will ensure an adequate groundwater supply for backup, emergency and peak demands, without causing significant adverse impacts to adjacent areas.
- Preserve overall groundwater quality by stabilizing existing groundwater contaminant migration, avoiding known contaminated areas, and protecting recharge areas.
- Ensure that the direction of groundwater flow continues its southwesterly flow pattern despite additional groundwater extraction or other potential influences.

The City of Lincoln has identified and begun implementing a series of management actions to achieve the BMOs, including implementing a groundwater monitoring program, better understanding of the groundwater aquifer, operation requirements for City wells, and implementing a groundwater protection program.

Placer County Water Agency's Natural Resources Management Plan

Published in 2009 and developed by the Placer County Water Agency (PCWA) and USACE, the *Natural Resources Management Plan for Raw Water Distribution System Operations and Maintenance Activities* documents the condition of natural resources along PCWA's raw water distribution system and in the region, describes regulatory requirements for operation and maintenance (O&M) of the system, identifies potential effects of O&M activities on natural resources, and identifies BMPs for

PCWA's O&M activities. This plan is intended to "help PCWA staff identify BMPs that may assist in minimizing the effects of O&M activities on natural resources conditions" (Placer County Water Agency 2009).

Placer County Water Agency's Western Placer County Groundwater Storage Study

PCWA prepared the *Western Placer County Groundwater Storage Study* in 2005 to create alternatives for increased groundwater storage and conjunctive use in western Placer County with the goals of providing enhanced reliability of water supply for agriculture and improved water management flexibility for PCWA.

Western Placer County Groundwater Management Plan

In 2007, the City of Lincoln, City of Roseville, PCWA, and the California American Water Company prepared the joint WPCGMP as a planning tool with the objectives of maintaining a safe, sustainable, and high-quality groundwater resource. The WPCGMP is intended to be a living document that will be updated in the future to account for progress and changing conditions (City of Roseville et al. 2007).

The WPCGMP contains the following technical requirements and provisions.

- An inventory of water supplies and description of water uses within western Placer County.
- Establishment of groundwater Basin Management Objectives (BMOs) designed to protect and enhance the groundwater basin.
- Identification of monitoring and management programs that ensure the BMOs are being met.
- Development of a stakeholder involvement and public information plan for the groundwater basin.

Since its formation the WPCGMP in 2007, the participating agencies have:

- Constructed 22 new monitoring wells (MWH 2011 and GEI 2015).
- An inventory of groundwater supplies and users in the basin (City of Roseville et al. 2013a).
- Monthly to quarterly monitoring of groundwater levels (agency personnel).
- Assessment of the state of groundwater conditions in the subbasin (City of Roseville et al. 2013b, GEI 2017).
- Performed outreach to stakeholders to understand their concerns about groundwater (MWH 2017).
- Much of the information on groundwater resources comes from these WPCGMP studies and investigations and includes most of western Placer County within the Plan Area.
- More recently, the Sustainable Groundwater Management Act of 2014 required local public agencies to achieve "sustainable groundwater management" by implementing various elements of the Act, including formation of a Groundwater Sustainability Agency. On May 9, 2017, Placer County entered into a Memorandum of Agreement with the City of Lincoln, City of Roseville, Nevada Irrigation District (NID), PCWA, and the California American Water Company (as of July 25, 2017) forming the West Placer Groundwater Sustainability Agency. Further information about groundwater in West Placer County can be obtained at

http://westplacergroundwater.com/. Four other GSAs have been formed to cooperatively manage groundwater beneath the entire North American Subbasin. The South Sutter Water District GSA will manage groundwater beneath portions of west Placer County and in eastern Sutter County.

3.5.2 Environmental Setting

Surface Water

Precipitation

Western Placer County is located within the Sacramento Valley Air Basin, which is relatively flat and bordered by mountains to the east, west, and north. The climate is characterized by hot, dry summers and cool, rainy winters, sometimes with periods of dense and persistent low-level fog that are most prevalent between winter storms. The extreme summer aridity of the Mediterranean climate is caused by sinking air of subtropical high-pressure regions. In the case of the Sacramento Valley, the ocean has less influence than in the coastal areas, giving the interior Mediterranean climate more seasonal temperature variation.

Because the Plan Area covers the transition from the low elevations of the Sacramento Valley to the Sierra Nevada foothills, there is a corresponding transition in climate. Most precipitation here results from air masses that move in from the Pacific Ocean during the winter months, from west or northwest. Rainfall increases as the air mass is pushed upward and cools; therefore, the lower western edge of the Plan Area is drier than the higher eastern edge. The normal annual precipitation, which occurs primarily from November through April, ranges across the Plan Area from 18 inches on the west to 36 inches on the east.

The Plan Area has nearly 250 sunny days per year. The heat and summer sun, and typically less than an inch of rainfall from May to August, cause rapid drying of open water. The climate, coupled with the extensive hardpan underlying Valley soils, creates the vernal pool condition. When rain fills the pools in the winter and spring, the water collects and remains in the depressions. In the springtime, the water gradually evaporates until the pools become completely dry in the summer and fall. Monthly rainfall typically begins to exceed potential for water loss through evapotranspiration beginning in November and falls below evapotranspiration at the end of March.

Drainage Network Overview

The Plan Area is located on the west slope of the Sierra Nevada in the Lower Sacramento River Basin. The Sacramento and American River tributaries define a series of subbasins. Western Placer County falls within five subbasins at U.S. Geological Survey Hydrologic Unit Code Level 8 (HUC-8): 1) Upper Bear (18020126); 2 Upper Coon-Auburn (18020161); 3) North Fork American River (18020128); 4) Lower American River (18020111); and 5) Lower Sacramento River (18020163). To provide better resolution of planning issues, the PCCP further divides the Coon Creek/Auburn Ravine watershed into four watersheds: Coon Creek, Markham Ravine, Auburn Ravine, and Pleasant Grove Creek. This results in seven PCCP planning watersheds. Streams drain from northeast to the southwest, eventually reaching the Sacramento River, or in the case of Dry Creek, drain first to the American River before reaching the Sacramento River. Watersheds are mapped in Figure 3.5-1, and drainage areas are listed in Table 3.5-2. The northern watersheds are mainly in the Valley and the Foothills, while the watersheds from Pleasant Grove south are mainly in the non-participating cities.

Major streams in the Plan Area have extensive natural floodplains in the valley floor (see Figure 3.5-2).

Table 3.5-2. Western Placer Watersheds—Land Area (acres)

Watershed	Plan Area Valley	Plan Area Foothills	Non-Participating Cities	All Western Placer
Bear River	18,625	15,020	–	33,645
Coon Creek	14,143	37,967	284	52,394
Markham Ravine	16,127	1,050	–	17,177
Auburn Ravine	25,133	17,223	3,703	46,059
Pleasant Grove	15,341	–	24,378	39,719
Dry Creek	11,552	28,047	20,920	60,519
American	–	9,869	1,351	11,220
All Watersheds	100,921	109,177	50,636	260,734

Source: Appendix A.

Table 3.5-3. Western Placer Watersheds—Stream Length (stream miles)

Watershed	Plan Area Valley	Plan Area Foothills	Non-Participating Cities	All Western Placer
Bear River	50	52	–	102
Coon Creek	47	90	–	137
Markham Ravine	43	4	–	47
Auburn Ravine	79	30	8	117
Pleasant Grove	40	–	95	135
Dry Creek	34	91	57	182
American	–	16	2	18
All Watersheds	294	282	162	738
Major Streams	*31%*	*21%*	*31%*	*27%*
Perennial Streams	*16%*	*34%*	*23%*	*25%*

Source: Appendix A.
Note: Major streams are mapped as Strahler stream order 3 or greater.

Western Placer County is covered by a network of streams and artificial canals, as shown in Figure 3.5-2. Altogether, 738 miles of streams are mapped in western Placer County. Table 3.5-3 shows the length of stream miles in the planning watersheds, respectively.

A total of 34% of streams in the Foothills are mapped as perennial while only 16% of streams in the Valley are mapped as perennial, though as described below in *Hydrologic Modifications,* the distinction between perennial and intermittent is often not meaningful because of the non-seasonal presence of irrigation water.

Table 3.5-4. Western Placer Streams, Canals, and Reservoirs (miles)

Hydrologic Feature	Valley	Foothills	Non-Participating Cities	All Western Placer
Streams	294	282	162	738
Major Streams	*90*	*58*	*50*	*198*
Minor Streams	*204*	*224*	*112*	*540*
Canals	87	194	22	303
Reservoir Streamline	–	25	–	25
Reservoir Shoreline	–	35	–	35

Source: Appendix A.

Notes: Major streams are mapped as Strahler stream order 3 or greater.
Canals are artificial features and include both supply and drainage channels.
Reservoir streamline is where a stream passes through a reservoir maximum pool extent.
Reservoir shoreline is the shoreline of a reservoir at maximum pool extent.

Western Placer County has many artificial canals. Some 303 miles of irrigation supply and drainage canals are mapped. The supply canals take advantage of the abundant Sierra Nevada runoff in the Bear, Yuba, and American Rivers and connect to a series of small reservoirs in the Foothills. The drainage canals are found in the Valley and Foothills. In the Valley the drainage canals drain rainfall and irrigation runoff that would otherwise accumulate in the flat alluvial plain. For the Foothills, they provide irrigation water for ponds, irrigated pasture, landscaping, and crop production. Although the canals are not natural hydrologic features, they are occasionally the source of perennial seeps that may create small pockets of wetland habitat or other wet areas that are not wetlands or habitat in the Foothills and may serve some aquatic habitat functions in the Valley.

The Plan Area includes two major reservoirs: Camp Far West Reservoir (104,000 acre-feet storage capacity) on the Bear River to the north and Folsom Reservoir (975,000 acre-feet storage capacity) on the American River to the southeast. Table 3.5-4 lists the length of the shoreline and the length of the streams that flow through the reservoir at maximum pool size.

Rainfall, and the subsequent groundwater release, is the primary water source for surface flows in the winter and spring. Agricultural and urban runoff, water deliveries for irrigation, and wastewater treatment plant (WWTP) effluent can constitute significant portions of total streamflow in the spring, summer, and fall. Some watersheds that were once seasonally intermittent are now perennial. Irrigation also transfers water between watersheds. For example, Auburn Ravine receives water imports from the Bear, Yuba, and American Rivers and is used by Pacific Gas and Electric Company (PG&E), NID, and PCWA as a conveyance feature.

Unless noted otherwise, the watershed descriptions below have been excerpted from the Plan, which based its descriptions on the Jones & Stokes Associates' *Assessment of Habitat Conditions for Chinook Salmon and Steelhead in Western Placer County, CA*.

Watershed Descriptions

Bear River Watershed

Headwaters for the Bear River are in the vicinity of Emigrant Gap and Lake Spaulding in Nevada County. The Bear River forms the northern Placer County boundary as it flows southwesterly to a

point approximately 8 miles north of Auburn where it turns west and flows to its confluence with the Feather River in the vicinity of Nicolaus in Sutter County. The Bear River is the second-largest tributary to the Feather River.

The Bear River planning watershed comprises the Placer County side of the Lower Bear and Middle Bear HUC-10 watersheds. Most of those watersheds are in Yuba and Nevada Counties such that the Plan Area portion makes up only 29% of the whole Bear River watershed.

Bear River historically experienced high winter flows and low summer flows, but today the timing of flow and volume is highly regulated by releases from reservoir storage and diversions. Camp Far West is the largest storage reservoir on the Bear River. The exportation of water diverted from the Bear River watershed is made through NID and PG&E conveyance facilities. These diversions supply nearly all of the water imported to the Coon Creek watershed and a substantial percentage of the flows imported to the Auburn Ravine watershed. The flow is diverted for irrigation, power generation, and domestic supply in the Auburn and Mount Pleasant area. The upstream diversions from the Bear River basins have depleted the streamflow downstream from the Sutter Irrigation District Diversion Dam, which is 1 mile downstream of Camp Far West Reservoir. Minimum flow releases are 25 cubic feet per second (cfs) in the spring and 10 cfs during the rest of the year. Below the dam, Bear River flows range between 0 and 40 cfs from June to December.

NID has proposed construction of the Centennial Dam on the Bear River just upstream from Combie Reservoir, which is located approximately 5 miles north of Auburn. The dam would create a 6-mile-long reservoir, called Centennial Reservoir, holding up to 110,000 acre-feet of water. The reservoir would supply drinking water and agricultural irrigation water (Nevada Irrigation District 2016). NID issued a Notice of Preparation of an EIR for the dam in February 2016.

U.S. Geological Survey gage #11424000 Bear River near Wheatland is located in the northeast corner of the Plan Area. Streamflow records at the gage show that the mean annual flow for water years (WYs) 1996–2015 was 384 cfs, with a minimum annual flow of 25 cfs (WY 2001) and maximum annual flow of 990 cfs (WY 2011). Mean monthly flows over the same 1996–2015 period show streamflows in the range of 28–53 cfs during the months of July through November with flows steadily increasing up to 988 cfs in March, the month with the highest monthly streamflow. A log Pearson Type III analysis of peak annual flows at the same gage shows the 1.5-year recurrence interval event is 7,360 cfs and the 100-year event is 48,300 cfs.

Yankee Slough is a part of the Bear River watershed and flows into the Bear River drainage downstream of State Route 65 and outside of the Plan Area in Sutter County. Yankee Slough originates north and east of the unincorporated township of Sheridan in the lower Sierra foothills. Yankee Slough flows perennially due to irrigation runoff. Yankee Slough historically flowed into the American River basin, once a massive marsh complex that is now principally rice fields and urban neighborhoods. Little or no riparian vegetation is present on much of Yankee Slough in Placer County. Outside the Plan Area in Sutter County, Yankee Slough is mostly channelized and serves as drainage facility for agricultural runoff. Some of the largest perennial freshwater marshes in western Placer County are along Yankee Slough east of State Route 65, where the Yankee Slough Conservation Bank is located.

Coon Creek Watershed

Coon Creek originates east of Auburn near Meadow Vista and flows westward. It is intercepted by the East Side Canal in Sutter County just west of the county line. The East Side Canal then flows into

the Cross Canal where it is joined by flows from Markham Ravine and Auburn Ravine. Pleasant Grove Creek enters the Pleasant Grove Creek Canal, which joins the East Side Canal, at a confluence in Sutter County where it then becomes the Cross Canal. The Cross Canal joins the Sacramento River immediately downstream of the confluence of the Feather and Sacramento Rivers near Verona. Coon Creek historically flowed into the American River basin.

The Coon Creek planning watershed corresponds to 58% of the Coon Creek HUC-10 watershed, with a portion extending east of Plan Area A in Placer County and a portion extending west in the Sutter County where it meets the Pleasant Grove Creek–Cross Canal watershed.

In Coon Creek, most of the streamflow present during the late spring through early fall consists of imported water en route to downstream agricultural diversions (Appendix A). Coon Creek historically had little or no summer flow in the lower reaches. The creek previously received a daily discharge of around 2 cfs from the Placer County Sewer Maintenance District #1 (SMD-1) WWTP. The SMD-1 effluent flows into Coon Creek ceased following the construction of a sewer pipeline that now conveys flows from the SMD-1 service area for treatment at the Lincoln WWTP on Auburn Ravine. NID discharges 7.5 cfs during the summer and fall (i.e., about April 15 through October 15). Flow in Coon Creek is controlled by releases from Orr Creek Reservoir, operated by NID. The last downstream diversion receiving NID deliveries of water is near Gladding Road. Streamflow is managed to have no excess flow (i.e., essentially dry at Lincoln Boulevard at the old alignment for State Route 65) (Appendix A).

The natural flow pattern for small foothill streams is a gradual decline in flow during the spring, summer, and early fall, until the first rainstorms begin in late fall. Flow is an essential component of fish habitat. Low-flow conditions can result in lack of depth for adult fish passage, minimal flow over redds,[1] increased siltation of redds and reduced levels of oxygen to the eggs, and reduced space for juvenile rearing.

In the lower reaches of Coon Creek, runs are the most dominant channel structure element, followed by low-gradient riffles, glides, dammed pools, mid-channel pools, lateral scour pools, and channel confluence pools (Appendix A). There are minimal amounts of in-stream cover (i.e., woody debris and undercut banks) and overhead cover (i.e., riparian vegetation). Streamside vegetation is sparse in many places due to grazing by livestock. Channel instability and resultant bank cutting may also prevent the establishment of vegetation. Stream channel substrates consist predominantly of cobble, gravel, sand, and silt- and clay-sized particles.

Doty Ravine originating west of Auburn is the main tributary to Coon Creek. The streambed in the headwaters consists primarily of gravel and cobbles with some larger granitic boulders. Doty Ravine upstream of Gladding Road flows through oak woodland and is bordered by rural-residential and ranch lands. Downstream of Gladding Road, the bordering lands experience higher livestock use, and the ravine is considered highly disturbed (Appendix A).

Doty Ravine receives water from deliveries by NID as well as natural runoff. Import of NID deliveries and conveyance down Doty Ravine is generally completed by October. Winter flows can exceed several thousand cfs, but during the irrigation season the flows generally average less than 20 cfs and are usually substantially less (Appendix A). All irrigation water is diverted at the Doty South Diversion Dam (DSDD) west of Crosby Herold Road. Downstream of the DSDD, flow in the stream

[1] A redd is a depression in the gravel of the river, scooped out by the salmonid fish males for females to lay their eggs in. After fertilization, the females cover the eggs with gravel.

accretes from leakage at the DSDD, groundwater, and agricultural runoff. During the non-irrigation season, the flows are around 5–6 cfs.

Markham Ravine Watershed

The Markham Ravine watershed is almost entirely on the Valley floor, originating in the low elevation hills northeast of the city of Lincoln and emptying into the East Side Canal approximately 1 mile north of Auburn Ravine in Sutter County. Because of the nearly flat terrain and the extensive history of drainage and irrigation modifications, watershed boundaries here are indistinct in the lower reaches. The Markham Ravine planning watershed comprises the northern portion of the Pleasant Grove Creek–Cross Canal HUC-10 watershed (Appendix A).

In its headwaters, the channel of Markham Ravine is poorly defined. Near Lincoln Boulevard, the channel becomes more distinct and passes through industrial, light industrial, and rapidly urbanizing areas located in the northern portion of Lincoln. West of Lincoln, the channel passes through a mixture of farms and ranches, including pastures for grazing as well as rice and other grain farming. In this reach of Markham Ravine, streamflow is artificially augmented by irrigation return flows and urban runoff. There are no effluent discharges into the ravine. The presence of relatively permanent flows allows the establishment of riparian and wetland vegetation. Beavers are very active west of Lincoln, resulting in small impoundments forming seasonal and perennial marshes (Appendix A).

Auburn Ravine Watershed

Auburn Ravine originates on the north side of the city of Auburn and flows west to its confluence with East Side Canal in Sutter County and then into the Cross Canal and the Sacramento River. The elevation of the basin ranges from 30 to 1,600 feet above sea level. The Auburn Ravine planning watershed includes the entire HUC-10 Auburn Ravine watershed and a portion of the Pleasant Grove Creek-Cross Canal HUC-10 watershed (Appendix A).

In its headwaters, Auburn Ravine is characterized by a high-gradient, incised channel with steep-sided banks. Large boulders and cobbles dominate the substrate. The channel includes scour pools, waterfalls, and high-velocity chutes. Riparian vegetation is abundant. In its middle reaches downstream to Lincoln, the stream's gradient decreases substantially, and the substrate is characterized by sand, gravel, and cobbles. Pools and riffles are common, and trees and shrubs dominate the riparian zone. The channel contains large woody debris and bank erosion increases relative to the upper reach (Appendix A).

Within the city limits of Lincoln, Auburn Ravine has a very a low gradient and sandy substrate. Riparian vegetation is characterized by a relatively open tree canopy with an understory dominated by blackberries and shrubs.

Downstream from the city of Lincoln, rice farms and livestock ranches border the stream. In some places, Auburn Ravine is contained within levees and riparian vegetation may be absent. Stream channel substrate is mostly clay and fine sediments, with occasional pieces of large woody debris. Grazing and channel maintenance activities restrict the development of riparian vegetation. The lower 2.5 miles of Auburn Ravine was rerouted and leveed to flow into the East Side Canal (Appendix A).

Winter flow in Auburn Ravine is dominated by runoff from rainfall events and effluent from the City of Auburn and City of Lincoln WWTPs, both of which contribute discharge year-round. Winter flows range from less than 3 cfs to an estimated 100-year flow event that exceeds 14,000 cfs (Appendix A).

Summer flows are high relative to natural conditions because of the effects of water imports. Auburn Ravine receives water imports from the Bear, Yuba, and American Rivers by NID, PCWA, and PG&E, creating above-normal spring and summer flow conditions. NID, PG&E, and PCWA use Auburn Ravine as a water conveyance feature. In addition to water imports, NID and PCWA customers indirectly affect Auburn Ravine hydrology through customer return flows (remaining portions of customer water deliveries that return to drainages). In September or October, flow is substantially decreased as irrigation demands diminish or cease. Flow during the fall may often be less than 3 cfs. Auburn Ravine's artificially high flow in the summer months provides more—and substantially different—aquatic habitat compared with what would exist under natural flow conditions. Reduced flow in September and October substantially reduces the area of aquatic habitat relative to habitat available in the summer (Appendix A). Flow in the Auburn Ravine is also affected by PG&E system maintenance. The following description is from Section 2.3.2 of the PCWA natural resources management plan (Placer County Water Agency 2009):

> PG&E implements an annual water delivery outage to PCWA while PG&E conducts maintenance on its system. The outage typically takes place from mid-October to mid-November, reducing water available to PCWA's Zone 1 customers from PG&E's Wise, Bear, and South canals. The amount of water available for raw water delivery depends on customer demands for treated water from PCWA's WTPs. Generally, treated water needs are met before raw water needs. During the PG&E outage, PCWA relies on stored water in surface reservoirs, water bypassed through Zone 3, and water delivered through the ARPS to supplement flow to the WTPs and to canal customers. Water pumped from the North Fork American River through the AROs is pumped again to PCWA's Auburn Ravine Tunnel Pump into PG&E's South Canal, and PCWA's raw water distribution system requiring alternative delivery schedules, such as rotating outages among canals.

Pleasant Grove Creek Watershed

The Pleasant Grove Creek watershed and its constituent Curry Creek are located in western Placer County, including the western portions of the cities of Roseville and Rocklin and eastern Sutter County. Both of these creeks empty into the Pleasant Grove Creek Canal, which drains to the Sacramento River via the Cross Canal.

The Pleasant Grove planning watershed comprises the southern portion of the Pleasant Grove Creek-Cross Canal HUC-10 watershed and the Placer County portion of the Curry Creek HUC-10 watershed. Altogether, the Markham Ravine, Auburn Ravine, Coon Creek, and the Pleasant Grove planning watersheds cover more than 90% of the total watershed area that feeds into the Cross Canal.

The watershed is composed of five major drainages: Curry Creek, Lower Pleasant Grove Creek, Kaseberg Creek, South Branch Pleasant Grove Creek, and Upper Pleasant Grove Creek. In general, slopes are very flat, less than 5%, particularly in the lower watershed. These creeks were historically dry or very nearly dry in the summer months but are now mostly perennial because of urban runoff and agricultural irrigation return flows. The Pleasant Grove WWTP, operated by the City of Roseville, also augments natural streamflow, on average, by 11 cfs per day.

The dominant land cover types within the watershed are annual grassland, urban and suburban, and agriculture. Urban and suburban land uses within the watershed are currently confined to unincorporated Placer County, the cities of Roseville and Rocklin, and the town of Loomis, but

significant growth in urban and suburban land uses is expected in the next 10–20 years, including nonresidential development in the unincorporated Sunset Industrial Area. Current development in the watershed is resulting in the conversion of agricultural and grasslands to suburban land uses, predominantly low- to medium-density residential communities with associated neighborhood or community commercial.

The Pleasant Grove Creek watershed was historically dominated by agriculture, and that is still the dominant land use in the lower portions. Rice farming in the lower watershed is very active, with farmers growing white, wild, and organic rice. Agriculture in the middle portion of the watershed involves primarily rice farming and cattle ranching on unirrigated grasslands (Appendix A).

Dry Creek Watershed

The following section is excerpted from the Plan (Appendix A), which summarizes ECORP Consulting's *Dry Creek Watershed Coordinated Resource Management Plan* and Jones & Stokes Associates' *Assessment of Habitat Conditions for Chinook Salmon and Steelhead in Western Placer County, CA*.

The Dry Creek planning watershed includes the northeastern corner of the much larger Lower American HUC-8 watershed, comprising portions of the Dry Creek and Steelhead Creek HUC-10 watersheds. The Dry Creek planning watershed ranges from the unincorporated community of Newcastle (near Auburn) to Sacramento County.

Major tributaries to Dry Creek include Antelope Creek, Secret Ravine, Miners Ravine, Strap Ravine Creek, Linda Creek, Clover Valley Creek, and Cirby Creek. The gradient of the main stem of Dry Creek is low, generally less than 1%. The channel is well defined with sandy substrate and bordering riparian vegetation.

The middle portion of the Dry Creek watershed has been subject to extreme development pressure by relatively recent growth, primarily within the cities of Roseville and Rocklin. The lower portions of the watershed are experiencing similar growth at this time. The upper watershed is largely composed of rural-residential property in the unincorporated area of the Loomis Basin and Penryn and some suburban growth in unincorporated Granite Bay. Urbanization has exacerbated flooding in the lower watershed, particularly in Sacramento County.

Water quality concerns have arisen because of the perceived increase in sedimentation and potential contamination from non-point sources.[2] Given these concerns, the Dry Creek Conservancy has collected a large amount of physical and biological data on the watershed. The Office of Environmental Health Hazard Assessment is currently analyzing the data, including data on water quality indicators, to gain a better understanding of the stressors in the watershed (Appendix A).

As with most of the streams in the Plan Area, late summer flows in Dry Creek are largely urban runoff and releases from the existing WWTP. The City of Roseville's Dry Creek WWTP drains into Dry Creek west of Interstate 80.

U.S. Geological Survey gage #11447293 Dry Creek at Vernon St Bridge at Roseville is located in the southern portion of the Plan Area. Streamflow records at the gage show the mean annual flow for

[2] Non-point source is a source of water pollution that comes from many diffuse sources (e.g., land runoff, precipitation, drainage, etc.), as opposed to a point source, which comes from a discernible, confined, and discrete conveyance such as a pipe, ditch, channel, etc.

WY 2000–2011 (the period of record for analysis) was 77 cfs, with a minimum annual flow of 49 cfs (WY 2007) and maximum annual flow of 131 cfs (WY 2006). Mean monthly flows over the same 2000–2011 period show streamflows in the range of 15–39 cfs during the months of June through November with flows steadily increasing up to 177 cfs in February, the month with the highest monthly streamflow. Peak annual flows are highly influenced watershed urbanization. The maximum peak annual flow over the 1997–2012 period of 7,950 cfs occurred January 22, 1997, and the minimum of 983 cfs occurred February 11, 2001.

American River Watershed

The North Fork American River defines the southeast border of the county and, with the South Fork in El Dorado County, forms Folsom Lake. No part of North Fork American stream habitat would be managed as part of the PCCP because most of this land is managed by the California Department of Parks and Recreation. The Middle Fork of the American River is outside the Plan Area; however, a portion of the Middle Fork's watershed includes Plan Area B5, the Big Gun Conservation Bank for California red-legged frog near the unincorporated town site of Michigan Bluff, 21 miles east of Auburn.

Hydrologic Modifications

Urbanization, water supply and power generation projects throughout the county and elsewhere in the Sierra Nevada have altered the natural hydrology of many streams and watersheds. Hydrologic effects vary and range from increased peak flows to reduced or augmented summertime flows. As a watershed urbanizes, the amount of impervious surface increases and the proportion of precipitation that is surface runoff also increases. This changes the timing and magnitude of peak flows in receiving channels. In addition to increasing the potential for downstream flooding, increased peak flows also have the capacity to erode channels.

Although some of the stream channels in the upland areas of western Placer County are still natural, most of the tributaries within the Valley floor area of the watershed have been significantly modified to quickly route flood flows off the landscape, deliver irrigation water, to reduce natural channel bank erosion in support of agricultural production by laterally confining streams through levees and bank armoring. Many types of control structures have been installed, including earthen levees, floodwalls, culverts, and, to a limited extent, engineered channels. These structures were historically focused on conveying 100-year stormflows and preventing flooding in new development adjacent to these stream corridors. Concrete dams, seasonal flashboard dams, and diversions are present throughout the Plan Area. To facilitate water deliveries to users, seasonal flashboard dams are installed in the Plan Area, particularly in Auburn Ravine, from mid-April to October. Channelization has complex effects that vary from stream to stream. Generally, current flood control methods emphasize methods other than structural approaches to reducing hydrologic impacts of development. These include the use of retention basins, bypass channels, and other means of minimizing impacts of urbanization on peak flows.

Water Deliveries and Diversions

Western Placer County has an extensive network of some 300 miles of canals, as shown in Figure 3.5-2. Inter-basin transfers artificially augment streamflow in most western Placer County watersheds. Water is delivered to the various watersheds for agriculture, domestic, and commercial use. The main entities involved in the delivery of water in western Placer County include the SSWD, NID, PG&E, and the PCWA. Auburn Ravine receives a large amount of water from the Bear, Yuba, and

North Fork American River through PG&E, NID, and PCWA. PG&E delivers Bear, Yuba, and North Fork American River water to Auburn Ravine just upstream of the City of Auburn WWTP at the Wise Powerhouse and at Lozanos Road Bridge. NID delivers Yuba and Bear River water to Auburn Ravine for downstream diversions at the Auburn Ravine One Canal and the Hemphill Canal. PCWA diverts Middle Fork American River water to Auburn Ravine through the Auburn Tunnel (Appendix A).

The upper half of the Coon Creek basin has a complex network of irrigation canals, which are managed by NID, that carry water imported from the Bear River. NID uses Orr Creek, or sometimes Rock Creek in dry years, to transport imported water from Bear River downstream to agricultural users. During the irrigation season, flows in Orr Creek average about 40 cfs above natural flows. The primary NID diversion on Coon Creek takes place at the Camp Far West Canal. Doty Ravine, the main tributary of Coon Creek, receives NID deliveries through the Auburn Ravine I and Gold Hill II/Sailor's Ravine canal system. The management objective on Doty Ravine is to divert all irrigation water at the DSDD, located just west of Crosby Herold Road (Appendix A).

For the Dry Creek watershed, PCWA, San Juan Suburban Water District, and the City of Roseville are the major water resource management agencies. Water supplies from outside of the Dry Creek watershed are augmenting Dry Creek flows and may dominate them during the dry season (Appendix A).

Wastewater Treatment Plants

Some of the water imported into Auburn Ravine is the discharge from WWTPs operated by the Cities of Auburn and Lincoln. Lincoln's current permit allows a dry-weather flow discharge of 4.2 million gallons per day (mgd), with current dry-weather flows averaging 2.8 mgd. The City's permit allows for expansion up to 8.4 mgd. The actual level of discharge will vary and may be less than the permit limits, depending upon the City's level of beneficial use of reclaimed water during the course of the year (Appendix A).

The Placer County WWTP SMD-1, located off State Route 49 near Joeger Road in Auburn, was decommissioned, and all effluent is now conveyed to the City of Lincoln for treatment at the regional WWTP on Auburn Ravine. A portion of the site is being reclaimed, a new export pump station is being constructed, and a new emergency containment basin is also being constructed. The overall project is known as the Mid-Western Placer Regional Sewer Project. Prior to its decommissioning, the WWTP discharged treated effluent into Rock Creek, a tributary of Orr Creek, which is a tributary to Coon Creek. The effluent discharged from SMD-1 was approximately 1.3 mgd, or about 2 cfs, which was a significant portion of total flow only in the fall when NID imports to Coon Creek stop (Appendix A).

Dry Creek receives treated effluent from the Roseville Dry Creek WWTP. The design capacity is 18 mgd. Treated effluent contributes relatively little to flows during wet-weather months; however, they can represent a high proportion of dry-weather flows (more than 50% of total flow at Vernon Street Bridge) (Appendix A).

The Placer County Sewer Maintenance District #3 (SMD-3) facility was a minor discharger of municipal wastewater for the Loomis Basin/Granite Bay area. This facility was decommissioned in November 2014, and all effluent is being transferred to the existing Placer County Sewer Maintenance District #2 collection system in Granite Bay for treatment at the Dry Creek WWTP in Roseville. The site is being reclaimed.

Surface Water Quality

The following sections discuss specific water quality parameters and contaminants of concern in creeks and rivers in the Plan Area.

Total Suspended Solids and Turbidity

Total suspended solids (TSS) are suspended or colloidal particles in water which do not readily settle out by gravity. Streams carry much more suspended sediment during high flow periods. In surface water, TSS is indicative of upstream scouring, bank erosion, and agricultural return flow transporting and depositing sediment. Suspended sediment is considered a pollutant by the Central Valley Water Board and can transport other contaminants (e.g., phosphorus) and hydrophobic contaminants (e.g., organochlorine pesticides).

Turbidity is the reduction of water clarity due to the presence of suspended or colloidal particles and is commonly used as an indicator for the general condition of water clarity. Turbidity in surface water comprises naturally occurring and/or introduced organic matter and inorganic minerals, such as silt, clay, industrial waste, sewage, and algae. It is quantified according to the amount of light which is reflected by the suspended particles and is measured in nephelometric turbidity units (NTUs). Turbidity is closely related to TSS, but also includes plankton and other organisms (Murphy 2009). The Basin Plan specifies waters shall be free of changes in turbidity that cause nuisance or adversely affect beneficial uses. Turbidity increases for water bodies depend on the water body's natural turbidity levels. For Folsom Lake specifically, the Basin Plan states the turbidity shall be less than or equal to 10 NTUs.

Water Temperature, Salinity (Electrical Conductivity), and pH

Water temperature affects the concentration of dissolved oxygen and is an important water quality variable for aquatic life. The Basin Plan water temperature objective requires that the temperature not be increased more than more than 5°F above natural receiving water temperature (California Regional Water Quality Control Board 2011).

Electrical conductivity (EC) of water is directly related to the concentration of TDS. TDS and EC are general indicators of salinity and are regulated under the Basin Plan. The Basin Plan does not specify EC targets for water bodies in the Plan Area. The Basin Plan does specify that TDS of the North Fork of the American River from the source to Folsom Lake shall not exceed 125 milligrams per liter (mg/L) and in Folsom Lake shall not exceed 100 mg/L (California Regional Water Quality Control Board 2011).

The Basin Plan objective for pH is between 6.5 and 8.5; pH represents the effective concentration (activity) of hydrogen ions in water is reported on a scale from 0 (acidic) to 14 (alkaline).

Water Quality of Major Surface Water Features

Surface water quality in the Plan Area is variable depending on the water body. Several of the larger water bodies in the Plan Area are listed as impaired according to Section 303(d) of the CWA (Section 3.5.1, *Regulatory Setting*, above). The following list of 303(d) listed impaired water bodies is based on the 2010 303(d) list. Table 3.5-5 summarizes water quality impairments in major surface waters in the Plan Area and the sources of these impairments.

Table 3.5-5. CWA Section 303(d)-Listed Impaired Water Bodies and Associated Potential Sources for Major Water Bodies within the Plan Area

Water Body	Listed Pollutants	Associated Potential Sources
Bear River	Mercury	Resource extraction
	Chlorpyrifos	Agriculture
	Copper	Source unknown
	Diazinon	Agriculture
North Fork American River	Mercury	Resource extraction
Curry Creek	Pyrethoids	Urban runoff/storm sewers
	Sediment toxicity	Source unknown
Miners Ravine	Dissolved oxygen	Source unknown
Natomas East-Main Drainage Canal	PCBs (Polychlorinated biphenyls)	Agriculture; industrial point sources; urban runoff/storm sewers
Pleasant Grove Creek	Dissolved oxygen	Source unknown
	Pyrethoids	Urban runoff/storm sewers
	Sediment toxicity	Source unknown
Yankee Slough	Chlorpyrifos	Agriculture
	Unknown toxicity	Agriculture; source unknown

Source: State Water Resources Control Board 2010.
PCBs = Polychlorinated biphenyls.

The following are descriptions of surface water quality for select tributaries in addition to those stated in Table 3.5-5.

North Fork American River

Despite mercury accumulations in riverbed sediment, overall water quality in the North Fork of the American River is good to excellent. The water is low in alkalinity, disinfection by-product precursor materials, mineral content, and organic contamination (City of Roseville et al. 2007).

Bear River

Water quality is affected by previous mining activities (mercury accumulation in riverbed sediment) and in the lower portion of the watershed is affected by agricultural runoff. Flow regulation and diversions can also affect water temperature (City of Roseville et al. 2007).

Dry Creek

The runoff in Dry Creek and its tributaries is heavily affected by urban land use. In the summer the water quality resembles treated wastewater effluent since it is the source of most of the streamflow in the dry months. With the onset of the first rainfall in the fall the water contains trace metals, organic chemicals and other contaminants typical of urban runoff (City of Roseville et al. 2007).

Auburn Ravine

Several factors affect the water quality of Auburn Ravine, including treated effluent, failing septic systems, agricultural return flows, and urban. High concentrations of heavy metals, including copper, lead and mercury have been measured. The pesticide diazinon has also been detected in water quality samples (City of Roseville et al. 2007).

Coon Creek

Despite the historic and ongoing disturbances to the Coon Creek watershed, several factors affect the water quality of Coon Creek, including urban stormwater, effluent, and agricultural return flows. Excess nutrients levels from wastewater treatment and cattle grazing along the creek have depleted oxygen levels. The pesticide heptachlor was detected in water quality samples during the Coon Creek watershed assessment (Placer County 2017:49

Groundwater

Groundwater Hydrology

Groundwater in the Plan Area occurs in alluvial sediments and fractured bedrock aquifers. The major alluvial aquifers are located in the western portion of the Plan Area in the Sacramento Valley Groundwater Basin–NASb as defined by DWR in its Bulletin 118 (California Department of Water Resources 2016a). The NASb is bounded by the central Sierra Nevada to the east, and the American, Sacramento, and Bear Rivers to the south, west, and north, respectively. About 40% of the northeastern portion of the NASb lies in Placer County. The groundwater supplied in the subbasin is variable in terms of water quantity and quality due to the variety of fine and coarse-grained sediment types that make up the groundwater aquifers. The western portion of the Plan Area contains more fine-grained sediments (silt and clay) but has significant water-bearing formations up to a depth of 2,000 feet below ground. The base of fresh water is about 1,000–1,500 feet deep. Below this boundary, water quality is too poor to be used as a reliable municipal or agricultural water source (City of Roseville et al. 2007). To the east along the border of the Sierra Nevada foothills, NASb deposits are of similar origin but are coarser, more permeable, and thinner. Aquifers that are exposed at ground surface along the eastern edge of the NASb are tilted to the west and interconnected to deeper, confined aquifers in the rest of the NASb.

Groundwater recharge occurs primarily along active river and creek channels where abundant sand and gravel deposits occur, particularly in the eastern portion of the NASb at the transition from the fractured bedrock of the Sierra Nevada foothills into the coarse sediments of the NASb. The major recharge sources include all the small creeks and streams such as Coon Creek, Dry Creek, and Auburn Ravine along with the larger Bear River. Significant recharge also occurs from deep percolation of irrigation water and precipitation.

Groundwater resources in the eastern portion of the Plan Area, outside of the NASb, are supplied from the fractured rock sources of the Sierra Nevada and are extremely variable in terms of water quantity and quality (California Department of Water Resources 2006).

Groundwater Elevations

A map of groundwater elevations in the Placer County portion of the NASb for spring 2017 is shown in Figure 3.5-3. The elevations are shown relative to mean sea level (msl). Spring groundwater elevations are typically 10–20 feet higher than fall elevations (City of Roseville et al. 2007). A

regional depression of groundwater levels exists in southwestern portion of the Plan Area, near the junction of Placer, Sutter, and Sacramento Counties. Groundwater elevations within the Plan Area typically range from -25 feet msl in the southwest corner (within the cone of depression) and 80 feet msl. Groundwater generally flows toward the east and south into the regional depression. Depth to groundwater below the ground surface is about 100 feet in this area, and typically less than 30 feet below ground at the eastern NASb edge.

Graphs of historic water levels (hydrographs) are shown in Figure 3.5-4 and indicate that the depression in the southwestern area started developing in the 1950s but has been relatively stable since the 1980s. Water levels along the eastern portion of the Plan Area near Sutter County have been highly variable over time, likely due to agricultural demand. Other areas have been relatively stable over time.

Groundwater Quality

The quality of shallow groundwater is largely dependent on the quantity and quality of surface water that percolates into the ground and the subsequent chemical interactions that take place with the soil's bedrock within the saturated aquifer layers. Factors that affect the susceptibility of shallow groundwater to contamination include the type of soil and water-bearing materials, permeability of the soil to surface water infiltration, location of pollutant sources, and depth to the aquifer. Potential sources of shallow groundwater contamination include agricultural application of fertilizers and pesticides, hazardous material spills from industrial and commercial processes, septic tank leachate, infiltration of contaminated urban stormwater runoff, and disposal of municipal wastewater (City of Roseville et al. 2007). Most major contamination sites appear to be well monitored and have remedial actions in progress to contain the contaminants from either reaching the groundwater or migrating offsite. The Central Valley Water Board is aware and assessing groundwater contamination beneath one former dry cleaner, in old town Roseville, which is not being remediated (GEI 2018).

The quality of groundwater in the aquifer system within the Plan Area has been assessed through samples obtained from monitoring wells (GEI 2018). Groundwater in the NASb is generally of good quality and does not require treatment beyond disinfection. Shallow groundwater is preferable to groundwater in the lower aquifer (below about 500 feet) system because the lower aquifer contains higher concentrations of total dissolved solids, chloride, sulfate, iron, and manganese, and possibly arsenic (City of Roseville et al. 2007). Municipal water supply systems groundwater sources meet all water quality standards.

Known Flooding

Many of the creeks and rivers within the lower lying western portion of the Plan Area in the Central Valley have 100-year floodplains as designated by FEMA. A small portion of land within the far northwestern corner of Placer County within the Plan Area along the Bear River is mapped as being within the 200-year floodplain. This area near the Bear River is also the only location in the Plan Area with a federal levee. These 100-year and 200-year floodplains and levee areas are illustrated on the DWR's Best Available Maps website (California Department of Water Resources 2016b) as well as Figure 3.5-5, which is a map of flood-prone properties in Placer County available on the PCFWCD website (Placer County Flood Control and Water Conservation District 2016).

Increased development in the Plan Area has led to more infrastructure being built within or adjacent to natural floodplains and thus susceptible to flooding. Urbanization has also led to increased runoff and higher peak flows that exacerbates flooding in developed areas. PCFCWCD undertakes projects to address flooding that is problematic to the existing and planned growth in the Plan Area. Typical flood control and stormwater management activities include channelization, maintenance activities, water retention/detention facilities construction, streambed and channel debris and vegetative control and removal, channel lining, culvert replacement, stormwater conveyance facilities and outfall structures, erosion/sediment control, bank stabilization, and floodplain enhancement. Operation and maintenance of flood protection and stormwater facilities such as drainage improvements, dams, armored creeks, bypass channels, and detention ponds.

Dry Creek Watershed Flood Control Plan

The *Update to the Dry Creek Watershed Flood Control Plan* (Placer County Flood Control and Water Conservation District 2011) recommended structural and non-structural measures to correct existing deficiencies and mitigate for impacts of future development that will create even more impervious surface in the already heavily urbanized Dry Creek watershed. Some of the recommendations have been implemented, while many have not due to environmental and/or economic constraints. The flood control plan provides a hydrological analysis of the watershed, provides recommendations for feasible regional flood control projects, means to mitigate development projects, and recommends an updated facility plan and fee program. Capital project elements within this plan include on- and off-channel stormwater detention projects located throughout the watershed, floodplain restoration and re-connections, bridge and culvert improvement projects, improvements to underground conduits, artificial and natural channels.

Cross Canal Watershed Flood Control Plan

The purpose of the *Cross Canal Watershed Flood Control Plan* is to provide PCFCWCD and other governmental agencies in both Placer and Sacramento Counties with the information and policies necessary to manage flood waters within the Cross Canal Watershed, which includes Pleasant Grove, Auburn Ravine, Markham Ravine, and Coon Creek. The plan evaluates existing flooding problems and identifies flood management options as well as a funding mechanism to achieve plan's recommendations. There are numerous stormwater retention projects combined with wetland and agricultural conservation easements within the floodplain areas (Appendix A:Chapter 2).

Lakeview Farms Volumetric Mitigation Facility

One of the bigger capital flood control projects within the unincorporated portion of Placer County is the Lakeview Farms volumetric mitigation facility constructed by the City of Lincoln.

The City of Lincoln purchased 456 acres of north of Waltz Road in the unincorporated portion of Placer County to construct an off channel (off of Coon Creek) retention facility for flood control purposes. The project is being constructed in phases to passively capture flood water during range of storm event intervals. Phase one of the project would be developed on 160 acres of rice fields to impound 1,030 acre feet of stormwater, with phase two being developed on 160 acres retaining an additional 1,570 acre feet of water. The site would function as a retention basin only in large storm events during the rainy season of December through April and would remain in rice production from approximately March through September.

Scilacci Farms Retention Basin

Placer County is in the planning stage of a stormwater retention basin at Scilacci Farms, also off Coon Creek. The facility would provide volumetric mitigation of stormwater drainage from developed area during a range of storm events. Once complete, the facility would capture stormwater only when the Sacramento River gauge at Verona exceeds 37 feet, which is 4.3 feet below flood stage (Appendix A:Chapter 2).

Reason Farms Retention Basin

The City of Roseville has developed the Reason Farms Retention Basin, a regional stormwater retention facility in the Reason Farms Environmental Preserve along Pleasant Grove Creek. The basin has approximately 2,500 acre-feet of storage. The basin captures stormwater runoff from urban developments in Roseville and unincorporated Placer County (City of Roseville 2011)

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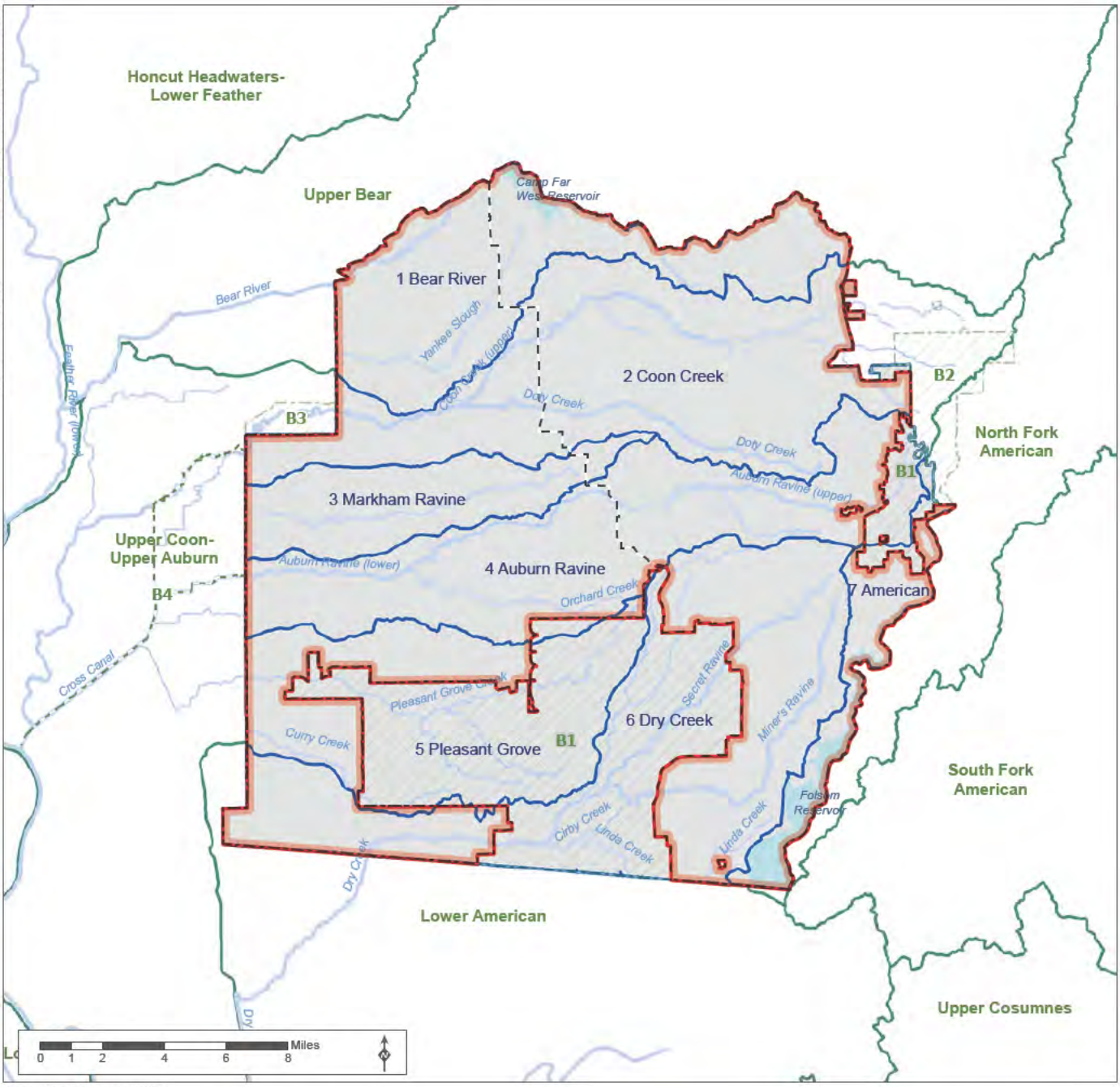

Source: Placer County, 2014; USGS

HUC 8 Watersheds
Placer County Planning Watersheds
Stream
River
Valley/Foothill Divide

Plan Area A

Plan Area A Boundary

Plan Area B

B1 Non-Participating Cities
B2 PCWA O&M
B3 Coon Creek Floodplain
B4 Fish Passage Improvement
B5 Big Gun Conservation Bank (not shown)

Source: Appendix A.

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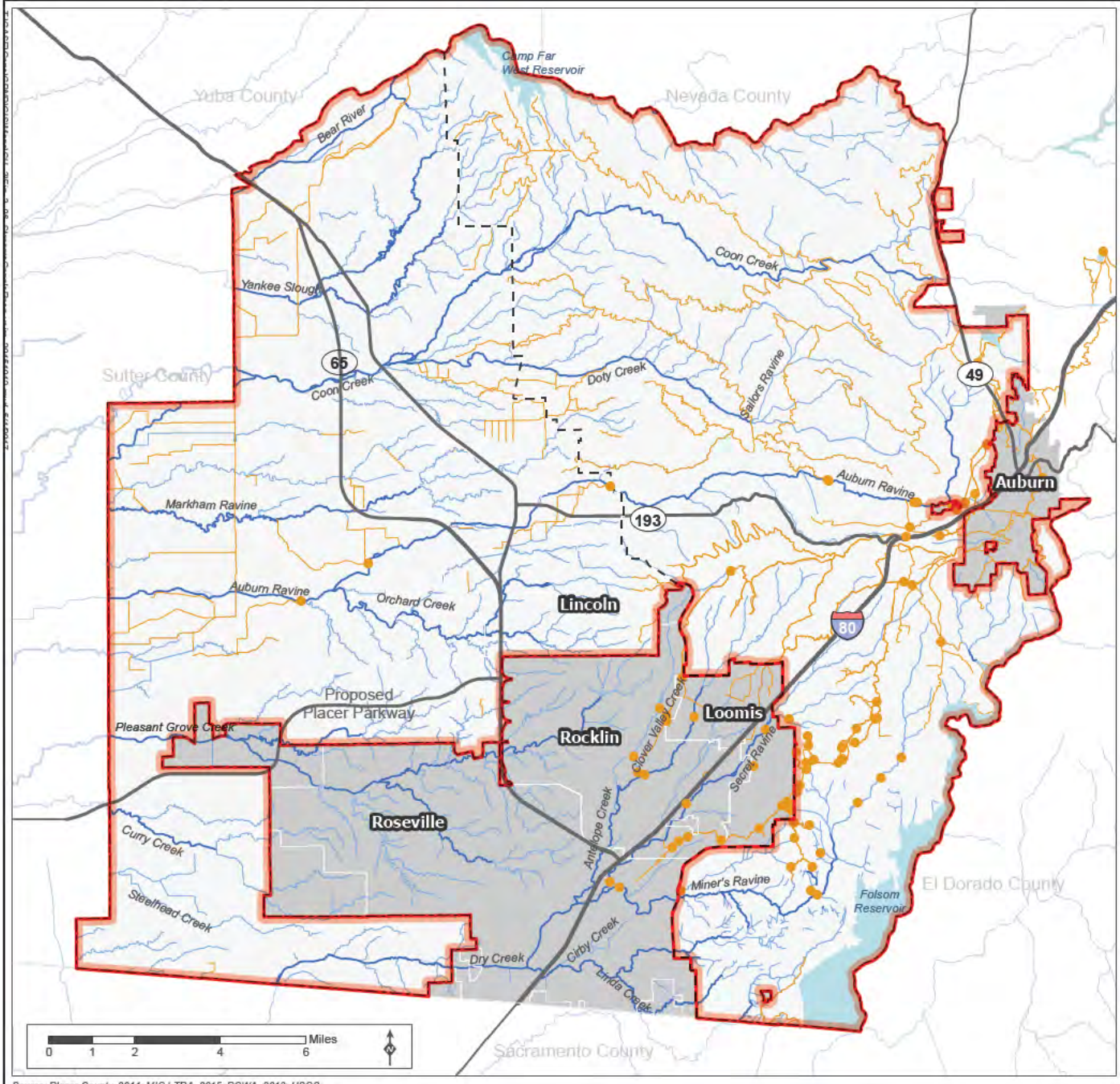
Figure 3.5-1
Watersheds in Plan Area
Placer County Conservation Program – EIS/EIR



Source: Placer County, 2014; MIG | TRA, 2015; PCWA, 2013; USGS

- Major Stream
- Minor Stream
- Canal
- PCWA Canal/Stream Turnout or Diversion
- Reservoir
- Non-Participating City
- Valley/Foothill Divide
- Plan Area A Boundary

Source: Appendix A.

Graphics ... 04406.04 (7-12-2018) tg

Figure 3.5-2
Streams, Canals, and Reservoirs in Plan Area
Placer County Conservation Program – EIS/EIR

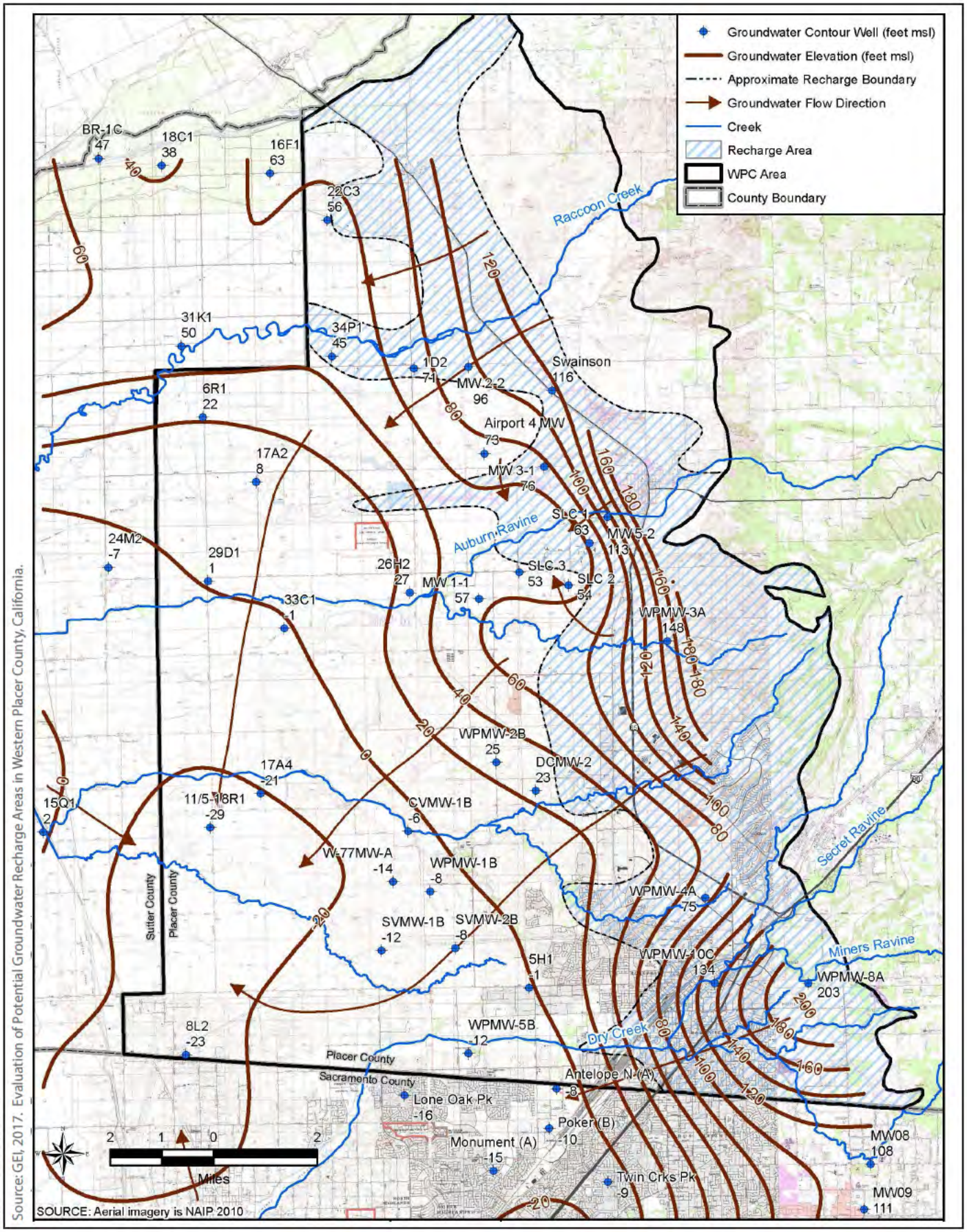


Figure 3.5-3
Groundwater Contours and Flow Directions, Spring 2017
Placer County Conservation Program – EIS/EIR

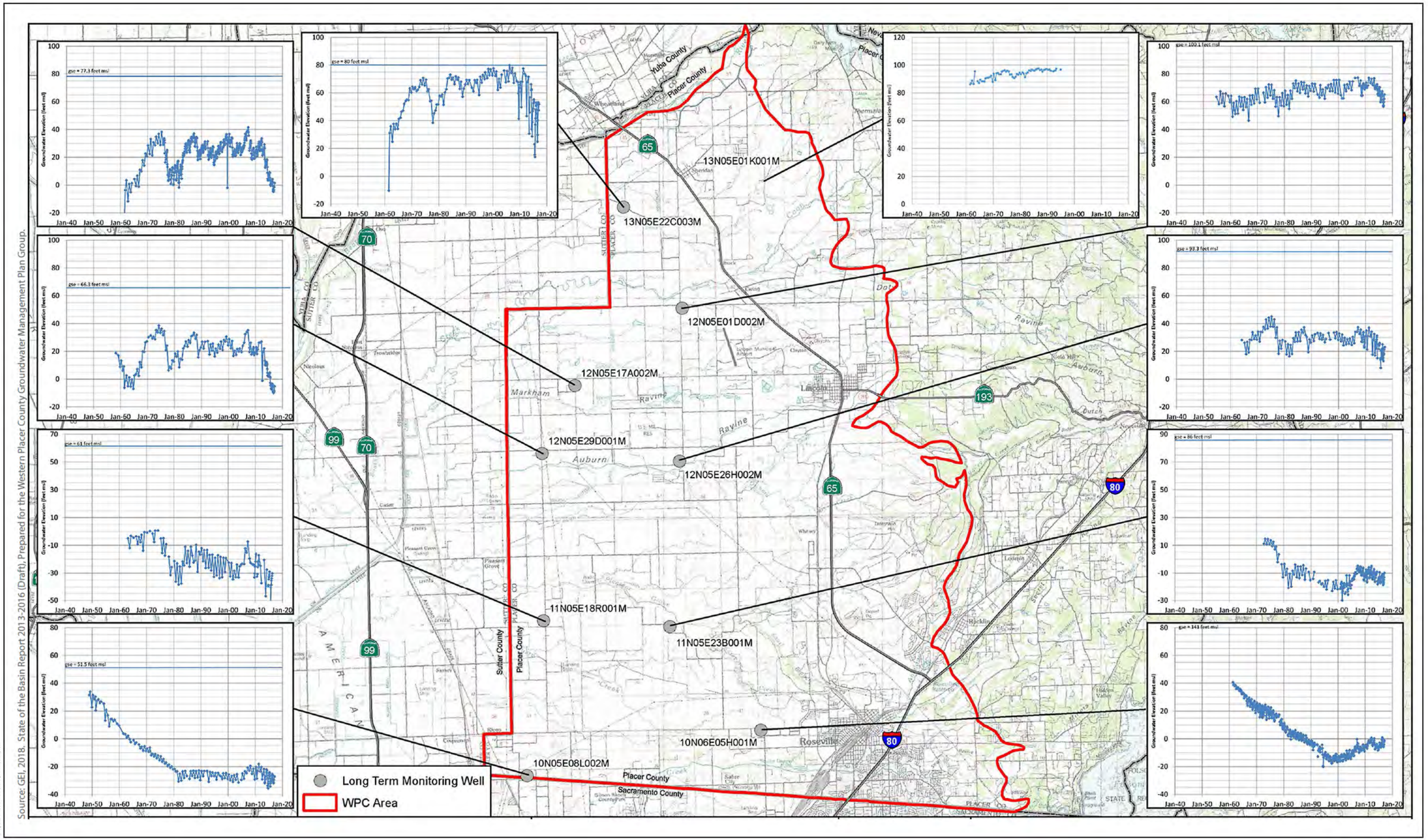


Figure 3.5-4
Representative Water Level Hydrographs
Placer County Conservation Program – EIS/EIR

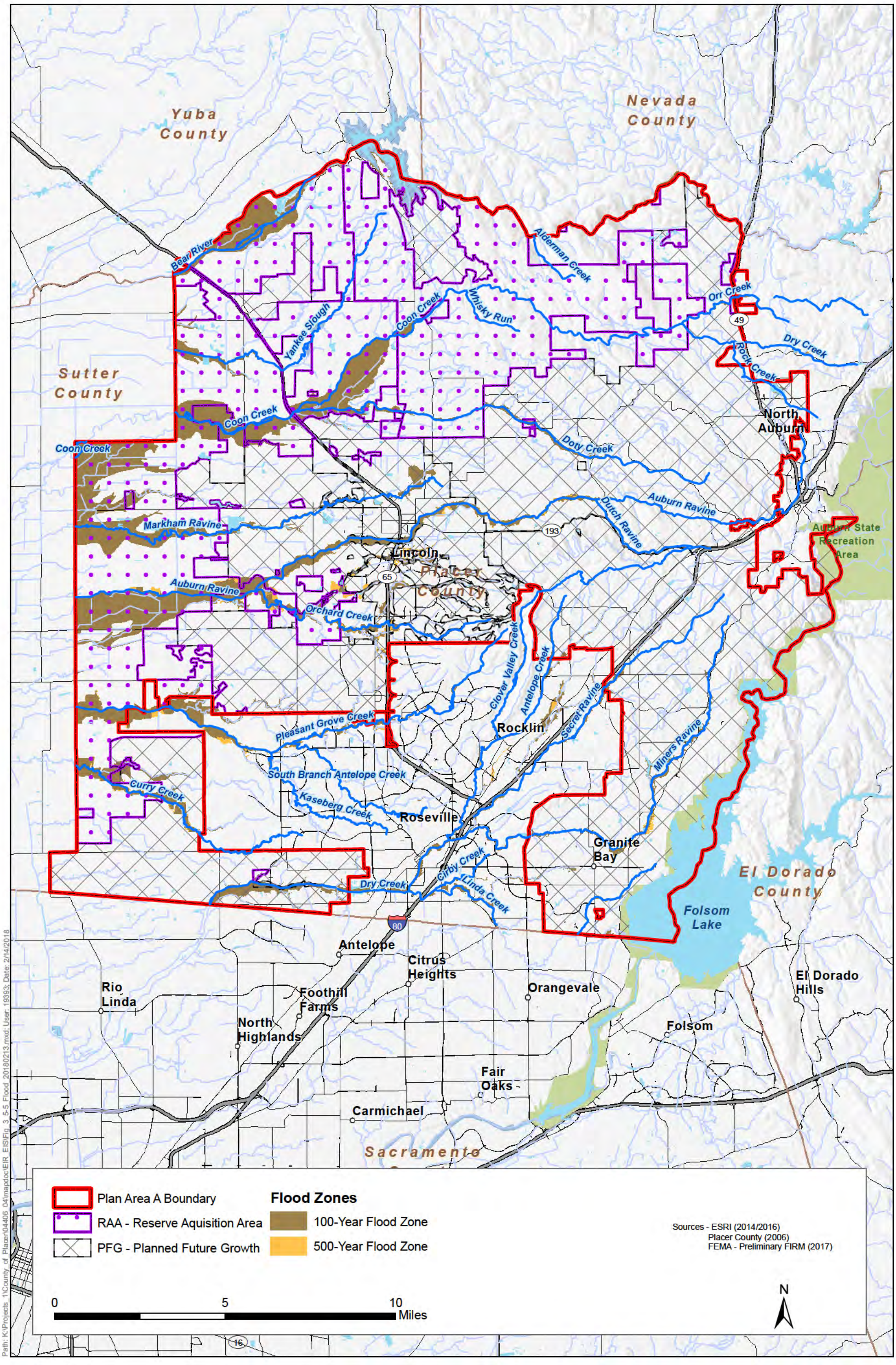


Figure 3.5-5
Flood-Prone Properties in Placer County
Placer County Conservation Program—EIS/EIR

3.6 Land Use and Planning

This section describes the regulatory and environmental settings for land use and planning in the Plan Area. Impacts that would result from implementing the proposed action and alternatives are described in Chapter 4, *Environmental Consequences*, along with mitigation measures to reduce impacts, where appropriate.

Land use and planning issues refer to the compatibility of the physical land uses of a project with adjacent or surrounding land uses, as well as a project's consistency with plans and policies that have a regulatory jurisdiction over that project.

3.6.1 Regulatory Setting

Federal

There are no federal laws or regulations pertaining to land use and planning that are relevant to the proposed action or alternatives.

State

There are no state laws or regulations pertaining to land use and planning that are relevant to the proposed action or alternatives.

Regional and Local Plans and Programs

Sacramento Area Council of Governments Sacramento Region Blueprint

As the Metropolitan Planning Organization and Council of Governments for the Sacramento region, Sacramento Area Council of Governments (SACOG) is engaged in projects and programs related to regional transportation planning, affordable housing, economic forecasting, and land use planning. The common thread in SACOG's planning efforts is regional collaboration. SACOG serves as a forum for studying and resolving regional issues and challenges while fostering cooperation among the 6 counties and 22 city governments in the Sacramento region, which includes Placer County and its incorporated cities (Sacramento Area Council of Governments 2004).

SACOG provides planning and transportation funding for the region and has crafted a long-term, smart growth vision for the Sacramento region: the *Sacramento Region Blueprint*. In 2004, the SACOG Board of Directors approved the Preferred Blueprint Scenario for the 2050 "Blueprint Project."

Additionally, SACOG implemented the Rural-Urban Connections Strategy project, incorporating policies and strategies to address the challenges and needs of rural areas within the counties served.

Placer County General Plan

Excerpted below are the relevant goals and policies from the *Placer County General Plan* that pertain to land use and planning; Figure 3.6-1 shows the general plan's land use map (Placer County 2013).

Goal

1.A. To promote the wise, efficient, and environmentally-sensitive use of Placer County lands to meet the present and future needs of Placer County residents and businesses.

Policies

1.A.1. The County will promote the efficient use of land and natural resources.

1.A.2. The County shall permit only low-intensity forms of development in areas with sensitive environmental resources or where natural or human-caused hazards are likely to pose a significant threat to health, safety, or property.

Goal

1.B. To provide adequate land in a range of residential densities to accommodate the housing needs of all income groups expected to reside in Placer County.

Policies

1.B.1. The County shall promote the concentration of new residential development in higher density residential areas located along major transportation corridors and transit routes.

1.B.2. The County shall encourage the concentration of multi-family housing in and near downtowns, village centers, major commercial areas, and neighborhood commercial centers.

Goal

1.D. To designate adequate land for commercial and industrial development to meet the present and future needs of Placer County residents and visitors and maintain economic vitality.

Policies

1.D.3. The County shall require that new, urban, community commercial centers be located adjacent to major activity nodes and major transportation corridors. Community commercial centers should provide goods and services that residents have historically had to travel outside of the area to obtain.

1.D.4. The County shall require that significant new office developments locate near major transportation corridors and concentrations of residential uses. New office development may serve as buffers between residential uses and higher-intensity commercial uses.

1.D.11. The County shall require that existing and new downtowns/village centers and development within them be designed to integrate open spaces into the urban fabric where possible, especially taking advantage of any natural amenities such as creeks, hillsides, and scenic views.

Goal

1.E. To designate adequate land for and promote development of industrial uses to meet the present and future needs of Placer County residents for jobs and maintain economic vitality

Policies

1.E.1. The County shall only approve new industrial development that has the following characteristics:

a. Adequate infrastructure and services;

b. Convenient connections to the regional transportation network, including connections to existing transit and other non-automobile transportation;

c. Sufficient buffering from residential areas to avoid impacts associated with noise, odors and the potential release of hazardous materials;

d. Minimal significant adverse environmental impacts; and,

e. Minimal adverse effects on scenic routes, recreation areas, and public vistas.

1.E.2. The County shall designate specific areas suitable for industrial development and reserve such lands in a range of parcel sizes to accommodate a variety of industrial uses.

Goals

1.F. To designate adequately-sized, well-located areas for the development of public facilities to serve both community and regional needs.

1.H. To designate adequate agricultural land and promote development of agricultural uses to support the continued viability of Placer County's agricultural economy.

Policies

1.H.1. The County shall maintain agriculturally-designated areas for agricultural uses and direct urban uses to designated urban growth areas and/or cities.

1.H.2. The County shall seek to ensure that new development and public works projects do not encourage expansion of urban uses into designated agricultural areas.

1.H.4. The County shall allow the conversion of existing agricultural land to urban uses only within community plan or specific plan areas, within city spheres of influence, or where designated for urban development on the General Plan Land Use Diagram.

Goals

1.I. To establish and maintain interconnected greenbelts and open spaces for the protection of native vegetation and wildlife and for the community's enjoyment.

1.J. To encourage commercial mining operations within areas designated for such extraction, where environmental, aesthetic, and adjacent land use compatibility impacts can be adequately mitigated.

1.K. To protect the visual and scenic resources of Placer County as important quality-of-life amenities for County residents and a principal asset in the promotion of recreation and tourism.

1.M. To work toward a jobs-housing balance.

1.N. To maintain a healthy and diverse local economy that meets the present and future employment, shopping, recreational, public safety, and service needs of Placer County residents and to expand the economic base to better serve the needs of residents.

1.O. To promote and enhance the quality and aesthetics of development in Placer County.

Standards of building intensity for residential uses are stated in this general plan in terms of the maximum number of dwelling units per net acre, the allowable range of dwelling units per net acre, or the number of principal dwelling units allowed per legal lot. Standards of population density for residential uses can be derived by multiplying the maximum number of dwellings per net acre by the average number of persons per dwelling unit, which for purposes of this general plan is assumed to be 2.50.

Standards of building intensity for non-residential uses are stated in terms of maximum allowable floor area ratios (FARs). A FAR is the ratio of a lot's permitted gross building square footage to the lot's net square footage. For example, on a lot with 10,000 net square feet of land area, a FAR of 1.00 would allow 10,000 gross square feet of building floor area to be built, regardless of the number of stories in the building (e.g., 5,000 square feet per floor on two floors or 10,000 square feet on one floor). On the same lot, an FAR of 0.50 would allow 5,000 square feet of floor area, and FAR of 0.25 would allow 2,500 square feet.

Placer County land use designations include the following (Placer County 2013):

- **Agriculture.** This designation identifies land for the production of food and fiber, including areas of prime agricultural soils and other productive and potentially productive lands where commercial agricultural uses can exist without creating conflicts with other land uses, or where potential conflicts can be mitigated. Typical land uses allowed include crop production, orchards and vineyards, grazing, pasture and rangeland, hobby farms; other resource extraction activities; facilities that directly support agricultural operations, such as agricultural products processing; and necessary public utility and safety facilities. Allowable residential development in areas designated Agriculture includes one principal dwelling and one secondary dwelling per lot, caretaker/employee housing, and farmworker housing. The minimum lot size for this designation is between 10 and 160 acres.
- **Timberland.** This designation applies to mountainous areas of the county where the primary land uses relate to the growing and harvesting of timber and other forest products, together with limited, low-intensity public and commercial recreational uses. Typical land uses allowed include all commercial timber production operations and facilities; agricultural operations where soil and slope conditions permit; mineral and other resource extraction operations; recreation uses such as incidental camping and private, institutional, and commercial campgrounds (but not recreational vehicle parks); and necessary public utility and safety facilities. Allowable residential development in areas designated Timberland includes one principal dwelling and one secondary dwelling per lot and caretaker/employee housing. The minimum lot size for this designation is between 10 and 640 acres.
- **Greenbelt and Open Space.** This designation identifies and protects important open space lands within Placer County, including the following.
    - Lands managed by the U.S. Forest Service, Bureau of Reclamation, and Bureau of Land Management.
    - Public lands specifically reserved or proposed for watershed preservation, outdoor recreation, and wilderness and wildlife/environmental preservation.
    - Sites or portions of sites with natural features such as unique topography, vegetation, habitat, or stream courses.
    - Areas providing buffers between potentially incompatible types of land use such as intensive agricultural operations and residential uses, hazardous areas and/or land uses and areas with concentrations of population, and residential areas and important community facilities that may be viewed as nuisances by residents, such as the Western Regional Sanitary Landfill.
    - Areas intended to preserve community identity by providing separation between communities.

  Typical land uses allowed within Greenbelt and Open Space areas are limited to low intensity agricultural and public recreational uses, with structural development being restricted to accessory structures necessary to support the primary allowed uses, and necessary public utility and safety facilities.
- **Resorts and Recreation.** This designation is applied to mountain, water-oriented, and other areas of existing and potential public and commercial recreational use, where such use can occur without conflict with surrounding rural and/or agricultural uses. Typical land uses

allowed include parks; camping facilities; ski and other resort facilities including residential, transient lodging, and commercial uses in support of such facilities; necessary public utility and safety facilities; and similar and compatible uses.

- **Water Influence.** This designation identifies significant lakes, reservoirs, and other bodies of water. Typical land uses allowed include parks and necessary public utility and safety facilities and launching areas, marinas, and supporting commercial uses when the Water designation is applied adjacent to the Resorts and Recreation or commercial designations.
- **Rural Residential.** This designation is applied to areas generally located away from cities and unincorporated community centers, in hilly, mountainous, and/or forested terrain and as a buffer zone where dispersed residential development on larger parcels would be appropriate and compatible with smaller-scale farming and ranching operations. Typical uses allowed include detached single-family dwellings and secondary dwellings; agricultural uses such as crop production and grazing, equestrian facilities, and limited agricultural support businesses such as roadside stands, farm equipment, and supplies sales; resource extraction uses; various facilities and services that support residential neighborhoods such as churches, schools, libraries, and childcare and medical facilities; parks; and necessary public utility and safety facilities.
- **Low Density Residential.** This designation is applied to urban or urbanizing areas suitable for single-family residential neighborhoods, with individual homes on lots ranging in area from 10,000 square feet to 1 acre. Typical land uses allowed include detached single-family dwellings, secondary dwellings, residential accessory uses, churches, schools, parks, golf courses, childcare facilities, and necessary public utility and safety facilities.
- **Medium Density Residential**. This designation is applied within urban areas to single-family residential neighborhoods where some lower-density multi-family housing may also be appropriate. Typical land uses allowed include detached and attached single-family dwellings, secondary dwellings, smaller-scale multi-family dwellings (e.g., duplexes, triplexes, and fourplexes), residential accessory uses, churches, schools, parks, golf courses, childcare facilities, and necessary public utility and safety facilities.
- **High Density Residential.** This designation provides for residential neighborhoods of grouped or clustered single-family dwellings, duplexes, apartments, and other multiple-family attached dwellings such as condominiums. This designation is applied within urban areas where residential development will be near transportation corridors, downtowns, village centers, other major commercial centers, schools, and community services. Typical land uses allowed include detached and attached single-family dwellings, secondary dwellings, all types of multi-family dwellings (e.g., duplexes, apartments, senior housing projects, etc.), residential accessory uses, churches, schools, parks, golf courses, childcare facilities, and necessary public utility and safety facilities.
- **General Commercial.** This designation is applied within urban areas where the commercial development will be near major transportation corridors, and within downtowns, village centers, or other major commercial areas or centers. Typical land uses allowed include all types of retail stores, restaurants, and shopping centers (limited in extent where necessary to maintain compatibility with adjoining land uses, such as in a neighborhood commercial center); offices; service commercial uses; mixed-use, recreation, education, and public assembly uses; medical services; childcare facilities; necessary public utility and safety facilities; and similar

and compatible uses. The General Commercial designation also allows for developments including multi-family dwellings as the primary land use or as part of a mixed-use project.

- **Tourist/Resort Commercial.** This designation provides for specialized commercial uses serving tourism and the traveling public. This designation is applied along major transportation corridors and at major recreational destinations such as ski areas and other types of resorts. Typical land uses allowed include overnight lodging facilities of all types, retail services, food services, motorist and vehicle services, medical facilities, parks, churches, libraries, museums, necessary public utility and safety facilities, and similar and compatible uses.
- **Business Park/Industrial.** This designation provides for all types of manufacturing, assembly, storage and distribution, and research and development activities in settings ranging from campus-like business or industrial parks to heavy industrial areas. The specific types of allowable industrial activities are determined by the appropriate community plan, specific plan, or zoning. This designation is applied to areas with good access to major truck transportation routes and rail lines and located near concentrated residential areas so that employee commute times and distances are minimized. Typical land uses allowed include all types of manufacturing and processing uses (limited where necessary to ensure compatibility between adjoining land uses), business support services, retail and service commercial uses necessary to support manufacturing and processing activities and their employees, necessary public utility and safety facilities, and similar and compatible uses. The only residential use allowed in this designation is caretaker/employee housing.
- **Public Facility**. This designation is applied to government-owned facilities and quasi-public facilities in a variety of rural and urban settings. The designation is applied to areas with existing public or quasi-public facilities and land uses, or to publicly-owned lands intended for development with public facilities. Typical land uses allowed include government offices, service centers and other institutional facilities, schools, cemeteries, solid waste facilities, necessary public utility and safety facilities, landfills and other solid waste facilities, and similar and compatible uses. The only residential use allowed in this designation is caretaker/employee housing.
- **Forestry**. This designation covers the area along the North Fork of the American River between Colfax and Foresthill that was previously included in the 1981 *Foresthill General Plan* but was moved into the area covered by the Countywide General Plan Land Use Diagram when the *Foresthill General Plan* was superseded by the *Foresthill Divide Community Plan* in 2008. This designation identifies those lands capable of timber production to maintain the land's viability and economic productivity and to protect these lands from the intrusion of incompatible uses or activities. The minimum parcel size is 20 acres to maintain a strong rural identity in the area.

The County requires the use of buffer zones in several types of development for the purpose of minimizing conflicts between potentially incompatible land uses. Land acquisition, purchase of development rights, conservation easements, deed restrictions, or similar mechanisms are intended to reserve buffer zones in perpetuity. Buffer zone planning standards are as follows.

- **Agriculture/Timberland Buffers**. These buffer zones are required to separate areas designated Agriculture or Timberland and residential uses, commercial/office uses, business park uses, and some types of recreational uses. Minimum buffer widths may be as narrow as 50 feet for rangeland/pasture to as wide as 400 feet for vineyard. Low-density residential uses on parcels of 1–20 acres or open space uses are permitted within the buffer, although the placement of residential structures is subject to the minimum "residential exclusion areas"

which may be as narrow as 50 feet for rangeland/pasture to as wide as 400 feet for irrigated vegetables or vineyard. Non-habitable accessory structures and uses may be located in the exclusion area and may include barns, stables, garages, and corrals.

- **Industrial/Residential Buffers**. These buffer zones are required to separate residential land uses from areas designated Business Park/Industrial. Generally, industrial/residential buffers shall be a minimum width of 300 feet, but may be reduced to not less than 100 feet where the buffer includes features such as screening walls, landscaped berms, and/or dense landscaping, with guarantees of proper, ongoing landscaping maintenance. Commercial and office uses and open space and recreation uses such as greenbelts, parks, and playfields are allowed within industrial/residential buffers.
- **Sensitive Habitat Buffers**. These buffer zones are required to separate any type of urban development from sensitive habitat areas such as stream corridors, wetlands, sensitive species habitats, and old growth forests. Sensitive habitat buffers are measured as 100 feet from the centerline of perennial streams, 50 feet from the centerline of intermittent streams, and 50 feet from the edge of the sensitive habitats to be protected. Open space and recreational uses including undeveloped greenbelts, nature preserves, parks, hiking trails, and bicycle paths are allowed in such buffer areas. No land use allowed within the buffer that involves grading or the removal of natural vegetation shall be located any closer than 50 feet to the top of a stream bank or to the outermost extent of riparian vegetation, wetland, or other identified habitat, whichever is greater. A related general plan policy appears below.

Policy

6.A.1. The County shall require the provision of sensitive habitat buffers which shall, at a minimum, be measured as follows: 100 feet from the centerline of perennial streams, 50 feet from centerline of intermittent streams, and 50 feet from the edge of sensitive habitats to be protected, including riparian zones, wetlands, old growth woodlands, and the habitat of special status, threatened or endangered species (see discussion of sensitive habitat buffers in Part I of this Policy Document). Based on more detailed information supplied as a part of the review for a specific project or input from state or federal regulatory agency, the County may determine that such setbacks are not applicable in a particular instance of should be modified based on the new information provided. The County may, however, allow exceptions, such as in the following cases:

1. Reasonable use of the property would otherwise be denied;
2. The location is necessary to avoid or mitigate hazards to the public;
3. The location is necessary for the repair of roads, bridges, trails, or similar infrastructure; or,
4. The location is necessary for the construction of new roads, bridges, trails, or similar infrastructure where the County determines there is no feasible alternative and the project has minimized environmental impacts through project design and infrastructure placement.

- **Public Facility Buffers**. Public facility buffer zones are intended to separate residential, commercial, and other land uses continuously or frequently occupied by people from public facilities such as solid waste transfer and disposal sites, sewage treatment plants, and airports that may have significant nuisance characteristics or otherwise be incompatible with other land uses.

  Public facility buffer zones minimum widths are based on the type of adjacent land use, as listed in Table 3.6-1 below.

Table 3.6-1. Minimum Buffer Zone Widths for Public Facilities

	Minimum Buffer Zone Width (feet) by Land Use Designation			
Type of Public Facility	Residential	Commercial	Industrial	Recreation
Airport	2,000	1,000	0	500
Sewage treatment plant	1,000	1,000	500	1,000
Solid waste transfer station	500	0	0	500
Solid waste disposal site	5,280	1,000	0	500

All public facility buffer zones may include greenbelt and open space uses. Airport buffers may also include industrial and recreation uses consistent with the buffer requirements of the table above for recreation uses. Wastewater treatment plant buffers may also include industrial uses consistent with the buffer requirements of the table above for industrial uses. Solid waste transfer station buffers may also include commercial and industrial uses, and solid waste disposal site buffers may also include industrial and recreation uses consistent with the buffer requirements of the table above for recreation uses.

County Community and Specific Plans

Below are descriptions of the relevant County-adopted community and specific plans. Community and specific plans are required to be consistent with the *Placer County General Plan* and are intended to provide more detail for a particular geographic area of Placer County.

Auburn/Bowman Community Plan

The *Auburn/Bowman Community Plan* was adopted in 1994 and last updated in 1999 (Placer County 1999). The land use goals and principles of the plan include concentrating urban development within urban areas, protecting open space areas, protecting the natural environment, encouraging economic development, promoting affordable housing, protecting scenic resources, complying with the *Auburn Airport Land Use Compatibility Plan*, and providing sufficient public and commercial services to residents and visitors to the Auburn/Bowman communities. The planning area is approximately 40 square miles, and the boundaries are the American River to the east, the Bear River to the north, the Ophir plan area to the west, and the Newcastle/Shirland Tract area to the south.

The *Auburn/Bowman Community Plan* land use designations are listed below.

- **High-Density Residential**. This designation identifies existing and suitable areas for apartments and mobile home parks and permits densities of 10–15 dwelling units per acre.
- **Medium-Density Residential**. This designation permits apartments, condominiums, duplexes, half-plexes, mobile home parks, or single family residences on small lots and permits densities of 5–10 dwelling units per acre.
- **Low-Medium Density Residential**. This land use district is for single-family residence, complete with associated amenities such as sidewalks, street lighting, and community parks. This district permits densities of 2–5 dwelling units per acre.
- **Low-Density Residential**. The Low-Density Residential designation provides for large, single-family, “executive” type homes, or homes with large yards in which residents that may include

hobby farming and animal husbandry. Permitted density for this designation is 1–2.5 dwelling units per acre.

- **Rural Low-Density Residential**. This land use designation allows a density range of 1–2.3 acre building site sizes and provides for equestrian and small hobby farm, and a wide variety of housing in terms of cost, style, and size.
- **Rural Residential**. This land use designation's building sites range from 2.3 to 4.6 acres and provide for hobby farms, animal husbandry pursuits, country estates, and ranchettes.
- **Rural Estate**. This designation provides for country estates and ranchettes, or small agricultural operations, and permits parcel sizes ranging from 4.6 to 10 acres.
- **Agriculture**. This designation allows parcel sizes in the range of 10–80 acres. Allowed land uses include farming, grazing, and open space.
- **Commercial**. This land use designation provides for neighborhood retail, a shopping center, and highway services.
- **Professional Office**. This designation provides for office development. This designation can be incorporated into the implementation for the mixed-use designations.
- **Industrial**. This designation provides for heavy commercial, light industrial, and warehouse development.
- **Open Space/Business Park**. This land use district provides for very limited development relative to the amount of open space, thereby allowing the open space area to remain the dominant land use. The Open Space/Business Park land use designation provides for development that incorporates business park development (office, warehouse, industrial uses) into large open space areas.
- **Open Space**. This designation includes the American River Canyon, golf courses, existing and proposed parks, cemeteries, and undeveloped land owned by public entities.
- **Riparian/Drainage**. The designation is used along the major streams such as Orr Creek, Dry Creek, Rock Creek, and North Ravine Creek, and in these areas reflects the 100-year floodplain of the streams and/or areas previously designated with special setbacks from a stream.
- **Mixed-Use**. This designation provides for residential uses combined with commercial uses. Residential uses have densities of a minimum of 6 units per acre and a maximum of 15 units per acre. Types of housing within the mixed-use areas include single-family residences on small lots, duplexes, triplexes, townhouses, apartments, and the use of accessory apartments where appropriate. The second floor of commercial buildings can be utilized for office or residential uses. The second and third floors of the building can be utilized for residential uses. The uppermost floor of office buildings can be utilized for residential uses. Open space for use by pedestrians should be provided within each mixed-use area.

Dry Creek/West Placer Community Plan

The *Dry Creek/West Placer Community Plan* was adopted in May 1990 (Placer County 1990). The plan's land use goals include preserving visual and natural resources and protecting rural areas from urban encroachment. The plan area is approximately 9,200 acres in the southwest corner of Placer County. It is bounded by Baseline Road on the north, Sutter County to the west, Sacramento County to the south, and the City of Roseville to the east (Placer County 1990). Concurrent with the

adoption of the *Placer County General Plan* in 1994, the *Dry Creek/West Placer Community Plan* was amended to designate an area as the West Placer Specific Plan Area. The amendment also included land use standards for the development of this specific plan area. The West Placer Specific Plan Area was subsequently entitled with the approval of the Placer Vineyards Specific Plan in 2007.

Granite Bay Community Plan

The *Granite Bay Community Plan* (GBCP) is intended to guide development in the area to approximately 2035, and updates were adopted in February 2012 (Placer County 2012). In May 2017 the Board of Supervisors authorized an update to the Community Plan's Transportation and Circulation Element including the preparation of a new Granite Bay Capital Improvement Program. The land use goals of the GBCP include preserving the community's rural character, maintaining agricultural uses, and protecting the natural environment. The plan contains the following designations.

- **Rural Estate**. This designation allows for the continued operation and preservation of rural or agricultural uses in the GBCP area. A density ranging from 4.6 to 20 acres per dwelling unit is permitted. Agricultural uses that are allowed in this land use district include both small farm use and small livestock and equestrian uses. This designation also includes areas unsuitable for smaller residential lot sizes due to environmental constraints or unavailability of public services.
- **Rural Residential**. The Rural Residential designation allows for a density ranging from 2.3 to 4.6 acres per dwelling unit. This designation allows agricultural uses, including equestrian uses.
- **Rural Low-Density Residential**. This designation allows a density ranging from 0.9 to 2.3 acres per dwelling unit (or 1.1 to 0.43 dwelling unit per acre) and represents a transition zone between rural areas and smaller lot developments.
- **Low-Density Residential**. This designation includes single-family residential neighborhoods ranging in density from 0.4 to 0.9 dwelling units per acre. The maximum density for this designation may be increased when combined with the Density Transfer designation.
- **Medium-Density Residential**. This designation is applied to urbanized areas and single-family residential neighborhoods where some lower-density multifamily residential development may be appropriate. Residential density ranges from 2 to 4 dwelling units per acre.
- **High-Density Residential**. This designation allows for residential neighborhoods to have grouped or clustered single-family dwellings, duplexes, apartments, and other multifamily attached dwellings such as condominiums, with a density ranging from 4 to 10 dwelling units per acre.
- **Planned Residential Developments**. Planned Residential Developments permit greater flexibility for the development of residential areas than generally is possible under conventional zoning or subdivision regulations.
- **Professional Office**. This designation provides an area where various types of offices and limited commercial uses may be located. Land uses that are typically allowed include real estate sales, property management, professional services, medical offices, etc. This land use is generally located along Douglas and Sierra College Boulevards and Auburn-Folsom Road.
- **Commercial**. The commercial land uses are concentrated at two major intersections: Douglas Boulevard/Sierra College Boulevard and Douglas Boulevard/Auburn-Folsom Road. Smaller

pockets of commercial development are located at the intersection of Douglas Boulevard and Berg Street and on Barton Road, north of Gibson Place. Commercial land use districts may also permit residential uses with a density of up to 10 dwelling units per acre.

- **Open Space**. This designation includes Folsom Lake State Recreation Area, County parks, school facilities, private open space, Bureau of Land Management lands, and other public lands specifically reserved or proposed for watershed preservation, outdoor recreation, wilderness, or wildlife/environmental preserves; also included are sites or portions of sites with natural features and open space buffer areas.
- **Agricultural Uses**. There are no specific areas designated for agriculture by the GBCP. However, the Rural Estate and Rural Residential land use designations allow for very low density residential uses that could also support agricultural land uses. Although the majority of agricultural land in the GBCP area is classified as Grazing Land by the California Department of Conservation, there are smaller areas designated as Prime Farmland, Farmland of Statewide Importance, and Farmland of Local Importance. Agricultural land uses in Granite Bay are concentrated in the north part of the community.
- **Density Transfer**. The GBCP incorporates and authorizes a density transfer program affecting a limited number of parcels within the GBCP area. As part of this program, approved parcels within residential designations can raise their maximum dwelling unit density in exchange for lowered maximum dwelling unit densities in other approved parcels. From 1989 through 2011, two projects have utilized the density transfer provisions.

  The approval of participation in this program will be subject to the following requirements:

  a. Owners of both Transfer and Receptor parcels must agree to participate.

  b. Transferred density can only come from those parcels identified in the Land Use Diagram.

  c. After adding transferred density to the Receptor Parcel it must not increase the otherwise allowed density by more than 20%.

  d. The County must approve the proposed design which includes the added density.

  e. The project must transfer all density from an individual Density Transfer parcel and ensure the retention of that parcel as open space through the recordation of an open space easement, or similar document to which the County is a party.

  f. The Conditional Use Permit process is the formal mechanism to be used to request approval of such a transfer and designation of additional Density Receptor Parcels not designated on the Land Use Diagram.

  g. Subject to all of the requirements stated above, projects utilizing a density transfer, otherwise found to be acceptable by the County, shall be found to be consistent with the Community Plan and zoning density limitations. It is recognized that the density limitations expressed by the Community Plan designation and precise zoning can be exceeded on the parcels indicated and still be considered consistent with the GBCP and zoning where a project is utilizing this density transfer opportunity.

Horseshoe Bar/Penryn Community Plan

The *Horseshoe Bar/Penryn Community Plan* was adopted in August 1994 and last amended in June 2005 (Placer County 2005). The land use goals of the plan include preserving the rural and

agricultural character of the plan area, preserving Penryn's small-town and historic character, protecting local watersheds, and preserving natural and scenic resources. The planning area is approximately 25 square miles south of the unincorporated area of Newcastle and the city of Auburn, north of Granite Bay, west of Folsom Lake, and east of Loomis, Rocklin, and Roseville.

The community plan includes specific land use standards for the Penryn Parkway commercial area. Unlike the majority of the Horseshoe Bar/Penryn area, which is dominated by rural residential land uses, the Penryn Parkway is an area with land use designations that encourage urban development including highway commercial and multiple-family residential.

The *Horseshoe Bar/Penryn Community Plan* includes the following land use designations.

- **Rural Estate**. This land use designation includes residential uses which coexist with ranchettes and agricultural uses. Parcel sizes range from 4.6 to 20 acres.
- **Rural Residential**. This designation includes rural residences mixed with hobby farms and animal husbandry. Minimum parcel sizes range from 2.3 to 4.6 acres.
- **Low Density Residential**. This designation allows for more suburban densities than the Rural Estate or Rural Residential designations. Parcel sizes range from 0.4 to 2.3 acres. The majority of the Low Density Residential areas are located in the southeast portion of the planning area along Auburn-Folsom Road and overlooking Folsom Lake. Another area is located on the northwest side of Interstate (I-) 80 just south of the Penryn Parkway. The majority of land located within this designation has been subdivided into planned unit developments with "executive" type homes and public water and sewer facilities.
- **Medium Density Residential**. This designation primarily includes existing small-lot single-family subdivisions and allows 2 to 4 units per acre. All Medium Density Residential designations are located within the Penryn area of the planning area. These areas located on either side of the railroad in downtown Penryn have been developed with several historic houses dating back to the early 1900s.
- **High Density Residential**. This designation is provided in only one location within the planning area. This designation is located immediately adjacent to Auburn-Folsom Road at the far southwest portion of the planning area and recognizes an existing older mobile home park.
- **Open Space**. The Open Space land use designation limits development activity within certain environmentally sensitive areas and identifies publicly owned land. This includes the bluff-top along Folsom Lake, public parklands, property adjacent to I-80 and adjacent to Sierra Community College, and certain public agency water reservoirs and sewer ponds. Approximately 494 acres are included in the Open Space designation or 3% of the planning area. The open space designation also identifies existing public parks including the Loomis Basin Community Park near the Town of Loomis, and the Griffith Quarry Museum and Park in old town Penryn.
- **Riparian Drainage**. This designation identifies the stream and riparian corridors of the planning area that need to be preserved. These areas include Miner's Ravine, Secret Ravine, Morman Ravine, Antelope Creek, and their associated 100-year floodplains. Development within these areas is permitted provided the precise zoning district's building setback standard is maintained.
- **Commercial**. This designation permits existing commercial and retail service uses that serve the local community, and are compatible with rural residential uses in the plan area. Within the

Penryn area, three commercial designations are provided including Penryn Parkway, downtown historic Penryn, and a small area along Taylor Road adjacent to the railway.

- **Penryn Parkway.** The Penryn Parkway designation provides a mixed-use area, including multiple-family residential, professional office, and commercial uses. It is located adjacent to I-80 and includes sewer and water services.
- **Industrial**. One location with an Industrial designation is located along the railway in downtown Penryn.

Ophir General Plan

The *Ophir General Pla*n is one of the oldest community plans in Placer County (Placer County 1983). Adopted in June 1983, it governs land uses in the unincorporated community of Ophir and portions of Newcastle. The Ophir plan area encompasses approximately 9 square miles in the foothills immediately west of the city of Auburn. The dominant land use is rural residential with parcels ranging from 1 to 10 acres in size as well as a substantial amount of commercial and industrial uses along Ophir Road parallel to I-80. The land use designations include Rural Residential 2.3–4.6 acre minimum, Rural Estates 4.6–10 acre minimum, Agricultural 10–20 acre minimum, commercial, and industrial.

Sheridan Community Plan

The *Sheridan Community Plan* (SCP), adopted in January 2015, is the guide for future development in the townsite of Sheridan and the surrounding rural residential and agricultural lands near the townsite. Its goals are to maintain and enhance the quality of life for current and future residents and to encourage business investment in the townsite of Sheridan (Placer County 2015a). The SCP area is approximately 21.5 square miles, generally bounded by Yuba County to the north, Sutter County on the west, Karchner Road on the east, and Waltz and Nader Roads on the south. The area is approximately 1.3 miles north of the city of Lincoln.

The SCP land use designations are as follows.

- **Low-Density Residential**. The Low Density Residential designation covers 62.9 acres (0.46%) of the SCP area. This includes areas suitable for single family residential neighborhoods ranging in density from 0.4 to 2.3 acres per dwelling unit. This designation is primarily located adjacent to the townsite.
- **Medium Density Residential**. The Medium Density Residential designation covers 133.7 acres (0.97%) of the SCP area. The principal use of land is single-family residential; provision is made for related recreational, religious, and educational facilities normally required to provide the basic elements of a balanced and attractive residential area. Residential density ranges from 2 to 4 dwelling units per acre.
- **High Density Residential**. The High Density Residential designation covers 74 acres (0.54%) of the SCP area. This district encourages multiple family developments representing a broad variety of housing types. It allows for residential neighborhoods to have grouped or clustered single-family dwellings, mobile homes, duplexes, apartments, and other multifamily attached dwellings such as condominiums, with a density ranging from 4 to 10 dwelling units per acre.
- **Rural Residential**. The Rural Residential designation covers 841 acres (6.1%) of the SCP area and allows for a density ranging from 2.3 to 5 acres per dwelling unit. This designation often

serves the same purpose as the Rural Estate district that allows agricultural and equestrian uses. Generally, the smaller lot sizes that are allowed are a result of either the availability of public services, particularly sewer and water, or soils and hydrologic conditions that would permit onsite sewage disposal on smaller lots.

- **Rural Estate**. The Rural Estate designation covers 487 acres (3.5%) of the SCP area. A density ranging from 5 to 20 acres per dwelling unit is permitted. This designation allows for the continued operation and preservation of rural or agricultural uses in the SCP area. Agricultural uses that are allowed in this land use district include both small farm or hobby farm use and small livestock and equestrian uses. This designation typically includes areas unsuitable for smaller residential lot sizes due to environmental constraints that may exist such as poor soil characteristics, presence of wetlands or other important habitat, or infrastructure constraints such as a lack of adequate roadways.
- **Agriculture/Timberland.** This designation comprises 10,713 acres (77.7%) of the total SCP area. Parcels sized 10 acres and larger are included in the Agricultural designation to retain large enough parcels to support continued agricultural use. Regulations for use, area, and intensity of use are designed to encourage and protect agricultural endeavors within the SCP area. Typical land uses allowed include tree farms, orchards, grazing, pasture, hobby farms, wineries, and row crops. Allowable residential development in areas designated Agriculture includes one principal dwelling and one secondary dwelling per lot, caretaker/employee housing, and farmworker housing.
- **General Commercial.** The General Commercial land use designation covers 19.4 acres (0.14%) of the SCP area. The commercial land uses are concentrated along 13th Street. Typical uses allowed include all types of retail stores, restaurants, offices, service commercial uses, medical offices, and childcare facilities. Commercial land use districts also permit residential uses. For purposes of the SCP, such residential uses within commercial zones, when allowed, may not exceed a density of 10 dwelling units per acre.
- **Industrial.** The Industrial land use designation covers 101.2 acres (0.73%) of the SCP area. The Industrial designation is applied to areas along Wind Flower Place and "north" 13th Street. The designation generally allows for a wide range of facilities/activities including offices, manufacturing, assembly, wholesale distribution, and storage.
- **Open Space.** The Open Space designation covers 1,347.3 acres (9.8%) of the SCP area. It is applied to lands owned by public and/or private entities that have been reserved for open space uses such as mitigation and conservation banks, watershed preservation, wetlands, wildlife habitat and corridors, lakes, trails, parks, and similar uses. The focus is on the preservation of natural open space and restoration and enhancement of native habitat.

Sunset Industrial Area Plan

The *Sunset Industrial Area Plan* was adopted in 1997 and is being updated concurrent with the preparation of the *Placer Ranch Specific Plan*. A draft report for the Preferred Alternative for this plan was released in September 2016 (Placer County 2016). A notice of preparation was posted on November 14, 2016. A *Preliminary Public Review Draft Sunset Area P*lan document was released to the public in January 2018. Additionally, the County released the *Preliminary Public Review Draft Placer Ranch Specific Plan* in January 2018. The update is intended to attract large commercial, industrial, university, office, entertainment, and mixed-use developments to the Sunset Area, which is located in unincorporated Placer County between the cities of Lincoln, Rocklin, and Roseville.

Bickford Ranch Specific Plan

The *Bickford Ranch Specific Plan* (BRSP) was approved in 2004. The Board of Supervisors approved the modifications to the BRSP in December 2015. The 2015 BRSP approvals included the BRSP Specific Plan, Development Standards, Design Guidelines, Large Lot Vesting Tentative Map, and Development Agreement. The BRSP project is anticipated to be built out over 15–20 years, over three phases. A total of 1,890 residential units will be constructed at buildout. Other land uses include open space and recreation. The planning area is located approximately 4 miles north of I-80 and south of State Route 193 between the city of Lincoln and the unincorporated community of Penryn. It is 1,927.9 acres (Placer County 2015b).

Placer Vineyards Specific Plan

Placer Vineyards includes approximately 5,230 acres of land located in the southwest corner of Placer County, approximately 15 miles north of the City of Sacramento. The Plan Area is bounded to the north by Baseline Road, to the south by the Sacramento County line, to the west by the Sutter County line and Pleasant Grove Road, and to the east by Dry Creek and Walerga Road. In the early 1990s, the Placer Vineyards Property Owners' Group, 21 land owners or owner representatives controlling approximately 4,250 acres or 81 percent of the 5,230-acre Plan Area, initiated the preparation of the first draft Specific Plan. After a planning effort coordinated over 5 years, the first draft Specific Plan was submitted to Placer County in December 1996. Subsequently, the first draft Specific Plan was revised and a public review draft of the Specific Plan was published in May 2003. On July 16, 2007, the Placer County Board of Supervisors approved the Specific Plan and certified the Final EIR. On February 14, 2012, the Board of Supervisors adopted an amendment to the Specific Plan and an addendum to the certified EIR. Additionally, modifications to the Mitigation Monitoring and Reporting Program and corresponding text revisions to the Certified EIR were approved by the Board on September 11, 2012. An amendment to the specific plan and an addendum to the Certified EIR were approved by the Placer County Board of Supervisors on January 6, 2015. Two additional addenda to the certified EIR were approved in 2016 to support a road closure and to delete a mitigation measure related to setbacks. The remaining 19%of the Plan Area (or approximately 979 acres) consists almost entirely of land in the far western part of the Plan Area, known as the Special Planning Area (SPA). These are mostly rural residential-agricultural parcels ranging in size from 1 to 40 acres. While included in the Plan Area, these rural residential lots will be governed under their existing land use and zoning classifications and are not limited or directed by the policies contained in the specific plan.

Regional University Specific Plan

Adopted in 2008, the *Regional University Specific Plan* (RUSP) governs future development of a 1,175-acre mixed-use community and 6,000-student university campus, located between Brewer Road and the western boundary of the city of Roseville (Placer County 2008). In 2017 a request for amendments to the specific plan and development agreement was submitted to Placer County to consider changes to the land use diagram. The County was also a co-applicant on the Section 404 permit for the project's backbone infrastructure.

Land use designations for the RUSP include the following.

- **Community Residential**. The land use plan provides three different residential designations: Low Density Residential, Medium Density Residential, and High Density Residential. Additional residential uses are included within the university site, and high-density residential uses are

also permitted in the Commercial Mixed Use zone. The RUSP area provides for an overall average density of 10 units per gross residential acre.

- **Low Density Residential**. This designation permits single-family development, located within the North and East Villages. The primary housing product identified in the RUSP is single family detached housing on conventional lots with a neo-traditional pattern of interconnected streets that are pedestrian-oriented and walkable, with densities ranging from 4 to 7.9 units per acre. Half-plexes and second units are also permitted.
- **Medium Density Residential**. This designation permits a variety of housing types and is located in the North Village, East Village, and University Village. Types are identified as small lot cluster, courtyard, zero lot line, half-plexes, and other attached and detached housing products, with densities ranging from 8 to 15.9 units per acre. Some units in this designation are required to be made available at affordable levels. Use of separated sidewalks, alternative garage configurations, porches, and other elements are encouraged. The RUSP specifies that Medium Density Residential located in University Village is to be more compact than elsewhere in the RUSP area and should have a traditional grid network of walkable blocks and paseos.
- **High Density Residential**. This designation accommodates attached multi-family housing, including apartments, townhouses, and condominiums, with densities ranging from 16 to 25 units per acre. The High Density Residential district maintains flexibility so that housing can take a more urban form in the University Village while still providing more traditional apartments in the Central Civic Village. The RUSP notes that these High Density Residential sites are to provide both rental and for-sale housing opportunities for students, faculty, and the general workforce. A portion of the High Density Residential units are required to be made available at affordable levels.

- **Village Service and Employment**. Two different service and employment designations are provided: Commercial Mixed Use and Commercial Planned Development. Both of these uses are located within the University Village, near adjoining residential uses, and intended to be compact and emphasize interconnectivity between surrounding uses.
  - **Commercial Mixed Use**. The Commercial Mixed Use sites (Parcels 22 and 23) are located in the western portion of the University Village, and are envisioned in the RUSP to include a full range of commercial shops, such a book stores, a small market, coffee shops, retail, office and professional services in a traditional, plaza-like setting to serve both the University and adjacent neighborhoods. The typical FAR is identified as 0.40. The Commercial Mixed Use district also includes up to 75 High Density Residential units, which may be second floor units above the ground floor commercial shops or separate apartment or condominium units integrated with the retail component.
  - **Commercial Planned Development**. The Commercial Planned Development site (Parcel 14), located in the eastern portion of the University Village, is a larger site that may be attractive for a super market anchored center and is envisioned to attract a variety of neighborhood-serving commercial and office uses. The typical FAR is identified as 0.25.
- **Open Space and Public**. Three different designations for public uses are provided: Open Space, Park, and Public/Quasi-Public. The most intense uses—the Community Park, school, fire station/sheriff service center, and public/quasi-public site—are centrally located in the Central

Civic Area. All open space, park, and public uses sites have been located and sized consistent with applicable policies.

- **Open Space.** This land use is applied to lands in three categories: open space preserves, drainage parkways, and greenways. Open space preserve areas provide passive recreation opportunities while preserving significant natural resources. Drainage parkways provide floodwater conveyance and retention and stormwater quality treatment resource mitigation. Greenways provide the interface between land uses along the RUSP area boundaries, linking the open space preserves and drainage parkways to other land uses within the RUSP area.
- **Park**. Parks in the RUSP area include community, neighborhood, and pocket parks. The Community Park is located centrally and is linked by open space corridors. The neighborhood park is located in the North Village and is also linked to the community via the open space corridors. The four pocket parks are smaller amenities located centrally within the neighborhoods and University Village.
- **Public/Quasi-Public**. In the plan area, public/quasi-public land use is applied to the two school sites, the 5.0-acre public facilities site (Parcel 29), a 2.1-acre site (Parcel 11a) reserved for a fire station/sheriff service center, and a 2.2-acre site (Parcel 11b) for quasi-public uses such as a health club, community club, childcare, or church. Most Public/Quasi-Public uses are located in the Central Civic Village.

- **University.** A special land use designation of University has been created specifically for the Regional University. Sub-areas within the University use include faculty/staff housing, retirement housing, and open space. The housing areas are not specifically located on the land use diagram. The open space is designated as University Open Space, which includes approximately 183.5 acres for an open space preserve and possibly an arboretum.
  - **University Campus**. Planned as a "full service" campus, the university is to include academic buildings, a performing arts theatre, and other performing venues, library, visual arts facilities, athletic facilities (gym, stadium, aquatics center), athletic fields, residential halls, administration buildings, warehouse and maintenance buildings, common areas, and gathering spots. The RUSP notes that the university site is subject to a campus master plan. The university is to be integrated with the surrounding community, while providing flexibility to accommodate the educational use. The RUSP lists the following key components of the university.
    - **Faculty/Staff Housing.** Land for the development of faculty and staff housing is provided in the northwestern corner of the university site, allowing an enclave of single-family and attached homes, which are within walking distance to the campus core, yet separated from the hub of campus life. The large open space preserve is to provide a natural buffer for the faculty and staff housing, while also being a visual and recreational amenity.
    - **Retirement Housing Village.** A small retirement village is planned to be located on the northern periphery of the core campus area, accommodating 75 units in a cluster style complex. The RUSP identifies the size of the complex as 6–12 acres.
  - **University Open Space.** Approximately 183.5 acres of the RUSP area open space preserve are set aside within the university campus. These include environmentally sensitive areas, wetlands, lakes, and detention/retention basins in a restored and enhanced natural setting

that may incorporate a future arboretum. These areas are intended to provide habitat for waterfowl, birds, and other wildlife and will be linked with a network of trails.

Riolo Vineyards Specific Plan

The *Riolo Vineyards Specific Plan* is proposed as a residential community with a mix of commercial, open space, and recreational land uses that encompasses approximately 525 acres. The specific plan area is bordered by Watt Avenue, Walerga, and PFE Roads in unincorporated Placer County. This plan was adopted in May 2009 and amended in March 2015 (Placer County 2015c). The 2015 revisions eliminated some medium and high density residential areas, added more low density residential areas, relocated parks and recreation areas, made some roadway and circulation changes, and created a density reserve. The project is under construction.

Sutter County General Plan

Excerpted below is the relevant goal from the *Sutter County General Plan* that pertains to land use and planning (Sutter County 2011).

Goal

LU 1. Promote the efficient and sensitive use of lands to protect and enhance Sutter County's quality of life and meet the needs of existing and future residents and businesses.

City of Lincoln General Plan

In March 2008, the City of Lincoln adopted a general plan covering a planning period through 2050 (City of Lincoln 2008). The general plan also incorporates Lincoln Regional Airport's *Airport Land Use Compatibility Plan*. Figure 3.6-2 shows the general plan's land use map.

The general plan addresses land use for areas within the city limits and sphere of influence. Standards of building intensity for non-residential uses are stated as FARs based on gross acreage. As noted above, a FAR is the ratio of a lot's permitted gross building square footage to the lot's net square footage.

Excerpted below are the relevant goals and policies from the *City of Lincoln General Plan* that pertain to land use and planning.

Goal

LU-1. To grow in [an] orderly pattern consistent with the economic, social, and environmental needs of Lincoln.

Policies

LU-1.4. The City shall require buffer areas between development projects and significant watercourses, riparian vegetation, and wetlands.

LU-1.8. The City will promote the use of development patterns that are more compactly built and use space in an efficient but aesthetic manner to promote more walking, biking and use of public transit.

LU-1.11. To promote a high quality of life within the community, the City will in conjunction with related polices in other general plan elements, promote the retention of natural open space areas, greenbelts and the provision of adequate parks as part of approving new land use designs.

LU-1.14. The City shall continue to apply the regulations and procedures of the City's Zoning Ordinance and shall use the environmental process to prevent or mitigate land use conflicts.

Goals

LU-2. To designate, protect, and provide land to ensure sufficient residential development to meet community needs and projected population growth.

LU-3. To designate adequate commercial land for and promote development of commercial uses compatible with surrounding land uses to meet the present and future needs of Lincoln residents, the regional community, and visitors and to maintain economic vitality.

Policy

LU-3.5. The City shall mitigate conflicts between new commercial land uses and other land uses, especially residential, park, and recreational uses.

Goals

LU-4. Designate industrial lands in appropriate locations to meet the present and future needs of Lincoln's residents and visitors and to maintain the City's economic vitality.

LU-5. To retain rural designations for large parcels of land outside the city limits but within the Planning Area, until annexed to city.

Policy

LU-5.3. The City shall ensure that agricultural land uses are not prematurely terminated by protecting the continued operation of agricultural land uses.

The City of Lincoln's land use designations include the following.

- **Rural Residential.** This designation provides for large rural lots and is applied to parcels around the airport in order to reduce potential conflicts with air traffic operations. Development within this designation includes larger-than-average houses with accessory buildings such as barns and allows for residential dwellings at densities in the range of 1 per 2–5 acres.
- **Country Estates.** This designation provides for single-family detached homes, secondary residential units, public and quasi-public uses, and similar and compatible uses at densities of 1.0–2.9 residential units per acre.
- **Low Density Residential.** This designation provides for single-family detached and attached homes, secondary residential units, public and quasi-public uses, and similar and compatible uses at densities of 3.0–5.9 units per acre**.**
- **Medium Density Residential.** This designation includes detached and attached single family housing, mobile home parks, and cluster developments. This designation provides for condominiums, townhouses, triplexes, fourplexes, multifamily residential units, group quarters, and similar and compatible uses at densities of 13.0–20.0 units per acre.
- **High Density Residential.** This designation includes condominiums, townhouses, triplexes, fourplexes, multifamily residential units, group quarters, and similar and compatible uses at densities of 13.0–20.0 units per acre.
- **Planned Development** areas designate land for the creative and flexible development of small- to medium-sized (less than 100 acres) mixed use projects. Planned Development areas may include a mix of residential and commercial land uses, which must be compatible with existing surrounding land uses and with surrounding land use densities (as expressed in a FAR).
- **Village**. The Land Use Diagram for the General Plan includes seven villages that each will contain a mixture of land uses and densities designed to implement smart growth principles and

also recognize the environmental and physical constraints of each of the village areas. Each village will include a mix of low, medium, and high density residential, neighborhood commercial, open space, and public facilities (e.g., schools, institutional uses, police and fire facilities, etc.). (All urban development under the Village designation must be approved pursuant to an adopted specific plan. Exact land use designations are to be established with the adoption of each specific plan and implemented with form based zoning classifications consistent with the specific plan.)

- **Neighborhood Commercial.** This designation provides neighborhood and locally-oriented retail and service uses, public and quasi-public uses, and similar and compatible uses. The FAR for this designation does not exceed 0.35.
- **Community Commercial**. This designation provides commercial areas serving multiple neighborhoods or the entire community, including retail and service uses, restaurants, banks, entertainment, and offices. These areas are primarily developed in shopping center configurations or as infill commercial uses in established community commercial areas. The FAR for this designation does not exceed 0.35.
- **Mixed Use.** This designation provides for a mixed-use commercial core that is applicable to the city's downtown and for the Village Center areas. This land use category provides for creative infill projects that include the functional integration of retail or service commercial, professional office, or recreational uses with residential units. This category allows both vertical (different uses stacked above one another) and horizontal (different ground level uses on a single parcel) mixed-use opportunities. Residential uses in this designation will meet the requirements for High Density Residential. The FAR for non-residential uses does not exceed 4.00.
- **Light Industrial**. This designation provides space for manufacturing and industrial uses that show no or very low nuisance characteristics, and it is applied to areas where nuisance characteristics of noise, odor, unsightliness, or hazardous materials manufacturing or storage are undesirable. Uses permitted under this designation include small-scale manufacturing, fabrication, packaging, storage, equipment repair, and similar related uses resulting in heavy truck traffic. The FAR does not exceed 0.50.
- **Industrial**. This designation provides for operations of heavy commercial, industrial, and manufacturing industries. The industrial uses may be noisy and prone to emit dust, vibration, odor, or glare. Uses permitted under this designation include fabrication, processing and production facilities, storage, and warehousing resulting in heavy truck traffic. The FAR does not exceed 0.50.
- **Industrial Planned Development**. This designation sets aside land for the creative and flexible use of land for industrial purposes. Planned Industrial land uses include those areas currently used for, proposed as, or adjacent to industrial development, including manufacturing, warehousing, storage, research and development, and utility use. Agricultural and outdoor recreation uses on lots of 1 acre or more are considered to be a proper interim use for industrially designated areas. The FAR does not exceed 0.50.
- **Parks and Recreation**. This designation provides both public and private improved open space. The primary land uses include existing and future large neighborhood and regional parks, municipal golf courses, athletic fields, and open space areas adjacent to improved parks or trails. The FAR for non-residential uses (recreation facilities such as community centers, storage facilities, indoor basketball courts, etc.) does not exceed 0.25.

The City of Lincoln has an adopted standard of 9 acres of park land per 1,000 residents for newly incorporated areas, which require a development agreement. This requirement can be met through the provision of park credit for a variety of traditional and non-traditional park lands. The amount of credit granted against the 9 acre per 1,000 population standard may vary based upon the recreational value of the land to city residents.

- **Traditional "Active" Park Lands.** This designation refers to park sites that provide a variety of active facilities for city residents and includes ball fields, multi-use turf areas, hard courts areas, picnic areas, and play areas. Such areas are normally granted a full 1:1 park acreage credit. This designation includes Mini, Neighborhood, Community, City-wide (Regional) parks, and School Recreation areas.
- **Non-Traditional Parks.** This designation refers to open space areas such as wetland preserves, oak woodlands, watershed/riparian areas, and greenbelts, which may be used as passive recreational areas for visual and aesthetic enjoyment. Such areas may also provide bikeway or other trail connections. The City policies provide a valuation system whereby park credit of between 5:1 and 10:1 may be given to open space lands that satisfy the City's requirement for recreational status. Only after the City's traditional active recreation needs are met, may park credit be received by substituting 5–10 acres on non-traditional park land for every 1 acre of park credit. The actual credit granted is established on a case-by-case basis by the City based upon its determination of the recreational value provided.
- **Non-Credited Pocket Parks**. Pocket parks are small 0.25- to 0.50-acre facilities located centrally within a project area. Such parks provide a social gathering spot and provide passive recreation to their immediate neighborhood. Pocket parks are generally situated along the primary entry axis of a residential area and ringed by local streets with residential units fronting the adjacent road and park. Pocket parks when called for in development are designed and constructed as part of the adjacent subdivision.
- **Open Space**. This designation conserves lands that should remain as open space for passive and active recreation uses, resource management, flood control management, and public safety. Appropriate uses in this land use designation include public parks, playgrounds, and parkways; vista areas, wetlands, wildlife habitats, and outdoor nature laboratories; stormwater management facilities; and buffer zones separating urban development and ecologically sensitive resources. Such land areas are primarily publicly owned but may include private property. The FAR for nonresidential uses does not exceed 0.10.
- **Agricultural.** This designation conserves lands that should remain as open space because of their value for agricultural production. Appropriate uses in this land use designation include but are not limited to agricultural activities and other low-intensity open space–type uses. The minimum parcel size for this designation is 20 acres. Allowable residential development in areas designated Agriculture includes single family homes, secondary residential units, caretaker/employee housing, and farmworker housing. The FAR does not exceed 0.05.
- **Public Facilities**. This designation provides appropriate locations for private, quasi-public, and public buildings and facilities owned by City, County, State, or federal agencies that serve the general public. Uses include wastewater treatment facilities, water tank, electrical substations, cemeteries, churches, educational facilities, community centers, libraries, museums, government offices and courts, public safety facilities (e.g., police and fire stations), and similar and compatible uses. The FAR does not exceed 0.40.

3.6.2 Environmental Setting

Public Lands

Public lands represent a small percentage of the entire Plan Area. The majority of the public lands are associated with Folsom Lake State Recreation Area, Auburn State Recreation Area, and Camp Far West Reservoir owned and operated by the South Sutter Water District. Other areas include municipal and regional parks (e.g., Hidden Falls Regional Park), the U.S. Air Force 9th Communication Squadron Lincoln Receiver Site, the City of Lincoln's Regional Airport, flood control facilities (e.g., Pleasant Grove Retention Basin) the Western Regional Sanitary Landfill and related solid waste disposal facilities, and waste water treatment facilities. Figure 3.6-3 shows lands owned by federal, state, and local government. With a couple of exceptions, the majority of the Reserve System would be established through the acquisition of fee title and conservation easements on private property.

Existing Land Uses

As described in Section 3.0, the baseline for the analysis is the release date of the NOI or NOP, whichever is later; in this case, the date is March 2005. Since that time, land use in the Plan Area has remained largely the same, and a regional land cover map (*Baseline Land-Cover Map*) was developed for the Plan and used to estimate the effects of Covered Activities and to develop the conservation strategy.

The dominant form of developed land in the Valley portion of the Plan Area is large suburban subdivisions primarily resulting from annexation of developed and undeveloped agricultural land adjacent to the cities of Roseville, Rocklin, and Lincoln. Some unincorporated development exists at an urban scale in the Dry Creek/West Placer area west of Roseville. Additional higher density unincorporated areas can be found in North Auburn, Bowman, the townsite of Sheridan, portions of Granite Bay, the Penryn Parkway, and Newcastle.

The dominant land use in the Foothill portion of the Plan Area is very low density rural residential (typically one dwelling per 5–20 acres) or agriculture (primarily in the form of pasture land). Most of the I-80 corridor and the adjoining portion of the North Foothills area is already subdivided into 20-acre or smaller parcels, and 5-acre or smaller parcels are well established. Approximately 32,500 acres of the existing and planned urban is mapped as already urban or rural residential, or development entitlements have been issued resulting in the anticipated conversion of these areas.

Current land use is a mixture of urban, agriculture, and open space (Table 3.6-2).

Table 3.6-2. Current Land Use in the Plan Area

Land Use Type	Area (ac)
Agricultural	215.3
Agricultural/Timberland	107,474.2
Agriculture-Residential Development Reserve 4.6 - 20 Ac. Min.	3,612.9
Agriculture-Residential Planning Reserve Development Reserve	783.6
Business Park	910.3
Commercial	740.0
General Commercial	114.6
High Density Residential	306.1
Industrial	4,310.7
Industrial Development Reserve	21.1
Low Density Residential	3,296.9
Low Density Residential Reserve	316.8
Low Medium Density Residential	613.4
Medium Density Residential	1,156.9
Mixed Use	249.1
Open Space	9,178.4
Public Facility	27.2
Professional Office	96.7
Riparian Drainage	631.2
Rural Estate	16,359.9
Rural Low Density Residential	5,609.7
Rural Residential	31,446.6

Source: Placer County 2015d.

Airports

Lincoln Regional Airport is the only airport in the Plan Area. The Lincoln Regional Airport, which is located on the west side and within the city limits of the city of Lincoln, is a general aviation airport classified by the Federal Aviation Administration Airport Reference Code (ARC) System as a C III airport. This airport serves the general aviation requirements of the air trade area, which generally consists of the city of Lincoln, the southwestern portion of Placer County, and a significant portion of the northern part of Sacramento County. The airport is owned and operated by the City of Lincoln. The Lincoln Regional Airport is covered under the Placer County Airport Land Use Compatibility Plan (ALUCP; Placer County Airport Land Use Commission 2014). The ALUCP contains procedural policies that that pertain to airport and land use planning. Policy 2.5 dictates that HCPs are subject to ALUCP review (Placer County Airport Land Use Commission 2014). As shown in Figure 2-2, small portions of the Reserve Acquisition Area are located within 5 miles of the Lincoln Regional Airport. These portions are proposed for conservation, and any enhancement activities would be subject to ALUCP review.

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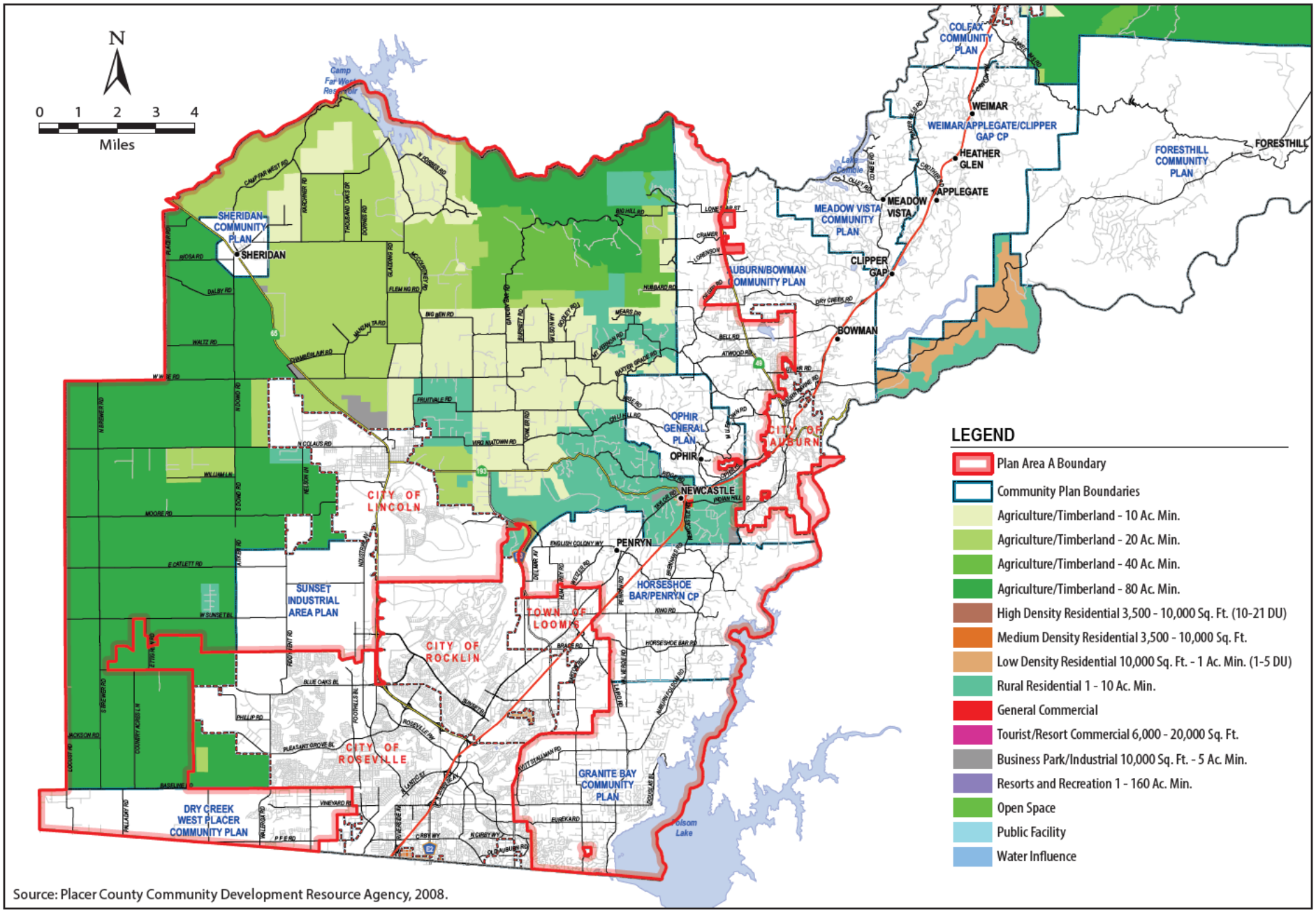
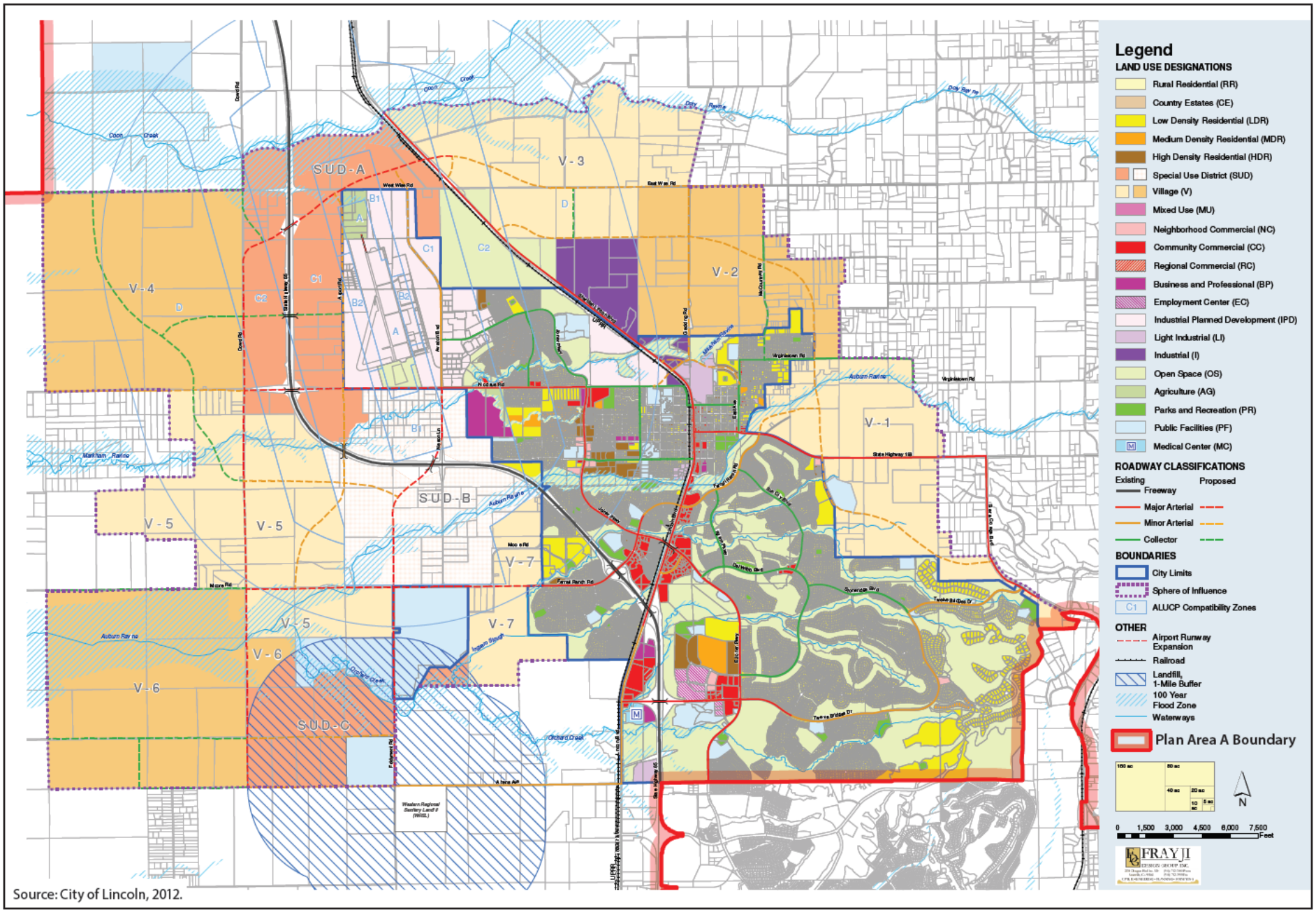


Source: Placer County Community Development Resource Agency, 2008.

Graphics ... 04406.04 (11-17-2017) tm

ICF

Figure 3.6-1
Placer County General Plan Land Use Map
Placer County Conservation Program – EIS/EIR



Source: City of Lincoln, 2012.

ICF

Figure 3.6-2
City of Lincoln General Plan Land Use Map
Placer County Conservation Program – EIS/EIR

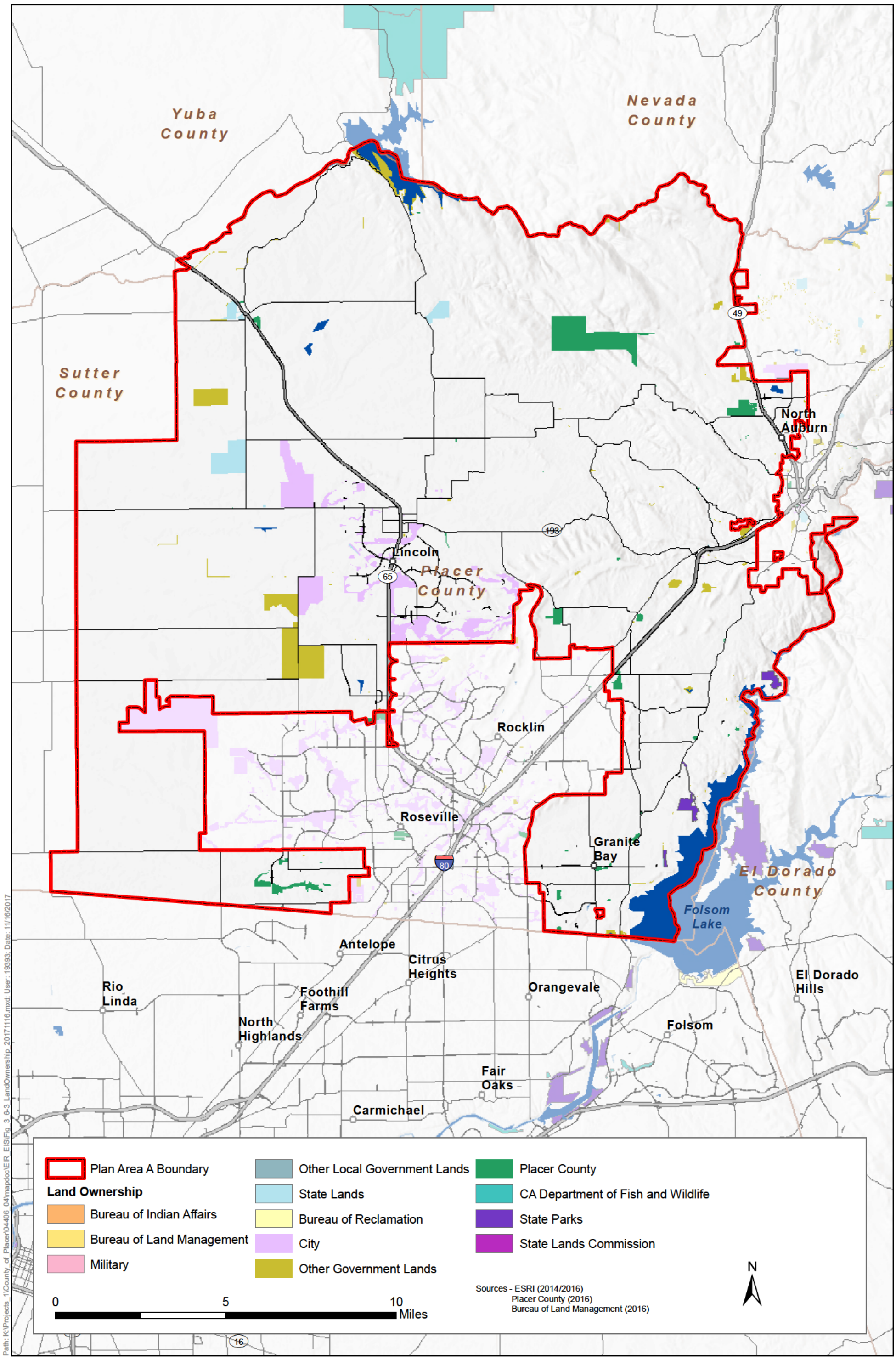


Figure 3.6-3
Public Land Ownership
Placer County Conservation Program—EIS/EIR

3.7 Mineral Resources

This section describes the regulatory and environmental settings for mineral resources. Impacts that would result from implementing the proposed action and alternatives are described in Chapter 4, *Environmental Consequences*, along with mitigation measures to reduce impacts, where appropriate.

3.7.1 Regulatory Setting

Federal

There are no federal laws or regulations pertaining to mineral resources that are relevant to the proposed action or alternatives.

State

California Surface Mining and Reclamation Act of 1975

The principal legislation addressing mineral resources in California is the Surface Mining and Reclamation Act of 1975 (SMARA) (Public Resources Code Sections 2710–2719), which was enacted in response to land use conflicts between urban growth and essential mineral production. The stated purpose of SMARA is to provide a comprehensive surface mining and reclamation policy that will encourage the production and conservation of mineral resources while ensuring that adverse environmental effects of mining are prevented or minimized; that mined lands are reclaimed and residual hazards to public health and safety are eliminated; and that consideration is given to recreation, watershed, wildlife, aesthetic, and other related values. SMARA governs the use and conservation of a wide variety of mineral resources, although some resources and activities are exempt from its provisions, including excavation and grading conducted for farming, construction, or recovery from flooding or other natural disaster.

SMARA provides for the evaluation of an area's mineral resources using a system of Mineral Resource Zone (MRZ) classifications that reflect the known or inferred presence and significance of a given mineral resource. The MRZ classifications are based on available geologic information, including geologic mapping and other information on surface exposures, drilling records, and mine data, and on socioeconomic factors such as market conditions and urban development patterns. The MRZ classifications used for the Mineral Land Classification of Placer County (Division of Mines and Geology 1995) are defined as follows.

- **MRZ-1**—Areas where available geologic information indicates there is little likelihood for the presence of significant mineral resources.
- **MRZ-2a**—Areas underlain by mineral deposits where geologic data indicate that significant measured or indicated resources are present. As shown on the California Mineral Land Classification Diagram, MRZ-2 is divided on the basis of both degree of knowledge and economic factors. Areas classified MRZ-2a contain discovered mineral deposits that are either measured or indicated reserves as determined by such evidence as drilling records, sample analysis, surface exposure, and mine information.

- **MRZ-2b**—Areas underlain by mineral deposits where geologic information indicates that significant inferred resources are present. Areas classified MRZ-2b contain discovered mineral deposits that are either inferred reserves as determined by limited sample analysis, exposure, and past mining history or are deposits that presently are sub-economic.
- **MRZ-3a**—Areas containing known mineral occurrences of undetermined mineral resource significance.
- **MRZ-3b**—Areas containing inferred mineral occurrences of undetermined mineral resource significance. Land classified MRZ-3b represent areas in geologic settings that appear to be favorable environments for the occurrence of specific mineral deposits.
- **MRZ-4**—Areas of no known mineral occurrences where geologic information does not rule out either the presence or absence of significant mineral resources.

Although the State of California is responsible for identifying areas containing mineral resources, individual counties or cities are responsible for SMARA implementation and enforcement by providing annual mining inspection reports and coordinating with the California Geological Survey.

Mining activities that disturb more than 1 acre or 1,000 cubic yards of material require a SMARA permit from the lead agency, which is the county, city, or board that is responsible for ensuring that adverse environmental effects of mining are prevented or minimized. The lead agency establishes its own local regulations and requires a mining applicant to obtain a surface mining permit, submit a reclamation plan, and provide financial assurances, pursuant to SMARA.

Certain mining activities do not require a permit, such as excavation related to farming, grading related to restoring the site of a natural disaster, and grading related to construction.

California Assembly Bill 3098 List

A state agency may not purchase or use sand, gravel, aggregates, or other minerals produced from a surface mining operation subject to SMARA unless the operation is identified on the AB 3098 List. This list, which is named after the 1992 legislation that established it, set out conditions that the operations must meet. To be included on the list, an operation must meet the following criteria.

- Have an approved reclamation plan.
- Have approved financial assurance.
- Have filed its annual report.
- Paid its reporting fee.
- Have had its annual inspection by the lead agency that reflects the operation is in full compliance with the law.

Local

Placer County General Plan

Excerpted below are the relevant goal, policies, and implementation program from the *Placer County General Plan* that pertain to mineral resources (Placer County 2013).

Goal

1.J. To encourage commercial mining operations within areas designated for such extraction, where environmental, aesthetic, and adjacent land use compatibility impacts can be adequately mitigated.

Policies

1.J.1. The County shall require new mining operations to be designed to provide a buffer between existing or likely adjacent uses, minimize incompatibility with nearby uses, and adequately mitigate their environmental and aesthetic impacts.

1.J.2. The County shall require that new non-mining land uses adjacent to existing mining operations be designed to provide a buffer between the new development and the mining operations. The buffer distance will be based upon an evaluation of noise, aesthetics, drainage, operating conditions, topography, lighting, traffic, operating hours and air quality.

1.J.3. The County shall discourage the development of any uses that would be incompatible with adjacent mining operations or would restrict future extraction of significant mineral resources.

1.J.4. The County shall discourage the development of incompatible land uses in areas that have been identified as having potentially significant mineral resources.

1.J.5. The County shall require that all mining operations prepare and implement reclamation plans that mitigate environmental impacts and incorporate adequate security to guarantee proposed reclamation.

1.J.6. The County shall require that plans for mining operations incorporate adequate measures to minimize impacts to local residents and County roadways.

Implementation Program

1.3. The County should, in consultation with the California Division of Mines and Geology, evaluate the relative value of potentially-significant mineral deposits identified in the General Plan Background Report and designated as Mineral Resource Zone (MRZ) in relationship to other mineral resources of the same type in the county or region. If these mineral deposits are determined to be easily replaced by other substitute deposits, the County should continue to apply existing policies and plans to allow extraction of these resources. If these deposits are found not to be easily substituted, the County should amend the Countywide General Plan or applicable community plan as necessary to direct incompatible growth away from these sites.

Sutter County General Plan

Excerpted below are the relevant goal and policy from the *Sutter County General Plan* that pertain to mineral resources (Sutter County 2011).

Goal

ER 5. Encourage commercial resource extraction activities in locations where environmental, aesthetic, and adjacent land use compatibility impacts can be adequately mitigated.

Policy

ER 5.1 Significant Resources. Conserve and protect mineral resources that may be identified by the state as a significant resource to allow for their continued use in the economy.

City of Lincoln General Plan

Excerpted below are the relevant goals and policies from the *City of Lincoln General Plan* that pertain to mineral resources (City of Lincoln 2008).

Goal

OSC-1. To designate, protect, and encourage natural resources, open space, and recreation lands in the city, protect and enhance a significant system of interconnected natural habitat areas, and provide opportunities for recreation activities to meet citizen needs.

Policy

OSC-1.5 Protection of Minerals. The City will protect mineral resources such as groundwater, clay deposits, as well as groundwater recharge areas from urban development.

Goal

OSC-3. To encourage energy conservation in new and existing developments throughout the City.

Policies

OSC-3.5 Minimize Land Conflicts. The City shall require that new extractive operations are designed to provide a buffer between existing or likely adjacent uses to minimize incompatibility with nearby sites and adequately mitigate their environmental and aesthetic impacts. The City shall also ensure adequate buffers are included for existing operations (i.e., Gladding-McBean mine and operational areas) that protect the continued operations of the mine and future residents.

OSC-3.6 Existing Clay Operations. The City shall not permit incompatible land uses within the impact area of existing and potential mineral extraction activities (i.e., Gladding-McBean).

3.7.2 Environmental Setting

Mining began in Placer County in 1849 with the discovery of gold. The initial gold finds in rivers and stream led to hydraulic mining and hard rock mining. Placer County has also produced significant amounts of silver, copper, lead, zinc, and chromite and small amounts of tungsten (scheelite) and manganese. Industrial minerals include quartz for silicon and small amounts of limestone, asbestos, clay, and mineral paint (Division of Mines and Geology 1995).

Construction aggregate is also mined in the county. MRZ-2 and MRZ-3 zones are applied in a number of areas that total 8 square miles in Placer County (Figure 3.7-1). These areas are located in the western portion of the county in the foothills and valley. Several active and proposed mines are located along the Bear River, Coon Creek, and the Middle and North Forks of the American River (Division of Mines and Geology 1995). No areas have been designated as MRZ-2 in Sutter County (Sutter County 2008). No areas have been designated as MRZ in Plan Area B. No additional locally important mineral resource recovery sites within the Plan Area have been delineated on the *Placer County General Plan*.

Although mines in Placer County provide material for local construction, the county is still a net importer of construction aggregate (Division of Mines and Geology 1995).

There are two mining operations in Placer County in the Plan Area that are on the April 2016 AB 3098 list. These operations—the Robinson Gravel Pit Newcastle Quarry and the Patterson Sand and Gravel—are sand and aggregate mines (Office of Mine Reclamation 2016). There is one additional mining operation that has vested County approvals but is not active at this time. The mine is owned

by Teichert Aggregates and is located adjacent to Coon Creek east of SR 65. The mining entitlements allow for aggregate removal, hard rock mining, and processing of aggregate materials.

3.7.3 References Cited

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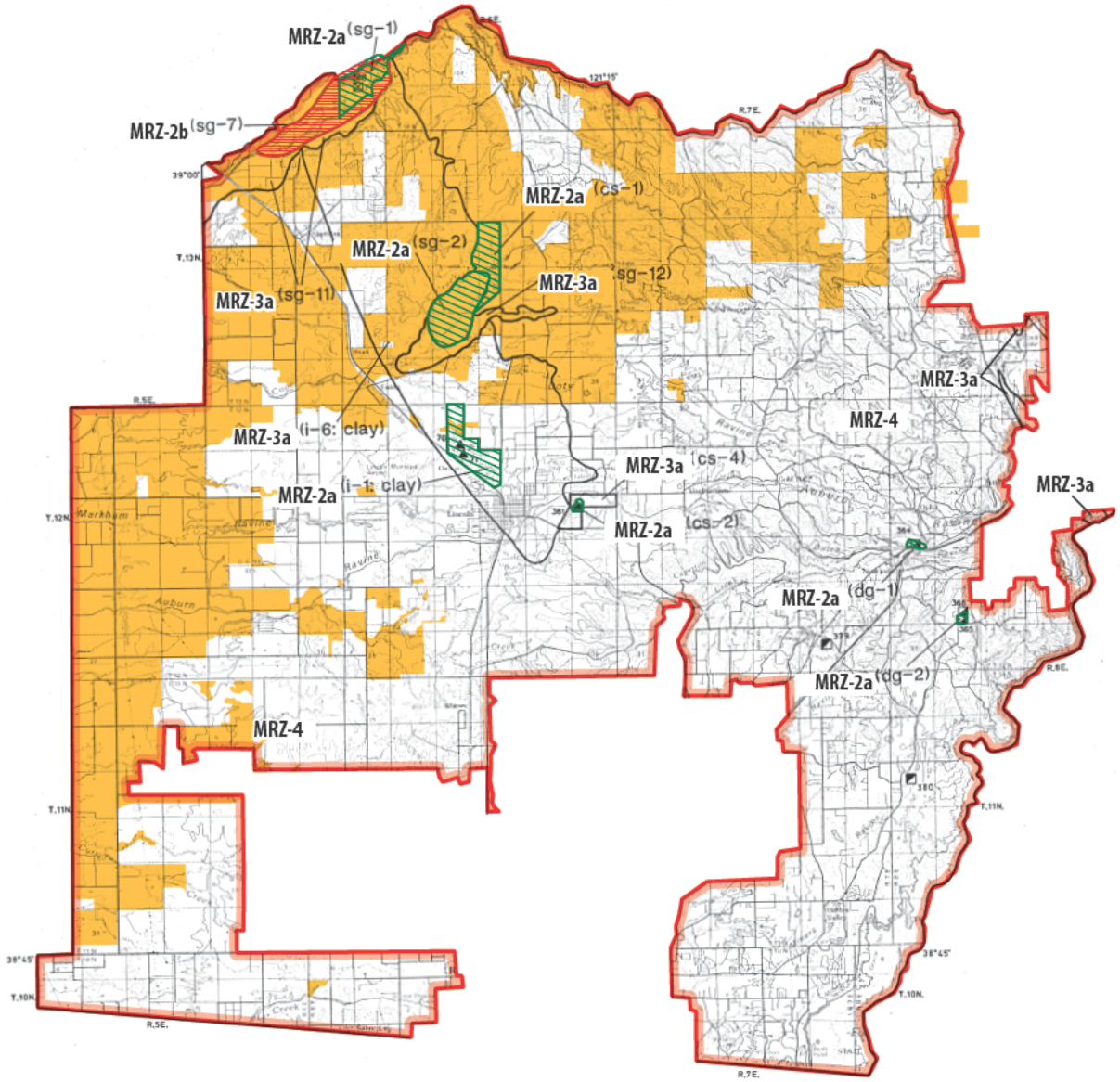

Legend

MRZ-1 Areas where available geologic information indicates there is little likelihood for the presence of significant mineral resources.

MRZ-2a Areas underlain by mineral deposits where geologic data indicate that significant measured or indicated resources are present. As shown on the California Mineral Land Classification Diagram, MRZ-2 is divided on the basis of both degree of knowledge and economic factors. Areas classified MRZ-2a contain discovered mineral deposits that are either measured or indicated reserves as determined by such evidence as drilling records, sample analysis, surface exposure, and mine information.

MRZ-2b Areas underlain by mineral deposits where geologic information indicates that significant inferred resources are present. Areas classified MRZ-2b contain discovered mineral deposits that are either inferred reserves as determined by limited sample analysis, exposure, and past mining history or are deposits that presently are sub-economic.

MRZ-3a Areas containing known mineral occurrences of undetermined mineral resource significance.

MRZ-3b Areas containing inferred mineral occurrences of undetermined mineral resource significance. Land classified MRZ-3b represents areas in geologic settings that appear to be favorable environments for the occurrence of specific mineral deposits.

MRZ-4 Areas of no known mineral occurrences where geologic information does not rule out either the presence or absence of significant mineral resources.

Plan Area A Boundary

Reserve Acquisition Area

0 1 2 3 4 5
Miles

N

Source: California Departmant of Conservation, Division of Mines and Geology, 1995.

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Figure 3.7-1
Mineral Resource Zones in the Plan Area
Placer County Conservation Program – EIS/EIR

3.8 Noise and Vibration

This section describes the regulatory and environmental settings for noise and vibration in the Plan Area. Impacts that would result from implementing the proposed action and alternatives are described in Chapter 4, *Environmental Consequences*, along with mitigation measures to reduce impacts, where appropriate.

3.8.1 Regulatory Setting

There are no federal, state, or local laws or regulations for vibration that are relevant to the proposed action or alternatives. However, there are guidelines for assessing the impacts of groundborne vibration, and these are discussed below in Section 3.8.2, *Environmental Setting*. Because there are no laws or regulations for vibration, the following regulatory summary focuses on noise only.

Federal

There are no federal laws or regulations pertaining to noise that are relevant to the proposed action or alternatives.

State

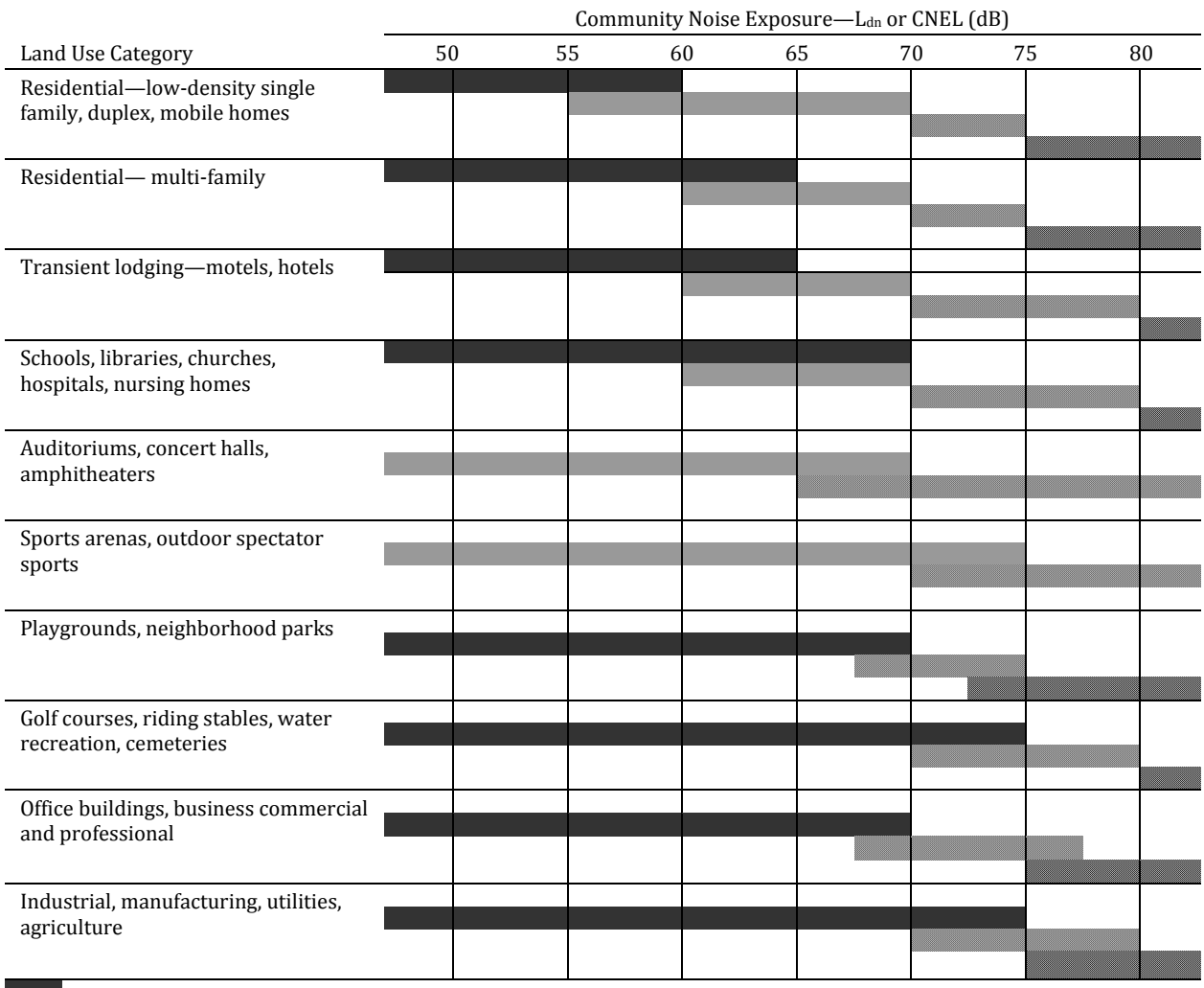
California Code of Regulations, Title 24, Part 2

Title 24 of the California Code of Regulations, Part 2, California Noise Insulation Standards, establishes minimum noise insulation standards to protect persons within new hotels, motels, dormitories, long-term care facilities, apartment houses, and dwellings other than single-family residences. Under this regulation, interior noise levels that are attributable to exterior noise sources cannot exceed the 45 day-night level (L_{dn}) in any habitable room. Where such residences are located in an environment in which exterior noise is 60 L_{dn} or greater, an acoustical analysis is required to ensure that interior levels do not exceed the 45 L_{dn} interior standard.

California Administrative Code, Title 4

California requires each local government to implement a noise element as part of its general plan. California Administrative Code, Title 4, has guidelines for evaluating the compatibility of various land uses as a function of community noise exposure. These guidelines are shown in Table 3.8.1.

Table 3.8.1. State Land Use Compatibility Standards for Community Noise Environment



Normally Acceptable: Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.

Conditionally Acceptable: New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features are included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.

Normally Unacceptable: New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

Clearly Unacceptable: New construction or development generally should not be undertaken.

Source: California Governor's Office of Planning and Research 2003.

CNEL = community noise equivalent level.
dB = decibel.
L_{dn} = day-night level.

Local

Placer County General Plan

Section 9 (the Noise Element) of the *Placer County General Plan* lists goals, associated policies, and implementation measures related to noise (Placer County 2013). The Noise Element does not include guidelines related to construction activities, including those that would be associated with habitat restoration. However, the tables included below provide context for generally accepted non-transportation and transportation noise levels in the county.

The maximum allowable noise exposure limits for non-transportation noise sources are shown in Table 3.8-2, and the maximum allowable noise exposure limits for transportation noise sources in Placer County are summarized in Table 3.8-3. As discussed above, Placer County's general plan does not specifically address construction noise level limits. Construction noise level limits and restrictions on hours for construction are determined on a project-by-project basis through environmental review, conditioning of entitlements, and the application of County Code requirements for individual projects using the general plan's noise level standards as guidance for acceptable levels.

Table 3.8-2. Placer County Allowable L_{dn} Noise Levels within Specific Zone Districts

Zone District of Receptor	Property Line of Receiving Use	Interior Spaces
Residential adjacent to industrial	60	45
Other residential	50	45
Office/professional	70	45
Transient lodging	65	45
Neighborhood commercial	70	45
General commercial	70	45
Heavy commercial	75	45
Limited industrial	75	45
Highway service	75	45
Shopping center	70	45
Industrial	–	45
Industrial park	75	45
Industrial reserve	–	–
Airport	–	45
Unclassified	–	–
Farm	–[a]	–
Agriculture exclusive	–[a]	–
Forestry	–	–
Timberland preserve	–	–
Recreation and forestry	70	–
Open space	–	–
Mineral reserve	–	–

Table 3.8-2 (Continued)

Source: Excerpted from Placer County 2013:Table 9-1.

Notes:

- Except where noted otherwise, noise exposures will be those which occur at the property line of the receiving use.
- Where existing transportation noise levels exceed the standards of this table, the allowable L_{dn} shall be raised to the same level as that of the ambient level.
- If the noise source generated by, or affecting, the uses shown above consists primarily of speech or music, of if the noise source is impulsive in nature, the noise standards shown above shall be decreased by 5 dB.
- Where a use permit has established noise level standards for an existing use, those standards shall supersede the levels specified in [*Placer County General Plan*] Table 9-1 and Table 9-3. Similarly, where an existing use which is not subject to a use permit causes noise in excess of the allowable levels in [*Placer County General Plan*] Tables 9-1 and 9-3, said excess noise shall be considered the allowable level. If a new development is proposed which will be affected by noise from such an existing use, it will ordinarily be assumed that the noise levels already existing or those levels allowed by the existing use permit, whichever are greater, are those levels actually produced by the existing use.
- Existing industry located in industrial zones will be given the benefit of the doubt in being allowed to emit increased noise consistent with the state of the art at the time of expansion. In no case will expansion of an existing industrial operation because to decrease allowable noise emission limits. Increased emissions above those normally allowable should be limited to a one-time 5 dB increase at the discretion of the decision making body.
- The noise level standards applicable to land uses containing incidental residential uses, such as caretaker dwellings at industrial facilities and homes on agriculturally zoned land, shall be the standards applicable to the zone district, not those applicable to residential uses.
- Where no noise level standards have been provided for a specific zone district, it is assumed that the interior and/or exterior spaces of these uses are effectively insensitive to noise.

[a] Normally, agricultural uses are noise insensitive and will be treated in this way. However, conflicts with agricultural noise emissions can occur where single-family residences exist within agricultural zone districts. Therefore, where effects of agricultural noise upon residences located in these agricultural zones is a concern, an L_{dn} of 70 dBA (A-weighted decibel) will be considered acceptable outdoor exposure at a residence.

Applicable to New Projects Affected by or Including Non-Transportation Noise Sources.

Table 3.8-3. Placer County Maximum Allowable Noise Exposure for Transportation Noise Sources

Land Use	Outdoor Activity Areas[a] L_{dn}/CNEL	Interior Spaces	
		L_{dn}/CNEL	L_{eq}, dB[b]
Residential	60[c]	45	–
Transient lodging	60[c]	45	–
Hospitals, nursing homes	60[c]	45	–
Theaters, auditoriums, music halls	–	–	35
Churches, meeting halls	60[c]	–	40
Office buildings	–	–	45
Schools, libraries, museums	–	–	45
Playgrounds, neighborhood parks	70	–	–

Source: Placer County 2013:Table 9-3.

CNEL = community noise equivalent level.
dB = decibel.
L_{dn} = day-night level.
L_{eq} = equivalent sound level.

[a] Where the location of outdoor activity areas is unknown, the exterior noise level standard shall be applied to the property line of the receiving land use.

[b] As determined for a typical worst-case hour during periods of use.

[c] Where it is not possible to reduce noise in outdoor activity areas to 60 L_{dn}/CNEL or less using a practical application of the best-available noise reduction measures, an exterior noise level of up to 65 dB L_{dn}/CNEL may be allowed provided that available exterior noise level reduction measures have been implemented and interior noise levels are in compliance with this table.

Placer County Noise Ordinance

The Placer County Noise Ordinance (Placer County Code Section 9.36.060) states noise limits for sensitive receptors, as excerpted below.

A. It is unlawful for any person at any location to create any sound, or to allow the creation of any sound, on property owned, leased, occupied or otherwise controlled by such person that:

   1. Causes the exterior sound level when measured at the property line of any affected sensitive receptor to exceed the ambient sound level by five dBA; or

   2. Exceeds the sound level standards as set forth in Table 1 [see Table 3.8-4 of this EIS/EIR], whichever is the greater.

B. Each of the sound level standards specified in Table 1 [Table 3.8-4] shall be reduced by five dB for simple tone noises, consisting of speech and music. However, in no case shall the sound level standard be lower than the ambient sound level plus five dB.

C. If the intruding sound source is continuous and cannot reasonably be discontinued or stopped for a time period whereby the ambient sound level can be measured, the sound level measured while the source is in operation shall be compared directly to the sound level standards of Table 1 [Table 3.8-4]. (Ord. 5280-B, 2004)

Table 3.8-4. Placer County Sound Level Standards (onsite)

Sound Level Descriptor	Daytime (7 a.m. to 10 p.m.)	Nighttime (10 p.m. to 7 a.m.)
Hourly L_{eq}, dB	55	45
Maximum level (L_{max}), dB	70	65

Source: Placer County Code, 9.36.060:Table 1.
dB = decibel.
L_{eq} = equivalent sound level.
L_{max} = maximum sound level.

The noise ordinance provides an exception for construction noise (in Municipal Code Section 9.36.030) as long as all construction equipment is "fitted with factory installed muffling devices and that all construction equipment shall be maintained in good working order."

Allowable time periods for this construction noise are as follows: 6 a.m. to 8 p.m., Monday through Friday; and 8 a.m. to 8 p.m., Saturdays and Sundays.

Sutter County General Plan

Excerpted below are the relevant goal and policies from the *Sutter County General Plan* that pertain to noise and vibration (Sutter County 2011).

Goal

N 1. Protect the health and safety of County residents from the harmful effects of exposure to excessive noise and vibration.

Policies

N 1.2. Exterior Incremental Environmental Noise Standards. Require new development to mitigate noise impacts on noise sensitive uses where the projected increases in exterior noise levels exceed those shown in Table 3.6-2 [see Table 3.8-5 of this EIS/EIR].

Table 3.8-5. County of Sutter General Plan Exterior Incremental Environmental Noise Impact Standards for Noise Sensitive Uses (dba)

Residences and Buildings Where People Normally Sleep[a]		Institutional Land Uses with Primarily Daytime and Evening Uses[b]	
Existing L_{dn}	Allowable Noise Increment	Existing Peak Hour L_{eq}	Allowable Noise Increment
45	8	45	12
50	5	50	9
55	3	55	6
60	2	60	5
65	1	65	3
70	1	70	3
75	0	75	1
80	0	80	0

Source: Federal Transit Administration, Transit Noise Impact and Vibration Assessment, May 2006.

Note: Noise Levels are measured at the property line of the noise-sensitive use.

[a] This category includes homes, hospitals, and hotels where a nighttime sensitivity to noise is assumed to be of utmost importance.

[b] This category includes schools, libraries, theaters, and churches where it is important to avoid interference with such activities as speech, meditation, and concentration on reading material.

N 1.3. Interior Noise Standards. Require new development to mitigate noise impacts to ensure acceptable interior noise levels appropriate to the land use type as shown in Table 3.6-3 (Maximum Allowable Environmental Noise Standards) [see Table 3.8-6 of this EIS/EIR].

N 1.4. New Stationary Noise Sources. Require new development to mitigate noise impacts to ensure acceptable interior noise levels appropriate to the land use type as shown in Table 3.6-4 [see Table 3.8-7 of this EIS/EIR].

N 1.6. Construction Noise. Require discretionary projects to limit noise-generating construction activities within 1,000 feet of noise-sensitive uses (i.e., residential uses, daycares, schools, convalescent homes, and medical care facilities) to daytime hours between 7:00 a.m. and 6:00 p.m. on weekdays, 8:00 a.m. and 5:00 p.m. on Saturdays, and prohibit construction on Sundays and holidays unless permission for the latter has been applied for and granted by the County.

N 1.7. Vibration Standards. Require construction projects and new development anticipated to generate a significant amount of vibration to ensure acceptable interior vibration levels at nearby noise-sensitive uses based on Federal Transit Administration criteria as shown in Table 3.6-5 [see Table 3.8-8 of this EIS/EIR].

Table 3.8-6. County of Sutter General Plan Maximum Allowable Environmental Noise Standards

Land Use	Exterior Noise Level Standard for Outdoor Activity Areas[a]	Interior Noise Level Standard	
Residential (Low Density Residential, Duplex, Mobile homes)	60[d]	45	NA
Residential (Multi Family)	65[d]	45	NA
Transient Lodging (Models/Hotels)	65[d]	45	NA
Schools, Libraries, Churches, Hospitals, Nursing Homes, Museums	70	45	NA
Theaters, Auditoriums	70	NA	35
Playgrounds, Neighborhood Parks	70	NA	NA
Gold Courses, Riding Stables, Water Recreation, Cemeteries	70	NA	NA
Office Buildings, Business Commercial and Professional	70	NA	45
Industrial, Manufacturing, Utilities, and Agriculture	70	NA	45

Note: Where a proposed use is not specifically listed on this table, the use shall comply with the noise exposure standards for the nearest similar use as determined by the Community Services Department.

[a] Outdoor activity areas for residential developments are considered to be the back yard patios or decks of single-family residential units, and the patios or common areas where people generally congregate for multi-family development.

Outdoor activity areas for nonresidential developments are considered to be those common areas where people generally congregate, including outdoor seating areas.

Where the location of outdoor activity areas is unknown, the exterior noise standard shall be applied to the property line of the receiving land use.

[b] As determined for a typical worst-case hour during periods of use.

[c] Where it is not possible to reduce noise in outdoor activity areas to 60 dB, L_{dn}/CNEL or less using a practical application of the best-available noise reduction measures, an exterior level of up to 65 dB, Ldn/CNEL may be allowed provided that available exterior noise level reduction measures have been implemented and interior noise levels are in compliance with this table.

[d] Where it is not possible to reduce noise in outdoor activity areas to 65 dB, L_{dn}/CNEL or less using a practical application of the best-available noise reduction measures, an exterior level of up to 70 dB, L_{dn}/CNEL may be allowed provided that available exterior noise level reduction measures have been implemented and interior noise levels are in compliance with this table.

Table 3.8-7. County of Sutter General Plan Noise Level Standards from Stationary Sources

Noise Level Descriptor	Daytime (7:00 a.m. to 10:00 p.m.)	Nighttime (10:00 p.m. to 7:00 a.m.)
Hourly L_{eq}, dBA	55	45
Maximum level, dBA	70	65

Note: Noise Levels are measured at the property line of the noise-sensitive use.

Table 3.8-8. County of Sutter General Plan Groundborne Vibration Impact Criteria for General Assessment

Land Use Category	Impact Levels (VdB)		
	Frequent Events[a]	Occasional Events[b]	Infrequent Events[c]
Category 1: Buildings where vibration would interfere with interior operations	65[d]	65[d]	65[d]
Category 2: Residences and buildings where people normally sleep	72	75	80
Category 3: Institutional land uses with primarily daytime uses	75	78	83

Source: Federal Transit Administration, Transit Noise Impact and Vibration Assessment, May 2006.

Note: Vibration levels are measured in or near the vibration-sensitive use.

[a] "Frequent Events" is defined as more than 70 vibration events of the same source per day.

[b] "Occasional Events" is defined as between 30 and 70 vibration events of the same source per day.

[c] "Infrequent Events" is defined as fewer than 30 vibration events of the same source per day.

[d] This criterion limit is based on levels that are acceptable for most moderately sensitive equipment such as optical microscopes. Vibration-sensitive manufacturing or research will require detailed evaluation to define the acceptable vibration levels.

Sutter County Noise Ordinance

Sutter County has not adopted a noise ordinance.

City of Lincoln General Plan

Excerpted below are the relevant goal and policies from the *City of Lincoln General Plan* that pertain to noise (City of Lincoln 2008).

Goal

To protect residents from health hazards and annoyance associated with excessive noise levels.

Policies

HS-8.1 Sensitive Receptors. The City will allow the development of new noise-sensitive land uses (which include but are not limited to residential, health care facilities and schools) only in areas exposed to existing or projected levels of noise which satisfy the levels specified in Table 8.1. Noise mitigation measures spaces to levels specified in Table 8.1 [see Table 3.8-9 of this EIS/EIR].

HS-8.2 Protect Residential Areas. The City will strive to achieve exterior noise levels for existing and future dwellings in residential areas that do not exceed exterior noise levels of 60 dBA CNEL and interior noise levels of 45 dBA CNEL.

HS-8.8 Construction Noise. The City will provide guidelines to developers for reducing potential construction noise impacts on surrounding land uses.

HS-8.9 Noise Compatibility Guidelines. The City shall use adopted noise compatibility guidelines to evaluate compatibility of proposed new development and ensure compatibility between residential, commercial and other surrounding land uses (See General Plan Table 8-1, Maximum Allowable Noise Exposure by Land Use [see Table 3.8-9 of this EIS/EIR]).

HS-8.10 Sound Attenuation Features. The City shall require sound attenuation features such as walls, berming, and heavy landscaping between commercial and industrial uses and residential uses to reduce noise and vibration. Setback distances may also be used to reduce noise.

Also, implementation measures are identified to help the City implement the goals and policies of its general plan. Health and Safety Implementation Measure 10 in Table 8-2 of the general plan, which is intended to implement policies HS-8.2, HS-8.8, HS-8.9 and HS-8.10, pertains to noise.

> The City will prepare guidelines for developers for reducing potential noise impacts (including construction-related noise impacts) on surrounding land uses.

As noted above, under Policy HS-8.1, mitigation is required to satisfy the noise levels specified in *City of Lincoln General Plan* Table 8-1; those levels are shown in Table 3.8-9.

Table 3.8-9. City of Lincoln Land Use Compatibility Guidelines for Development

Locations	Normally Acceptable (L_{dn})	Conditionally Acceptable (L_{dn})	Normally Unacceptable (L_{dn})	Unacceptable (L_{dn})
Residential—low density single family, duplex, mobile homes	<60	61–70	71–75	>75
Residential—multiple family, group homes	<60	61–70	71–75	>75
Motels/hotels	<60	61–70	71–80	>80
Schools, libraries, churches, hospitals, extended care facilities	<60	61–70	71–80	>80
Auditoriums, concert halls, amphitheaters	<65	NA	66–70	>70
Sports arenas, outdoor spectator sports	<70	NA	71–75	>75
Playgrounds, neighborhood parks	<70	NA	NA	>70
Golf courses, riding stables, water recreation, cemeteries	<70	NA	71–80	>80
Office buildings, business commercial and professional	<65	66–75	75–81	NA
Industrial, manufacturing, utilities, agriculture	<70	71–80	>81	NA

Source: City of Lincoln 2008:Table 8-1.

Notes:

- Normally Acceptable: Specified land use is satisfactory, based on the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.
- Conditionally Acceptable: New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed insulation features have been included in the design.
- Normally Unacceptable: New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design. Outdoor areas must be shielded.
- Unacceptable: New construction or development should not be undertaken.

L_{dn} = day-night level.

City of Lincoln Noise Ordinance

The City of Lincoln's Noise Ordinance (Municipal Code Chapter 9.04) addresses noise control in the city. This chapter of the Municipal Code, however, only addresses noise from sound-emitting devices such as a sound system, loudspeaker, or radio; it does not provide guidance for other activities that would apply to the proposed action and alternatives such as construction equipment.

3.8.2 Environmental Setting

Existing Noise Environment

Covering more than 250,000 acres, the Plan Area is located in Placer County and it comprises a wide variety of land uses.

Noise-sensitive land uses are generally defined as locations where people reside or where the presence of unwanted sound could adversely affect the primary intended use of the land. Places where people live, sleep, recreate, worship, and study are generally considered to be sensitive to noise because intrusive noise can be disruptive to these activities.

Noise-sensitive land uses in the Plan Area include residential development, hotels, hospitals, theaters and auditoriums, churches, office buildings, schools, libraries, playgrounds, and neighborhood parks.

There are several primary sources of noise in the Plan Area. Mobile noise sources are those related to transportation and include roadway traffic, railroads, and airports. The most prevalent noise source is roadway traffic, which is a constant source of noise compared to the intermittent sounds generated by railroads and airports. Stationary sources of noise in the area may include aggregate mines, recycling facilities, solid waste transfer stations, agricultural activities, general service commercial and light industrial uses, recreational uses, parks, and school playing fields. Lincoln Regional Airport is the only airport in the Plan Area. High noise levels are generated by the Lincoln Regional Airport only in Hazard Zone A, which is contained within the airport property (Placer County Airport Land Use Commission 2014).

The existing noise environment in the Plan Area can be characterized generally by the area's level of development. The level of development and ambient noise levels tend to be closely correlated. Areas that are not urbanized are relatively quiet, while more urbanized areas are noisier as a result of roadway traffic, industry, and other human activities. Table 3.8-10 summarizes typical ambient noise levels based on level of development.

Table 3.8-10. Population Density and Associated Ambient Noise Levels

	L_{dn}
Rural	40–50
Small town or quiet suburban residential	50
Normal suburban residential	55
Urban residential	60
Noisy urban residential	65
Very noisy urban residential	70
Downtown, major metropolis	75–80
Area adjoining freeway or near major airport	80–90

Source: Hoover and Keith 2000.
L_{dn} = day-night level.

Noise Fundamentals

Noise is commonly defined as unwanted sound that annoys or disturbs people and potentially causes an adverse psychological or physiological effect on human health. Because noise is an environmental pollutant that can interfere with human activities, evaluation of noise is necessary when considering the environmental impacts of a proposed project.

Sound is mechanical energy transmitted by pressure waves over a medium such as air or water. Sound is characterized by various parameters that include the rate of oscillation of sound waves (frequency), the speed of propagation, and the pressure level or energy content (amplitude). In particular, the sound pressure level is the most common descriptor used to characterize the loudness of an ambient (existing) sound level. Although the decibel (dB) scale, a logarithmic scale, is used to quantify sound intensity, it does not accurately describe how sound intensity is perceived by human hearing. The human ear is not equally sensitive to all frequencies in the entire spectrum, so noise measurements are weighted more heavily for frequencies to which humans are sensitive in a process called *A-weighting*, written as dBA and referred to as A-weighted decibels. Table 3.8-11 provides definitions of sound measurements and other terminology used in this section, and Table 3.8-12 summarizes typical A-weighted sound levels for different noise sources.

Table 3.8-11. Definition of Sound Measurements

Sound Measurements	Definition
Decibel (dB)	A unitless measure of sound on a logarithmic scale that indicates the squared ratio of sound pressure amplitude to a reference sound pressure amplitude. The reference pressure is 20 micro-pascals.
A-weighted decibel (dBA)	An overall frequency-weighted sound level in decibels that approximates the frequency response of the human ear.
Maximum sound level (L_{max})	The maximum sound level measured during the measurement period.
Minimum sound level (L_{min})	The minimum sound level measured during the measurement period.
Equivalent sound level (L_{eq})	The equivalent steady state sound level that in a stated period of time would contain the same acoustical energy.

Sound Measurements	Definition
Percentile-exceeded sound level (L_{xx})	The sound level exceeded "x" percent of a specific time period. L_{10} is the sound level exceeded 10% of the time.
Day-night level (L_{dn})	The energy average of the A-weighted sound levels occurring during a 24-hour period, with 10 dB added to the A-weighted sound levels occurring during the period from 10:00 p.m. to 7:00 a.m.
Community noise equivalent level (CNEL)	The energy average of the A-weighted sound levels occurring during a 24-hour period with 5 dB added to the A-weighted sound levels occurring during the period from 7:00 p.m. to 10:00 p.m. and 10 dB added to the A-weighted sound levels occurring during the period from 10:00 p.m. to 7:00 a.m.
Peak particle velocity (peak velocity, or PPV)	A measurement of ground vibration defined as the maximum speed (measured in inches per second) at which a particle in the ground is moving relative to its inactive state. PPV is usually expressed in inches/second.
Frequency: hertz (Hz)	The number of complete pressure fluctuations per second above and below atmospheric pressure.

In general, human sound perception is such that a change in sound level of 1 dB typically cannot be perceived by the human ear, a change of 3 dB is just noticeable, a change of 5 dB is clearly noticeable, and a change of 10 dB is perceived as doubling or halving the sound level.

Different types of measurements are used to characterize the time-varying nature of sound. These measurements include the equivalent sound level (L_{eq}), the minimum and maximum sound levels (L_{min} and L_{max}), percentile-exceeded sound levels (such as L_{10}, L_{20}), the day-night sound level (L_{dn}), and the community noise equivalent level (CNEL). L_{dn} and CNEL values differ by less than 1 dB. As a matter of practice, L_{dn} and CNEL values are considered to be equivalent and are treated as such in this assessment.

For a point source, such as a stationary compressor or construction equipment, sound attenuates based on geometry at rate of 6 dB per doubling of distance. For a line source such as free-flowing traffic on a freeway, sound attenuates at a rate of 3 dB per doubling of distance (California Department of Transportation 2009). Atmospheric conditions including wind, temperature gradients, and humidity can change how sound propagates over distance and can affect the level of sound received at a given location. The degree to which the ground surface absorbs acoustical energy also affects sound propagation. Sound that travels over an acoustically absorptive surface, such as grass, attenuates at a greater rate than sound that travels over a hard surface, such as pavement. The increased attenuation is typically in the range of 1–2 dB per doubling of distance. Barriers, such as buildings and topography that block the line of sight between a source and receiver, also increase the attenuation of sound over distance.

Table 3.8-12. Typical A-Weighted Sound Levels

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	—110—	Rock band
Jet flyover at 1,000 feet		
	—100—	
Gas lawnmower at 3 feet		
	—90—	
Diesel truck at 50 feet at 50 mph		Food blender at 3 feet
	—80—	Garbage disposal at 3 feet
Noisy urban area, daytime		
Gas lawnmower, 100 feet	—70—	Vacuum cleaner at 10 feet
Commercial area		Normal speech at 3 feet
Heavy traffic at 300 feet	—60—	
		Large business office
Quiet urban daytime	—50—	Dishwasher in next room
Quiet urban nighttime	—40—	Theater, large conference room (background)
Quiet suburban nighttime		
	—30—	Library
Quiet rural nighttime		Bedroom at night, concert hall (background)
	—20—	
		Broadcast/recording studio
	—10—	
	—0—	

Source: California Department of Transportation 2009.
dBA = A-weighted decibel.

Vibration Fundamentals

Operation of heavy construction equipment, particularly pile driving and other impulsive devices, such as pavement breakers, creates seismic waves that radiate along the surface of the earth and downward into the earth. These surface waves can be felt as ground vibration. Vibration from operation of this equipment can result in effects ranging from annoyance of people to damage of structures. Varying geology and distance will result in different vibration levels containing different frequencies and displacements. In all cases, vibration amplitudes will decrease with increasing distance.

As seismic waves travel outward from a vibration source, they excite the particles of rock and soil through which they pass and cause them to oscillate. The actual distance that these particles move is usually only a few ten-thousandths to a few thousandths of an inch. The rate or velocity (in inches per second [in/sec]) at which these particles move is the commonly accepted descriptor of the vibration amplitude, referred to as the peak particle velocity (PPV). Table 3.8-13 summarizes typical vibration levels generated by construction equipment (Federal Transit Administration 2006).

Table 3.8-13. Vibration Source Levels for Construction Equipment

Equipment	Peak Particle Velocity at 25 Feet
Pile driver (impact)	0.644 to 1.518
Pile drive (sonic)	0.170 to 0.734
Vibratory roller	0.210
Hoe ram	0.089
Large bulldozer	0.089
Caisson drilling	0.089
Loaded trucks	0.076
Jackhammer	0.035
Small bulldozer	0.003

Source: Federal Transit Administration 2006.

Vibration amplitude attenuates (diminishes) over distance and is a complex function of how energy is imparted into the ground and the soil conditions through which the vibration is traveling. The following equation can be used to estimate the vibration level at a given distance for typical soil conditions. PPV_{ref} is the reference PPV at 25 feet (from Table 3.8-14):

$$PPV=PPV_{ref}\,(25/Distance)^{1.5}$$

Table 3.8-14 summarizes guideline criteria for vibration annoyance potential suggested by the California Department of Transportation (Caltrans) (California Department of Transportation 2013).

Table 3.8-14. Guideline Criteria for Vibration Annoyance Potential

	Maximum PPV (in/sec)	
Human Response	Transient Sources	Continuous/Frequent Intermittent Sources
Barely perceptible	0.04	0.01
Distinctly perceptible	0.25	0.04
Strongly perceptible	0.9	0.10
Severe	2.0	0.4

Source: California Department of Transportation 2013.

Note: Transient sources create a single isolated vibration event, such as blasting or drop balls. Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

PPV = peak particle velocity.
in/sec = inches per second.

Table 3.8-15 summarizes guideline criteria for vibration damage potential suggested by Caltrans (California Department of Transportation 2013).

Table 3.8-15. Guideline Criteria for Vibration Damage Potential

Structure and Condition	Maximum PPV (in/sec)	
	Transient Sources	Continuous/Frequent Intermittent Sources
Extremely fragile historic buildings, ruins, ancient monuments	0.12	0.08
Fragile buildings	0.2	0.1
Historic and some old buildings	0.5	0.25
Older residential structures	0.5	0.3
New residential structures	1.0	0.5
Modern industrial/commercial buildings	2.0	0.5

Source: California Department of Transportation 2013.

Note: Transient sources create a single isolated vibration event, such as blasting or drop balls. Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

PPV = peak particle velocity.
in/sec = inches per second.

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3.9 Population and Housing, Socioeconomics, and Environmental Justice

This section describes the regulatory and environmental settings for population and housing, socioeconomics, and environmental justice. Impacts that would result from implementation of the proposed action and alternatives are described in Chapter 4, *Environmental Consequences*, along with mitigation measures to reduce impacts, where appropriate.

3.9.1 Regulatory Setting

Federal

Significant concentrations of minority or low-income individuals are sometimes referred to as *environmental justice populations*. Historically, when compared to the general population, low-income and minority populations have suffered a greater share of the adverse environmental and health effects of industry and development relative to the benefits. The identification and mitigation of this potentially disproportionate burden is referred to as *environmental justice* (Rechtschaffen and Gauna 2002:3).

The current regulatory framework for environmental justice reflects the convergence of civil rights concerns and environmental review processes. In the 1980s, community organizers and environmental regulators identified three interrelated concerns. First, these groups identified a significant correlation between hazardous waste and other polluting facilities and demographic concentrations of minority and low-income communities. Second, advocates noticed that minority and low-income communities incurred a greater burden of environmental consequences relative to the benefits of industry and development than did the population at large. Third, minority and low-income communities often suffered a relative lack of access and involvement in environmental decision-making relative to the population at large (Rechtschaffen and Gauna 2002:3). Environmental justice is now regulated through federal policy, with the assessment of environmental justice effects occurring as part of the NEPA process.

Executive Order 12898

Environmental justice is rooted in the Civil Rights Act of 1964, which prohibited discrimination in federally assisted programs, and in Executive Order (EO) 12898 (*Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*), issued February 11, 1994. EO 12898 was intended to ensure that federal actions and policies do not result in disproportionately high adverse effects on minority or low-income populations. It requires each federal agency to take “appropriate and necessary” steps to identify and address any such disproportionate effects resulting from its programs, policies, or activities, including those it implements directly, as well as those for which it provides permitting or funding.

Council on Environmental Quality Guidance

Council on Environmental Quality (CEQ) guidance (1997) for performing environmental justice analyses as part of the NEPA process provides definitions, thresholds, and overall methodological guidance for environmental justice analyses. The analysis in this EIS/EIR used the definitions of minority and low-income populations provided in CEQ's *Guidance for Agencies on Key Terms in Executive Order 12898* (Council on Environmental Quality 1997) as shown below.

Minority individuals are defined as members of the following population groups.

- American Indian or Alaskan Native.
- Asian or Pacific Islander.
- Black.
- Hispanic.

Minority populations are identified by the following factors.

- Where the minority population percentage of the affected area is meaningfully greater than the minority population percentage of the general population.
- Where the minority population percentage of the affected area exceeds 50%.

Low-income populations are identified on the basis of poverty thresholds provided by the U.S. Census Bureau and identified as one of the following.

- The percentage of the population below the poverty level in the affected area is meaningfully greater than the corresponding percentage in the general population.
- The percentage of the population below the poverty level in the affected area is 20% or more.

State

California Government Code Section 65302(c)

The state requires all local general plans to include a housing element. The discussion of local regulations below provides relevant descriptions for each local jurisdiction.

California Government Code Section 65584

The state requires Regional Housing Needs Plans (RHNPs) to be developed by local jurisdictions based on countywide housing projections developed by the California Department of Housing and Community Development. See local regulations below for a description of the Regional Housing Needs Allocation (RHNA) for Placer County.

California Senate Bill 115

Approved in 1999, California Senate Bill 115 added Section 65040.12 to the Government Code (see below) and Part 3 to Division 34 of the Public Resources Code, both of which concern environmental justice. The bill provides that the Office of Planning and Research is the coordinating agency in California state government for environmental justice programs.

California Government Code Section 65040.12

For the purposes of Government Code Section 65040.12, *environmental justice* is defined as "the fair treatment of people of all races, cultures, and incomes with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations, and policies."
Section 65040.12 requires the Office of Planning and Research to take the following actions.

1. Consult with the Secretaries of California Environmental Protection, Natural Resources, Transportation, and Business, Consumer Services, and Housing, the Working Group on Environmental Justice established pursuant to Section 71113 of the Public Resources Code, any other appropriate state agencies, and all other interested members of the public and private sectors in this state.
2. Coordinate the office's efforts and share information regarding environmental justice programs with CEQ, the U.S. Environmental Protection Agency, the General Accountability Office, the Office of Management and Budget, and other federal agencies.
3. Review and evaluate any information from federal agencies that is obtained as a result of their respective regulatory activities under EO 12898, and from the Working Group on Environmental Justice established pursuant to Section 72002 of the Public Resources Code.

Section 65040.12 also requires the Office of Planning and Research to establish guidelines for addressing environmental justice issues in city and county general plans, including planning methods for the equitable distribution of public facilities and services, industrial land uses, and the promotion of more livable communities.

Public Resources Code Sections 71110–71116

Public Resources Code Sections 71110–71116 require the California Environmental Protection Agency (Cal/EPA) to develop a model environmental justice mission statement for boards, departments, and offices in the agency. Section 71113 requires Cal/EPA to convene a Working Group in Environmental Justice to develop a comprehensive environmental justice strategy. The sections also require this strategy to be reviewed and updated. Finally, Section 71116 establishes a small grant program for nonprofit organizations and federally recognized tribal entities to research environmental justice issues in their communities and address larger environmental justice issues.

California Resources Agency Environmental Justice Policy

California Government Code Section 65040.12 is implemented by the California Resources Agency. The policy states that these provisions apply to agency actions, which are defined as follows:

- Adopting regulations.
- Enforcing environmental laws or regulations.
- Making discretionary decisions or taking actions that affect the environment.
- Providing funding for activities affecting the environment.
- Interacting with the public on environmental issues.

Collectively, these policies stand for the principle that California state agencies should analyze the effects of their actions on minority and low-income groups and seek to avoid disproportionate effects on these groups where feasible.

Local

Placer County General Plan

The Housing Element of the *Placer County General Plan* is made up of a background report and a policy document (Placer County 2013). The background report identifies the nature and extent of housing needs in the unincorporated areas of the county, and it describes the existing housing setting of the county.

Excerpted below are the relevant goals and policy from the *Placer County General Plan* that are pertinent to this resource section.

Goal

A: To provide new housing opportunities to meet the needs of existing and future Placer County residents in all income categories.

Policy

A-1: The County shall maintain an adequate supply of appropriately zoned land with public services to accommodate housing needs of existing and future residents.

Goal

B: To encourage construction and maintenance of safe, decent, and sound affordable housing in the county.

Sutter County General Plan

Because no housing or employment is proposed in Sutter County as a part of the proposed action, the Sutter County Housing Element and policies related to employment are not relevant to this EIS/EIR.

City of Lincoln General Plan

The *City of Lincoln General Plan* includes a Housing Element that covers housing needs, availability, adequacy, and affordability. It contains actions to facilitate the construction of affordable housing for low income families, making housing programs available to minority and low-income families (City of Lincoln 2008). The Housing Element and the general plan do not contain specific goals, policies, and implementation measures regarding environmental justice, population and housing, or socioeconomics that pertain to the proposed action and alternatives.

Regional Housing Needs Allocation

The Sacramento Area Council of Governments (SACOG) adopted its RHNP in September 2012 (Sacramento Area Council of Governments 2012). Adopting the RHNP was the final step in adopting the RHNA, a state requirement to determine the number of housing units cities and counties must plan for in their housing element updates. The intent of the RHNA is to ensure adequate housing opportunities for all income groups. For the Plan Area, the RHNA allocations apply to two Permit Applicants, unincorporated Placer County and the City of Lincoln. SACOG allocated 5,031 new housing units to unincorporated Placer County for the 2013–2021 planning period. The Tahoe Basin, which was analyzed as a separate subarea, is allocated 328 units. Of the 5,031 housing units, 3,258 units are to be affordable to moderate-income households and below, including 1,365 very

low-income units, 957 low-income units, and 936 moderate-income units (Placer County 2013:49). The RHNA allocation to the City of Lincoln for 2013–2021 is 3,790 units of which 2,326 are to be affordable to moderate-income households and below, including 953 very low-income units, 668 low-income units, and 705 moderate-income units (Sacramento Area Council of Governments n.d.).

3.9.2 Environmental Setting

Population

As of January 1, 2017, Placer County's population was estimated to be 382,837 (California Department of Finance 2017a), an increase over the 2005 population, which was 314,619 (Google 2014). Approximately 75% of the population of Placer County is concentrated in urban areas, with the other 15% in the surrounding rural areas or unincorporated areas of the county (Center for Strategic Economic Research 2014). Table 3.9-1 lists the 2017 population of Placer County as a whole, including all cities; the state, and the population of the city of Lincoln.

Table 3.9-1. Placer County Population Data

Jurisdiction	Population Total January 1, 2017
California	39,189,035
Placer County	382,837
City of Lincoln	48,165

Source: California Department of Finance 2017a.

The population of unincorporated Placer County grew at an average annual growth rate (AAGR) of 1.8% between 1990 and 2000. This was higher than California's growth rate of 1.3%. Relative to the incorporated areas of the county, which grew at an AAGR of 5.2%, the unincorporated areas of the county grew at a much slower rate. From 2000 to 2010, Placer County as a whole had a 3.4% AAGR for population, a rate nearly three times California's population AAGR of 1.0% during this period. The majority of this population growth occurred within the incorporated cities. The majority of population growth was concentrated in the cities of Roseville, Rocklin, and Lincoln in western Placer County (Placer County 2013:6-9). Population change in the county as well as the city of Lincoln is shown in Table 3.9-2.

Table 3.9-2. Placer County Population Change

Area	2000	2010	% Change	Average Annual Growth Rate
Incorporated Cities (Except Lincoln)	147,698	240,304	62.70%	5.0%
Unincorporated County	100,701	108,128	7.38%	0.7%
City of Lincoln	11,205	42,819	282.14%	14.3%

Source: Placer County 2013.

Population in Placer County is expected to continue to grow, particularly in the incorporated cities. The overall county population is projected to grow from 350,230 in 2010 to 447,625 in 2030 and 620,037 by 2060 (California Department of Finance 2014). The city of Lincoln's population grew

approximately 282% from 11,205 in 2000 to 42,819 in 2010 (Center for Strategic Economic Research 2014). While growth slowed down between 2010 and 2012, it is expected to continue to rise through 2035 (City of Lincoln 2013:7).

Housing

The California Department of Finance estimated that the county had a total of 162,489 housing units in January 2017, with 126,940 single-family homes and approximately 31,279 multi-family housing units and 4,270 mobile homes. The average household size in Placer County as a whole is 2.66 persons, which is similar to the City of Lincoln which is 2.65. The vacancy rate in Placer County is 13%. The unincorporated county has a much higher vacancy rate of 28.5%, while the City of Lincoln has a relatively low vacancy rate of 4.1%. Tables 3.9-3 and 3.9-4 show housing data for the county and the city of Lincoln.

Table 3.9-3. Housing Type Data

Area	Total Housing Units	Single Family Units	Multi-Family Units	Mobile Homes
Placer County Total	162,489	126,940	31,279	4,270
Incorporated	105,087	79,837	24,146	1,104
Unincorporated	57,402	47,103	7,133	3,166
City of Lincoln	18,798	16,925	1,802	71

Source: California Department of Finance 2017b.

Table 3.9-4. Housing Occupancy and Size Data

Area	Occupied Units	Vacancy Rate	Average Household Size
Placer County Total	137,908	13%	2.66
Incorporated	97,141	4.3%	2.67
Unincorporated	40,767	28.5%	2.63
City of Lincoln	17,586	4.1%	2.65

Source: California Department of Finance 2017b.

The number of housing units has grown rapidly over the past decade. The majority of housing unit growth occurred in the incorporated cities, particularly in the cities of Roseville, Rocklin, and Lincoln. Between 2000 and 2010, 7,458 housing units were built in unincorporated Placer County while 13,311 were built in the city of Lincoln (Placer County 2013:10-11). SACOG's RHNP, adopted in 2012, estimates the anticipated housing demand for the region. Table 3.9-5 shows the overall allocation of housing units based on income category for Placer County and the city of Lincoln.

Table 3.9-5. SACOG 2013–2021 Regional Housing Needs Allocation Projections

Area	Total Units	Very Low Income		Low Income		Moderate		Above Moderate	
		#	%	#	%	#	%	#	%
Placer County Total	21,625	5,749	26.6	4,030	18.6	4,023	18.6	7,823	36.2
Unincorporated County	4,790	1,275	27.1	894	19.0	875	18.6	1,659	35.3
City of Lincoln	3,790	953	25.1	668	17.8	705	18.6	1,464	38.6

Source: Sacramento Area Council of Governments 2012:4.

Income and Employment

The median household income in 2016 in Placer County was $76,926. The city of Lincoln has a notably higher median household income of $82,632. The statewide median household income is $63,782 (U.S. Census Bureau 2016a). As of 2014, Placer County had approximately 144,700 wage and salary jobs. The per capita income in Placer County is $57,280, and the average salary per worker is $58,484 (California Department of Transportation 2015:121). In Placer County, 3,900 wage and salary jobs were created, representing a growth rate of 2.8%.

In 2014, the largest employment sectors of employment growth were in education and healthcare (1,200 jobs), leisure and hospitality (710 jobs), professional and business services (590 jobs), and construction (500 jobs). The only major sectors with declines were financial activities and information, which lost 160 and 150 jobs, respectively. Job growth is anticipated to continue over the next several years. Employment growth will be greatest in leisure and hospitality (5,300 jobs), professional and business services (3,300 jobs), education and healthcare (3,200 jobs), and wholesale and retail trade (2,400 jobs). Combined, these sectors will account for 69% of net job creation in the county (California Department of Transportation 2015:121).

Table 3.9-6. Placer County Employment (thousands of jobs)

Sector	2014	2020 Forecast	2030 Forecast	2040 Forecast
Farm	0.39	0.47	0.5	0.53
Construction	10.2	12.2	11.8	11.5
Manufacturing	6.3	7.0	7.2	7.4
Transportation and utilities	3.2	4.0	5.0	5.9
Wholesale and retail trade	25.8	28.8	30.6	32.4
Financial activities	11.0	11.7	11.7	11.4
Professional services	15.6	19.9	24.7	28.5
Information	2.0	2.3	2.6	2.9
Health and education	24.1	28.4	34.3	39.9
Leisure	20.7	27.5	29.1	33.1
Government	19.6	21.2	23.3	25.1
Total wage and salary	144.7	170.8	189.8	209.3

Source: California Department of Transportation 2015.

Although the unemployment rate in Placer County was higher compared to the state-wide average between 2000 and 2010, the unemployment rate has fallen in recent years from 7.7% in 2013 to 3.2% at the end of 2017 (California Department of Transportation 2015:121; U.S. Bureau of Labor Statistics 2017). Table 3.9-7 shows the employment projections for Placer County and the city of Lincoln through 2035.

Table 3.9-7. Employment Projections

Area	2008	2035	AARG %
Placer County Total	141,662	209,717	1.29
Unincorporated County	31,550	49,521	1.33
City of Lincoln	9,524	19,487	2.78

Source: Placer County 2013.

Property Tax Revenues

Placer County property tax revenues for the 2015-2016 fiscal year totaled approximately $162,223,000 (Placer County 2016).

Environmental Justice

The following discussion describes minority and low-income communities in the Plan Area based on data from the census. The U.S. Census Bureau collects comprehensive demographic data every 10 years during the decennial census. This analysis uses data from the most recent counts available, primarily the 2012–2016 American Community Survey estimates. The U.S. Census Bureau collects demographic information on ethnicity at the level of census blocks (the smallest geographic unit used by the U.S. Census Bureau). Generally, several census blocks make up block groups, which in turn make up census tracts. The population of a census block can vary, depending on the urban or rural character of the area. The U.S. Census Bureau considers Hispanic status to reflect a geographic place of origin rather than ethnicity; data on Hispanic status are collected at the block level.

Table 3.9-8 shows the race and ethnicity data for California, Placer County, and the city of Lincoln. Placer County and the city of Lincoln have a higher percentage of white residents than the state average (approximately 83% and 80% compared to 61%). The Hispanic, Asian, and other minority populations in both Placer County and the city of Lincoln are also notably lower compared to the rest of the state.

Table 3.9-8. Race/Ethnicity Data

				Not Hispanic or Latino													
Area	Total	Hispanic or Latino (of any race)	%	White	%	Black or African American	%	American Indian/Alaska Native	%	Asian	%	Native Hawaiian/ Pacific Islander	%	Other Race	%	Two or More Races	%
California	38,654,206	14,903,982	38.6	23,680,584	61.3	2,261,835	5.9	285,512	0.7	5,354,608	13.9	150,908	0.4	5,133,600	13.3	1,787,159	5.6
Placer County	370,571	49,904	13.5	308,414	83.2	5,473	1.5	1,957	0.5	24,862	6.7	585	0.2	11,535	3.1	17,745	4.8
City of Lincoln	76,513	12,711	16.6	61,145	79.9	1,430	1.9	346	0.5	7,018	9.2	225	0.3	2,858	3.7	3,491	4.6

Source: U.S. Census Bureau 2016b. 2012–2016 American Community Survey, 5-Year Estimates.

Minority Populations

Total minority data include the constituent ethnic categories of Hispanic, Black/African-American, Asian, Native Hawaiian or Pacific Islander, and American Indian or Alaskan Native. Consistent with the CEQ's 1997 Guidance, census blocks with more than 50% total minority populations were identified within Placer County.

Figure 3.9-1 depicts the census blocks within the county with minority populations of greater than 50%. These data were generated based on census data collected for all minority and Hispanic populations within the Plan Area. In general, Figure 3.9-1 shows that generally the county has few areas with concentrated minority populations. Areas exhibiting high proportions of minority residents are present in both urban and rural areas. Table 3.9-9 identifies the minority populations per census block.

Low-Income Populations

The U.S. Census Bureau collects poverty status data at the level of census block groups, a geographic unit that includes census blocks but is smaller than census tracts. For the purposes of this analysis, low-income populations consist of persons living below the 2010 poverty threshold as defined by the U.S. Census Bureau (U.S. Census Bureau 2010). Low-income populations were identified as block groups that contained 20% or more low-income individuals (i.e., below the 2010 poverty threshold). Because the income required to sustain a household varies in relation to the number of individuals dependent on a given quantity of income, there is no single threshold for poverty status (U.S. Census Bureau 2010). The 20% threshold was used because the cost of living in California is higher than elsewhere in the country, and thus the use of a 50% threshold might incorrectly under-identify low-income populations in the Plan Area.

Figure 3.9-2 shows the distribution of areas with meaningfully greater proportions of low-income households in the Plan Area. Low-income populations were identified based on the Federal poverty threshold in 2010 as defined by the U.S. Census Bureau (U.S. Census Bureau 2010).

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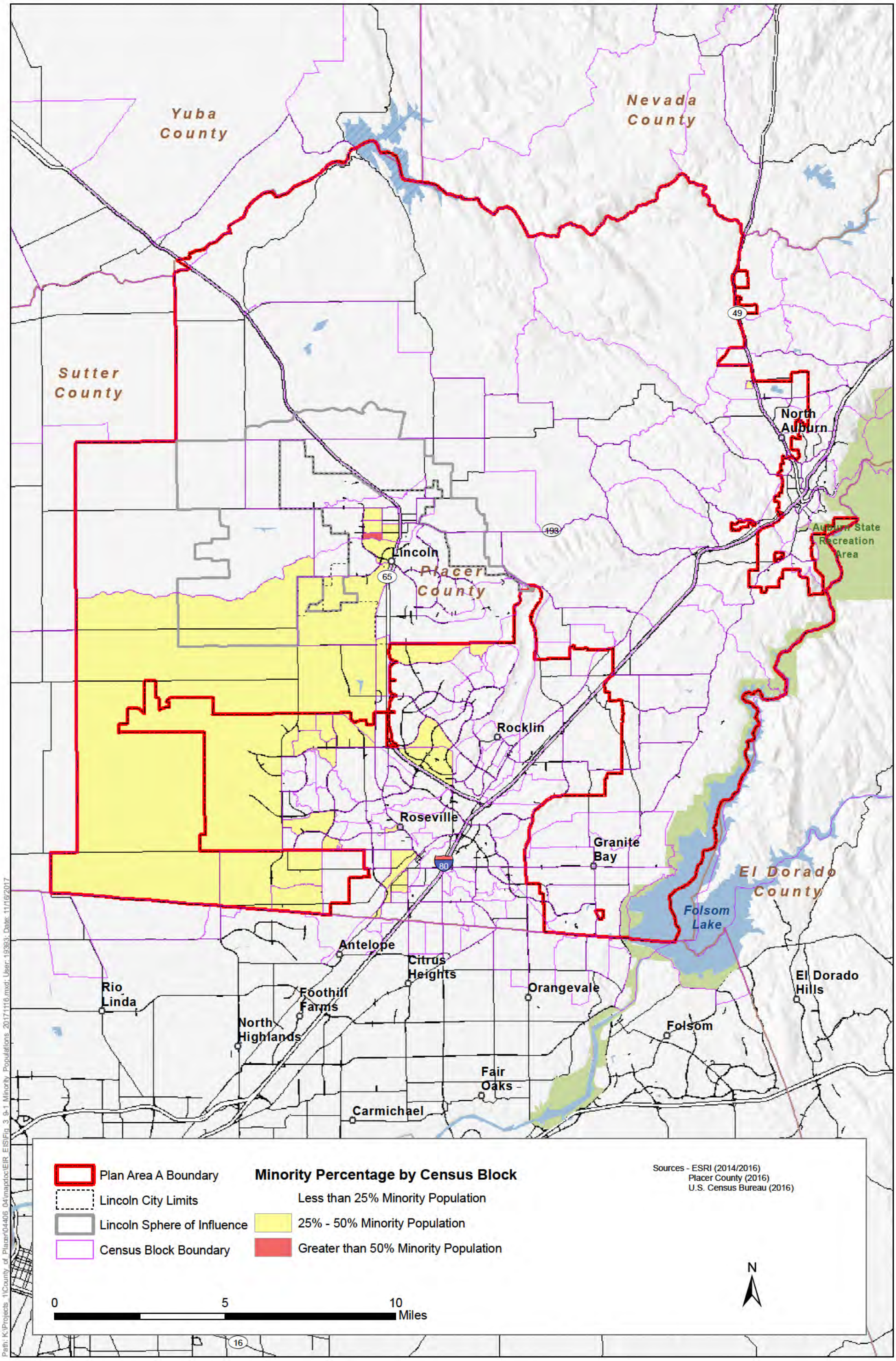

Figure 3.9-1
Minority Populations in the Plan Area
Placer County Conservation Program—EIS/EIR

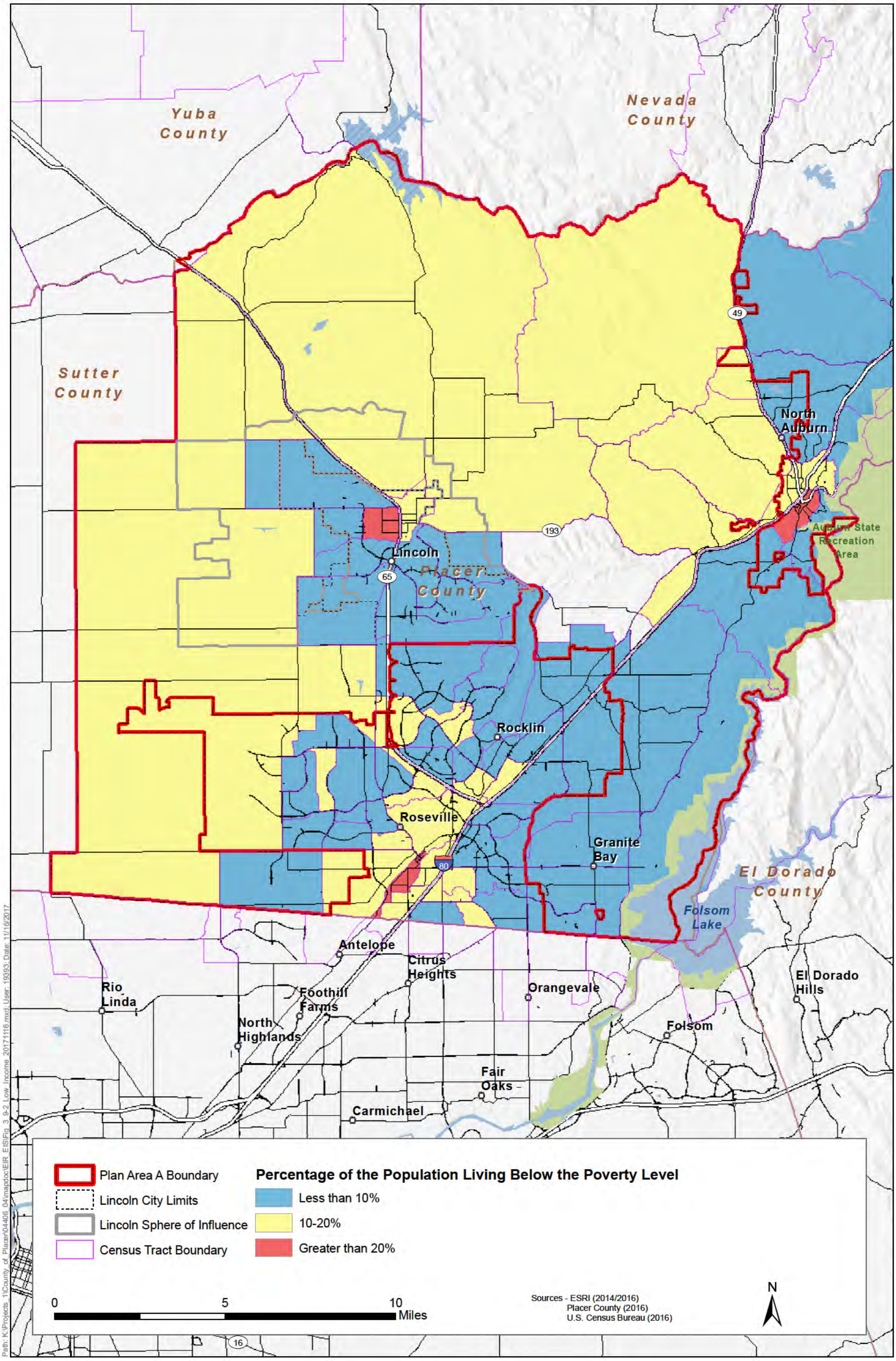

Figure 3.9-2
Low Income Populations in the Plan Area
Placer County Conservation Program—EIS/EIR

3.10 Recreation

This section describes the regulatory and environmental settings for recreation in the Plan Area. Impacts that would result from implementing the proposed action and alternatives are described in Chapter 4, *Environmental Consequences*, along with mitigation measures to reduce impacts, where appropriate.

3.10.1 Regulatory Setting

Federal

There are no federal laws or regulations pertaining to recreation that are relevant to the proposed action or alternatives.

State

There are two state recreation areas (SRAs) in the Plan Area, the Auburn SRA and the Folsom Lake SRA. California State Parks is currently collaborating with the U.S. Bureau of Reclamation to prepare a joint general plan/resource management plan for the Auburn SRA, and the public scoping meetings occurred in late 2017. The Draft EIS/EIR is expected to be out for public review in spring 2019, and Plan approval is tentatively scheduled for fall 2019 before the State Park and Recreation Commission. There is no planning document for the Folsom Lake SRA. No other state laws or regulations apply to recreation in the Plan Area.

Local

Placer County General Plan

Excerpted below are the relevant goals and policies from the *Placer County General Plan* that pertain to recreation (Placer County 2013).

Goal

5.1. To develop and maintain a system of conveniently located, properly-designed parks and recreational facilities to serve the needs of present and future residents, employees, and visitors.

Policies

5.A.1. The County shall strive to achieve and maintain a standard of 10 acres of improved parkland per 1,000 population. The standard shall be comprised of the following:

- 5 acres of improved active parkland per 1,000 population
- 5 acres of passive recreation area or open space per 1,000 population

5.A.2. The County shall strive to achieve the following park facility standards:

a. 1 tot lot per 1,000 residents

b. 1 playground per 3,000 residents

c. 1 tennis court per 6,000 residents

d. 1 basketball court per 6,000 residents

e. 1 hardball diamond per 3,000 residents

f. 1 softball/little league diamond per 3,000 residents

g. 1 mile of recreation trail per 1,000 residents

h. 1 youth soccer field per 2,000 residents

i. 1 adult field per 2,000 residents

j. 1 golf course per 50,000 residents

5.A.3. The County shall require new development to provide a minimum of 5 acres of improved parkland and 5 acres of passive recreation area or open space for every 1,000 new residents of the area covered by the development. The park classification system shown in Table 5-1 [of the General Plan Recreation and Cultural Resources Element] should be used as a guide to the type of the facilities to be developed in achieving these standards.

5.A.4. The County shall consider the use of the following open space areas as passive parks to be applied to the requirement for 5 acres of passive park area for every 1,000 residents.

a. Floodways

b. Protected riparian corridors and stream environment zones

c. Protected wildlife corridors

d. Greenways with the potential for trail development

e. Open water (e.g., ponds, lakes, and reservoirs)

f. Protected woodland areas.

g. Protected sensitive habitat areas providing that interpretive displays are provided (e.g., wetlands and habitat for rare, threatened or endangered species.)

Buffer areas are not considered as passive park areas if such areas are delineated by setbacks within private property. Where such areas are delineated by public easements or are held as common areas with homeowner/property owner access or public access, they will be considered as passive park areas provided that there are opportunities for passive recreational use.

5.A.5. The County shall require the dedication of land and/or payment of fees, in accordance with state law (Quimby Act and the Mitigation Fee Act) to ensure funding for the acquisition and development of public recreation facilities. The fees are to be set and adjusted as necessary to provide for a level of funding that meets the actual cost to provide for all of the public parkland and park development needs generated by new development.

5.A.6. The County shall coordinate funding and programs administered by the County and other agencies, where appropriate, to obtain optimum recreation facilities development.

5.A.7. The County shall consider the creation of assessment districts, County service areas, community facilities districts, or other types of districts to generate funds for the acquisition and development, maintenance and administration of parkland and/or historical properties as development occurs in the County.

5.A.8. The County shall strive to maintain a well-balanced distribution of local parks, considering the character and intensity of present and planned development and future recreation needs.

5.A.9. The County shall give priority to early acquisition of park sites in newly-developing areas through many means including the use of public financing or land dedication.

5.A.10. The County shall ensure that park design is appropriate to the recreational needs and, where feasible, access capabilities of all residents, employees, and visitors of Placer County.

5.A.11. Regional and local recreation facilities should reflect the character of the area and the existing and anticipated demand for such facilities.

5.A.12. The County shall encourage recreational development that complements the natural features of the area, including the topography, waterways, vegetation, and soil characteristics.

5.A.13. The County shall ensure that recreational activity is distributed and managed according to an area's carrying capacity, with special emphasis on controlling adverse environmental impacts, conflict between uses, and trespass. At the same time, the regional importance of each area's recreation resources shall be recognized.

5.A.14. The County shall encourage federal, state, and local agencies currently providing recreation facilities to maintain, at a minimum, and improve, if possible, their current levels of service.

5.A.15. The County shall promote the provision of non-membership-restricted hunting areas on public and private land in the western part of the County.

5.A.16. Except as otherwise provided in an approved Specific Plan, the County should not become involved in the operation of organized, activity-oriented recreation programs, especially where a local park or recreation district has been established.

5.A.17. The County should be directly involved in the development and operation of community and neighborhood park facilities. These include outdoor recreation facilities to support traditional pursuits such as baseball, soccer, basketball, hiking, walking, riding and picnicking. Where appropriate, the County should consider cooperative agreements with a local park or recreation district to operate County facilities where this would enhance the efficient delivery of parks and recreation services to County residents.

5.A.18. The County shall encourage local special purpose agencies in areas not served by a recreation district which is not currently supplying recreation services to examine the feasibility of supplying such services.

5.A.19. The County shall encourage the development of parks near public facilities such as schools, community halls, libraries, museums, prehistoric or historic sites, and open space areas and shall encourage joint-use agreements whenever possible.

5.A.20. The County shall promote cooperation between agencies to ensure flexibility in the development of park areas and recreational services to respond to changing trends in recreation activities.

5.A.21. The County shall encourage the development of public and private campgrounds and recreational vehicle parks where environmentally appropriate. The intensity of such development should not exceed the environmental carrying capacity of the site and its surroundings.

5.A.22. The County shall encourage compatible recreational use of riparian areas along streams and creeks where public access can be balanced with environmental values and private property rights such as the proposed Dry Creek Greenway.

5.A.23. The County shall require that park and recreation facilities required in conjunction with new development be developed in a timely manner so that such facilities are available concurrently with new development.

5.A.24. The County shall encourage public and private park and recreation agencies to acknowledge the natural resource values present at park sites during the design of a new facility.

5.A.25. The County shall encourage the establishment of activity-oriented recreation programs for all urban/suburban areas of the County. Except as otherwise provided in an approved Specific Plan, such programs shall be provided by jurisdictions other than Placer County including special districts, recreation districts or public utility districts.

Goal

5.B. To encourage development of private recreational facilities.

Policy

5.B.1. The County shall encourage development of private recreation facilities to reduce demands on public agencies.

Goal

5.C. To develop a system of interconnected hiking, riding, and bicycling trails and paths suitable for active recreation and transportation and circulation.

Policies

5.C.1. The County shall support development of a countywide trail system designed to achieve the following objectives:

a. Provide safe, pleasant, and convenient travel by foot, horse, or bicycle;

b. Link residential areas, schools, community buildings, parks, and other community facilities within residential developments. Whenever possible, trails should connect to the countywide trail system, regional trails, and the trail or bikeways plans of cities;

c. Provide access to recreation areas, major waterways, and vista points;

d. Provide for multiple uses (i.e., pedestrian, equestrian, bicycle);

e. Use public utility corridors such as power transmission line easements, railroad rights-of-way, irrigation district easements, and roadways;

f. Whenever feasible, be designed to separate equestrian trails from cycling paths, and to separate trails from the roadway by the use of curbs, fences, landscape buffering, and/or spatial distance;

g. Connect commercial areas, major employment centers, institutional uses, public facilities, and recreational areas with residential areas; and

h. Protect sensitive open space and natural resources.

5.C.2. The County shall support the integration of public trail facilities into the design of flood control facilities and other public works projects whenever possible.

5.C.3. The County shall work with other public agencies to coordinate the development of equestrian, pedestrian, and bicycle trails.

5.C.4. The County shall require the proponents of new development to dedicate rights-of-way and/or the actual construction of segments of the countywide trail system pursuant to trails plans contained in the County's various community plans.

5.C.5. The County shall encourage the preservation of linear open space along rail corridors and other public easements for future use as trails.

Sutter County General Plan

Excerpted below is the relevant goal from the *Sutter County General Plan* that pertains to recreation (Sutter County 2011).

Goal

PS 6. Ensure that adequate park, recreation, and open space lands and programs are provided to meet the diverse needs of Sutter County's residents.

City of Lincoln General Plan

Excerpted below are the relevant goals and policies from the *City of Lincoln General Plan* that pertain to recreation (City of Lincoln 2008).

Goal

OSC-1. To designate, protect, and encourage natural resources, open space, and recreation lands in the city, protect and enhance a significant system of interconnected natural habitat areas, and provide opportunities for recreation activities to meet citizen needs.

Policies

OSC-1.1 Protect Natural Resources. The City shall strive to protect natural resource areas, fish and wildlife habitat areas, scenic areas, open space areas and parks from encroachment or destruction by incompatible development.

OSC-1.3 Creation of Buffers. In new development areas, the City shall encourage the use of open space or recreational buffers between incompatible land uses.

OSC-4.4 Protection and Management of Flood Plains. The City shall encourage the protection of 100 year floodplains and where appropriate, obtain public easements for purposes of flood protection, public safety, wildlife preservation, groundwater recharge, access and recreation.

OSC-5.2 Management of Wetlands. The City shall support the management of wetland and riparian plant communities for passive recreation, groundwater recharge, and wildlife habitats. Such communities shall be restored or expanded, where possible and as appropriate.

Goal

OSC-7. To provide and maintain park facilities that provide recreational opportunities for all residents.

Policies

OSC-7.1. The City shall provide park facilities in accordance with following adopted park standards [see Table 3.10-1]:

Table 3.10-1. City of Lincoln General Plan Park Facilities Standards

Parks	Standard
Parks without Development Agreements	5 acres/1,000 residents
Parks with Development Agreements	9 acres/1,000 residents
City-Wide Park	3 acres/1,000 residents
Neighborhood/Community Park	3 acres/1,000 residents
Open Space	3 acres/1,000 residents

Source: City of Lincoln 2008.

OSC-7.2 Recreational Needs. The City shall provide recreation facilities and programs that meet the needs of all its citizens. Facilities shall be developed in compliance with all applicable regulations designed to address public safety and environmental impacts that may result through the construction, operation, and maintenance of these facilities.

OSC-7.4 Maintenance of Recreational Facilities. The City shall support the continued maintenance and improvement of existing recreational facilities.

OSC-7.5 Funding for Recreational Areas and Facilities. The City shall strive to make adequate funding available to improve and maintain existing parks as well as construct new facilities.

OSC-7.6 Dedication of Park Land. The City will continue to collect park dedication fees, require the dedication of parkland, or a combination of both as a condition of development approval for the provision of new parks, or the rehabilitation of existing parks and recreational facilities in order to meet the City's parkland standards in Policy 7.1

OSC-7.7 In-Lieu Fees. The City shall provide for the payment of an in-lieu fee, in those instances where the City determines that park land dedication is not appropriate. The in-lieu fee shall reflect the cost of fully serviced vacant land.

OSC-7.8 Adopted Park Standards. The amount and location of any future parkland to be developed within the city will be determined by adopted park standards and location guidelines.

The City shall strive to provide the following recreational facilities:

- One multipurpose center per 10,000 population with the structural square footage to be determined by the City Council based on the evaluation of community needs.
- One 50 meter swimming pool per 10,000 population based upon a determination of the City Council of community needs.
- One mile of pedestrian/bicycle trails per 2,500 population.

OSC-7.9 Recreational Needs Surveys. The City shall conduct surveys on a periodic basis to determine specific recreation needs of all age groups, the physically and mentally challenged, and special interest groups.

OSC-7.10 Park User Fees. The City will continue to collect park user fees for the maintenance of existing park and recreation facilities.

OSC-7.11 Capital Improvement Program. The City will continue to include park and recreation improvement and maintenance projects in its capital improvement programming.

OSC-7.12 Recreational Equipment. The City will continue to provide equipment, such as picnic tables, benches, trash cans and drinking fountains, in city parks, and' will adequately maintain or replace such equipment when necessary.

OSC-7.13 Revitalization Program. The City will continue its long term revitalization program to beautify and upgrade all city parks.

OSC-7.15 Maintain Wildlife Habitat Values. The City shall maintain wildlife habitat values during design and ongoing maintenance of new park facilities through provision of open space and wildlife corridor areas, protection of native vegetation, and control of use of herbicides and pesticides.

OSC-7.16 Linear Parks and Trail Systems. The City shall develop linear parks and trail systems along the City's creeks and wetlands, when such improvements are not prohibited by federal and state regulations.

OSC-7.17. Capital Improvement Fees. The City will collect a capital facilities fee on new development to generate funding to construct park and recreation improvements in accordance with the requirements set forth in the City's adopted standards.

OSC-7.20 Design of Waterway and Trail Corridors. The City shall design waterway and trail corridors to meet the recreational needs of the community, while maximizing public safety and access concerns. This includes locating trail corridors to ensure visibility along public roadways, where appropriate.

OSC-7.21 Maintenance of Waterway and Trail Corridors. The City shall ensure that existing park maintenance activities incorporate applicable trail maintenance activities necessary to address public safety issues along City-owned trail areas. Trail maintenance activities shall be conducted in a manner consistent with all applicable environmental regulations and shall ensure emergency vehicle

access along portions of the trail corridor where appropriate. Trail maintenance measures shall include, but not be limited to, vegetation or brush clearing and signage prohibiting inappropriate uses.

Community and Other Plans

The following community plans set forth goals, policies, and implementation measures to guide the development of portions of Placer County. Each plan contains goals, policies, and measures that pertain to recreation in the Plan Area.

- *Auburn-Bowman Community Plan* (Placer County 1999).
- *Dry Creek-West Placer Community Plan* (Placer County 1994).
- *Granite Bay Community Plan* (Placer County 2012).
- *Horseshoe Bar-Penryn Community Plan* (Placer County 2005).
- *Ophir General Plan* (Placer County 1983).
- *Sheridan Community Plan* (Placer County 2015).

In addition, the following plans and programs also address parks and recreation in the Plan Area.

- *Dry Creek Greenway Regional Vision* (Placer County 2004).
- *Placer County Regional Bikeway Plan* (Placer County Transportation Planning Agency 2002) and *Placer County Bikeways Master Plan* (Placer County Transportation Commission 1988).
- Placer Legacy Open Space and Agricultural Conservation Program.

3.10.2 Environmental Setting

Federal Property

The U.S. Bureau of Land Management owns a 143-acre property along the Bear River, near Placer Land Trust's Harvego Bear River Preserve and northwest of Auburn. Access to the federal property is limited.

State Parks/Recreation Areas

The only state parks in the Plan Area are the Folsom Lake and Auburn SRAs. The rest of the County's state parks are located around Lake Tahoe, outside of the Plan Area.

Folsom Lake SRA is located at the base of the Sierra foothills, in the southeast portion of the Plan Area. Recreational activities include hiking, biking, running, camping, picnicking, horseback riding, boating, and water-skiing. The Jedidiah-Smith Memorial Bike Trail, a 32-mile long bicycle path, begins at Folsom Lake and follows the American River to the Sacramento River, ending in the area of Old Sacramento in Sacramento County.

The Auburn SRA stretches from Auburn to Colfax, south of Interstate 80. The westernmost portion of the SRA is located in the Plan Area, but most of the park is located outside of that boundary. The Auburn State SRA covers 40 miles of the north and middle forks of the American River. Recreational uses include hiking, river access, whitewater recreation, boating, fishing, camping, mountain biking, gold panning, limited hunting, trails, and off-highway motorcycle riding. Auburn SRA is made up of

mainly federal lands. California State Parks administers the area under a managing partner with the U.S. Bureau of Reclamation (California Department of Parks and Recreation 2016).

There are no State Wildlife Areas or Ecological Reserves in Placer County.

Regional/County Parks

With the exception of the Hidden Falls Regional Park, most parks in the Plan Area are concentrated near Lincoln, Granite Bway, Loomis, and unincorporated north Auburn. The parks in the unincorporated portion of the Plan Area are listed in Table 3.10-2. Additional information on parks in the area can be found at https://www.placer.ca.gov/departments/facility/parks.

Table 3.10-2. Parks and Recreational Facilities in the Plan Area (Unincorporated County)

Facility	Acres	Amenities
Folsom Lake State Recreation Area	19,564	Boating, fishing, water activities, camping, multi-use trails, picnic area
Auburn State Recreation Area	38,000	
Treelake Park	8	Picnic area, playground, baseball diamond, soccer field, tennis court
Ronald L. Feist Park	18.8	6 tennis courts, 3 soccer fields, 3 little league fields, 2 playgrounds, picnic/BBQ area
Baldwin Reservoir Trail	NA	2.5-mile (one-way) unpaved trail
Granite Pay Park	16	Picnic/BBQ area, baseball/soccer fields, bicycle/pedestrian trails
Douglas Ranch Park	4.5	Picnic area, playground, soccer field
Franklin Community School Park	–	Multi-use synthetic turf soccer/baseball field
Sterling Point Park	–	Picnic areas, playground, ball field
Loomis Basin Community Park North	8.9	Playground, horseshoe pits, picnic area, 3 baseball diamonds
Loomis Basin Community Park South	52.7	2 playgrounds, horseshoe pits, picnic area, bicycle/pedestrian trails, equestrian area, 3 baseball diamonds, 1 basketball court
Traylor Ranch Trail	NA	3.5-mile unpaved trail
Traylor Ranch Nature Reserve & Bird Sanctuary	90	Hiking and equestrian trails, picnic area
Griffith Quarry Park	25.7	Picnic area, trail
Auburn Garden Theatre	–	Lawn and concrete stage
Hidden Falls Regional Park	1,196.6	30 miles of multiple use trails, observation decks, picnic area, fishing
Auburn Plaza Park	–	Benches and picnic tables
Sheridan Park	4.2	Playground, picnic area, baseball diamond, basketball court

Source: Placer County 2014, 2016.

"–" indicates where park acreage information is not available.

City of Lincoln Parks

Within the City of Lincoln's portion of the Plan Area, there are 16 parks, including Foskett Regional Park (42 acres). These parks include small neighborhood parks that contain play structures and picnic areas as well as larger parks that contain playing fields and trail systems. The City's park system is approximately 157 acres (City of Lincoln 2017). For more information on these parks, go to http://www.lincolnca.gov/city-hall/departments-divisions/parks-recreation/parks.

Table 3-10.3. Parks and Recreational Facilities in the Plan Area (City of Lincoln)

Facility	Acres	Amenities
Aitken Ranch Park	7	Playground
Auburn Ravine Park	10	Multi-use trails, off-leash dog park
Brown Park	0.7	Playground, picnic area
Coyote Pond Park	24.5	Playground, trails, picnic area
Foskett Regional Park	42	Lighted soccer and softball fields, picnic areas, playgrounds, multi-use path
Joiner Park	13	Football/soccer fields, softball diamond, playground, wetland preserve
Machado Park	4.7	Playgrounds, picnic area
Markham Park	4.7	Playground, picnic area, nature interpretive area
McBean Park	24	Swimming pools, baseball and football stadium, Little League field, horseshoe pits, basketball courts, skatepark, playground, picnic areas
Palo Verde Park	3	Playground, picnic area
Pete Demas Park	0.8	Turf area, benches
Peter Singer Park	5	Ballfields, playground, picnic tables
Scheiber Park	4.5	Playgrounds
Sheffield Park	1.5	Playgrounds
Twelve Bridges Park	5	Ballfields, playground
Wilson Park	6.5	Softball field, playground

Source: City of Lincoln 2017.

Placer County Water Agency Recreation Areas

Placer County Water Agency recreation areas located in Placer County are outside of the Plan Area (Placer County Water Agency N.D.).

3.10.3 References Cited

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3.11 Transportation and Circulation

This section describes the regulatory and environmental settings for transportation and circulation in the Plan Area. Impacts that would result from implementing the proposed action and alternatives are described in Chapter 4, *Environmental Consequences*, along with mitigation measures to reduce impacts, where appropriate.

3.11.1 Regulatory Setting

Federal

There are no federal laws or regulations pertaining to transportation and circulation that are relevant to the proposed action or alternatives.

State

California Department of Transportation Route Concept Report

The California Department of Transportation (Caltrans) has completed a transportation corridor concept report designating the minimum acceptable service conditions for the length of Interstate (I-) 80 in California (California Department of Transportation 2010). The stretch of I-80 in the Plan Area is divided into three segments: segment 7 runs from the Sacramento-Placer County line to State Route (SR) 65, segment 8 runs from SR 65 to Sierra College Boulevard, and segment 9 runs from Sierra College Boulevard to SR 49. When the report was adopted, the level of service (LOS) on segments 7 and 8 was F, which indicates the most congested conditions and which Caltrans defines as a "breakdown in vehicle flow" with queues forming quickly. Segment 9 was at LOS D, meaning "speeds begin to decline slightly with increasing flow." The 20-year concept LOS for all three segments is F.

Local

Placer County 2036 Regional Transportation Plan

The Placer County Transportation Planning Agency (PCTPA) is the administrator for the South Placer Regional Transportation Authority (SPRTA). The PCTPA's *Placer County 2036 Regional Transportation Plan* is intended to guide the development of a multi-modal transportation system in Placer County, including the Plan Area. Excerpted below are the relevant goals and objectives from the *Placer County 2036 Regional Transportation Plan* that pertain to transportation and circulation (Placer County Transportation Planning Agency 2016).

Goal

1. Streets/Highways/Roads: Maintain and upgrade a safe, efficient, and convenient countywide roadway system that meets the travel needs of people and goods through and within the region.

Objectives

A. Identify and prioritize improvements to the roadway system.

B. Construct, maintain, and upgrade roadways to meet current safety standards.

C. To promote economic development, prioritize roadway maintenance and improvement projects on principal freight and tourist travel routes in Placer County.

Goal

2. Public Transit: Provide effective, convenient, regionally and locally coordinated transit service that connects residential areas with employment centers, serves key activity centers and facilities, and offers a viable option to the drive-alone commute.

Objectives

C. Provide a transit system that is responsive to the needs of persons who rely on public transportation.

D. Develop and encourage the use of public transit as a viable alternative to the automobile in order to maximize transit ridership.

Goal

3. Passenger Rail: Improve the availability and convenience of passenger rail service.

Objective

A. Provide more frequent, convenient, and reliable passenger rail service to and through Placer County.

Goal

5. Goods Movement: Provide for the safe and efficient movement of goods through, within, and into Placer County.

Objectives

A. Promote a balance of roads, rail, airports, and pipelines for the improvement of goods transport.

B. Mitigate conditions that transporters of goods deem dangerous or unacceptable.

Goal

6. Active & Alternative Transportation: Promote a safe, convenient, and efficient non-motorized transportation system, for bicyclists, pedestrians, and users of low-speed vehicles, which is part of a balanced overall transportation system.

Objectives

A. Plan and develop a continuous and easily accessible bicycle, pedestrian, and low-speed vehicle system within the region.

B. Provide a bicycle, pedestrian, and low-speed vehicle system that emphasizes the safety of people and property.

C. Integrate pedestrian, bicycle, and low-speed vehicle facilities into a multi-modal transportation system that encourages alternatives to driving alone.

D. Promote the development of multi-use trails in rural and other areas.

Goal

7. Transportation Systems Management: Provide an economical solution to the negative impacts of single-occupant vehicle travel through the use of alternative transportation methods.

Objective

A. Create a multi-modal transportation network between major residential areas, educational and recreational facilities, and employment centers.

Goal

8. Recreational Travel: Promote a transportation system that integrates and facilitates recreational travel and uses, both motorized and non-motorized.

Objective

A. Incorporate access to recreational centers in the transportation infrastructure.

Placer County General Plan

Excerpted below are the relevant goals, policies, and implementation programs from the *Placer County General Plan* that pertain to transportation and circulation (Placer County 2013:Section 3).

Goal

3.A. To provide for the long-range planning and development of the County's roadway system to ensure the safe and efficient movement of people and goods.

Policies

3.A.1. The County shall plan, design, and regulate roadways in accordance with the functional classification system described in Part I of this Policy Document and reflected in the Circulation Plan Diagram.

3.A.2. Streets and roads shall be dedicated, widened, and constructed according to the roadway design and access standards defined in Section I of this Policy Document and, more specifically, in community plans and the County Highway Deficiencies Report. Exceptions to these standards may be necessary but should be kept to a minimum and shall be permitted only upon determination by the Public Works Director that safe and adequate public access and circulation are preserved by such exceptions.

3.A.3. The County shall require that roadway right-of-way be wide enough to accommodate the travel lanes needed to carry long-range forecasted traffic volumes (beyond 2010), as well as any planned bikeways and required drainage, utilities, landscaping, and suitable separations.

3.A.7. The County shall develop and manage its roadway system to main the following minimum levels of service (LOS):

- LOS C on rural roadways, except within one-half mile of state highways where the standard shall be LOS D.
- LOS C on urban/suburban roadways, except within one-half mile of state highways where the standard shall be LOS D.

  The County may allow exceptions to these level of service standards where it finds that the improvements or other measures required to achieve the LOS standards are unacceptable based on established criteria.

3.A.8. The County's level of service standards for the State highway system shall be no worse than those adopted in the Placer County Congestion Management Program (CMP).

3.A.9. The County shall work with neighboring jurisdictions to provide acceptable and compatible levels of service and joint funding on roadways that may occur in the circulation network in the Cities and the unincorporated area.

3.A.10. The County shall strive to meet the level of service standards through a balanced transportation system that provides alternatives to the automobile.

3.A.11. The County shall plan and implement a complete road network to serve the needs of local traffic. This road network shall include roadways parallel to regional facilities so that the regional roadway system can function effectively and efficiently. Much of this network will be funded and/or constructed by new development.

Implementation Programs

3.1 The County shall review and revise as necessary its roadway design standards to ensure consistency with Part I of this Policy Document. Such standards should include right-of-way dedication requirements for new development to accommodate long-range forecasted traffic volumes (beyond 2010).

3.2. The County shall prepare and adopt a Capital Improvement Program (CIP) that includes transportation improvements designed to achieve adopted level of service standards based on a horizon of at least 20 years. The CIP should be updated at least every 5 years, or concurrently with the approval of any significant modification of the land use allocation assumed in the Placer County travel model.

Goal

3.B. To promote a safe and efficient mass transit system, including both rail and bus, to reduce congestion, improve the environment, and provide viable non-automotive means of transportation in and through Placer County.

Policies

3.B.1. The County shall work with transit providers to plan and implement additional transit services within and to the County that are timely, cost-effective, and responsive to growth patterns and existing and future transit demand.

3.B.3. The County shall consider the need for future transit right-of-way in reviewing and approving plans for development. Rights-of-way may either be exclusive or shared with other vehicles.

3.B.7. The County shall continue to explore development of other rail system, such as Roseville to Marysville service, to serve Placer County residents, workers, and businesses.

3.B.13. The County shall designate transportation corridors that provide linkages with other regional transportation corridors, Light Rail Terminus Stations, and major transportation facilities.

Implementation Programs

3.8. The County shall work with the Placer County Transportation Commission in preparing, adopting, and implementing a long-range strategic transit master plan to develop and maintain a viable transit system for the County. The master plan should include planning for transit corridors. The plan should be reviewed and updated on a regular basis.

3.10. The County shall work with other agencies to identify transit corridors and to acquire abandoned rights-of-way and preserve right-of-way and tracks structures within transit corridors.

3.13. The County shall prepare and adopt land use and design standards for areas within designated transit corridors consistent with the policies and standards in this Policy Document. The County shall also develop design standards that can be applied in all urban/suburban areas to promote transit accessibility and use, and require the provisions of transit amenities as conditions of project approval.

Goal

3.D. To provide a safe, comprehensive, and integrated system of facilities for non-motorized transportation.

Policy

3.D.1. The County shall promote the development of a comprehensive and safe system of recreational ad commuter bicycle routes that provides connections between the County's major employment and housing areas and between its existing and planned bikeways.

Implementation Program

3.21. The County shall require that bikeways recommended in the Bikeways/Trails Master Plan be developed when roadway projects are constructed and when street frontage improvements are required of new development.

Goal

3.E. To maintain a balanced freight transportation system to provide for the safe and efficient movement of goods.

Policies

3.E.1. The County shall promote efficient inter-regional goods movement in the I-80 corridor.

3.E.3. The County shall plan for and maintain a roadway system that provides for efficient and safe movement of goods within Placer County.

Implementation Program

3.25. The County shall develop and adopt transportation design standards that address truck traffic conflicts with transit, bicycles, and foot traffic.

Sutter County General Plan

Excerpted below are the relevant goals, policies, and implementation programs from the *Sutter County General Plan* that pertain to transportation and circulation (Sutter County 2011:Chapter 6).

Goal

M1. Plan for a balanced, multimodal transportation network suitable to the rural nature of Sutter County.

Policies

M1.1. Multimodal Roadways. Design County roads to support all users of multimodal transportation options serving automobiles, transit, trucks, bicycles, and pedestrians for safe and convenient travel that is suitable to the rural context of the County.

M1.2. Transportation Improvements. Consider all transportation improvements as opportunities to enhance safety, access, and mobility for all travelers including people with special needs, recognizing bicycle, pedestrian, and transit modes as integral elements of the transportation system.

M1.3. Rights-of-Way. Secure adequate right-of-way to allow for the planning, design, and operation of transportation systems that provide safe access for all users.

M1.4. New Development. Plan for new development to provide "complete streets" that connect to existing and planned transportation systems.

Implementation Program

M1-A. Design County roads and condition development as necessary to implement "complete streets" concepts and legislation, as well as the Office of Planning and Research's General Plan Guidelines on Complete Streets and the Circulation Element, to achieve an integrated transportation system appropriate to the rural context of the County.

Goal

M2. Provide for the long-range planning and development of the County's roadway system and the safe, efficient, and reliable movement of people and goods throughout Sutter County.

Policies

M2.1. Functional Classification. Plan, design, and regulate roadways in general accordance with the circulation diagram contained within this element and the California Road System (CRS) Functional Classification System as updated and approved by the Federal Highway Administration, unless otherwise addressed in an adopted specific plan or community plan.

M2.2. Right-of-Way. Require that road right-of-way dedications be wide enough to accommodate all necessary road improvements to handle forecasted travel volume(s) at or above adopted service level standards.

M2.3. Road Dedication and Improvement. Dedicate and improve all roads consistent with this element and in accordance with the County's improvement/design standards. Exceptions shall only be permitted in accordance with the County's improvement standards.

M2.5. Level of Service on County Roads. Develop and manage the County roadway segments and intersections to maintain LOS D or better during peak hour, and LOS C or better at all other times. Adjust for seasonality. These standards shall apply to all County roadway segments and intersections, unless otherwise addressed in an adopted specific plan or community plan.

M2.9. External Development Mitigation. Coordinate with the cities and neighboring counties to require new development within those jurisdictions to analyze and fully mitigate their impacts to Sutter County roadways through construction of improvements and/or fair share funding of improvements within Sutter County.

M2.10. Agency Coordination. Maintain ongoing coordination with Caltrans, SACOG [Sacramento Area Council of Governments] and other jurisdictions to address local and regional transportation issues.

M2.12. Major Highway Projects. Continue participation in the planning and preserve adequate right-of-way for the Placer Parkway Project, and as appropriate, other major highway projects to improve traffic flows and safety within Sutter County.

Implementation Programs

M2-A. Develop and update circulation plans, as necessary to support the General Plan Land Use Diagram and to address existing conditions. Follow approved Federal Highway Administration Functional Classification System guidelines to classify County road segments based on this element and supporting circulation plans.

M2-C. Prepare and adopt a capital improvement program [CIP] that includes transportation improvements to achieve the adopted level of service standards, improve safety, and satisfy improvement standards. The CIP will be based on adopted circulation plans and updated as necessary. The CIP will be used in the review and approval of development proposals.

M2-F. Actively participate in regional transportation planning and funding efforts to improve the current and future streets and highways serving the County.

Goal

M3. Promote a safe and efficient transit system to reduce congestion and provide viable alternatives to automobile use.

Policies

M3.1. Transit Service for Residents. Support development of transit facilities in strategic locations, including areas of concentrated activity, density, and intensity.

M3.3. Transit Integration. Support multi-modal stations at appropriate locations to integrate transit with other transportation modes.

Goal

M4. Promote a safe and efficient rail system for the movement of passengers and freight.

Policies

M4.1. Protect Rail Facilities. Protect and enhance existing rail facilities to support the transportation of agricultural goods and other materials within and through Sutter County.

Goal

M5. Provide a comprehensive system of facilities for non-motorized transportation.

Policies

M5.1. Bicycle and Pedestrian Master Plan. Prepare a Bicycle and Pedestrian Master Plan that supports implementation of a comprehensive, safe, and convenient system of commuter and recreational routes for pedestrians and cyclists.

M5.4. Abandoned Rail Lines. Support the conversion of rail lines considered for abandonment into bike-pedestrian paths or other similar uses, where practical.

M5.5. Identify opportunities to add bicycle lanes and pedestrian facilities on existing or new bridges during restriping or major renovations.

City of Lincoln General Plan

Excerpted below are the relevant goals, policies, and implementation measures from the *City of Lincoln General Plan* that pertain to transportation and circulation (City of Lincoln 2008).

Goal

T-2. Continue to ensure provision and maintenance of a safe and efficient system of streets to meet demands of existing and planned development.

Policies

T-2.2. The City shall ensure that streets and highways will be available to serve new development by requiring detailed traffic studies and necessary improvements as a part of all major development proposals.

T-2.3. Strive to maintain a LOS C at all signalized intersections in the City during the p.m. peak hours. Exceptions to this standard may be considered for intersections where the city determines that the required road improvements are not acceptable (i.e., due to factor such as the cost of improvements exceeding benefits achieved, results are contrary to achieving a pedestrian design, or other factors) or that based upon overriding considerations regarding project benefits, an alternative LOS may be accepted.

T-2.4. The City shall coordinate with Caltrans in order to strive to maintain a minimum LOS D for SR 65 and 193.

T-2.5. The City will identify and monitor critical intersections on a periodic basis and construct needed improvements in a timely manner, based upon available resources, if the LOS drops below C, unless a lower LOS has been established pursuant to Policy T-2.3.

T-2.9. The City shall support construction of the SR 65 Bypass with interchanges provided at Ferrari Ranch Road, the realigned Nelson Lane, Nicolaus Road and Wise Road.

T-2.20. The City will coordinate with neighboring jurisdictions to determine if acceptable and compatible levels of service, consistent with the circulation elements and levels of service set forth I the affected jurisdiction's general plan, on the roadways that extend into other jurisdiction can be achieved. The City will continue to participate in the South Placer Regional Transportation Authority (SPRTA) as part of an effort to develop interagency funding mechanisms to construct mutually acceptable regional transportation improvements.

Implementation Measures

1.0. The City shall develop Transportation Impact Guidelines for all traffic impact studies. The guidelines shall address the evaluation of impacts on traffic, transit, bikeways and pedestrians.

2.0. The City shall prepare a Capital Improvement Program (CIP) based on a 20-year forecast of development under the General Plan that meets its LOS policies. The CIP shall be updated every five years or after any substantial amendment to the General Plan.

4.0. The City shall maintain a long-term development scenario in the Placer County Transportation Demand Model, with assumptions that are consistent with the development of the CIP. This scenario shall be regularly updated to reflect adopted development and roadway projects and used in traffic studies to evaluate cumulative impacts of development projects.

9.0. The City shall preserve roadway Right-of-Way adequate to accommodate long-term development levels (i.e. the residential build-out scenario used to evaluate the General Plan).

Goal

T-4. To provide and maintain viable alternative modes of transportation for the community that will relieve congestion and improve environmental conditions.

Policy

T-4.2. The City shall coordinate with appropriate jurisdictions and agencies to encourage the timely improvement of transit facilities and services that address local and regional transit needs.

Goal

T-5. To provide an interconnected system of bikeways that would provide users with direct linkages at a city and regional level.

Policy

T-5.2. The City shall promote and support the development of local and regional bikeway links as established in the City Bikeways Master Plan and the County Bikeway Master Plan.

3.11.2 Environmental Setting

Highway System

I-80 and SRs 65, 193, and 49 are the highways that traverse the Plan Area. I-80 travels primarily east-west and provides an important route for goods movement through Placer County and to the rest of the country. SR 65 travels north-south and connects I-80 in Roseville with Lincoln and Yuba County. SR 65 is primarily a four-lane freeway through the Plan Area. SR 193 is a two-lane, east-west road connecting I-80 in Newcastle with SR 65 in Lincoln. SR 49 in a suburban-style boulevard close to Auburn and a four-lane roadway with a center turn lane farther north of Auburn.

Bicycle and Pedestrian Facilities

In Lincoln there are several miles of Class I bike paths, the longest of which is 2.5 miles in the Twelve Bridge development south of Twelve Bridges Drive. Lincoln also has striped bike lanes on several collector and arterial roads and on some local-serving streets (City of Lincoln 2012:Section III). Bicycle facilities in unincorporated Placer County are mostly limited to signed bicycle routes, although there are Class II bike lanes on several roads that provide regional connections. A Class I bike path in the southern end of Placer County runs along Dry Creek for approximately 2 miles from Cook-Riolo Road to Maccardy Court. Short spur paths connect neighborhoods to the Dry Creek bike path.

Pedestrian facilities in unincorporated Placer County are limited to sidewalks in a few areas. In Lincoln, most streets and roads have sidewalks, and pedestrians may use Class I bike paths.

In addition, the City of Lincoln has adopted the *Twelve Bridges Golf Cart Transportation Plan* (Fehr & Peers 2006) and the *NEV Transportation Plan* (MHM Engineers & Surveyors 2006) to encourage development of facilities that golf carts and similar neighborhood electric vehicles (NEVs) may use. The city permits NEVs to use designated pathways shared with bicyclists and pedestrians.

Railroads

There is extensive rail service in the Plan Area. The Union Pacific Railroad (UPRR)/Amtrak line runs primarily east-west through the Plan Area. The UPRR line travels through a major rail yard in Roseville that is outside of the Plan Area but which influences the amount and timing of freight traffic on the rail line. Amtrak operates the Capitol Corridor commuter rail service on the line from Auburn to Sacramento and beyond.

Other Public Transit Service

Placer County Transit, which is operated by the Placer County Department of Public Works and Facility Services, provides fixed route, deviated fixed rote, dial-a-ride, and commuter bus service in much of the Plan Area on weekdays and Saturdays, including in the city of Lincoln (Placer County Transportation Planning Commission 2015:3.13-5, 6). Amtrak provides bus service that connects locations in the Plan Area to train stations outside the Plan Area.

Airports

Lincoln Regional Airport, also known as Karl Harder Field, is the only airport in the Plan Area. It is a general aviation airport (Airport Reference Code C III airport) located on the west side of Lincoln, and it is operated by the City of Lincoln.

3.11.3 References Cited

California Department of Transportation. 2010. *Transportation Corridor Concept Report Interstate 80*. September 13.

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City of Lincoln. 2012. *City of Lincoln 2012 Bicycle Transportation Plan Update*. August. Prepared by Fehr & Peers.

Fehr & Peers. 2006. *Twelve Bridges Golf Cart Transportation Plan*. June. Prepared for City of Lincoln.

MHM Engineers & Surveyors. 2006. *NEV Transportation Plan*. Final. August. Prepared for City of Lincoln.

Placer County. 2013. *Placer County General Plan*. Adopted August 16, 1994. Updated May 21, 2013. Auburn, CA.

Placer County Transportation Planning Agency. 2016. *Placer County 2036 Regional Transportation Plan*. Final. February 12. Auburn, CA.

Placer County Transportation Planning Commission. 2015. *Environmental Impact Report for the Placer County 2036 Regional Transportation Plan Update.* Draft. November 3. Auburn, CA. Prepared by DeNovo Planning Group, El Dorado Hills, CA.

Sutter County. 2011. *Sutter County General Plan*. Adopted March 2011.

Chapter 4
Environmental Consequences

This chapter describes the environmental consequences of the proposed action and alternatives relative to the physical, biological, and social parameters of the Plan Area. It describes the methods used to determine impacts and lists the thresholds used to conclude whether an impact would be significant. Measures to mitigate (i.e., avoid, minimize, rectify, reduce, eliminate, or compensate for) significant impacts accompany impact discussions.

Application of NEPA and CEQA Principles and Terminology

As described in Chapter 1, *Introduction*, and Chapter 2, *Proposed Action and Alternatives*, NEPA and CEQA require preparation of an environmental analysis to evaluate the potential environmental effects of proposed actions (and alternatives to those actions) that are subject to governmental approval. While many concepts are common to NEPA and CEQA, there are several differences between the two in terminology, procedures, environmental document content, and substantive mandates to protect the environment. For this EIS/EIR, the more rigorous of the two laws was applied in cases in which NEPA and CEQA differ. Table 4-1 compares NEPA and CEQA terminology.

Table 4-1. Correlated NEPA and CEQA Terminology

NEPA Term	CEQA Term
Environmental impact statement	Environmental impact report
Notice of intent	Notice of preparation
EPA filing/Federal Register notice and agency/ public review (also known as a notice of availability)	Notice of completion/notice of availability
Record of decision	Notice of determination/findings/statement of overriding considerations
Cooperating agency	Responsible agency
Purpose and need; objectives and constraints	Project objectives
Proposed action and alternatives	Proposed project and alternatives
No action alternative	No project alternative
Environmental consequences	Environmental impacts
Affected environment	Environmental setting
Although none are specified in NEPA, CEQ regulations require an EIS to identify the direct and indirect effects “and their significance” (40 Code of Federal Regulations 1502.16)	Threshold of significance/significant impacts

This chapter is organized as follows.

- Section 4.1, *Agricultural and Forestry Resources*
- Section 4.2, *Air Quality, Greenhouse Gases, and Climate Change*
- Section 4.3, *Biological Resources*
- Section 4.4, *Cultural and Paleontological Resources*
- Section 4.5, *Hydrology and Water Quality*
- Section 4.6, *Land Use and Planning*
- Section 4.7, *Mineral Resources*
- Section 4.8, *Noise and Vibration*
- Section 4.9, *Population and Housing, Socioeconomics, and Environmental Justice*
- Section 4.10, *Recreation*
- Section 4.11, *Transportation and Circulation*

NEPA/CEQA Requirements

Each resource section of this chapter explains the methodology and significance criteria considered and discusses the environmental impacts and, where necessary, mitigation measures. Specifically, each section is organized as shown below.

- Environmental Consequences
  - Methods and Significance Criteria
  - Impacts and Mitigation Measures
  - Cumulative Impacts

Incorporation by Reference

CEQA and NEPA allow incorporation by reference of existing documents used to prepare each resource chapter. This EIS/EIR incorporates by reference information or analysis from several existing plans and supporting environmental documents that were developed concurrently with the PCCP planning process. As stipulated in the State CEQA Guidelines 15150(c), where an EIR uses incorporation by reference, the incorporated part of the referenced document shall be briefly summarized or described. Similar requirements are provided by NEPA (40 Code of Federal Regulations [CFR] 1502.21). The existing plans and supporting environmental documents that are incorporated by reference are listed below.

- *City of Lincoln General Plan* (City of Lincoln 2008a), *City of Lincoln General Plan Update: Draft Environmental Impact Report* (City of Lincoln 2006), *City of Lincoln General Plan Update: Draft Environmental Impact Report* (City of Lincoln 2007), and *City of Lincoln General Plan Update: Draft Environmental Impact Report* (City of Lincoln 2008b). These documents are available at this location: http://www.lincolnca.gov/city-hall/departments-divisions/community-development/general-plan-2050

- *Placer County General Plan* (Placer County 2013a) and *Placer County General Plan Update: Countywide General Plan Final Environmental Impact Report* (Placer County 1994a). These documents are available at this location: https://www.placer.ca.gov/departments/communitydevelopment/planning/documentlibrary/commplans/placer-county-gp

City of Lincoln General Plan and EIR

The City of Lincoln prepared an EIR for its 2050 general plan. The general plan establishes a planning framework and policies for a 45-year planning period. Buildout of this general plan would include increases in acreage over the City's prior general plan. Low density residential for the primary residential use (7,610 acres). Commercial (including Neighborhood Commercial) land uses account for 2,300 acres, and Industrial (including Industrial Planned Development) land uses account for 2,900 acres. The Land Use and Circulation Diagram (including its assumptions related to building densities) consists of various land use designations and includes an estimated 13,130 acres of open space/agricultural land. An additional 1,530 acres parks and public designated land will be located in the City's planning area.

The Land Use and Circulation Diagram also includes several potential transportation improvements as well as identification of the location of various Villages and development areas. New residential areas are primarily proposed to occur in mixed use Villages that include an elementary school, Neighborhood Commercial, and Park as well as a variety of residential densities. The concept for the Villages is based on land use formulas that promote individual designs that are intended to embody features that encourage transit and pedestrian circulation.

The EIR identified the following impacts that would be significant after all mitigation is applied. All other impacts were considered to be reduced to a less-than-significant level by policies incorporated into the general plan (City of Lincoln 2008b).

- Aesthetics: Implementation of the Proposed Project would result in changes to the visual character of the City's proposed Sphere of Influence from a more agricultural/rural setting to one that is more characterized by suburban or urban uses (i.e., streets, homes, and neighborhood shopping centers), with increased light and glare sources. As a result, the following aesthetic impacts are considered significant and unavoidable:
    - OSC-11: The Proposed Project would substantially degrade the existing visual character or quality of the site and its surroundings.
    - OSC-12: The Proposed Project would have a substantial adverse effect on a scenic vista or substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.
    - OSC-13: The Proposed Project would create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.
- Agricultural Resources: With the implementation of the Proposed Project there would be a loss of the existing agricultural lands within the City's proposed Sphere of Influence. While the Proposed Project includes policies to minimize this impact, the following agricultural resource impact is considered significant and unavoidable:
    - LU-4: The Proposed Project could result in a substantial conversion of important farmland to non-agricultural uses.

- Air Quality: Construction activities associated with individual development projects in accordance with the Proposed Project would exceed local air quality district significance thresholds. While the Proposed Project includes policies to minimize this impact, the following air quality impacts are considered significant and unavoidable:
    - HS-4: The Proposed Project would result in a cumulatively considerable net increase of criteria pollutants. Future growth in accordance with the Proposed Project would exceed the daily PCAPCD thresholds for NOx, ROG, CO, and PM10.
    - HS-5: The Proposed Project would conflict with or obstruct implementation of an applicable air quality plan.
    - HS-6: Build-out of the Proposed Project would generate emissions above the daily PCAPCD significance thresholds for a variety of pollutants, primarily due to emissions related to increased traffic.
    - HS-7: The Proposed Project would expose sensitive receptors to substantial pollutant concentrations.
- Biological Resources: Development associated with implementation of the Proposed Project would contribute to the ongoing loss of natural and agricultural lands in the western Placer County area, which currently provide habitat for a variety of species. While the Proposed Project includes several policies to minimize this impact, the following biological resource impacts are considered significant and unavoidable:
    - OSC-3: The Proposed Project could have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or the U.S. Fish and Wildlife Service.
    - OSC-4: The Proposed Project would have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.
    - OSC-5: The Proposed Project would have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to marsh, vernal pool, etc.) through direct removal, filing, hydrological interruption, or other means.
    - OSC-6: The Proposed Project would interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.
- Hazards and Hazardous Materials: Overall, most impacts associated with hazards and hazardous materials would be reduced to a less-than-significant level due to local, regional, State and federal regulations, such as those that control the production, use and transportation of hazardous materials and waste and control the location of incompatible land uses within an airport hazard area. While the Proposed Project includes policies to minimize a majority of these impacts, the following impact is considered significant and unavoidable:
    - HS-13: The Proposed Project could impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.
- Land Use and Planning: Most land use incompatibility issues resulting from implementation of the draft General Plan would be mitigated by policies contained in the Land Use and Open Space Elements. However, the exceedance of PCAPCD air quality thresholds would result in a conflict with local and City of Lincoln General Plan Update regional air quality plans adopted for the purpose of mitigating an environmental (air quality) impact. The following impact is considered significant and unavoidable:

  - LU-2: Development proposed in the draft General Plan could conflict with an adopted applicable land use plan, policy or regulation of an agency with jurisdiction over the project area adopted for the purpose of avoiding or mitigating an environmental effect.

- Noise: Future noise level increases related to the additional traffic resulting from the Proposed Project would result in significant noise impacts. While the Proposed Project includes several policies developed to minimize this impact, the following noise impacts are considered significant and unavoidable:
  - HS-15: The Proposed Project would result in the exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies; or would result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project; or would result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.
  - HS-16: The Proposed Project will result in the exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.
- Public Services (including Recreation) and Utilities: Similar to any other development in areas of new growth, the construction of new facilities or the expansion of existing facilities may result in the permanent conversion of existing agricultural lands or other open space areas. While the Proposed Project includes several policies developed to minimize these environmental impacts, the following impacts are considered significant and unavoidable:
  - PFS-1: The Proposed Project would require or result in the construction of new water treatment facilities or expansion of existing facilities the construction of which could cause significant environmental effects.
  - PFS-5: The Proposed Project would require or result in the construction of new wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.
  - PFS-7: The Proposed Project could require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.
  - PFS-15: The Proposed Project may require the construction or expansion of additional energy infrastructure facilities, the construction of which could cause significant environmental effects.
  - PFS-18: The Proposed Project would include fire protection/law enforcement facilities or require the construction or expansion of facilities which would have an adverse physical effect on the environment.
  - PFS-22: The Proposed Project would include community facilities or require the construction or expansion of facilities which could have an adverse physical effect on the environment.
  - PFS-11: The Proposed Project could place housing within a 100-year flood hazard area, as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map or place within a 100-year flood hazard area structures which would impede or redirect flood flows.
- Open Space and Conservation
  - OSC-15: The Proposed Project would include recreational facilities or require the construction or expansion of recreational facilities which would have an adverse physical effect on the environment.

- Traffic and Transportation: The Proposed Project would result in significant and unavoidable impacts to several local and regional roadways. While the Proposed Project includes several policies developed to minimize these traffic and transportation impacts, the following impacts are considered significant and unavoidable:
  - The Proposed Project would result in a substantial increase in vehicular traffic on City of Lincoln roadways.
  - The Proposed Project would result in an increase in vehicular traffic on roadways in unincorporated Placer County.
  - The Proposed Project would result in a substantial increase in vehicular traffic on City of Rocklin roadways.
  - The Proposed Project would result in a substantial increase in vehicular traffic on Town of Loomis roadways.
  - The Proposed Project would result in a substantial increase in vehicular traffic on City of Roseville roadways.
  - The Proposed Project would result in a substantial increase in vehicular traffic on County of Sutter roadways.
  - The Proposed Project would result in a substantial increase in vehicular traffic on State Highways.

Placer County General Plan and EIR

The *Placer County General Plan* was adopted in August 1994 and last updated in May 2013. The 2013 update consisted of a targeted update of the countywide general plan in January 2012, which included ministerial changes, updates to policies and programs to be consistent with state law, and incorporation of Board of Supervisors adopted resolutions related to land use and circulation policies (e.g., Placer Parkway and the alignment of State Route [SR] 65). As stated in the general plan update, the update was intended to identify and revise language throughout the document that was out-of-date. Based on annual general plan implementation monitoring reports, implementation program schedules were updated. Changes mostly consisted of edits, corrections, and new figures. Goals, policies, standards, and implementation programs were revised to reflect current Placer County policy and practices and changes in State and federal laws since 1994. It did not include any specific development projects, and did not modify general plan land use designations, the land use map, or capital improvement program. Because the 2013 update did not change the land use diagram or the amount of growth that could result from the general plan, the EIR for the general plan is still the 1994 EIR. A negative declaration for the 2013 update was approved by the Board of Supervisors to comply with CEQA. Since 1994, there have been numerous land use changes approved by Placer County, but these have occurred through community plan updates and individual land owner applications. A separate environmental review was conducted for each of those actions.

Table 2-3 of the *Placer County General Plan* (included below as Table 4-2) presents estimates of the range of development that could occur under the countywide general plan and the community plans. These estimates are expressed in terms of the range of housing units and the maximum potential square footage in commercial and industrial designations. Maximum development potential is referred to as the *buildout holding capacity* because it reflects the amount of development that the land use designations would accommodate or "hold" if all of the land were developed or "built-out." The actual level of development at buildout, however, will not reach the theoretical holding capacity. Most land will not develop at its maximum allowed intensity because of market forces,

parcel-specific site constraints, or because—for a variety of reasons—some property owners will simply not develop or sell their land for development. The table was updated for the 2013 update and is presented as Table 4-3. Although no land use designations were changed as a part of the 2013 update, acreages changed due to annexations, specific plan adoptions, individual land owner applications for general plan amendments, and the availability of more accurate GIS mapping in 2013 than in 1994.

Table 4-2. Holding Capacity of the General Plan (1994)

Land Use Designation	Acres	Minimum Lot Area		Dwelling Units per Acre		Max. FAR	Potential Lots		Total Potential Units		Potential Square Feet
		Min.	Max.	Min.	Max.		@ Min. Lot Area	@ Max. Lot Area	@ Min. DU/Acre	@ Max. DU/Acre	@ Max. FAR
10 Acre Agriculture	24,250.4	10	None	1 principal dwelling unit per lot		0.25	2,425	NIA	0	2,425	NIA
20 Acre Agriculture	32,810.2	20	None			0.25	1,641	NIA	0	1,641	NIA
40 Acre Agriculture	6,078.6	40	None			0.25	152	NIA	0	152	NIA
80 Acre Agriculture	63,081.6	80	None			0.25	789	NIA	0	789	NIA
Subtotal Agriculture	126,220.8						5,007		0	5,007	0
10 Acre Timberland	7,199.0	10	None	1 principal dwelling unit per lot		0.20	720	NIA	0	720	NIA
20 Acre Timberland	4,001.3	20	None			0.20	200	NIA	0	200	NIA
40 Acre Timberland	8,708.2	40	None			0.20	218	NIA	0	218	NIA
80 Acre Timberland	460,728.8	80	None			0.20	5,759	NIA	0	5,759	NIA
Subtotal Timberland	480,637.3						6,897	0	0	6,897	0
Low Density Residential	3,432.7	0.23	1.00	1	5	0.30	14,925	3,433	3,433	17,164	NIA
Medium Density Residential	992.4	0.08	0.23	5	10	0.70	12,405	4,315	4,962	9,924	NIA
High Density Residential	14.0	0.07	0.23	10	21	1.05	200	61	140	294	638,502
Rural Residential	26,791.2	1.00	10.00	0	1	0.30	26,791	2,679	0	26,791	NIA
Subtotal Residential	31,230.3						54,321	10,488	8,535	54,173	638,502
Business Park/Industrial	2,046.6	0.23	100	0	0	1.80	8,898	NIA	0	0	160,469,813
General Commercial	124.3	0.11	NIA	21	21	2.00	1,130	NIA	2,610	2,610	10,829,016
Tourist Commercial	129.7	0.14	0.46	11	21	0.80	926	282	1,427	2,724	4,519,786
Subtotal Commercial/Industrial	2,300.6						10,954	282	4,037	5,334	175,818,615
Open Space	1,006.3	5	5	0	0	0.02	201	103	NIA	0	NIA
Recreation	768.0	1	160	1	1	0.30	768	24	NIA	768	NIA
Subtotal Open Space/Recreation	1,774.3						969	127	0	768	0
SUBTOTAL	642,163.3						78,148	10,897	12,572	72,179	176,457,117
Community Plan Areas	213,750.0	See Community Plans for applicable standards								135,150	NIA
Total Unincorporated	855,913.3									208,097	NIA
Cities	46,139.9	See applicable City Plans									
TOTAL COUNTY	902,053.2										

Source: Placer County 1994b.

Table 4-3. Holding Capacity of the General Plan (2013)

Land use Destination	Acres	Minimum Lot Area		Dwelling Units per Acre		Maximum Non-Res. FAR	Potential Lots		Total Potential Units		Square Feet @ Max. FAR
		Min.	Max.	Min.	Max.		@ Min. Lot Area	@ Max. Lot Area	@ Min. DU/Acre	@ Max. DU/Acre	
10 Acre Agriculture	23,037.9	10	None	0	0.1	0.25	2,304	NA	–	2,304	NA
20 Acre Agriculture	29,100.1	20	None	0	0.05	0.25	1,455	NA	–	1,455	NA
40 Acre Agriculture	5,973.0	40	None	0	0.025	0.25	149	NA	–	149	NA
80Acre Agriculture	51,967.3	80	None	0	0.0125	0.25	650	NA	–	650	NA
Subtotal Agriculture	110,078.3						4,558		0	4,558	0
10Acre Timberland	7,561.5	10	None	0	0.1	0.2	756	NA	–	756	NA
20 Acre Timberland	4,851.5	20	None	0	0.05	0.2	243	NA	–	243	NA
40 Acre Timberland	9,026.3	40	None	0	0.025	0.2	226	NA	–	226	NA
80Acre Timberland	409,501.1	80	None	0	0.0125	0.2	5,119	NA	–	5,119	NA
Forestry (20–160 Acre Min.)	1,609.7	20	None	0	0.05	0.2	80	NA	–	80	
Subtotal Timberland	432,550.1						6,424		0	6,424	0
Low Density Residential	719.1	0.23	1	1	5	0.3	3,127	719	719	3,596	NA
Medium Density Residential	822.6	0.08	0.23	5	10	0.7	10,283	3,577	4,113	8,226	NA
High Density Residential	16.7	0.07	0.23	10	21	1.05	239	73	167	351	763,825
Rural Residential	21,783.1	1.00	10	0	1	0.3	21,783	2,178	0	21,783	NA
Subtotal Residential	23,341.5						35,431	6,547	4,999	33,955	763,825
Business Park/Industrial	944.3	0.23	None	0	0	1.8	4,106	NA	–		74,040,674
General Commercial	148.4	0.11	None	21	21	2	1,349	NA	3,116	3,116	12,928,608
Tourist Commercial	10.0	0.14	0.46	11	21	0.8	71	22	110	210	348,480
Tourist/Resort Commercial	147.7	0.14	0.46	11	21	0.8	1,055	321	1,625	3,102	5,147,050
Subtotal Commercial/Industrial	1,250.4						6,581	343	4,851	6,428	92,464,812
Open Space	1,043.0	5	None	0	0	0.02	209	NA	–	–	NA
Public/Quasi-Public	56.2	1	None	1	1	0.3	56	NA	56	56	NA
Resorts and Recreation	809.6	1	None	1	1	0.3	810	NA	810	810	NA
Water Influence	55,579.4	4.6	None	0	0	0.02	12,082	NA	–		NA
Water Influence/Private Ownership	1,877.5	4.6	None	0	0	0.02	408	NA	–		NA
Subtotal Open Space/Recreation	59,365.7						13,565.0		865.8	865.8	0
Specific Plan/Special Study Area	1,177.1	See Regional University Specific Plan									
Subtotal Open Space/Recreation	1,177.1										
SUBTOTAL	627,763						66,558	6,889	10,716	52,231	93,228,637
Community Plan Areas	270,366	See applicable Community Plans									
Total Unincorporated	898,129										
Cities	62,641	See applicable City General Plans									
TOTAL COUNTY	960,770										

Source: Placer County 2013a.

As stated in the final EIR for the *Placer County General Plan* (Placer County 1994b):

> This EIR uses two long-term planning scenarios to analyze the impacts of growth and development in Placer County under the Placer County General Plan: 2010 (just under 20 years into the future) and 2040 (about 50 years into the future). A 20-year time horizon is a reasonable long-term benchmark for most planning analyses. The implications of large amounts of development potential may, however, not be evident within the 20-year period, so the 2040 perspective is helpful for assessing the longer-term, cumulative effects of development. The year 2040 has been adopted as the official long-term planning horizon for state demographic projections and other related studies (e.g., for transportation and air quality planning). Nonetheless, the County acknowledges that analysis based on 50-year development projections is highly speculative and that technological changes and other factors may significantly alter the characteristics of growth and development and the systems to serve that development.

The EIR found that in eight major areas the general plan, taken as a whole, will result in potentially-significant or significant adverse impacts. All other impacts were considered to be reduced to a less-than-significant level by policies incorporated into the general plan.

- Land use.
- Traffic congestion.
- Cultural resources.
- Loss of farmland.
- Loss of agricultural production.
- Habitat conversion and habitat quality reduction.
- Increase in air pollutant emissions.
- Traffic noise.

The EIR summarizes these impacts as presented below.

- Land Use: The *General Plan* will result in changes to existing land use in the unincorporated area of Placer County. According to the *State CEQA Guidelines,* a project can result in adverse environmental impacts relating to land use if it has the potential to substantially alter the existing or planned land use of an area. Since development under the *Land Use Diagram* would result in changes to the existing land use pattern, the *General Plan* would result in a potentially significant adverse impact. There are no available measures to mitigate this impact.
- Traffic Congestion: Development under the *General Plan* with all roadway improvements identified under the "2010 Mitigated Transportation System" would result in traffic levels of service on some roadway segments that exceed the *Policy Document's* level of service standards. Assuming all the transportation improvements outlined under the "2010 Mitigated Transportation System" are implemented by 2010, the *General Plan's* level of service standards would be met on all the non-state highways in the unincorporated areas of the county. Projected 2010 population and employment levels under the *General Plan* (including estimated growth in the incorporated areas of the county and growth in the rest of the metropolitan area) would result, however, in traffic volumes that would exceed level of service standards on some state highways as well as on some roadways in the incorporated areas of the county. Exceedance of service levels adopted as County policy is considered a significant, adverse impact. About 4.8 percent of the "lane miles" on the county's roadway system would operate at LOS "F" conditions during peak hours on an average weekday, nearly all of which would occur on state highways.

The standards, policies, and programs of the *Policy Document* would provide acceptable levels of service in 2010 on the roadways that are under Placer County's jurisdiction. Additional mitigation, however, would be needed for some state highway segments and some roadways within incorporated areas to operate at acceptable levels of service. Potential mitigation measures to resolve the anticipated 2010 congestion levels, as well as accommodate travel growth beyond 2010, could involve a variety of multi- modal solutions in the I-80 corridor. This includes transit, high occupancy vehicle (HOV) lanes, and/or transportation demand management (TOM) measures within Placer County as well as Sacramento County. The *General Plan* calls for the County to participate in a multi-modal study of the I-80 corridor that will explore improvements to passenger rail service and HOV facilities. It is unknown whether such a study could result in improvements that would mitigate the impacts of the *General Plan.* There are, therefore, no feasible mitigation measures that the County can undertake to reduce this impact to a less-than- significant level.

- Cultural Resources: The cumulative effect of increased development, and thus human population and associated activity, could result in occasional accidental disruption and adverse effects on unidentified important archaeological, historic, or paleontological sites, in spite of the County's best efforts, as expressed in the *General Plan* policies and programs. The cumulative impact of development permitted under the *General Plan* is, therefore, unavoidable. This impact is considered potentially significant. No feasible mitigation measures beyond the policies and programs included in the *Policy Document* are available that would reduce the possibility of occasional accidental disruption of important archaeological, historic, or paleontological sites to a less-than-significant level.
- Loss of Farmland: Development under the *General Plan* would result in the direct conversion of 3 percent of the county's total farmland by 2010 and the potential conversion of an additional 13 percent. This includes the direct conversion of 5.3 percent of the county's prime farmland and farmland of statewide importance and the potential conversion of an additional 4.4 percent. The direct and potential conversion of prime farmland is considered a significant adverse impact. While the *Policy Document* includes numerous policies to preserve designated agricultural areas and to minimize conflicts with adjacent uses, there are no feasible measures that would mitigate for the loss of prime farmland to a less-than-significant level.
- Loss of Agricultural Production: Direct conversion of farmland as a result of development under the *General Plan* could result in the decline in the annual gross agricultural production value in the county. This would include a loss of 64 percent of the annual gross production value of fruit and nut crops in the county by 2010. This impact would occur primarily as a result of conversion of land suitable for the production of these crops in the foothill region. While this impact would be reduced by implementation of the policies and programs of the *Policy Document,* there are no feasible measures that would mitigate this impact to a less-than- significant level.
- Habitat Conversion and Habitat Quality Reduction: This *EIR* assesses vegetation and wildlife habitat impacts resulting from two types of development: urban and suburban/rural residential. In both cases, the assessment concludes that the impacts of development under the *Land Use Diagram* would be significant.
    - Development under the *General Plan* would cause substantial habitat conversion in areas of the unincorporated county designated for urban uses. Such development through the year 2010 would eliminate approximately 7,200 acres (5 percent) of the unincorporated county's Urban, Agricultural, and Rangeland (UAR) vegetation community and its associated natural habitat. Urban development would also eliminate approximately 3,000 acres (10 percent) of the unincorporated county's Grassland vegetation community and its associated natural habitat.
    - Development in designated suburban and rural residential areas under the *General Plan* would also cause substantial habitat conversion and habitat quality reduction. Such development through the year 2010 would affect approximately 42,000 acres (28

percent) of the unincorporated county's UAR vegetation community and its associated natural habitat, 2,000 acres (7 percent) of the Grassland vegetation community, 4,000 acres (14 percent) of the Oak Woodland vegetation community, and 47,000 acres (10 percent) of the Conifer Forest vegetation community.

- The adverse impact to vegetation and wildlife associated with habitat conversion is significant because such conversion could substantially affect special-status species or affect state or federal threatened and endangered species, and could result in a substantial conversion of natural vegetation communities, a substantial reduction in the diversity or numbers of associated fish, wildlife, and plant species, and could have a significant effect on associated rare natural plant communities and significant natural areas in designated suburban and rural residential areas and within and around new urban development.
- While policies and programs of the *Policy Document* would partially mitigate the effects of habitat loss, they would not reduce this impact to a less-than-significant level. Furthermore, no mitigation measures are available that would reduce the impact of development under the *General Plan* to a less-than- significant level.

- Increase in Air Pollutant Emissions: Development under the *General Plan* would result in substantial increases in nitrogen oxide (ozone precursor) and PM10 emissions that would result in violations of ambient air quality standards. While the *Policy Document* includes numerous policies and programs to reduce the effects on air quality, there are no measures available that would reduce this impact to a less-than-significant level.
- Traffic Noise: Development under the *General Plan* would result in an increase in traffic noise levels. Increased noise levels associated with traffic could encroach upon existing noise-sensitive land uses that currently are not exposed to traffic noise levels in excess of *Policy Document* standards. No mitigation measures beyond the policies and programs included in the *Policy Document* are available that would reduce the potential future noise impacts on existing noise-sensitive uses to a less-than-significant level.

Approach to Assessment of Environmental Consequences of the Proposed Action/Proposed Project

Methods for Impact Analysis

Each section of this chapter includes a description of the resource-specific methodology used to identify and assess the potential environmental impacts that would result from implementation of the proposed action or alternative actions.

Significance Criteria

Significance criteria identified in each section of this chapter describe thresholds of significance and other criteria to determine the significance of impacts. The thresholds and criteria for determining the significance of impacts for this analysis are based on the Environmental Checklist in Appendix G of the State CEQA Guidelines and other resource-specific sources as described in each section; these thresholds and criteria are used for both the NEPA and CEQA analyses in this EIS/EIR. The thresholds and criteria derived from the checklist have been modified as appropriate to meet the circumstances of the alternatives (23 California Code of Regulations [CCR] Section 3777 [a][2]).

Impacts and Mitigation

Impact Analysis and Determination

Each section of this chapter includes an evaluation of the direct and reasonably foreseeable impacts associated with implementation of the proposed action and alternatives. Under NEPA, the purpose of an EIS is to describe and disclose the impacts of the alternatives. Under CEQA, however, the significance of the impact needs to be described. A significant impact on the environment is defined as a substantial, or potentially substantial, adverse change in the environment (Public Resources Code [PRC] Section 21068). Therefore, to facilitate both CEQA and NEPA reviews, this chapter documents and describes potential resource-specific impacts, including thresholds of significance (to satisfy CEQA), mitigation that would reduce significant impacts, and a statement of each impact's significance before and after mitigation. The potential impact findings used in this document are defined below.

- **No Impact.** This impact would cause no discernible change in the environment as measured by the applicable significance criteria; therefore, no mitigation would be required.
- **Less than Significant.** This impact would cause no substantial adverse change in the environment as measured by the applicable significance criteria; therefore, no mitigation has been identified.
- **Significant.** This impact would cause a substantial adverse change in the physical conditions of the environment. Impacts determined to be significant based on the applicable significance criteria fall into two categories: (1) those impacts for which there is feasible mitigation available that would avoid or reduce the environmental impacts to less-than-significant levels, and (2) those impacts for which there is either no feasible mitigation available or for which, even with implementation of feasible mitigation measures, there would remain a significant impact on the environment. Those impacts that cannot be reduced to a less-than-significant level by mitigation are identified as significant and unavoidable.
- **Significant and Unavoidable**. This impact would cause a substantial adverse change in the environment and cannot be avoided or mitigated to a less-than-significant level if the proposed action is implemented. Even if the impact finding is still considered significant with the application of mitigation, the applicant is obligated to incorporate all feasible measures to reduce the severity of the impact.

Throughout this EIS/EIR, impacts are identified as *temporary* or *permanent* direct effects. Direct effects are caused by the action and occur at the same time and place (40 CFR 1508.8). These terms apply differently to different resources and are defined, where relevant, in each individual resource section. In some cases, impacts are treated as direct and permanent even though the impact mechanism (e.g., earthmoving) would end once construction ends. For temporary impacts on terrestrial biological resources that would end following construction, activities are treated as direct and permanent impacts for the purposes of impact analysis if the effects persist for more than 1 year. Such a definition represents a conservative characterization of the impact. For other resources, however, such as noise, when construction ceases, so do related impacts associated with construction. In these cases, impacts are characterized as direct and temporary.

Impacts are also characterized as *indirect*. Indirect impacts are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable (40 CFR 1508.8). Indirect

impacts are a secondary consequence of activities that may occur later in time or are farther removed in distance from the direct effects of the activities.

Chapter 5, *Other Required CEQA and NEPA Analyses*, addresses significant irreversible and irretrievable changes, short-term uses versus long-term productivity, selection of the environmentally superior alternatives, and a summary of significant and unavoidable impacts under CEQA.

Mitigation Measures

Specific measures are proposed in this EIS/EIR, when necessary, to avoid, reduce, minimize, or compensate for adverse environmental effects of the proposed action or action alternatives. The term *mitigation* is described for each resource and designates measures required to reduce residual environmental impacts after considering the application of all conservation measures and avoidance and minimization measures included in the PCCP. Because future development under the Placer County and City of Lincoln's general plans is a component of the Covered Activities, the effects of each Covered Activity are assessed using the EIRs for those general plans. As described above, the general plan EIRs are incorporated by reference in this document, including mitigation measures identified in the general plan EIRs to reduce impacts identified in those EIRs. These mitigation measures are expected to apply to all Covered Activities under the action alternatives unless otherwise noted. Activities performed by South Placer Regional Transportation Authority (SPRTA) and the Placer County Water Agency (PCWA) would not be subject to the general plan EIR mitigation measures unless such activities were subject to the land use authority of the County.

Mitigation is also presented to meet CEQA's specific requirement that, whenever possible, agency decision-makers adopt feasible mitigation to reduce a project's significant impacts to a less-than-significant level. Although NEPA does not impose a similar procedural obligation on federal agencies as CEQA requires, the practice to adopt feasible mitigation whenever possible to reduce a project's significant impact is consistent with NEPA's intent that mitigation be discussed in sufficient detail to ensure that environmental consequences have been fairly evaluated.

Mitigation measures included in this EIS/EIR are considered to be potentially feasible by the authors of the document; however, the ultimate determination of feasibility can be made only by agency decision-makers. This EIS/EIR addresses whether mitigation presented would reduce an impact to a less-than-significant level, based on the thresholds of significance presented in each resource section.

Cumulative Impacts

Under CEQA, cumulative impacts are "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts" (State CEQA Guidelines Section 15355; PRC Section 21083[b]).

CEQ's regulations for implementing NEPA define a cumulative effect as

> the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or nonfederal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. (40 CFR Section 1508.7.)

The focus of the cumulative impacts section for each resource in this EIS/EIR is whether the incremental contribution of the proposed action or alternative to any significant cumulative impact is cumulatively considerable and, thus, significant in and of itself (State CEQA Guidelines Section 15065[a][3]).

For this EIS/EIR, cumulative impacts were identified based on: (1) information extracted from existing environmental documents or studies for the resource categories potentially affected by each project, (2) investigation of future project plans by other state and federal agencies and private entities, and (3) knowledge of expected effects of similar projects (State CEQA Guidelines Section 15130 [a][1]).

Past and Present Actions in the Plan Area

The descriptions of the environmental settings in Chapter 3, *Affected Environment*, are a product of past and ongoing actions that have shaped environmental conditions in the region. Below is a brief summary of these past and ongoing actions that have contributed to (and continue to contribute to) cumulative impacts. Because some ongoing actions are Covered Activities under the proposed action, only reasonably foreseeable future actions not included as part of the proposed action are described below.

Agriculture and Urban Development

Land conversion in the Plan Area includes the conversion of natural lands to farmland, the subsequent conversion of farmland to urban and rural residential uses, and the direct conversion of natural lands to urban and rural residential uses. Land conversion can also include conversion of farmland back into natural lands. Although this is less common, it would be an activity implemented through the PCCP in order to meet certain biological goals and objectives.

Agricultural lands in the Central Valley represent an altered landscape that retains little resemblance to the historical (pre-European settlement) condition. Conversion to agriculture has removed extensive wetlands, open grasslands, broad riparian systems, and oak woodlands of the Central Valley. However, while generally supporting a less diverse community of wildlife compared with most native habitats, some agricultural systems, if managed properly, can continue to support abundant wildlife and provide essential breeding, foraging, and roosting habitat for many resident and migrant wildlife species. In some cases, largely due to the presence of irrigation water that has been transferred from the Sierra Nevada to the Central Valley via a network of canals and streams, some natural areas have been enhanced or spatially increased (e.g., riparian woodlands and salmonid habitat in west Placer County streams). The recent trend towards the development of orchards in the Central Valley and the establishment of rice in the 1950s has reduced or eliminated habitat for many species (especially plant species) whose habitat requirements are not compatible with these agricultural landscapes. Conversely, the loss of the fruit orchards in the foothills that started in the 1950s has resulted in the reestablishment of oak and riparian woodlands and the extensive acreage of rice in the Central Valley mimics historic natural conditions that are of value to native species. In addition, the land disturbances associated with farming have contributed to sedimentation of waterways, and use of fertilizers and pesticides (including rodenticides) also have contributed to water pollution and may have contributed (directly and indirectly) to species mortality.

Although farming has resulted in adverse effects on natural conditions in the Central Valley, farmland and cropland are used as habitat for various species. These species include giant garter

snake (rice and agricultural ditches), western pond turtle (agricultural ditches and canals), Swainson's hawk (foraging in hay, grain, and row crops), burrowing owl (various agricultural types with ground squirrel burrows), white-tailed kite (foraging in hay and grain), and tricolored blackbird (foraging in hay and grain). Similarly, grazing has altered habitat conditions for many species and has contributed to water pollution, but appropriately managed grazing and rangeland can be compatible with the habitat needs of these species and several vernal pool species. Farming and grazing are expected to continue in and around portions of the Plan Area currently used for agriculture. Farmlands are subject to continuing shifts in crop types depending on various factors, including local, national, and global economic conditions. Shifts in farmland uses are not proposed as Covered Activities but are reasonably expected to occur in the future. It is not possible, however, to predict how crops may change over the proposed 50-year permit term.

A substantial amount of farmland and grazing land in the Plan Area has been converted to urban development and rural residential development over the past several decades. This has resulted in a further decrease in habitat because the habitat conditions provided by farmlands and grazing lands have been lost. Urbanization affected plants and wildlife through nitrogen deposition, erosion and sedimentation, pollution of waterways, and disruption of movement habitat linkages.

Infrastructure Development and Operation

Agricultural and urban development in the Plan Area has been accompanied by the development of infrastructure to support these land uses. Some of the major infrastructure development activities and general effects on species and their habitats are described below.

- **Water Supply Development.** Water in Placer County was primarily used for mining and agricultural uses and a small amount of domestic use beginning in the 1850s. This disaggregated usage lasted through the 1950s when Placer County began to experience urban and suburban growth. In 1957, the Placer County Water Agency Act was signed by Governor Goodwin Knight, creating the PCWA. Shortly after being established, PCWA constructed the Middle Fork American River Hydroelectric Project on the Middle Fork American River and selected tributaries. The Middle Fork Project as it is now known is managed through the Middle Fork Project Finance Authority via a joint powers agreement between PCWA and Placer County. The Middle Fork Project is a Federal Energy Regulatory Commission (FERC) licensed facility and is thereby subject to the terms and conditions of a FERC license affecting its operation. In addition to treated water service, PCWA provides irrigation water through its extensive canal system to individual customers and untreated water for treatment and resale by other retail water purveyors. Irrigation water comprises about two-thirds of PCWA's Western Water System deliveries.
- **Restoration Projects.** Several restoration programs, such as the CalFed Ecosystem Restoration Program, have worked to restore habitat along Central Valley rivers and streams. The multiple goals and actions of this program support the recovery of at-risk native species and other species. These types of restoration projects involve the rehabilitation of natural processes related to hydrology, stream channels, sediment, floodplains, and ecosystem water quality and develop habitat management and restoration actions, including restoration of river corridors, reconstruction of channel floodplain interaction, and restoration of aquatic habitat. Stream restoration projects have been implemented on Auburn Ravine, Miners Ravine (a tributary to Dry Creek), and Coon Creek.

- **Flood Control Projects**. The levee system and most of the larger dams provide flood protection for farmlands in Sacramento Valley communities. Extensive work has been undertaken to bolster flood protection for urban areas, which require a higher level of protection than agricultural areas. Past and present flood control projects within the Plan Area include the Miners Ravine Off-Channel Detention Basin Facility, a regional multi-objective flood control project including off-channel detention basin, stream and floodplain restoration, recreational trail and trailhead parking on Miners Ravine immediately downstream of the Sierra College Boulevard crossing. This project includes stream channel, floodplain and habitat restoration components. In addition to the larger municipally owned regional facilities, there are numerous project-level privately owned detention basins and other flood control facilities throughout the Plan Area. Two large municipal facilities are proposed for the Coon Creek watershed and the Dry Creek watershed that would likely be implemented during the proposed permit term.

Park Acquisition and Management

A substantial amount of land preservation has occurred along with the urbanization of the Plan Area. In addition to urban parks within the planning limits of urban growth and established communities, notable regional park areas and other protected lands are as follows (Appendix A; Placer Land Trust 2009). The following is a partial list of some of the larger protected sites within the Plan Area. The role some of these existing protected lands would play in the PCCP is identified here for context.

- **Hidden Falls Regional Park (Hidden Falls).** Hidden Falls is a 1,222-acre Placer County–managed park currently used for passive recreational uses including hiking, biking, and equestrian activities. Day time picnicking is allowed, but no overnight use is permitted. Fishing is allowed on Coon Creek consistent with state regulations, but recreational hunting is prohibited. Hidden Falls has an associated parking lot, staging area, bridges, trails, and overlooks, and in the future it is proposed to include a 10-acre outdoor nature center. Coon Creek, which runs through the Hidden Falls site, supports salmon spawning during fall-run Chinook salmon spawning season. Conditions are also appropriate for steelhead and potentially spring-run Chinook salmon. Pool depths are adequate for maintaining critical cool water temperatures for the rearing of fry for both salmon and steelhead.
- **Big Hill Area.** The Big Hill Area includes seven properties that are currently protected. They are Harvego Bear River Preserve (1,773 acres), Haddad (11 acres) Campbell (7 acres), Taylor Ranch Preserve (321 acres), Liberty Ranch Big Hill Preserve (313 acres), Kotomyan Big Hill Preserve (160 acres), and Outman Big Hill Preserve (80 acres). This area includes target communities of blue oak woodland and riparian habitat. Although a reserve unit management plan has not yet been developed for the Big Hill Area, preliminary planning shows that the Harvego Bear River Preserve portion of the Big Hill Area will include trails, a parking lot, restrooms, and related facilities. Recreational hunting may be requested via California Department of Fish and Wildlife's (CDFW's) Shared Habitat Alliance for Recreation Enhancement program in the future. Within the Big Hill Area passive recreational uses (hiking, biking, equestrian) will utilize existing ranch roads. New (non-paved, single track) trail construction will be minimal and will be deducted from the enrolled lands. A portion of the Big Hill Area is proposed to be enrolled into the PCCP Reserve System and would contribute toward the Plan's protection commitments for natural communities and associated Covered Species' habitat.
- **Oest Ranch Northern Preserve**. The Oest Ranch Northern Preserve consists of 113 acres of oak woodland savannah and agricultural grassland permanently protected by conservation

easement by the Placer Land Trust in 2015 and 2016 in partnership with the Oest family, with primary funding from the Wildlife Conservation Board. The property is located in North Auburn near SR 49 and Lone Star Road close to the Bear River. The preserve contains mixed oak woodlands and some open pasture for livestock grazing. Placer Land Trust's easement prohibits development and other uses but does allow for sustainable agricultural production.

- **Taylor Ranch.** The Taylor Ranch site is located about 1 mile from Hidden Falls Regional Park along Coon Creek. Placer Land Trust owns this 313-acre property in fee title, and there is no conservation easement on the site. Placer County and the Placer Legacy Program was a funding partner in this acquisition, which was led by Placer Land Trust and the Trust for Public Land. Of the total 313 acres, 38 acres are proposed for enrollment into the PCCP Reserve System and would contribute toward the Plan's protection commitments for communities and associated Covered Species' habitat; this is based on the proportion of funding the Placer Legacy Program contributed to the acquisition. The 38 acres consist of 7 acres of riverine/riparian complex and 31 acres of oak woodland. The Taylor Ranch site supports cattle grazing and includes a public access trail easement to be improved once additional trail connections are obtained. The trail easement would not be counted towards the Plan's protection commitments.
- **Harvego Bear River Preserve.** The Harvego Bear River Preserve is located along the Bear River in the foothills of northwest Auburn. The property is owned in fee by the Placer Land Trust and has a conservation easement held by Placer County. Of the total 1,773 acres, 933 acres are proposed for enrollment into the PCCP Reserve System and would contribute toward the Plan's protection commitments for natural communities and associated Covered Species' habitat. The 933 acres are dominated by blue oak woodlands (917 acres), which represent the largest intact oak woodland under single ownership within the Plan Area. The 933 acres also include 13 acres of grassland, 2 acres of aquatic/wetland complex, and approximately 1 acre of riverine/riparian complex associated with a 3-mile reach of the Bear River. Placer County's conservation easement includes rights for trail construction for passive trail use and a staging area for a parking lot and restroom. No active recreation is allowed. Ranching activities will continue as well as the establishment of one home site for an onsite caretaker. The developed recreation areas and home site would not count toward the Plan's conservation commitments.
- **Doty Ravine.** The Doty Ravine Preserve is a 427-acre property owned by the Placer Land Trust in fee title, with an Irrevocable Offer of Dedication to Placer County for recordation of a conservation easement upon approval of the habitat conservation plan (HCP)/natural community conservation plan (NCCP). Of the total 427 acres, 418 acres of the site are proposed for enrollment into the PCCP Reserve System and would contribute toward the Plan's protection commitment for natural communities and associated Covered Species' habitat. Recently, California black rail has been detected in a wetland on this preserve. The 418 acres consist of 23 acres of vernal pool complex, 370 acres of grassland (including native grasslands), 1 acre of riverine/riparian complex, and 24 acres of oak woodland. This site is proposed to be enrolled into the PCCP Reserve System and would contribute toward the Plan's conservation commitments for natural communities and associated Covered Species' habitat.
- **Swainson's Grassland Preserve.** Native grasslands within this preserve provide essential feeding grounds for Swainson's Hawk. Swainson's Grassland Preserve consists of 469 acres on SR 65 north of Lincoln which have been protected since April 21, 2005, through Placer Land Trust's West Placer Habitat Protection Program. This site is proposed to be enrolled into the PCCP Reserve System and would contribute toward the Plan's conservation commitments for natural communities and associated Covered Species' habitat.

Reasonably Foreseeable Projects in the Plan Area

Reasonably foreseeable projects in the Plan Area that could affect Covered Species would be new projects not considered part of the proposed action or action alternatives. Existing ongoing operations or maintenance of facilities in the Plan Area by agencies not participating in PCCP would continue as is and would be considered part of the baseline. The following general categories of projects are considered new and therefore are considered reasonably foreseeable projects to be addressed in the analysis of cumulative projects for each relevant resource topic.

- Emergency activities not defined as "changed circumstances" by the Plan (Appendix A).
- Ongoing agricultural land conversions (e.g., conversion of cropland to orchard).
- Water transfers by various water purveyors within the county to water purveyors in other California counties.

The following specific projects are considered new and therefore are considered reasonably foreseeable projects to be addressed in the resource-specific cumulative project analysis.

- **Antelope Creek Flood Control Project**. The Placer County Flood Control and Water Conservation District prepared an initial study/mitigated negative declaration in November 2013 to evaluate a proposed project to construct to primary flood control elements along with recreational and aquatic and riparian habitat restoration elements within the City of Roseville. The project would result in a slight increase to the footprint of the existing Federal Emergency Management Agency–recognized 100-year floodplain limits and construct two fish-friendly, on-channel weirs across Antelope Creek (Placer County 2013b). The first of the two weirs, the Upper Weir, was completed in February 2018. The District is seeking grant funding to complete the second Lower Weir.
- **Yuba Sutter Habitat Conservation Program**. The proposed Yuba-Sutter Regional Conservation Plan (YSRCP), a joint HCP/NCCP, outlines strategies to avoid, minimize, and mitigate potential effects on 18 covered plant and animal species expected from development of up to 35,000 acres within a 400,000-acre area within portions of Yuba and Sutter Counties, California, by establishing a 50,000-acre reserve system.
- **Placer Parkway**. The Placer County Department of Public Works and Facility Services has proposed a limited access roadway that connects SR 65 in Placer County to SR 99 in Sutter County. It will be an approximately 15-mile-long, high-speed roadway linking existing and planned development and improving regional accessibility to the Interstate (I-) 5 corridor, downtown Sacramento, and Sacramento International Airport (Appendix A:Chapter 2).
- **Western Regional Sanitary Landfill Expansion**. The Western Regional Sanitary Landfill located near SR 65 between Roseville and Lincoln, provides regionalized recycling and waste disposal services for the western portion of Placer County. The facility is currently permitted and expected to operate through 2058. Landfill expansion could take place on a 158-acre parcel east of the existing landfill boundary or a 457-acre parcel west of Fiddyment Road (Appendix A:Chapter 2).
- **I-80/SR 65 Interchange**. The I-80/SR 65 interchange was constructed in 1985 and is in early stages of an improvement project to accommodate traffic levels and population growth in the area. The improvements are intended to reduce congestion, improve traffic operation, and enhance safety (Appendix A:Chapter 2).

- **Lakeview Farms Volumetric Mitigation Facility**. The City of Lincoln purchased 456 acres north of Waltz Road and currently used for rice production to construct an off-channel retention facility for flood control. The site would function as a retention basin only in large storm events during the rainy season of December through April and would remain in rice production from approximately March through September.
- **Scilacci Farms Flood Control Project**. Placer County is planning to develop a stormwater retention basin at Scilacci Farms, also off Coon Creek. The facility would provide volumetric mitigation of stormwater drainage from developed area during a range of storm events. Once complete, the facility would capture stormwater only when the Sacramento River gauge at Verona exceeds 37 feet, which is 4.3 feet below flood stage (Appendix A:Chapter 2).

Methods for Determining Cumulative Effects

Each resource section contains an analysis of the cumulative effects specific to that resource that would potentially result due to implementation of the proposed action or alternatives. Potential cumulative effects associated with implementation of the proposed action or alternatives are analyzed both quantitatively and qualitatively in this EIS/EIR. In many cases, the resource-specific cumulative analysis is primarily qualitative and considers the contribution of the proposed action or alternatives to other programs, projects, and policies. As provided for under CEQA (14 CCR 15130[b]) and consistent with NEPA (40 CFR 1508.7), the analysis of cumulative impacts is evaluated at a level of detail sufficient for the Lead Agencies to use as a reasonable basis for decision-making in selecting between the alternatives.

Approach to Analyzing Alternatives Considered

As required by NEPA and CEQA, a no action alternative must be described and evaluated in an EIS/EIR. Additionally, the proposed action alternative must be described and evaluated. The general approach to analyzing each of these alternatives in this chapter is discussed below.

Alternative 1—No Action

For Alternative 1, the no action alternative, analysis in each resource section evaluates the expected changes to the resource in the absence of the proposed action. This analysis generally follows a 50-year study period to correspond with the permit term under the proposed action. As described in Chapter 2, *Proposed Action and Alternatives*, Alternative 1 encompasses most of the same activities that would be Covered Activities under the proposed action. However, Alternative 1 analysis considers biological resources differently, as outlined below.

- Biological resource impacts are considered only for projects with discretionary action by one of the Permit Applicants or with a potential to adversely affect listed species (i.e., would require consultation with U.S. Fish and Wildlife Service [USFWS], National Marine Fisheries Service [NMFS], and/or CDFW).
- Biological resource impacts are considered on a project-by-project basis, with no regional framework for impact avoidance and minimization.
- Biological resource mitigation is considered on a project-by-project basis, with various types of mitigation measures developed independently for each project, including compensatory

mitigation in offsite areas, which could be in- and out-of-county. There would be no regional framework for conservation of Covered Species or natural communities or preservation of habitat linkages.

Alternative 1 includes reasonably foreseeable activities in the Plan Area associated with urbanization and associated infrastructure development, operation, and maintenance included in the various planning documents of Placer County and the City of Lincoln as well as future projects of SPRTA and PCWA. The general plan EIRs analyzed these activities, and Alternative 1 includes these analyses by incorporating by reference and carries these conclusions forward. Any mitigation included in these EIRs is incorporated by reference into the Alternative 1 analysis. In addition, typical best management practices used during construction by SPRTA and PCWA are also incorporated into Alternative 1, as these would occur whether or not the PCCP were to be approved. The land use changes associated with these activities would have various effects on each of the resources considered in this EIS/EIR, including direct and indirect effects, temporary effects associated with construction, and long-term effects of operation and maintenance. Conclusions about the significance of these impacts are based on the extent of the expected land use changes and the adequacy of the regulatory framework (e.g., local regulations and requirements) to provide effective mitigation.

While in some cases, mitigation measures identified for the action alternatives could reduce impacts associated with Alternative 1, USFWS and the County have no jurisdiction to impose mitigation measures under the no action alternative, as no permits would be approved and no actions would be taken. For these reasons, mitigation measures are not identified for impacts of Alternative 1, the no action alternative, and some impacts are therefore identified as significant and unavoidable.

Alternative 2—Proposed Action Alternative

As described in Chapter 2, *Proposed Action and Alternatives*, the proposed action considered in this EIS/EIR is as follows.

- Issuance of incidental take permits (ITPs) by USFWS and the NMFS.
- Issuance of an NCCP permit from CDFW.
- Adoption of the PCCP, including the HCP/NCCP and the CARP by the agencies receiving the endangered species and wetlands permits.
- Approval of associated implementing actions such as adoption or amendment of plans and ordinances, including the in-lieu fee program.

Issuance of the ITPs and the NCCP permit by the Wildlife Agencies provides compliance only with the federal Endangered Species Act (ESA), California Endangered Species Act (CESA), and Natural Community Conservation Planning Act, and such compliance is subject to project-level terms and conditions, as provided in the Plan and implementing agreement. Approval of the proposed action does not confer or imply approval to implement any Covered Activity by the Permit Applicants. All Covered Activities are subject to the land use or other authority of one or more of the Permit Applicants. Before approving or implementing a Covered Activity, the Permit Applicant with authority over the Covered Activity must comply with CEQA and other applicable laws and would ordinarily require a project-level environmental analysis. If a Covered Activity requires a project-level federal authorization or permit, a project-level environmental analysis under NEPA may also be required. Although the proposed action pertains specifically to the Covered Activities'

environmental effects on biological and aquatic resources, other reasonably foreseeable environmental effects of the Covered Activities are discussed in this chapter to provide context for the analysis of the proposed action and alternatives.

The reasonably foreseeable activities in the Plan Area associated with urbanization and associated infrastructure development, operation, and maintenance included in the various planning documents of Placer County and the City of Lincoln are described above under Alternative 1.

Alternative 2, the proposed action, would add a regional framework for biological resource impact avoidance, minimization, and mitigation and for natural community conservation. This would be provided by the PCCP and implemented as a result of the Wildlife Agencies issuing permit(s). The impact analysis of Alternative 2 focuses on how permit issuance could affect a resource differently from Alternative 1. The analysis was based on the following.

- The PCCP conservation strategy would apply to all Covered Activities.
- All Covered Activities would be implemented using the avoidance and minimization measures summarized in the *Alternative 2—Proposed Action* section of Chapter 2, *Proposed Action and Alternatives*, of this EIS/EIR.
- Alternative 2 would include the acquisition and enhancement of a large, connected conservation lands system, with coordinated management for the benefit of Covered Species. This system would have a substantially larger footprint of land targeted for protection compared to the system of independent mitigation sites under Alternative 1, because not all land cover types and Covered Species would require mitigation under existing statutory and regulatory mechanisms.
- Acquisition and enhancement of the conservation lands system would be primarily located within the Reserve Acquisition Area. However, the land acquisition criteria do allow for some high value lands to be acquired outside the Reserve Acquisition Area but within the Plan Area.
- Activities on the conservation lands system would be consistent with the conservation measures described in the conservation strategy.

Unless affected by PCCP conservation activities, impacts of Alternative 1 would also occur under Alternative 2, the proposed action. This is because Alternative 1 encompasses the same urbanization and infrastructure development activities that are identified as Covered Activities under Alternative 2. Therefore, the analysis in the EIS/EIR addresses most of the reasonably foreseeable activities in the Plan Area associated with urbanization and associated infrastructure development, operation, and maintenance.

The analysis of Alternative 2, the proposed action, also describes how the general concepts identified in the conservation strategy for biological resource mitigation could affect each of the individual resources considered because the conservation strategy is part of Alternative 2. Thus, the analysis of the PCCP focuses on the consequences of issuing the federal ITPs and the state NCCP permit. The PCCP is based on extensive consultation with the Permit Applicants and Wildlife Agencies, resulting in a detailed database of activities that allows for a quantitative analysis of anticipated changes in land uses as a result of activities under Alternative 2 (i.e., Covered Activities under the PCCP) and the conservation strategy of the PCCP. The land use changes associated with these activities would have various effects on each of the resources considered in the PCCP and this EIS/EIR, including direct and indirect effects, temporary effects associated with construction, and long-term effects of operation and maintenance. Conclusions about the significance of these impacts are based on the extent of the expected land use changes and the adequacy of the regulatory

framework (e.g., local regulations and requirements) to provide effective mitigation. In addition, the conclusions about the significance of impacts consider how the implementation of the conservation strategy of the PCCP, along with the conditions on Covered Activities and avoidance and minimization measures included in the PCCP, will serve to reduce the impacts of the Covered Activities.

Impact Mechanisms

Under Alternative 2, the proposed action, impacts could occur during construction or operations and maintenance related to the proposed action and Covered Activities, which would include the following.

- Habitat restoration and creation (conservation measures designed to protect, enhance, and restore and improve the ecological function of natural communities, and to avoid, minimize, and compensate for effects on Covered Species).
- Adaptive management and monitoring activities.
- The existing, planned, and proposed land uses over which Placer County and the City of Lincoln have land use authority.
- Local transportation projects.
- Water and wastewater projects.

Most Covered Activities would require individual permits and approvals pursuant to Placer County and the City of Lincoln's general plans and land use regulations, or the requirements of the implementing agency, and would undergo subsequent project-level CEQA review and relevant NEPA review for construction and operations-related impacts; some Covered Activities, however, may be exempted from environmental review requirements due to project characteristics.

Covered Activities in the city of Lincoln and in unincorporated areas of Placer County would have the potential to result in impacts as identified in the general plans for these jurisdictions, as Alternative 2, the proposed action, would serve to streamline the development in the Plan Area envisioned in the *Placer County General Plan*, *City of Lincoln General Plan*, as well as future projects of SPRTA and PCWA.

Effects from Covered Activities would be anticipated to result from the types of actions listed below.

- Grading, excavation, trenching, and placement of fill material, including earthmoving, re-contouring, excavation, or removal or modification of landscape features or structures.
- Vegetation removal with off-road construction equipment to reduce fire hazards and control invasive plants.
- Construction and maintenance of residential, commercial, retail, recreational, and industrial land uses as specified in the *Placer County General Plan* and *City of Lincoln General Plan.*
- Construction of new utility infrastructure.
- Widening of existing and development of new roads.
- Temporary construction or land disturbance associated with maintenance and/or operation of water facilities and other waterways.

Alternatives 3 and 4—Other Action Alternatives

The other action alternatives (Alternatives 3 and 4) would consist of modifications to the regional framework for biological resource impact avoidance, minimization, and mitigation and for natural community conservation through various measures, as described in Chapter 2, *Proposed Action and Alternatives*. Alternatives 3 and 4 would likely result in the Wildlife Agencies issuing permit(s), similar to the proposed action. Therefore, the impact analyses of Alternatives 3 and 4 focus on how permit issuance could affect a resource. The land use changes associated with activities described in Chapter 2 for these alternatives would have various effects on each of the resources considered in the PCCP and this EIS/EIR, including direct and indirect effects, temporary effects associated with construction, and long-term effects of operation and maintenance. Conclusions about the significance of these impacts are based on the extent of the expected land use changes and the adequacy of the existing regulatory framework to provide effective mitigation.

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4.1 Agricultural and Forestry Resources

4.1.1 Methods and Significance Criteria

Methods

Impacts on agricultural and forestry resources were analyzed on the basis of the PCCP alternatives and local general plans. Land use conversions, which were estimated by Placer County, are compared to the amount of overall land in the Plan Area that is designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance by the California Department of Conservation.

Anticipated changes in land cover/land use for each alternative are described in Chapter 2, *Proposed Action and Alternatives*. See Section 4.0, *Environmental Consequences*, for a description of the methodology used across all resource chapters for the analysis of cumulative effects.

Significance Criteria

According to Appendix G of the State CEQA Guidelines, a proposed project would be considered to have a significant effect if it would result in any of the following.

- Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use.
- Conflict with existing zoning for agricultural use or conflict with a Williamson Act contract.
- Conflict with existing zoning for or cause rezoning of forest land (as defined in Public Resources Code Section 12220[g]), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104[g]).
- Result in the loss of forest land or conversion of forest land to non-forest use.
- Involve other changes in the existing environment that, due to their location or nature, could result in conversion of farmland to non-agricultural use or conversion of forest land to non-forest use.

4.1.2 Impacts and Mitigation Measures

Alternative 1—No Action

As described in Section 4.0, *Environmental Consequences*, Alternative 1 includes reasonably foreseeable activities in the Plan Area associated with urbanization and related infrastructure development, operation, and maintenance identified in the various planning documents of the Permit Applicants, as well as future projects of South Placer Regional Transportation Authority (SPRTA) and Placer County Water Agency (PCWA), such as local transportation and water projects.

Impact AG-1: Conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to nonagricultural use (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

Placer County and the City of Lincoln have determined that the implementation of their general plans would allow growth that would result in significant or potentially significant impacts by converting Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to nonagricultural uses. The EIR for the *Placer County General Plan* concluded that up to 840 acres of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance could be converted due to growth to the planning horizon used for projections for the general plan, which was 2010, with an additional amount of conversion continuing through 2040 that was not quantified, which would be significant and unmitigable (Placer County 1994). The EIR for the *City of Lincoln General Plan* concluded that up to 710 acres of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance could be converted due to growth, which would be significant and unavoidable (City of Lincoln 2008).

While the *Placer County General Plan* covers the entire county, nearly all of the Prime Farmland, Unique Farmland, or Farmland of Statewide Importance in the county are located within the Plan Area. The few small areas of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance located northeast of the Plan Area are in an area largely designated as Agriculture by the *Auburn/Bowman Community Plan*, and they would not be included in the amount of land identified as converted through implementation of Placer County's general plan.

As stated in the general plan EIRs, there are no feasible mitigation measures beyond implementation of the general plan policies that would reduce impacts to less-than-significant levels. Future projects of SPRTA and PCWA could result in the conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to nonagricultural use to the extent that projects take place on Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. Assessment of such impacts would be done on a project level.

NEPA Determination: Implementing the *Placer County General Plan* and the *City of Lincoln General Plan* would result in the conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to nonagricultural use, and future projects of SPRTA and PCWA could result in the conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to nonagricultural use. Accordingly, this impact would be significant and unavoidable.

CEQA Determination: Implementing the *Placer County General Plan* and the *City of Lincoln General Plan* would result in the conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to nonagricultural use, and future projects of SPRTA and PCWA could result in the conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to nonagricultural use. Accordingly, this impact would be significant and unavoidable.

Impact AG-2: Conflict with existing zoning for agricultural use or with a Williamson Act contract (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

Placer County and the City of Lincoln's general plans contain policies to support Williamson Act lands. While the general plan EIRs do not specifically reference impacts on Williamson Act lands, they have determined that the implementation of the general plans would result in significant or potentially significant impacts by converting Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to nonagricultural uses (Placer County 1994; City of Lincoln 2008). Future

projects of SPRTA and PCWA would consist of public works projects generally not inconsistent with agricultural zoning or the Williamson Act, unless the project were to result in conversion of Williamson Act–contracted land to non-agricultural use, which would be a significant impact. Assessment of such impacts would be done on a project level.

NEPA Determination: Implementing the *Placer County General Plan* and the *City of Lincoln General Plan* and future projects of SPRTA and PCWA would result in the conversion of farmland to nonagricultural use, which could affect land enrolled in Williamson Act contracts. Accordingly, this impact would be significant and unavoidable.

CEQA Determination: Implementing the *Placer County General Plan* and the *City of Lincoln General Plan* and future projects of SPRTA and PCWA would result in the conversion of farmland to nonagricultural use, which could affect land enrolled in Williamson Act contracts. Accordingly, this impact would be significant and unavoidable.

Impact AG-3: Conflict with existing zoning of forest land, timberland, or timberland zoned Timberland Production (NEPA: no impact; CEQA: no impact)

No forest land, timberland, or timberland zoned Timberland Production occurs in the Plan Area. All land zoned for Forestry or Timberland Production in Placer County is located in the eastern portion of the county.

NEPA Determination: There is no forest land, timberland, or land zoned for Timberland Production in the Plan Area. There would be no impact.

CEQA Determination: There is no forest land, timberland, or land zoned for Timberland Production in the Plan Area. There would be no impact.

Impact AG-4: Loss of forest land or conversion of forest land to non-forest use (NEPA: no impact; CEQA: no impact)

As stated above, forest land and timberland are concentrated in the eastern portion of the Plan Area and not located within the Plan Area.

NEPA Determination: There is no forest land in the Plan Area. There would be no impact.

CEQA Determination: There is no forest land in the Plan Area. There would be no impact.

Impact AG-5: Potential to cause other changes in the existing environment which, due to their location or nature, could result in conversion of farmland to nonagricultural use or conversion of forest land to non-forest use (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

As described in Impact AG-1, growth associated with Placer County and the City of Lincoln's general plans, as well as future projects of SPRTA and PCWA, would result in direct conversion of farmland to non-agricultural uses. No indirect conversion impacts were identified in the EIRs for those general plans, and both jurisdictions have Right to Farm regulations. However, it is possible that the SPRTA and PCWA projects could result in restrictions on agricultural uses of land in addition to direct conversion. Assessment of such impacts would be done on a project level.

There is no forest land or timberland in the Plan Area.

NEPA Determination: SPRTA and PCWA projects could result in restrictions on agricultural uses of land in addition to direct conversion. Assessment of such impacts would be done on a project level, and such impacts could be significant and unavoidable. There is no forest land or timberland in the Plan Area, and so there would be no impact on forest land or timberland.

CEQA Determination: SPRTA and PCWA projects could result in restrictions on agricultural uses of land in addition to direct conversion. Assessment of such impacts would be done on a project level, and such impacts could be significant and unavoidable. There is no forest land or timberland in the Plan Area, and so there would be no impact on forest land or timberland.

Alternative 2—Proposed Action

Impact AG-1: Conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to nonagricultural use (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

Alternative 2, the proposed action, would serve to streamline the development in the Plan Area envisioned in the *Placer County General Plan*, *City of Lincoln General Plan*, as well as SPRTA and PCWA projects, as these are all part of the Covered Activities. As described under Alternative 1, Placer County and the City of Lincoln have determined that the implementation of their general plans would allow growth that would result in significant or potentially significant impacts by converting Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to nonagricultural uses. As stated in those EIRs, there are no feasible mitigation measures that would reduce impacts to less-than-significant levels. The growth allowed under the general plans could be Covered Activities that would result in the conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. Future projects of SPRTA and PCWA could also result in the conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to nonagricultural use to the extent that projects take place on Prime Farmland, Unique Farmland, or Farmland of Statewide Importance.

Additional impacts on farmland could occur if implementation of the Plan were to result in the conversion of land designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to nonagricultural use. The following table shows the amount of Prime Farmland, Unique Farmland, and Farmland of Statewide Importance that is located within the Reserve Acquisition Area (RAA).

Table 4.1-1. Prime Farmland, Unique Farmland, and Farmland of Statewide Importance within the Reserve Acquisition Area (RAA)

Important Farmland Category	Approximate Acreage within the RAA
Prime Farmland	5,846.9
Unique Farmland	14,492.2
Farmland of Statewide Importance	1,531.7
Total	21,870.8

Source: Placer County 2006.

Land acquired for the benefit of species could be converted from agriculture to habitat. Although the specific location of land use acquisitions is not yet determined, the agricultural land to be acquired is

likely designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Figure 3.1-1).

There are approximately 21,870 acres of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance within the RAA. As shown in Table 2-14, up to 10,050 acres of these agricultural lands—which could include lands identified as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance—could be acquired under Alternative 2, the proposed action, to be managed for the benefit of species. Of this land, 2,000 acres of rice land or fresh emergent marsh equivalent would be acquired for giant garter snake habitat yet would remain in agricultural use, managed for the benefit of the species. Portions of the remaining lands could be converted from agricultural uses to habitat uses. Therefore, implementation of Alternative 2 could result in conversion of up to 8,050 acres of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance in addition to lands converted as a result of covered activities.

NEPA Determination: Alternative 2, the proposed action, could result in the conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance that is located within the RAA. Covered Activities associated with public and private development envisioned in the *Placer County General Plan* and the *City of Lincoln General Plan* and with SPRTA and PCWA projects would also result in the conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to nonagricultural use. While the goals, policies, and actions of the general plans as well as SPRTA and PCWA best management practices (BMPs) could reduce impacts on some of the agricultural lands, such impacts would not be reduced to less-than-significant levels. Implementation of the Plan would result in acquisition of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance for habitat protection. Some of this land could remain in agriculture, but a substantial amount of this land could be converted to non-agricultural uses associated with habitat protection. This impact would be significant and unavoidable.

CEQA Determination: Alternative 2, the proposed action, could result in the conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance that is located within the RAA. Covered Activities associated with public and private development envisioned in the *Placer County General Plan* and the *City of Lincoln General Plan* and with SPRTA and PCWA projects would also result in the conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to nonagricultural use. While the goals, policies, and actions of the general plans as well as SPRTA and PCWA BMPs could reduce impacts on some of the agricultural lands in these jurisdictions, such impacts would not be reduced to less-than-significant levels. Implementation of the Plan would result in acquisition of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance for habitat protection. Some of this land could remain in agriculture, but a substantial amount of this land could be converted to non-agricultural uses associated with habitat protection. No additional mitigation is available to reduce this impact. Accordingly, this impact would be significant and unavoidable.

Impact AG-2: Conflict with existing zoning for agricultural use or with a Williamson Act contract (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

In addition to the potential effects that would occur from Covered Activities associated with the *Placer County General Plan*, *City of Lincoln General Plan*, and SPRTA and PCWA projects, most of the lands to be acquired under the Plan would be zoned for agriculture. Although the specific location of land use acquisitions within the RAA would be determined during Plan implementation, some of the agricultural land to be acquired as a part of the conservation strategy or converted as a result of

Covered Activities such as transportation programs, maintenance of water infrastructure, and habitat restoration could be land enrolled in Williamson Act contracts, as most of the Williamson Act lands in the Plan Area (Figure 3.1-2) are located in the areas designated as RAAs. Open space uses are generally considered compatible uses under Williamson Act contracts in Placer County, so impacts directly related to acquisition would be limited.

NEPA Determination: Alternative 2, the proposed action, could result in conflicts with and the acquisition of land zoned for agricultural or land enrolled in Williamson Act contracts located within the RAA as some of the agricultural land to be acquired as a part of the conservation strategy or converted as a result of Covered Activities such as transportation programs, maintenance of water infrastructure, and habitat restoration could be land enrolled in Williamson Act contracts. This impact would be significant and unavoidable.

CEQA Determination: Alternative 2, the proposed action, could result in conflicts with and the acquisition of land zoned for agricultural or land enrolled in Williamson Act contracts located within the RAA as some of the agricultural land to be acquired as a part of the conservation strategy or converted as a result of Covered Activities such as transportation programs, maintenance of water infrastructure, and habitat restoration could be land enrolled in Williamson Act contracts. This impact would be significant and unavoidable.

Impact AG-3: Conflict with existing zoning of forest land, timberland, or timberland zoned Timberland Production (NEPA: no impact; CEQA: no impact)

No forest land, timberland, or timberland zoned Timberland Production occurs in the Plan Area. All of the land zoned for Forestry or Timberland Production in Placer County is located in the eastern portion of the county.

NEPA Determination: There is no land zoned for Forestry or Timberland Production in the Plan Area. There would be no impact.

CEQA Determination: There is no land zoned for Forestry or Timberland Production in the Plan Area. There would be no impact. No mitigation has been identified.

Impact AG-4: Loss of forest land or conversion of forest land to non-forest use (NEPA: no impact; CEQA: no impact)

As stated above, forest land and timberland are concentrated in the eastern portion of the Plan Area and are not located within the Plan Area.

NEPA Determination: There is no forest land in the Plan Area. There would be no impact.

CEQA Determination: There is no forest land in the Plan Area. There would be no impact. No mitigation has been identified.

Impact AG-5: Potential to cause other changes in the existing environment which, due to their location or nature, could result in conversion of farmland to nonagricultural use or conversion of forest land to non-forest use (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

As described in Impact AG-1, growth associated with Placer County and the City of Lincoln's general plans as well as future projects of SPRTA and PCWA would result in direct conversion of farmland to

non-agricultural uses. No indirect conversion impacts were identified in the EIRs for those general plans, and both jurisdictions have Right to Farm regulations. However, it is possible that the SPRTA and PCWA projects could result in restrictions on agricultural uses of land in addition to direct conversion. Alternative 2, the proposed action, would result in the acquisition of lands that could be located adjacent to farmland and could potentially result in indirect conversion of those adjacent farmlands. This impact would be reduced to a less-than-significant level by the following Plan requirement for buffers (Appendix A:Chapter 6).

> When the PCA acquires land adjacent to existing or planned development or agriculture that has no buffer zone or an inadequate buffer zone, one must be created on the reserve (see Section 5.3.1.3, *Reserve System Components*). Therefore, the buffers described below will not extend onto private land when the species occurs on PCA reserves.

There is no forest land or timberland in the Plan Area.

NEPA Determination: No indirect conversion impacts were identified in the EIRs for Placer County or the City of Lincoln's general plans, and both jurisdictions have Right to Farm regulations. Alternative 2, the proposed action, would result in the acquisition of lands that could be located adjacent to farmland and could potentially result in indirect conversion of those adjacent farmlands. This impact would be reduced to a less-than-significant level by the Plan requirement for buffers. However, it is possible that SPRTA and PCWA projects could result in restrictions on agricultural uses of land in addition to direct conversion. Accordingly, this impact would be significant and unavoidable.

CEQA Determination: No indirect conversion impacts were identified in the EIRs for Placer County or the City of Lincoln's general plans, and both jurisdictions have Right to Farm regulations. Alternative 2, the proposed action, would result in the acquisition of lands that could be located adjacent to farmland and could potentially result in indirect conversion of those adjacent farmlands. This impact would be reduced to a less-than-significant level by the Plan requirement for buffers. However, it is possible that SPRTA and PCWA projects could result in restrictions on agricultural uses of land in addition to direct conversion. Accordingly, this impact would be significant and unavoidable.

Alternative 3—Reduced Take/Reduced Fill

Impact AG-1: Conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to nonagricultural use (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

Alternative 3 reduces the vernal pool complex land conversion for the Valley Potential Future Growth Area (PFG). The RAA area would remain the same as in Alternative 2, the proposed action. Because of their physical characteristics, vernal pool complex lands are not Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, and therefore the impacts of Alternative 3 would be the same as for Alternative 2.

NEPA Determination: Alternative 3 could result in the conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance that is located within the RAA. Covered Activities associated with public and private development envisioned in the *Placer County General Plan* and the *City of Lincoln General Plan* and with SPRTA and PCWA projects would also result in the conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to nonagricultural use. While the goals, policies, and actions of the general plans as well as SPRTA and

PCWA BMPs could reduce impacts on some of the agricultural lands, such impacts would not be reduced to less-than-significant levels. Implementation of the Plan would result in acquisition of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance for habitat protection. Some of this land could remain in agriculture, but a substantial amount of this land could be converted to non-agricultural uses associated with habitat protection. This impact would be significant and unavoidable.

CEQA Determination: Alternative 3 could result in the conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance that is located within the RAA. Covered Activities associated with public and private development envisioned in the *Placer County General Plan* and the *City of Lincoln General Plan* and with SPRTA and PCWA projects could also result in the conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to nonagricultural use. While the goals, policies, and actions of the general plans as well as SPRTA and PCWA BMPs could reduce impacts on some of the agricultural lands, such impacts would not be reduced to less-than-significant levels. Implementation of the Plan would result in acquisition of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance for habitat protection. Some of this land could remain in agriculture, but a substantial amount of this land could be converted to non-agricultural uses associated with habitat protection. No additional mitigation is available to reduce this impact. Accordingly, this impact would be significant and unavoidable.

Impact AG-2: Conflict with existing zoning for agricultural use or with a Williamson Act contract (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

In addition to the potential effects that would occur from Covered Activities associated with the *Placer County General Plan*, *City of Lincoln General Plan*, and SPRTA and PCWA projects, most of the lands to be acquired under the Plan would be zoned for agriculture. Although the specific location of land use acquisitions within the RAA would be determined during Plan implementation, some of the agricultural land to be acquired as a part of the conservation strategy or converted as a result of Covered Activities such as transportation programs, maintenance of water infrastructure, and habitat restoration could be land enrolled in Williamson Act contracts, as most of the Williamson Act lands in the Plan Area (Figure 3.1-2) are located in the areas designated as RAAs. Open space uses are generally considered compatible uses under Williamson Act contracts in Placer County, so impacts directly related to acquisition would be limited.

NEPA Determination: Alternative 3 could result in conflicts with and the acquisition of land zoned for agricultural or land enrolled in Williamson Act contracts located within the RAA as some of the agricultural land to be acquired as a part of the conservation strategy or converted as a result of Covered Activities such as transportation programs, maintenance of water infrastructure, and habitat restoration could be land enrolled in Williamson Act contracts. This impact would be significant and unavoidable.

CEQA Determination: Alternative 3 could result in conflicts with and the acquisition of land zoned for agricultural or land enrolled in Williamson Act contracts located within the RAA as some of the agricultural land to be acquired as a part of the conservation strategy or converted as a result of Covered Activities such as transportation programs, maintenance of water infrastructure, and habitat restoration could be land enrolled in Williamson Act contracts. This impact would be significant and unavoidable.

Impact AG-3: Conflict with existing zoning of forest land, timberland, or timberland zoned Timberland Production (NEPA: no impact; CEQA: no impact)

No forest, timberland, or timberland zoned Timberland Production occurs in the Plan Area. All of the land zoned for Forestry or Timberland Production in Placer County is located in the eastern portion of the county.

NEPA Determination: There is no land zoned for TPZ or Forestry in the Plan Area. There would be no impact.

CEQA Determination: There is no land zoned for TPZ or Forestry in the Plan Area. There would be no impact. No mitigation has been identified.

Impact AG-4: Loss of forest land or conversion of forest land to non-forest use (NEPA: no impact; CEQA: no impact)

As stated above, forest land and timberland are concentrated in the eastern portion of the Plan Area and are not located within the Plan Area.

NEPA Determination: There is no forest land in the Plan Area. There would be no impact.

CEQA Determination: There is no forest land in the Plan Area. There would be no impact. No mitigation has been identified.

Impact AG-5: Potential to cause other changes in the existing environment which, due to their location or nature, could result in conversion of farmland to nonagricultural use or conversion of forest land to non-forest use (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

Growth associated with Placer County and the City of Lincoln's general plans as well as future projects of SPRTA and PCWA would result in direct conversion of farmland to non-agricultural uses. No indirect conversion impacts were identified in the EIRs for those general plans, and both jurisdictions have Right to Farm regulations. However, it is possible that the SPRTA and PCWA projects could result in restrictions on agricultural uses of land in addition to direct conversion. Alternative 3 would result in the acquisition of lands that could be located adjacent to farmland, and could, potentially, result in indirect conversion of those adjacent farmlands. This impact would be reduced to a less-than-significant level by the following Plan requirement for buffers (Appendix A: Chapter 6).

> When the PCA acquires land adjacent to existing or planned development or agriculture that has no buffer zone or an inadequate buffer zone, one must be created on the reserve (see Section 5.3.1.3, *Reserve System Components*). Therefore, the buffers described below will not extend onto private land when the species occurs on PCA reserves.

There is no forest land or timberland in the Plan Area.

NEPA Determination: No indirect conversion impacts were identified in the EIRs for Placer County or the City of Lincoln's general plans, and both jurisdictions have Right to Farm regulations. Alternative 3 would result in the acquisition of lands that could be located adjacent to farmland and could potentially result in indirect conversion of those adjacent farmlands. This impact would be reduced to a less-than-significant level by the Plan requirement for buffers. However, it is possible

that SPRTA and PCWA projects could result in restrictions on agricultural uses of land in addition to direct conversion. Accordingly, this impact would be significant and unavoidable.

CEQA Determination: No indirect conversion impacts were identified in the EIRs for Placer County or the City of Lincoln's general plans, and both jurisdictions have Right to Farm regulations. Alternative 3 would result in the acquisition of lands that could be located adjacent to farmland and could potentially result in indirect conversion of those adjacent farmlands. This impact would be reduced to a less-than-significant level by the Plan requirement for buffers. However, it is possible that SPRTA and PCWA projects could result in restrictions on agricultural uses of land in addition to direct conversion. Accordingly, this impact would be significant and unavoidable.

Alternative 4—Reduced Permit Term

Impact AG-1: Conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to nonagricultural use (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

Under Alternative 4, it is expected that fewer acres would be developed under the Plan compared to Alternative 2, the proposed action, because the shorter permit term would mean some long-term projects are not covered. Additionally, it is expected that fewer acres would be acquired and restored than under Alternative 2 because there would be fewer fees collected and overall conservation would be less due to less development occurring; accordingly, there would be less potential to convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance as a result of implementation of the PCCP under this alternative.

As described under Alternative 1, Placer County and the City of Lincoln have determined that the implementation of their general plans would allow growth that would result in significant or potentially significant impacts by converting Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to nonagricultural uses. As stated in those EIRs, there are no feasible mitigation measures that would reduce impacts to less-than-significant levels. The growth allowed under the general plans could be Covered Activities that would result in the conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. Future projects of SPRTA and PCWA could also result in the conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to nonagricultural use to the extent that projects take place on Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. Some of this would occur after the permit term of the Plan under Alternative 4, but it would still occur.

NEPA Determination: Fewer acres would be acquired under Alternative 4, and impacts resulting from Plan implementation would be less than those described under Alternatives 2 and 3. However, Prime Farmland, Unique Farmland, or Farmland of Statewide Importance within the RAA would still be converted to nonagricultural use under Alternative 4. Covered Activities associated with public and private development envisioned in the *Placer County General Plan* and the *City of Lincoln General Plan* and with SPRTA and PCWA projects could result in the conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to nonagricultural use. Although the goals, policies, and actions of Placer County and the City of Lincoln's general plans as well as SPRTA and PCWA BMPs could reduce impacts on some of the agricultural lands, such impacts would not be reduced to less-than-significant levels. Accordingly, this impact would be significant and unavoidable.

CEQA Determination: Fewer acres would be acquired under Alternative 4, and impacts resulting from Plan implementation would be less than those described under Alternatives 2 and 3. However, Prime Farmland, Unique Farmland, or Farmland of Statewide Importance within the RAA would still be converted to nonagricultural use under Alternative 4. In addition, Covered Activities associated with public and private development envisioned in the *Placer County General Plan* and the *City of Lincoln General Plan* and with SPRTA and PCWA projects could result in the conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to nonagricultural use. Although the goals, policies, and actions of the general plans as well as SPRTA and PCWA BMPs could reduce impacts on some of the agricultural lands, such impacts would not be reduced to less-than-significant levels. Accordingly, this impact would be significant and unavoidable.

Impact AG-2: Conflict with existing zoning for agricultural use or with a Williamson Act contract (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

In addition to the potential effects that would occur from Covered Activities associated with the *Placer County General Plan*, *City of Lincoln General Plan*, and SPRTA and PCWA projects, most of the lands to be acquired under the Plan would be zoned for agriculture. Although the specific location of land use acquisitions within the RAA would be determined during Plan implementation, some of the agricultural land to be acquired as a part of the conservation strategy or converted as a result of Covered Activities such as transportation programs, maintenance of water infrastructure, and habitat restoration could be land enrolled in Williamson Act contracts, as most of the Williamson Act lands in the Plan Area (Figure 3.1-2) are located in the areas designated as RAAs. Under Alternative 4, it is expected that fewer acres would be acquired than under Alternative 2, the proposed action; accordingly, there would be less potential to conflict with zoning for agricultural use or Williamson Act contracts under this alternative. Open space uses are generally considered compatible uses under Williamson Act contracts in Placer County, so impacts directly related to acquisition would be limited.

NEPA Determination: Alternative 4 could result in conflicts with and the acquisition of land zoned for agricultural or land enrolled in Williamson Act contracts located within the RAA as some of the agricultural land to be acquired as a part of the conservation strategy or converted as a result of Covered Activities such as transportation programs, maintenance of water infrastructure, and habitat restoration could be land enrolled in Williamson Act contracts. Although impacts of Alternative 4 would be less than those of Alternative 2, the proposed action, this impact would be significant and unavoidable.

CEQA Determination: Alternative 4 could result in conflicts with and the acquisition of land zoned for agricultural or land enrolled in Williamson Act contracts located within the RAA as some of the agricultural land to be acquired as a part of the conservation strategy or converted as a result of Covered Activities such as transportation programs, maintenance of water infrastructure, and habitat restoration could be land enrolled in Williamson Act contracts. Although impacts of Alternative 4 would be less than those of Alternative 2, the proposed action, this impact would be significant and unavoidable.

Impact AG-3: Conflict with existing zoning of forest land, timberland, or timberland zoned Timberland Production (NEPA: no impact; CEQA: no impact)

No forest land, timberland, or timberland zoned Timberland Production occurs in the Plan Area. All of the land zoned for Forestry or Timberland Production in Placer County is located in the eastern portion of the county.

NEPA Determination: There is no land zoned for Forestry or Timberland Production in the Plan Area. There would be no impact.

CEQA Determination: There is no land zoned for Forestry or Timberland Production in the Plan Area. There would be no impact. No mitigation has been identified.

Impact AG-4: Loss of forest land or conversion of forest land to non-forest use (NEPA: no impact; CEQA: no impact)

As stated above, forest land and timberland are concentrated in the eastern portion of the Plan Area and are not located within the Plan Area.

NEPA Determination: There is no forest land in the Plan Area. There would be no impact.

CEQA Determination: There is no forest land in the Plan Area. There would be no impact. No mitigation has been identified.

Impact AG-5: Potential to cause other changes in the existing environment which, due to their location or nature, could result in conversion of farmland to nonagricultural use or conversion of forest land to non-forest use (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

Under Alternative 4, it is expected that fewer acres would be acquired than under Alternative 2, the proposed action; accordingly, indirect effects on farmland would be less than those resulting from conversion of farmland under Alternative 2. Growth associated with Placer County and the City of Lincoln' general plans as well as future projects of SPRTA and PCWA would result in direct conversion of farmland to non-agricultural uses. No indirect conversion impacts were identified in the EIRs for those general plans, and both jurisdictions have Right to Farm regulations. However, it is possible that the SPRTA and PCWA projects could result in restrictions on agricultural uses of land in addition to direct conversion. Alternative 4 would result in the acquisition of lands that could be located adjacent to farmland and could potentially result in indirect conversion of those adjacent farmlands. This impact would be reduced to a less-than-significant level by the following Plan requirement for buffers (Appendix A:Chapter 6).

> When the PCA acquires land adjacent to existing or planned development or agriculture that has no buffer zone or an inadequate buffer zone, one must be created on the reserve (see Section 5.3.1.3, *Reserve System Components*). Therefore, the buffers described below will not extend onto private land when the species occurs on PCA reserves.

There is no forest land or timberland in the Plan Area.

NEPA Determination: No indirect conversion impacts were identified in the EIRs for Placer County or the City of Lincoln's general plans, and both jurisdictions have Right to Farm regulations. Alternative 4 would result in the acquisition of lands that could be located adjacent to farmland and could potentially result in indirect conversion of those adjacent farmlands. This impact would be

reduced to a less-than-significant level by the Plan requirement for buffers. However, it is possible that the SPRTA and PCWA projects could result in restrictions on agricultural uses of land in addition to direct conversion. Accordingly, this impact would be significant and unavoidable.

CEQA Determination: No indirect conversion impacts were identified in the EIRs for Placer County or the City of Lincoln's general plans, and both jurisdictions have Right to Farm regulations. Alternative 4 would result in the acquisition of lands that could be located adjacent to farmland and could potentially result in indirect conversion of those adjacent farmlands. This impact would be reduced to a less-than-significant level by the Plan requirement for buffers. However, it is possible that the SPRTA and PCWA projects could result in restrictions on agricultural uses of land in addition to direct conversion. Accordingly, this impact would be significant and unavoidable.

4.1.3 Cumulative Analysis

Alternative 1—No Action

The *Placer County General Plan* and the *City of Lincoln General Plan* contain policies that support agriculture and forest lands. However, the EIRs for these general plans determined that implementation would result in significant or potentially significant impacts by converting farmland to non-agricultural use and forest land to non-forestry use and would contribute to cumulative impacts related to conversion of farmland.

Alternative 2—Proposed Action

Alternative 2, the proposed action, would directly result in the acquisition of land, some of which is designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance and enrolled in Williamson Act contracts. Up to 8,050 acres of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance in the RAA could be converted to nonagricultural use. There is no forest land, timberland, or land zoned for Timberland Production in the Plan Area. Although Placer County and the City of Lincoln's general plans have policies in place to protect agriculture and forest lands, agricultural land would be converted to non-agricultural use under implementation of these plans. Alternative 2 would contribute to this effect because it could result in additional conversions of agricultural land to non-agricultural use for habitat. Therefore, the proposed action would be cumulatively considerable.

Alternative 3—Reduced Take/Reduced Fill

Alternative 3 would directly result the acquisition of land, some of which is designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance and enrolled in Williamson Act contracts, of which up to 8,050 acres could be converted to nonagricultural use. There is no forest land, timberland, or land zoned for Timberland Production in the Plan Area. Although Placer County and the City of Lincoln's general plans have policies in place to protect agriculture and forest lands, agricultural land would be converted to non-agricultural use under the implementation of these plans. Alternative 3 would contribute to this effect because it could result in additional conversions of agricultural land to non-agricultural use. Therefore, Alternative 3 would be cumulatively considerable.

Alternative 4—Reduced Permit Term

The cumulative impacts under Alternative 4 would be the same as under Alternative 2, the proposed action, but of a lesser magnitude because of the decreased extent of land acquisition.

4.1.4 References Cited

City of Lincoln. 2008. *City of Lincoln General Plan Update Final Environmental Impact Report.* State Clearinghouse No. 2005112003. February.

Placer County. 1994. *Countywide General Plan Final Environmental Impact Report*. July 26. Prepared by Crawford Multari & Starr, DKS Associates, Psomas and Associates, Jones & Stokes Associates, Recht Hausrath & Associates, J. Laurence Mintier & Associates.

Placer County. 2006. PCCP Land Cover Dataset. GIS. Last revised: 2014.

4.2 Air Quality, Greenhouse Gases, and Climate Change

4.2.1 Methods and Significance Criteria

Methods

This section evaluates the effects on air quality, greenhouse gas (GHG) emissions, and climate change that would result from the proposed action and alternatives.

Anticipated changes in land cover/land use for each alternative are described in Chapter 2, *Proposed Action and Alternatives*. See Section 4.0, *Environmental Consequences*, for a description of the methodology used across all resource chapters for the analysis of cumulative effects.

Air quality and GHG impacts associated with the alternatives analyzed in this section would result from implementation of PCCP conservation activities, including construction, operation and maintenance (O&M), toxic air contaminant, and odor emissions resulting from equipment exhaust and fugitive dust. These potential impacts would occur on a temporary basis during construction and on a limited basis during O&M activities. Air quality and GHG impacts would also occur as a result of growth associated with the general plans of Placer County and the City of Lincoln as well as future projects of South Placer Regional Transportation Authority (SPRTA) and Placer County Water Agency (PCWA) in the Plan Area, such as transportation and water projects.

The majority of construction and O&M activities would occur within Placer County and Placer County Air Pollution Control District (PCAPCD) jurisdiction. Construction and O&M activities within Sutter County and Feather River Air Quality Management District (FRAQMD) jurisdiction consist of minor watershed protection and stream restoration activities. Impacts associated with construction and operational emissions, toxic air contaminants, and odors were evaluated on a qualitative basis.

Significance Criteria

Federal

Criteria Pollutants

The air quality Plan Area is in federally classified nonattainment and/or maintenance areas for ozone, carbon monoxide (CO), and particulate matter less than 2.5 micrometers (PM2.5) (Table 3.2-6). Consequently, to fulfill general conformity requirements, a General Conformity evaluation would be required to identify whether the total ozone, CO, and PM2.5 emissions for the action alternatives are subject to the General Conformity rule. The General Conformity evaluation must consider both direct and indirect sources of emissions for all nonattainment and/or maintenance pollutants, which include regulated precursor emissions. Regulated precursor emissions for ozone include reactive organic gases (ROGs) and nitrogen oxides (NO_X). Regulated precursor emissions for PM2.5 include sulfur dioxide (SO_2), NO_X, and ROG. Therefore, the General Conformity analysis evaluates each of these direct and indirect (precursor) emissions.

The General Conformity evaluation is made by comparing all emission sources (e.g., haul trucks, off-road equipment) to the applicable General Conformity *de minimis* thresholds. It should be noted that because power plants are subject to New Source Review permitting requirements, which are exempt from the General Conformity rule, emissions associated with electricity generation are not included in the General Conformity evaluation. Table 4.2-1 summarizes the *de minimis* thresholds applicable to the proposed action, based on the region's attainment status (Table 3.2-6) and the *de minimis* threshold values presented in Tables 3.2-2 and 3.2-3. Any emissions in excess of those indicated in Table 4.2-1 would have an adverse effect on air quality.

Table 4.2-1. Federal *de minimis* Thresholds (tons per year)

Pollutant	Threshold
NO_X	100
VOC/ROG	100
CO	100
PM10	–
PM2.5	100
SO_2	–

Greenhouse Gases

Although there is currently no federal overarching law specifically related to climate change or the reduction of GHGs, in *Coalition for Responsible Regulation, Inc., et al. v. EPA*, the U.S. Court of Appeals upheld the U.S. Environmental Protection Agency's authority to regulate GHG emissions under the Clean Air Act. In addition, federal case law has made it clear that federal agencies have the responsibility to consider the environmental issue of climate change and GHG emissions within NEPA analysis and to consider the effects of their actions on climate change through GHG emissions, as well as to analyze the effects of climate change on federal actions.

State

In accordance with Appendix G of the State CEQA Guidelines, a proposed action would be considered to have a significant effect if it would result in any of the conditions listed below.

- Conflict with or obstruct implementation of the applicable air quality plan.
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation.
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is a nonattainment area for an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors).
- Expose sensitive receptors to substantial pollutant concentrations.
- Create objectionable odors affecting a substantial number of people.
- Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment.

- Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.

Placer County Air Pollution Control District Thresholds

Criteria Pollutants

According to the State CEQA Guidelines, the significance criteria established by the applicable air quality management or air pollution control district may be used to make significance determinations for potential impacts on environmental resources. PCAPCD has specified significance thresholds in its *Review of Land Use Projects under CEQA Policy* (Placer County Air Pollution Control District 2016) to determine air quality effects of projects located within district boundaries. PCAPCD uses these thresholds to determine the level of significance for emissions associated with a project's construction emissions and operational emissions, shown in Tables 4.2-2 and 4.2-3, respectively. Mitigation measures are then suggested by PCAPCD to the lead agency to offset the project's related air quality impacts (Placer County Air Pollution Control District 2016).

Table 4.2-2. Placer County Air Pollution Control District Construction Project-Level Significance Thresholds (pounds/day)

Pollutant	Threshold
NO_X	82
ROG	82
PM10	82

Source: Placer County Air Pollution Control District 2016.

Table 4.2-3. Placer County Air Pollution Control District Operational Project- and Cumulative-Level Significance Thresholds (pounds/day)

Pollutant	Threshold
NO_X	55
ROG	55
PM10	82

Source: Placer County Air Pollution Control District 2016.

Greenhouse Gases

PCAPCD has specified significance thresholds in its *Review of Land Use Projects under CEQA Policy* (Placer County Air Pollution Control District 2016) to determine GHG emissions of projects located within district boundaries. PCAPCD uses these thresholds to determine the level of significance for GHG emissions associated with a project's construction emissions and operational emissions, shown in Table 4.2-4.

The *de minimis* level for the operational phase of land use projects—1,100 metric tons of carbon dioxide equivalent (MT CO_2e)/year—represents an emissions level that can be considered as less than cumulatively considerable and be excluded from further GHG impact analysis. Land use projects with operational phase GHG emissions that exceed the *de minimis* level of 1,100 MT

CO_2e/year, but fall below 10,000 MT CO_2e/year, can still be found less than cumulatively considerable if a project's operational GHG emissions are less than the appropriate efficiency level thresholds (4.5–27.3 CO_2e/capita or square feet [sf]/year) shown in Table 4.2-4. GHG emissions from the construction and operational phases of land use and stationary projects that exceed the Bright-Line Threshold of 10,000 MT CO_2e/year would be deemed to have a cumulatively considerable contribution to global climate change.

Mitigation measures are suggested by PCAPCD to the lead agency to offset the project's related GHG impacts if emissions exceed the appropriate threshold (Placer County Air Pollution Control District 2016). In accordance with the State CEQA guidelines, the analysis includes a cumulative, rather than project-level, evaluation of climate change impacts. PCAPCD encourages a project applicant to consider generating or purchasing local and California-only carbon credits as the preferred mechanism to implement offsite mitigation measures for GHG emissions and facilitate the State to achieve the GHG emission reduction goal. PCAPCD will also assist lead agencies with reviewing and verifying that the carbon credits, from either the proposed offsite mitigation projects or the purchase certification from the selected carbon credit registries, and ensure the credits are retired.

Table 4.2-4. Placer County Air Pollution Control District Adopted Greenhouse Gas Thresholds

Description	Numeric Threshold	Application
De minimis level for land use projects	1,100 metric tons CO_2e/year	Operational emissions
Efficiency levels for land use projects	4.5 metric tons CO_2e/capita/year	Residential urban (operational emissions)
	5.5 metric tons CO_2e/capita/year	Residential rural (operational emissions)
	26.5 metric tons CO_2e/1,000 sf/year	Non-residential Urban (operational emissions)
	27.3 metric tons CO_2e/1,000 sf/year	Non-residential rural (operational emissions)
Bright-line threshold for land use and stationary source projects	10,000 metric tons CO_2e/year	Construction and operational emissions

Source: Placer County Air Pollution Control District 2016.

Feather River Air Quality Management District Thresholds

Criteria Pollutants

For the conservation actions identified within Sutter County under the action alternatives, FRAQMD has specified significance thresholds in its *Indirect Source Review Guidelines* (Feather River Air Quality Management District 2010) to determine air quality effects of projects located within district boundaries. FRAQMD uses these thresholds to determine the level of significance for emissions associated with a project's construction emissions and operational emissions, shown in Tables 4.2-5 and 4.2-6, respectively. Mitigation measures are then suggested by FRAQMD to the lead agency to offset the project's related air quality impacts (Feather River Air Quality Management District 2010).

Table 4.2-5. Feather River Air Quality Management District Construction Project-Level Significance Thresholds (pounds/day)

Pollutant	Threshold
NO_X	25[a]
ROG	25[a]
PM10	80

Source: Feather River Air Quality Management District 2010.

[a] NO_X and ROG construction emissions may be averaged over the life of the project, but may not exceed 4.5 tons/year.

Table 4.2-6. Feather River Air Quality Management District Operational Project-Level Significance Thresholds (pounds/day)

Pollutant	Threshold
NO_X	25
ROG	25
PM10	80

Source: Feather River Air Quality Management District 2010.

Greenhouse Gases

FRAQMD has not specified significance thresholds to determine GHG emissions of projects located within district boundaries but is working with a committee of air districts in the Sacramento Region[1] to develop guidance for evaluating GHG emissions in CEQA and NEPA documents.

Based on consultation with FRAQMD staff, use of PCAPCD GHG thresholds were used to evaluate portions of the PCCP located in Sutter County (Spaethe pers. comm.).

4.2.2 Impacts and Mitigation Measures

Alternative 1—No Action

As discussed in Chapter 2, *Proposed Action and Alternatives*, under Alternative 1, project proponents would apply for permits on a project-by-project basis, without a coordinated and comprehensive effort to minimize and mitigate biological impacts through the PCCP. Under Alternative 1, urban development and public infrastructure projects would continue to occur pursuant to the approved general plans of the applicable jurisdictions. No regional conservation strategy or conservation measures would be implemented; therefore, impacts related to air quality and GHG emissions that are associated with the conservation strategy and conservation measures would not occur. As described in Section 4.0, *Environmental Consequences*, Alternative 1 includes reasonably foreseeable activities in the Plan Area associated with urbanization and associated infrastructure development, operation, and maintenance included in the various planning documents of Placer County and the

[1] Air districts in the region are PCAPCD, Sacramento Metropolitan Air Quality Management District, El Dorado County Air Quality Management District, FRAQMD, and the Yolo-Solano Air Quality Management District.

City of Lincoln as well as future projects of SPRTA and PCWA, such as local transportation and water projects.

Impact AQ-1: Conflict with or obstruct implementation of the applicable air quality plan (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

Under Alternative 1, air pollutant and GHG emissions from a variety of sources (including mobile, stationary, and area) could exceed applicable air quality plans and air district significance thresholds throughout the Plan Area in the future.

If construction emissions from these sources exceed PCAPCD significance thresholds, the activities could conflict with the *1994 Sacramento Area Regional Ozone Attainment Plan* (1994 SIP), *2013 SIP Revisions to the Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan* (2013 Ozone SIP), *2013 PM2.5 Implementation and Maintenance Plan* (PCAPCD PM2.5 Plan), and the *Northern Sacramento Valley Planning Area 2015 Triennial Air Quality Attainment Plan* (2015 Triennial Plan), and the impact would be significant.

If construction emissions from implementation of these sources exceed FRAQMD significance thresholds, the activities could conflict with the 1994 SIP, *2005 Implementation of SB656 Measures to Reduce Particulate Matter Plan* (2005 PM10 Plan), 2013 Ozone SIP, *2013 Yuba City-Marysville PM2.5 Nonattainment Area Redesignation Request and Maintenance Plan* (FRAQMD PM2.5 Plan), and the 2015 Triennial Plan, and the impact would be significant.

However, various general plan goals, objectives, and actions would restrict air pollutant and GHG emission sources and would help to reduce potential impacts. Without implementation of the PCCP, future projects that would have been covered under implementation of Alternative 2, the proposed action, would not be exempted from obtaining individual permits for impacts on Covered Species; further, air pollutant and GHG emissions would not be addressed through the best management practices (BMPs) and mitigation measures that apply to Alternative 2. Individual projects would need to obtain project-specific approvals and would undergo project-level CEQA review and relevant NEPA review (if applicable) for construction and operations-related air quality effects and would need to mitigate potentially significant air quality impacts to less-than-significant levels.

Emissions resulting from general plan land use assumptions are discussed in the EIRs for the *City of Lincoln General Plan* and the *Placer County General Plan*, described below.

The EIR for the *City of Lincoln General Plan* determined that activities in the general plan would be associated with construction and operational emissions from anticipated growth that would generate significant amounts of criteria pollutants in excess of PCAPCD thresholds (City of Lincoln 2008). These emissions could potentially conflict with the applicable air quality plans described above. This impact would be considered significant and unavoidable.

The EIR for the *Placer County General Plan* determined that activities in the general plan would be associated with cumulative emissions from anticipated growth that would generate significant amounts of criteria pollutants in excess of PCAPCD thresholds (Placer County 1994). These emissions could potentially conflict with the applicable air quality plans described above. This impact would be considered significant and unavoidable.

NEPA Determination: Individual projects would need to obtain specific permits or undergo project-specific environmental review (as applicable) to minimize construction and O&M emissions associated with Alternative 1. The EIRs for the City of Lincoln and Placer County general plans

determined that activities in the general plans would be associated with construction and operational emissions that would generate significant amounts of criteria pollutants; therefore, air quality impacts from Alternative 1 would be significant and unavoidable.

CEQA Determination: Individual projects would need to obtain specific permits or undergo project-specific CEQA review to minimize construction and O&M emissions associated with Alternative 1. The EIRs for the City of Lincoln and Placer County general plans determined that activities in the general plans would be associated with construction and operational emissions that would generate significant amounts of criteria pollutants; therefore, air quality impacts from Alternative 1 would be significant and unavoidable.

Impact AQ-2: Violation of any air quality standard or substantial contribution to an existing or projected air quality violation (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

As discussed in Impact AQ-1, Alternative 1 would result in air pollutant emissions and earth movement that could generate dust. Future projects would undergo project-specific analysis and CEQA review and relevant NEPA review (if applicable) and would need to mitigate potentially significant air quality emissions impacts to less-than-significant levels.

Emissions resulting from general plan land use assumptions are discussed in the applicable EIRs for the general plans within Placer County, and are described below.

The EIR for the *City of Lincoln General Plan* determined that activities in the general plan would be associated with construction and operational emissions from anticipated growth that would generate significant amounts of criteria pollutants (City of Lincoln 2008). These emissions could exceed the general conformity *de minimis* thresholds indicated in Table 4.2-1 or applicable air district significance thresholds indicated in Tables 4.2-2, 4.2-3, 4.2-5, and 4.2-6. This impact would be significant and unavoidable.

The EIR for the *Placer County General Plan* determined that activities in the general plan would be associated with cumulative emissions from anticipated growth that would generate significant amounts of criteria pollutants (Placer County 1994). These emissions could exceed the general conformity *de minimis* thresholds indicated in Table 4.2-1 or applicable air district significance thresholds indicated in Tables 4.2-2, 4.2-3, 4.2-5, and 4.2-6. This impact would be significant and unavoidable.

Alternative 1 is anticipated to generate air pollutant emissions in excess of general conformity *de minimis* or air district significance thresholds. Therefore, Alternative 1 would violate air quality standards or contribute to an air quality violation.

NEPA Determination: Individual projects would need to obtain specific permits or undergo project-specific NEPA review (as applicable) to minimize construction and O&M emissions associated with Alternative 1. The EIRs for the City of Lincoln and Placer County general plans determined that activities in the general plans would be associated with construction and operational emissions that would exceed general conformity *de minimis* thresholds indicated in Table 4.2-1; therefore, air quality impacts from Alternative 1 would be significant and unavoidable.

CEQA Determination: Individual projects would need to obtain specific permits or undergo project-specific CEQA review to minimize construction and O&M emissions associated with Alternative 1. The EIRs for the City of Lincoln and Placer County general plans determined that

activities in the general plans would be associated with construction and operational emissions that would exceed applicable air district thresholds indicated in Tables 4.2-2, 4.2-3, 4.2-5, and 4.2-6; therefore, air quality impacts from Alternative 1 would be significant and unavoidable.

Impact AQ-3: Potential to result in a cumulatively considerable net increase of any criteria pollutant for which the project region is a nonattainment area for an applicable federal or state ambient air quality standard (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

As discussed in Impact AQ-1, future projects associated with Alternative 1 would result in air pollutant emissions and earth movement that could generate dust. Future projects would undergo project-specific analysis and CEQA review and relevant NEPA review (if applicable) and would need to mitigate potentially significant air quality and GHG emissions impacts to less than significant levels.

Emissions resulting from general plan land use assumptions are discussed in the applicable EIRs for the general plans within Placer County, and are described below.

The EIR for the *City of Lincoln General Plan* determined that activities in the general plan would be associated with construction and operational emissions from anticipated growth that would generate significant amounts of criteria pollutants (City of Lincoln 2008). These emissions could exceed the general conformity *de minimis* thresholds indicated in Table 4.2-1 or applicable air district significance thresholds indicated in Tables 4.2-2, 4.2-3, 4.2-5, and 4.2-6. This impact would be significant and unavoidable.

The EIR for the *Placer County General Plan* determined that activities in the general plan would be associated with cumulative emissions from anticipated growth that would generate significant amounts of criteria pollutants (Placer County 1994). These emissions could exceed the general conformity *de minimis* thresholds indicated in Table 4.2-1 or applicable air district significance thresholds indicated in Tables 4.2-2, 4.2-3, 4.2-5, and 4.2-6. This impact would be significant and unavoidable.

Alternative 1 is anticipated to generate air pollutant emissions in excess of general conformity *de minimis* or air district significance thresholds since the location and extent of individual projects is unknown at this time. Therefore, Alternative 1 would result in a cumulatively considerable increase in criteria pollutants emissions.

NEPA Determination: Individual projects would need to obtain specific permits or undergo project-specific NEPA review (as applicable) to minimize construction and O&M emissions associated with Alternative 1. The EIRs for the City of Lincoln and Placer County general plans determined that activities in the general plans would be associated with construction and operational emissions that would exceed general conformity *de minimis* thresholds indicated in Table 4.2-1; therefore, air quality impacts from Alternative 1 would be significant and unavoidable.

CEQA Determination: Individual projects would need to obtain specific permits or undergo project-specific CEQA review to minimize construction and O&M emissions associated with Alternative 1. The EIRs for the City of Lincoln and Placer County general plans determined that activities in the general plans would be associated with construction and operational emissions that would exceed applicable air district thresholds indicated in Tables 4.2-2, 4.2-3, 4.2-5, and 4.2-6; therefore, air quality impacts from Alternative 1 would be significant and unavoidable.

Impact AQ-4: Exposure of sensitive receptors to substantial pollutant concentrations (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

Localized Fugitive Particulate Matter Concentrations

As discussed in Impact AQ-1, individual projects would need to obtain project-specific approvals and would undergo project-level CEQA review and relevant NEPA review (if applicable) for construction and operations-related air quality emissions effects. The PCAPCD considers fugitive dust impacts to be less than significant with implementation of fugitive dust control measures; see Section 3.2.1 in Chapter 3, *Affected Environment*, and Appendix F for the discussion of PCAPCD fugitive dust regulations. Implementation of applicable air district fugitive dust control measures shown in Appendix F would ensure compliance of growth activities associated with the Placer County and City of Lincoln general plans with the applicable air district rules, and to avoid significant impacts on receptors from localized fugitive dust generation. Since future projects would undergo project-specific analysis and would need to mitigate potentially significant fugitive particulate matter emission impacts to less-than-significant levels, Alternative 1 is not anticipated to expose persons to significant fugitive particulate matter concentrations. Exhaust-related particulate matter (PM) emissions are discussed below.

Diesel Particulate Matter

As discussed in Impact AQ-1, individual projects would need to obtain project-specific approvals and would undergo project-level CEQA review and relevant NEPA review (if applicable) for construction and operations-related air quality emissions effects. Future projects would undergo project-specific analysis and would need to mitigate potentially significant diesel particulate matter (DPM) emission impacts to less-than-significant levels. In addition, all construction projects must abide by applicable air district rules adopted to reduce emissions throughout the region (refer to Section 3.2.1 of Chapter 3, *Affected Environment*, and Appendix F for relevant PCAPCD rules). These rules would reduce the potential for substantial pollutant emissions, including DPM, from project activities and would minimize air pollution impacts on sensitive receptors. However, since the location and extent of future projects are unknown at this time, there may be instances where project-specific conditions preclude the reduction of health risks below adopted thresholds. Therefore, health impacts from DPM exposure are conservatively considered to be significant and unavoidable.

Localized Carbon Monoxide Concentrations

As discussed in Impact AQ-1, individual projects would need to obtain project-specific approvals and would undergo project-level CEQA review and relevant NEPA review (if applicable) for construction and operations-related air quality emissions effects. Future projects would thus need to mitigate potentially significant CO emission impacts to less-than-significant levels.

Elevated levels of CO concentrations are typically found in areas with significant traffic congestion. CO is a public health concern because it can cause health problems such as fatigue, headache, confusion, dizziness, and even death. Motor vehicles are the dominant source of CO emissions in most areas. High CO levels develop primarily during winter when periods of light winds combine with the formation of ground-level temperature inversions (typically from the evening through early morning). These conditions result in reduced dispersion of vehicle emissions. Motor vehicles also exhibit increased CO emission rates at low air temperatures. CO emission rates from motor vehicles have been declining and are expected to continue to decline in the future. Increases in traffic or

congestion associated with future project construction and O&M are not anticipated to generate CO emissions in violation of the National Ambient Air Quality Standards (NAAQS) or California Ambient Air Quality Standards (CAAQS). In addition, PCAPCD does not have project- or cumulative-level thresholds of significance for construction or operational CO emissions. Accordingly, Alternative 1 would not contribute to or worsen localized CO concentrations from increased traffic or congestion. Therefore, health impacts from CO exposure are considered to be less than significant.

Asbestos

Depending on a project's size and geographic location, PCAPCD may enforce the California Air Resources Board's (ARB's) applicable air toxic control measures related to naturally occurring asbestos. Projects in areas that are known to contain naturally occurring asbestos or may disturb asbestos in soil or building materials must comply with these measures.

For construction and grading projects that would disturb 1 acre or less, ARB's Airborne Toxic Control Measure (ATCM) requires several specific actions to minimize emissions of dust such as vehicle speed limitations, application of water prior to and during the ground disturbance, keeping storage piles wet or covered, and track-out prevention and removal (California Air Resources Board 2002). Construction projects that would disturb more than 1 acre must prepare and obtain air district approval for an asbestos dust mitigation plan. The plan must specify how the project will minimize emissions and must address specific emission sources. Regardless of the size of the disturbance, activities must not result in emissions that are visible crossing the property line.

Following ARB's guidance above, construction activities associated with Alternative 1 would have a less-than-significant impact on naturally occurring asbestos exposure.

Regarding asbestos-containing materials (ACMs), activities that disturb materials containing any amount of asbestos are subject to certain requirements of the California Division of Occupational Safety and Health (Cal/OSHA) asbestos standard found in 8 California Code of Regulations (CCR) 1529. Typically, removal or disturbance of more than 100 sf of materials containing more than 1% of asbestos must be performed by a registered asbestos abatement contractor, but associated waste labeling is not required if the materials contain 1% or less of asbestos. When the asbestos content of materials exceeds 1%, virtually all requirements of the standard become effective.

Materials containing more than 1% of asbestos are also subject to National Emissions Standards for Hazardous Air Pollutants (NESHAPs). Regulated ACMs (friable ACMs and nonfriable ACMs that will become friable during demolition operations) must be removed from structures before they are demolished. Certain nonfriable ACMs and materials containing 1% or less of asbestos may remain in highway structures, such as guardrail and bridges, during demolition; however, waste handling/disposal issues and Cal/OSHA work requirements may make this cost-prohibitive. With respect to potential worker exposure, notification, and registration requirements, Cal/OSHA defines *ACMs* as construction materials that contain more than 1% of asbestos (8 CCR 341.6).

Following state and federal guidance above, construction projects would have a less-than-significant impact on asbestos exposure from ACMs.

NEPA Determination: Applicable air district rules and regulations would help reduce effects from naturally occurring asbestos exposure and fugitive PM emissions on sensitive receptors in the vicinity of dust-generating construction activities to less-than-significant levels. Cal/OSHA and NESHAP standards would also reduce ACM exposure to less-than-significant levels. Construction

activities associated with Alternative 1 could result in exposure of sensitive receptors to substantial DPM pollutant concentrations even after NEPA review and implementation of possible mitigation measures. This impact would be conservatively considered significant and unavoidable.

CEQA Determination: Similar to the NEPA conclusion, applicable air district rules and regulations would help reduce effects from naturally occurring asbestos exposure and fugitive PM emissions on sensitive receptors in the vicinity of dust-generating construction activities to less-than-significant levels. Cal/OSHA and NESHAP standards would also reduce ACM exposure to less-than-significant levels. Construction activities associated with Alternative 1 could result in exposure of sensitive receptors to substantial DPM pollutant concentrations even after CEQA review and implementation of possible mitigation measures. This impact would be conservatively considered significant and unavoidable.

Impact AQ-5: Potential to create objectionable odors affecting a substantial number of people (NEPA: less than significant; CEQA: less than significant)

As discussed in Impact AQ-1, future projects would undergo project-specific analysis and CEQA review and relevant NEPA review (if applicable) and would need to mitigate potentially significant air quality emissions impacts to less than significant levels.

Projects associated with Alternative 1 would require heavy-duty diesel-powered equipment that could potentially create objectionable odors. It is expected that some construction activity could occur near sensitive receptors in the city of Lincoln, as well as rural residences throughout the Plan Area. However, construction activities would be temporary in nature and would not be likely to result in nuisance odors that would violate PCAPCD Rule 205. Given mandatory compliance with applicable rules and policies, no construction activities or materials associated with Alternative 1 would create a significant level of objectionable odors.

Additionally, as future development under Alternative 1 must comply with Placer County and the City of Lincoln's zoning ordinances and buffer zone policies, odor-generating uses would only be developed in areas zoned for such uses. Consequently, new odor-generating uses would not be developed near residences or other receptors that would be sensitive to odors.

Therefore, these activities would not create objectionable odors affecting a substantial number of people.

NEPA Determination: Construction activities associated with Alternative 1 could result in exposure of sensitive receptors in the Plan Area to substantial pollutant concentrations and, consequently, objectionable odors. However, future development must comply with air district rules, general plan policies, and the appropriate jurisdiction's zoning ordinances and buffer zone width. Accordingly, this impact would be less than significant.

CEQA Determination: Construction activities associated with Alternative 1 could result in exposure of sensitive receptors in the Plan Area to substantial pollutant concentrations and, consequently, objectionable odors. However, future development must comply with air district rules, general plan policies, and the appropriate jurisdiction's zoning ordinances and buffer zone policies. Accordingly, this impact would be less than significant.

Impact AQ-6: Generation of greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

As discussed in Impact AQ-1, future projects associated with Alternative 1 would result in air pollutant and GHG emissions. Future projects would undergo project-specific analysis and CEQA review and relevant NEPA review (if applicable) and would need to mitigate potentially significant air quality and GHG emissions impacts; due to cumulative impacts, project-by-project impacts may not be able to be mitigated to less-than-significant levels.

GHG emissions from development activities are discussed in the EIR for the *City of Lincoln General Plan*. This EIR determined that development activities in the general plan would be associated with construction and operational emissions that would generate a significant amount of GHG emissions (City of Lincoln 2008). These emissions would be considered to potentially make a cumulatively considerable incremental contribution to global climate change. This impact would be significant and unavoidable.

The EIR for the *Placer County General Plan* did not analyze GHG emissions (Placer County 1994). However, the level of growth associated with the general plan would be expected to generate a significant amount of GHG emissions that would be considered to potentially make a cumulatively considerable incremental contribution to global climate change and result in a significant and unavoidable impact.

Alternative 1 is anticipated to generate a significant amount of GHG emissions within the Plan Area. Therefore, Alternative 1 would result in a significant increase in GHG emissions.

NEPA Determination: As discussed in Section 3.2.1 of Chapter 3, *Affected Environment*, NEPA case-law establishes a precedent that GHG impacts should be evaluated in NEPA. Future projects would undergo NEPA review and would need to mitigate potentially significant GHG impacts to less-than-significant levels. Construction and operational activities associated with implementation of the *City of Lincoln General Plan* and the *Placer County General Plan* are anticipated to result in significant emissions of GHGs; this impact would be significant and unavoidable.

CEQA Determination: Construction activities associated with Alternative 1 would result in emissions of GHGs that would potentially exceed PCAPCD GHG thresholds. Future projects would undergo CEQA review and would need to mitigate potentially significant GHG impacts to less-than-significant levels. Construction and operational activities associated with implementation of the *City of Lincoln General Plan* and the *Placer County General Plan* are anticipated to result in significant emissions of GHGs; this impact would be significant and unavoidable.

Impact AQ-7: Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing emissions of greenhouse gases (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

Assembly Bill 32

Assembly Bill (AB) 32 codifies the state's GHG emissions reduction targets for 2020. ARB adopted the 2008 Scoping Plan and 2014 First Update as a framework for achieving AB 32. The 2008 Scoping Plan and 2014 First Update outline a series of technologically feasible and cost-effective measures to reduce statewide GHG emissions.

AB 32 has been implemented effectively with a suite of complementary strategies that serve as a model going forward. California is on target for meeting the GHG emission reduction goal of reducing emissions to 1990 levels by 2020. Many of the GHG reduction measures (e.g., Low Carbon Fuel Standard, Advanced Clean Car standards, and Cap-and-Trade) have been adopted over the last five years and implementation activities are ongoing.

Construction and O&M activities associated with Alternative 1 within Placer County would be temporary in nature and O&M GHG emissions are assumed to be minor. Furthermore, PCAPCD's GHG significance thresholds described in Section 4.2.1 are based on compliance with AB 32. As described in Impact AQ-6, future projects would undergo project-specific analysis and CEQA review and relevant NEPA review (if applicable) and would need to mitigate potentially significant GHG emissions impacts; due to cumulative impacts, project-by-project impacts may not be able to be mitigated to less-than-significant levels. However, since GHG emissions from construction and operational activities associated with implementation of the *City of Lincoln General Plan* and the *Placer County General Plan* are anticipated to exceed PCAPCD GHG thresholds, even with implementation of applicable air district regulatory measures, including GHG offsets which the City or the County could require, activities within PCAPCD jurisdiction would conflict with AB 32 reduction targets.

Accordingly, activities associated with Alternative 1 within Placer County would conflict with AB 32 reduction targets.

SB 32 and Executive Order S-3-05

As discussed in Section 3.2.1 of Chapter 3, *Affected Environment*, Senate Bill (SB) 32 established an interim GHG reduction target of 40% below 1990 levels by 2030, and Executive Order (EO) S-3-05 established a long-term goal of reducing statewide GHG emissions to 80% below 1990 levels by 2050. Achieving these long-term GHG reduction policies will require systemic changes in how energy is produced and used.

ARB adopted the 2017 Climate Change Scoping Plan in November 2017, as a framework to achieve the 2030 GHG reduction goal described in SB 32. The 2017 Scoping Plan carries forward GHG reduction measures from the AB 32 2014 First Update, as well as new potential measures to help achieve the State's 2030 target across all sectors.

Achieving EO S-3-05 will require even more aggressive changes to all sectors of the economy and will require participation of all levels of government to further reduce GHG emissions. The extent to which the proposed Plan's emissions and resulting impacts would be mitigated through implementation of state-wide (or nationwide) changes is not known. Although many GHG reduction measures outlined in the 2017 Scoping Plan will likely continue to be implemented and enhanced beyond the year 2030, no plan for meeting the 2050 GHG reduction goal described in EO S-3-05 has yet been adopted.

Construction and O&M activities beyond year 2020 within PCAPCD boundaries would be considered temporary and O&M activities minor. Future projects would undergo project-specific analysis and CEQA review and relevant NEPA review (if applicable) and would need to mitigate potentially significant GHG emissions impacts; due to cumulative impacts, project-by-project impacts may not be able to be mitigated to less-than-significant levels. However, post-2020 construction- and operational-related GHG emissions associated with implementation of the *City of Lincoln General Plan* and the *Placer County General Plan* are anticipated to exceed PCAPCD GHG significance

thresholds, even with implementation of applicable air district regulatory measures, including GHG offsets which the City or the County could require, and therefore activities within PCAPCD jurisdiction would conflict with SB 32 reduction targets.

Accordingly, activities associated with Alternative 1 within Placer County would conflict with SB 32 and EO S-3-05 reduction targets.

NEPA Determination: As discussed in Section 3.2.1 of Chapter 3, *Affected Environment*, NEPA case-law establishes a precedent that GHG impacts should be evaluated in NEPA. Construction and operational activities associated with implementation of the *City of Lincoln General Plan* and the *Placer County General Plan* are anticipated to result in significant emissions of GHGs; this impact would be significant and unavoidable.

CEQA Determination: Construction activities associated with Alternative 1 would result in temporary emissions of GHGs within PCAPCD. Future projects would undergo project-specific analysis and CEQA review and would need to mitigate potentially significant GHG emissions impacts to less than significant levels. However, construction and operational activities associated with implementation of the *City of Lincoln General Plan* and the *Placer County General Plan* would generate significant GHG emissions that are anticipated to conflict with AB 32 and SB 32 reduction goals. Therefore, this impact would be significant and unavoidable.

Alternative 2—Proposed Action

Implementation of Alternative 2, the proposed action, could result in direct, indirect, and/or cumulative impacts on air quality and GHGs.

Under Alternative 2, implementation would include habitat restoration and creation (conservation measures designed to protect, enhance, and restore and improve the ecological function of natural communities, and to avoid, minimize, and compensate for effects on Covered Species); and adaptive management and monitoring activities. Most Covered Activities would require individual permits and approvals pursuant to the local jurisdictions' (i.e., Placer County and the City of Lincoln's) general plans and land use regulations, or the requirements of the implementing agency, and would undergo subsequent project-level CEQA review and relevant NEPA review for construction and operations-related impacts; some Covered Activities, however, may be exempted from environmental review requirements due to project characteristics.

Potential air quality and GHG impacts could occur during construction or maintenance and implementation of the PCCP. Those activities that involve construction and the use of heavy construction equipment or those that involve earthmoving activities could generate exhaust and fugitive dust emissions. The PCCP conservation measures include several physical activities that would involve ground-disturbing activities as listed in Table 2-13.

- Improvement of culverts and other road crossings.
- Mechanical recontouring of vernal pool basins.
- Removal or modification of ditches, raised roads, trails, and other barriers.
- Modification of floodplains to reestablish natural conditions (e.g., levee removal or levee setback)
- Construction of drainage ditches or retention basins and removal of sediment to enhance vernal pool hydrology.

- Removal of fish barriers.
- In-channel work associated with stream enhancement and restoration.
- Excavating or recontouring historical vernal pools, swales, and wetlands to natural bathymetry.

Those conservation measure activities and Covered Activities that involve construction and the use of heavy construction equipment or those that involve earthmoving activities could generate exhaust and fugitive dust emissions.

Impact AQ-1: Conflict with or obstruct implementation of the applicable air quality plan (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

Under Alternative 2, the proposed action, implementation of the PCCP (i.e., PCCP conservation activities) and Covered Activities would require the use of construction equipment throughout the Plan Area. Equipment would be used for construction activities, as well as O&M activities. The exact locations of construction and O&M activities are currently unknown. These activities would require heavy-duty diesel-powered equipment that would generate air pollutant emissions and earth movement that could generate fugitive dust. If construction emissions from implementation of these activities exceed PCAPCD significance thresholds, the activities could conflict with the applicable PCAPCD air quality plans described in Alternative 1, and the impact would be significant. Standard and additional construction mitigation measures from PCAPCD's CEQA guidelines would reduce the amount of exhaust generated from construction equipment, while PCAPCD's fugitive PM10 mitigation measures would reduce dust impacts; see Section 3.2.1 in Chapter 3, *Affected Environment*, and Appendix F for a description of these regulatory measures.

If construction emissions from implementation of these activities exceed FRAQMD significance thresholds, the activities could conflict with the applicable FRAQMD air quality plans described in Alternative 1, and the impact would be significant. Standard and additional construction mitigation measures from FRAQMD's CEQA guidelines would reduce the amount of exhaust generated from construction equipment, while FRAQMD's Fugitive Dust Control Plan would reduce dust impacts; see Section 3.2.1 in Chapter 3, *Affected Environment*, and Appendix G for a description of these regulatory measures.

This impact would be significant if construction and O&M activities were such that pollutant emissions would exceed the general conformity *de minimis* thresholds indicated in Table 4.2-1 or air district thresholds indicated in Tables 4.2-2, 4.2-3, 4.2-5, and 4.2-6. Implementation of BMPs included in the Plan, including BMP #6 for Roadside Construction, which includes dust control measures for active construction areas, would reduce these impacts but may not reduce them to a less-than-significant level.

Although construction and O&M activities associated with the Plan would not require a large amount of construction equipment or land disturbance and emissions are anticipated to be minor, FRAQMD's construction thresholds for ROG and NO_X of 25 pounds/day may be exceeded by even the relatively minor amount of construction activity associated with Plan implementation, compared with the large amount of construction activity associated with Covered Activities. The relatively minor amount of construction activity associated with effects of the PCCP within Placer County are not anticipated to exceed PCAPCD's construction thresholds for ROG, NO_X, and PM10 of 82 pounds/day. Consequently, no criteria pollutant offsets would be required for activities associated with Plan implementation within PCAPCD jurisdiction. Applicable air district regulatory measures, shown in Appendices F and G, as well as criteria pollutant offsets for activities within FRAQMD

jurisdiction in Sutter County (refer to Mitigation Measure AQ-1), would reduce emissions from construction and O&M activities associated with the Plan and the City or the County could require criteria pollutant offsets, reducing emissions below air district and *de minimis* thresholds. Accordingly, emissions from construction and O&M activities associated with the Plan are not anticipated to conflict with or obstruct implementation of the applicable air quality plan.

Emissions resulting from the Covered Activities are discussed in the EIRs for the applicable general plans within the PCCP Plan Area, and are described in detail under Alternative 1 and summarized below.

The EIR for the *City of Lincoln General Plan* determined that activities in the general plan would be associated with construction and operational emissions from anticipated growth that would generate significant amounts of criteria pollutants in excess of PCAPCD thresholds (City of Lincoln 2008). These emissions could potentially conflict with the applicable air quality plans described under Impact AQ-1 of Alternative 1. This impact would be considered significant and unavoidable.

The EIR for the *Placer County General Plan* determined that activities in the general plan would be associated with cumulative emissions from anticipated growth that would generate significant amounts of criteria pollutants in excess of PCAPCD thresholds (Placer County 1994). These emissions could potentially conflict with the applicable air quality plans described under Impact AQ-1 of Alternative 1. This impact would be considered significant and unavoidable.

Similar to construction and O&M activities associated with the Plan, construction emissions associated with Covered Activities within Sutter County are anticipated to exceed FRAQMD's construction thresholds for ROG and NO_X. Applicable air district regulatory measures, shown in Appendix G, as well as criteria pollutant offsets for activities within FRAQMD jurisdiction in Sutter County (refer to Mitigation Measure AQ-1), would reduce emissions from construction and O&M activities associated with Covered Activities and the County could require criteria pollutant offsets, reducing emissions below air district and *de minimis* thresholds. Accordingly, emissions from construction and O&M activities associated with Covered Activities within FRAQMD jurisdiction are not anticipated to conflict with or obstruct implementation of the applicable air quality plans.

NEPA Determination: Implementation of BMPs described in the Plan, which are intended to minimize the effects of dust on vegetation and wildlife habitats in the Plan Area, would help reduce effects on humans in the vicinity of dust-generating Covered Activity and conservation measure work. Emissions from construction and O&M activities associated with the PCCP are not anticipated to exceed general conformity *de minimis* thresholds indicated in Table 4.2-1 because the activities associated are anticipated to be minimal and exceeding *de minimis* thresholds requires a significant amount of construction activity. Emissions from construction and O&M activities associated with the Covered Activities, however, could result in short-term exceedances of general conformity *de minimis* thresholds indicated in Table 4.2-1. This impact would be significant and unavoidable.

CEQA Determination: Implementation of BMPs described in the Plan, which are intended to minimize the effects of dust on vegetation and wildlife habitats in the Plan Area, would help reduce effects on humans in the vicinity of dust-generating Covered Activity and conservation measure work. Effects of implementation of the Plan may exceed FRAQMD's construction thresholds for ROG and NO_X of 25 pounds/day. In addition to applicable FRAQMD regulatory measures shown in Appendix G, Mitigation Measure AQ-1 would reduce emissions from Plan implementation to a level below FRAQMD thresholds. Effects of implementation of the Plan within Placer County are not anticipated to exceed PCAPCD's construction thresholds for any criteria pollutant with

implementation of applicable PCAPCD regulatory measures shown in Appendix F. Emissions from construction and O&M activities associated with the Covered Activities, however, could still result in short-term exceedances of air district significance thresholds indicated in Tables 4.2-2, 4.2-3, 4.2-5, and 4.2-6. This impact would be significant and unavoidable. In addition to the standard mitigation measures and best available mitigation measures shown in Appendix G, MM AQ-1 may be used to further reduce and, if necessary, offset exhaust emissions to below FRAQMD construction thresholds.

Mitigation Measure AQ-1: Implement FRAQMD exhaust controls and criteria pollutant offsets during construction and O&M activities

The proponent shall assemble a comprehensive inventory list (i.e., make, model, engine year, horsepower, emission rates) of all heavy-duty off-road (portable and mobile) equipment (50 horsepower and greater) that will be used an aggregate of 40 or more hours for the construction project and apply the following mitigation measure:

The project shall provide a plan for approval by FRAQMD demonstrating that the heavy-duty (equal to or greater than 50 horsepower) off-road equipment to be used in the construction project, including owned, leased and subcontractor vehicles, will achieve a project wide fleet-average 5% ROG reduction, 20% NO_X reduction and 45% particulate reduction compared to the most recent ARB fleet average at time of construction. A Construction Mitigation Calculator (MS Excel) may be downloaded from the Sacramento Metropolitan Air Quality Management District web site to perform the fleet average evaluation. The results of the Construction Mitigation Calculator shall be submitted and approved by FRAQMD prior to beginning work.

Acceptable options for reducing emissions may include use of late model engines, low-emission diesel products, alternative fuels, engine retrofit technology (Carl Moyer Guidelines), after-treatment products, voluntary offsite mitigation projects, provide funds for air district offsite mitigation projects, and/or other options as they become available. The District should be contacted to discuss alternative measures.

The project shall provide a monthly summary of heavy-duty off-road equipment usage to the District throughout the construction of the project.

Impact AQ-2: Violation of any air quality standard or substantial contribution to an existing or projected air quality violation (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

Under Alternative 2, the proposed action, PCCP implementation and construction and O&M activities associated with Covered Activities would result in air pollutant emissions and earth movement that could generate dust.

This impact would be significant if construction and O&M activities were such that pollutant emissions would exceed the general conformity *de minimis* thresholds indicated in Table 4.2-1 or air district thresholds indicated in Tables 4.2-2, 4.2-3, 4.2-5, and 4.2-6. Implementation of BMPs included in the Plan, including BMP #6 for Roadside Construction, which includes dust control measures for active construction areas, would reduce criteria pollutant emissions but may not reduce emissions to less-than-significant levels.

As mentioned in Impact AQ-1, applicable air district regulatory measures shown in Appendices F and G, as well as criteria pollutant offsets for activities within FRAQMD jurisdiction in Sutter County

(refer to Mitigation Measure AQ-1), would reduce emissions from Plan implementation to a level below air district and *de minimis* thresholds such that emissions would not violate any air quality standard or contribute substantially to an existing or project air quality violation.

Emissions resulting from Covered Activities are discussed in the EIRs for the general plans within the PCCP Plan Area, and are described below.

The EIR for the *City of Lincoln General Plan* determined that activities in the general plan would be associated with construction and operational emissions from anticipated growth that would generate significant amounts of criteria pollutants (City of Lincoln 2008). These emissions could exceed the general conformity *de minimis* thresholds indicated in Table 4.2-1 or applicable air district significance thresholds indicated in Tables 4.2-2, 4.2-3, 4.2-5, and 4.2-6. This impact would be significant and unavoidable.

The EIR for the *Placer County General Plan* determined that activities in the general plan would be associated with cumulative emissions from anticipated growth that would generate significant amounts of criteria pollutants (Placer County 1994). These emissions could exceed the general conformity *de minimis* thresholds indicated in Table 4.2-1 or applicable air district significance thresholds indicated in Tables 4.2-2, 4.2-3, 4.2-5, and 4.2-6. This impact would be significant and unavoidable.

Similar to construction and O&M activities associated with the Plan, construction emissions associated with Covered Activities within Sutter County are anticipated to exceed FRAQMD's construction thresholds for ROG and NO_X. Applicable air district regulatory measures, shown in Appendix G, as well as criteria pollutant offsets for activities within FRAQMD jurisdiction in Sutter County (refer to Mitigation Measure AQ-1), would reduce emissions from construction and O&M activities associated with Covered Activities and the County could require criteria pollutant offsets, reducing emissions below air district and *de minimis* thresholds. Accordingly, emissions from construction and O&M activities associated with Covered Activities in Sutter County would be less than significant.

NEPA Determination: Implementation of BMPs described in the Plan, which are intended to minimize the effects of dust on vegetation and wildlife habitats in the Plan Area, would help reduce effects on humans in the vicinity of dust-generating Covered Activity and conservation measure work. Emissions from construction and O&M activities associated with the PCCP are not anticipated to exceed the general conformity *de minimis* thresholds indicated in Table 4.2-1. Emissions from construction and O&M activities associated Covered Activities, however, could result in short-term exceedances of general conformity *de minimis* thresholds indicated in Table 4.2-1. This impact would be significant and unavoidable.

CEQA Determination: Implementation of BMPs described in the Plan, which are intended to minimize the effects of dust on vegetation and wildlife habitats in the Plan Area, would help reduce effects on humans in the vicinity of dust-generating Covered Activity and conservation measure work. Activities associated with Plan implementation may result in emissions that exceed FRAQMD's construction thresholds for ROG and NO_X of 25 pounds/day. In addition to applicable FRAQMD regulatory measures shown in Appendix G, MM AQ-1 would reduce emissions from Plan implementation to a level below FRAQMD thresholds. Effects of implementation of the Plan within Placer County are not anticipated to exceed PCAPCD's construction thresholds for any criteria pollutant with implementation of applicable PCAPCD regulatory measures shown in Appendix F. Emissions from construction and O&M activities associated with Covered Activities, however, could

still result in short-term exceedances of air district significance thresholds indicated in Tables 4.2-2, 4.2-3, 4.2-5, and 4.2-6. This impact would be significant and unavoidable.

Mitigation Measure AQ-1: Implement FRAQMD exhaust controls and criteria pollutant offsets during construction and O&M activities

Impact AQ-3: Potential to result in a cumulatively considerable net increase of any criteria pollutant for which the project region is a nonattainment area for an applicable federal or state ambient air quality standard (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

As discussed in Impact AQ-1, PCCP implementation and Covered Activities would require the use of construction equipment that would result in air pollutant emissions and earth movement that could generate dust. These activities could result in a cumulatively considerable increase in criteria pollutants if the activities were such that pollutant emissions would exceed the general conformity *de minimis* thresholds indicated in Table 4.2-1 or air district thresholds indicated in Tables 4.2-2, 4.2-3, 4.2-5, and 4.2-6. Implementation of BMPs included in the Plan, including BMP #6 for Roadside Construction, which includes dust control measures for active construction areas, would reduce criteria pollutant emissions, but may not reduce emissions to less-than-significant levels.

As mentioned in Impact AQ-1, applicable air district regulatory measures shown in Appendices F and G, as well as criteria pollutant offsets for activities within FRAQMD jurisdiction in Sutter County (refer to Mitigation Measure AQ-1), would reduce emissions from Plan implementation to a level below air district and *de minimis* thresholds such that emissions would not result in a cumulatively considerable increase of any criteria pollutant.

Emissions resulting from Covered Activities are discussed in the EIRs for the general plans within the PCCP Plan Area, and are described below.

The EIR for the *City of Lincoln General Plan* determined that activities in the general plan would be associated with construction and operational emissions from anticipated growth that would generate significant amounts of criteria pollutants (City of Lincoln 2008). These emissions could exceed the general conformity *de minimis* thresholds indicated in Table 4.2-1 or applicable air district significance thresholds indicated in Tables 4.2-2, 4.2-3, 4.2-5, and 4.2-6. This impact would be significant and unavoidable.

The EIR for the *Placer County General Plan* determined that activities in the general plan would be associated with cumulative emissions from anticipated growth that would generate significant amounts of criteria pollutants (Placer County 1994). These emissions could exceed the general conformity *de minimis* thresholds indicated in Table 4.2-1 or applicable air district significance thresholds indicated in Tables 4.2-2, 4.2-3, 4.2-5, and 4.2-6. This impact would be significant and unavoidable.

Similar to construction and O&M activities associated with the Plan, construction emissions associated with Covered Activities within Sutter County are anticipated to exceed FRAQMD's construction thresholds for ROG and NO_X. Applicable air district regulatory measures, shown in Appendix G, as well as criteria pollutant offsets for activities within FRAQMD jurisdiction in Sutter County (refer to Mitigation Measure AQ-1), would reduce emissions from construction and O&M activities associated with Covered Activities and the County could require criteria pollutant offsets, reducing emissions below air district and *de minimis* thresholds. Accordingly, emissions from

construction and O&M activities associated with Covered Activities in Sutter County would be less than significant.

NEPA Determination: Implementation of BMPs described in the Plan, which are intended to minimize the effects of dust on vegetation and wildlife habitats in the Plan Area, would help reduce effects on humans in the vicinity of dust-generating Covered Activity and conservation measure work. Emissions from construction and O&M activities associated with the PCCP are not anticipated to exceed the general conformity *de minimis* thresholds indicated in Table 4.2-1. Emissions from construction and O&M activities associated with Covered Activities, however, could result in short-term exceedances of general conformity *de minimis* thresholds indicated in Table 4.2-1. This impact would be significant and unavoidable.

CEQA Determination: Implementation of BMPs described in the Plan, which are intended to minimize the effects of dust on vegetation and wildlife habitats in the Plan Area, would help reduce effects on humans in the vicinity of dust-generating Covered Activity and conservation measure work. Construction and O&M activities associated with PCCP implementation may result in emissions that exceed FRAQMD's construction thresholds for ROG and NO_X of 25 pounds/day. In addition to applicable FRAQMD regulatory measures shown in Appendix G, MM AQ-1 would reduce emissions from Plan implementation to a level below FRAQMD thresholds. Effects of implementation of the Plan within Placer County are not anticipated to exceed PCAPCD's construction thresholds for any criteria pollutant with implementation of applicable PCAPCD regulatory measures shown in Appendix F. Emissions from construction and O&M activities associated with Covered Activities, however, could still result in short-term exceedances of air district significance thresholds indicated in Tables 4.2-2, 4.2-3, 4.2-5, and 4.2-6. This impact would be significant and unavoidable.

Mitigation Measure AQ-1: Implement Feather River Air Quality Management District exhaust controls and criteria pollutant offsets during construction and operations and maintenance activities

Impact AQ-4: Exposure of sensitive receptors to substantial pollutant concentrations (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

Localized Fugitive Particulate Matter Concentrations

As discussed in Impact AQ-1, PCCP implementation and Covered Activities would require the use of construction equipment that would result in air pollutant emissions and earth movement that could generate dust. Exhaust-related PM emissions are discussed below under *Diesel Particulate Matter*. Most of the fugitive emissions are generated by project site grading and earthmoving activities; O&M activities would generate minor fugitive dust emissions.

PM2.5 particles are considered to be inhalable fine particles, and they may adversely affect the human respiratory system (especially in people who are naturally sensitive or susceptible to breathing problems). Although construction activities associated with implementation of the PCCP and Covered Activities would generate fugitive dust emissions, the PCAPCD and FRAQMD consider fugitive dust impacts to be less than significant with implementation of fugitive dust control measures; see Section 3.2.1 in Chapter 3, *Affected Environment*, and Appendices F and G for the discussion of air district fugitive dust regulations. Implementation of applicable air district fugitive dust control measures shown in Appendices F and G would ensure compliance of PCCP activities and

Covered Activities with the applicable air district rules, and to avoid significant impacts on receptors from localized fugitive dust generation.

Diesel Particulate Matter

As discussed in Impact AQ-1, construction and O&M activities associated with PCCP implementation and Covered Activities would result in air pollutant emissions. The locations of construction and O&M activities are currently unknown. It is expected that some construction activity could occur near sensitive receptors in the city of Lincoln, city of Roseville, the unincorporated townsite of Sheridan, as well as scattered rural residences and other sensitive receptors located throughout the Plan Area. However, all construction projects must abide by air district rules and regulatory measures adopted to reduce emissions throughout the region (refer to Section 3.2.1 of Chapter 3, *Affected Environment,* and Appendices F and G for relevant PCAPCD and FRAQMD rules). These rules and regulatory measures would reduce the potential for substantial pollutant emissions, including DPM, from implementation of the PCCP and Covered Activities and would minimize air pollution impacts on sensitive receptors. However, there may be instances where project-specific conditions preclude the reduction of health risks from DPM below adopted thresholds. Therefore, health impacts from DPM exposure are conservatively considered to be significant and unavoidable.

Localized Carbon Monoxide Concentrations

As discussed for Alternative 1, the No Action alternative, CO emission rates from motor vehicles have been declining and are expected to continue to decline in the future because of ARB's Mobile Source Program, which supports replacement of older, higher-emitting vehicles with newer vehicles, and increasingly stringent inspection and maintenance programs, as well as other regulatory requirements, such as AB 1493 (Pavley) of 2002 that mandates regulations to reduce tailpipe GHG emissions that also improve fuel economy.

The Plan Area encompasses a mostly rural region considered attainment for CO, except for the southern portion of the Plan Area considered maintenance areas for CO, under federal and state air quality standards, as shown in Tables 3.2-6 and 3.2-7. Minor increases in traffic and congestion associated with implementation of the PCCP, including habitat restoration, construction, and O&M activities, in different locations throughout the Plan Area would be temporary and minor in any given location. Accordingly, implementation of the PCCP would not contribute to or worsen localized CO concentrations from increased traffic or congestion associated with the Plan. Increases in traffic and congestion associated with Covered Activities, including transportation projects, construction, and O&M activities, in different locations throughout the Plan Area would be temporary in any given location. Neither PCAPCD nor FRAQMD have project- or cumulative-level thresholds of significance for construction or operational CO emissions. Also, CO emissions from Covered Activities are not anticipated to cause a violation of the NAAQS or CAAQS.

Therefore, health impacts from CO exposure are considered to be less than significant.

Asbestos

The eastern portion of the Plan Area under PCAPCD jurisdiction is located in an area that is known to contain naturally occurring asbestos (California Department of Conservation 2000). As discussed for Alternative 1, for construction and grading projects associated with the PCCP that would disturb 1 acre or less, ARB's Asbestos ATCM requires several specific actions to minimize emissions of dust such as vehicle speed limitations, application of water prior to and during the ground disturbance,

keeping storage piles wet or covered, and track-out prevention and removal (California Air Resources Board 2002). Construction projects that would disturb more than 1 acre must prepare and obtain air district approval for an asbestos dust mitigation plan. The plan must specify how the project will minimize emissions and must address specific emission sources. Regardless of the size of the disturbance, activities must not result in emissions that are visible crossing the property line.

Following ARB's guidance above, construction and O&M associated with PCCP implementation and Covered Activities would have a less-than-significant impact on naturally occurring asbestos exposure.

Regarding ACMs, activities that disturb materials containing any amount of asbestos are subject to certain requirements of the Cal/OSHA asbestos standard found in 8 CCR 1529. Typically, removal or disturbance of more than 100 sf of materials containing more than 1% of asbestos must be performed by a registered asbestos abatement contractor, but associated waste labeling is not required if the materials contain 1% or less of asbestos. When the asbestos content of materials exceeds 1%, virtually all requirements of the standard become effective.

Materials containing more than 1% of asbestos are also subject to NESHAPs. Regulated ACMs (friable ACMs and nonfriable ACMs that will become friable during demolition operations) must be removed from structures before they are demolished. Certain nonfriable ACMs and materials containing 1% or less of asbestos may remain in highway structures, such as guardrail and bridges, during demolition; however, waste handling/disposal issues and Cal/OSHA work requirements may make this cost-prohibitive. With respect to potential worker exposure, notification, and registration requirements, Cal/OSHA defines *ACMs* as construction materials that contain more than 1% of asbestos (8 CCR 341.6).

Following state and federal guidance above, construction and O&M associated with PCCP implementation and Covered Activities would have a less-than-significant impact on asbestos exposure from ACMs.

NEPA Determination: Implementation of BMPs described in the Plan, which are intended to minimize the effects of dust on vegetation and wildlife habitats in the Plan Area, in addition to applicable air district rules and regulations, would help reduce effects from naturally occurring asbestos exposure and fugitive PM emissions on sensitive receptors in the vicinity of dust-generating Covered Activity and conservation measure work to less-than-significant levels. Cal/OSHA and NESHAP standards would also reduce ACM exposure to less-than-significant levels. Emissions from construction and O&M activities associated with PCCP implementation and Covered Activities, however, could result in exposure of sensitive receptors to substantial DPM pollutant concentrations even with implementation of applicable air district rules and regulations. This impact would be significant and unavoidable.

CEQA Determination: Similar to the NEPA conclusion, implementation of BMPs described in the Plan, which are intended to minimize the effects of dust on vegetation and wildlife habitats in the Plan Area, in addition to applicable air district rules and regulations, would help reduce effects from naturally occurring asbestos exposure and fugitive PM emissions on sensitive receptors in the vicinity of dust-generating Covered Activity and conservation measure work to less-than-significant levels. Cal/OSHA and NESHAP standards would also reduce ACM exposure to less-than-significant levels. Emissions from construction and O&M activities associated with PCCP implementation and Covered Activities, however, could result in exposure of sensitive receptors to substantial DPM

pollutant concentrations even with implementation of applicable air district rules and regulations. This impact would be considered significant and unavoidable.

Impact AQ-5: Potential to create objectionable odors affecting a substantial number of people (NEPA: less than significant; CEQA: less than significant)

Implementation of the PCCP and Covered Activities would require heavy-duty diesel-powered equipment that could potentially create objectionable odors. It is expected that some construction activity could occur near sensitive receptors in the City of Lincoln, as well as rural residences throughout the Plan Area. However, construction activities would be temporary in nature and would not be likely to result in nuisance odors that would violate PCAPCD Rule 205 or *Sutter County General Plan* Policy ER 9.9 (Sutter County 2011). Given mandatory compliance with applicable rules and policies, no construction activities or materials are proposed that would create a significant level of objectionable odors. Furthermore, implementation of BMPs included in the Plan and applicable air district regulatory measures would reduce exhaust emissions during construction and minimize odor impacts on sensitive receptors.

Additionally, as future development from Covered Activities under the PCCP must comply with Placer County and the City of Lincoln's zoning ordinances and buffer zone policies, odor-generating uses would only be developed in areas zoned for such uses. Consequently, new odor-generating uses would not be developed near residences or other receptors that would be sensitive to odors.

Therefore, these activities would not create objectionable odors affecting a substantial number of people.

NEPA Determination: Construction activities associated with the PCCP could result in exposure of sensitive receptors in the Plan Area to substantial pollutant concentrations and, consequently, objectionable odors. However, future development must comply with air district rules, general plan policies, and the appropriate jurisdiction's zoning ordinances and buffer zone policies. Also, with implementation of applicable air district regulations, odor exposure would be further reduced, and this impact would be less than significant.

CEQA Determination: Construction activities associated with the PCCP could result in exposure of sensitive receptors in the Plan Area to substantial pollutant concentrations and, consequently, objectionable odors. However, future development must comply with air district rules, general plan policies, and the appropriate jurisdiction's zoning ordinances and buffer zone policies. Also, with implementation of applicable air district regulations, odor exposure would be further reduced, and this impact would be less than significant. No mitigation has been identified.

Impact AQ-6: Generation of greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

As described in Section 4.2.1 and shown in Table 4.2-4, PCAPCD has formally adopted GHG thresholds for construction and operation activities. Because FRAQMD has not established thresholds of significance to evaluate GHG emissions and based on consultation with FRAQMD planning staff, PCAPCD GHG thresholds are used to evaluate construction and O&M activities associated with Plan implementation and Covered Activities within PCAPCD's and FRAQMD's jurisdiction (Spaethe pers. comm.). Implementation of the PCCP and Covered Activities would require use of heavy-duty construction equipment, which would generate GHG emissions.

Construction and O&M activities associated with the Plan would not require a large amount of construction equipment, and emissions are anticipated to be minor. The relatively minor amount of construction activity associated with effects of the PCCP within Placer and Sutter Counties is not anticipated to exceed PCAPCD's GHG thresholds. Applicable air district regulatory measures would further reduce GHG emissions from Plan implementation within Placer and Sutter Counties. Consequently, construction and O&M activities associated with Plan implementation would not generate a significant amount of GHG emissions.

GHG emissions that would be associated with Covered Activities are discussed in the EIR for the *City of Lincoln General Plan*. This EIR determined that development activities in the general plan would be associated with construction and operational emissions that would generate a significant amount of GHG emissions (City of Lincoln 2008). These emissions would be considered to potentially make a cumulatively considerable incremental contribution to global climate change. This impact would be significant and unavoidable.

The EIR for the *Placer County General Plan* did not analyze GHG emissions (Placer County 1994). However, the level of growth associated with the general plan would be expected to generate a significant amount of GHG emissions that would be considered to potentially make a cumulatively considerable incremental contribution to global climate change and result in a significant and unavoidable impact.

Similar to construction and O&M activities associated with the Plan, construction and O&M emissions associated with Covered Activities within Sutter County are not anticipated to exceed PCAPCD's GHG thresholds. Applicable air district regulatory measures would further reduce GHG emissions from Covered Activities within Sutter County. Consequently, construction and O&M activities associated with Covered Activities in Sutter County would not generate a significant amount of GHG emissions. This impact would be less than significant.

NEPA Determination: As discussed in Section 3.2.1 of Chapter 3, *Affected Environment*, NEPA case-law establishes a precedent that GHG impacts should be evaluated in NEPA. Construction and O&M activities associated with implementation of the PCCP would result in temporary emissions of GHGs. Emissions resulting from PCCP implementation are not anticipated to exceed PCAPCD's construction threshold of 10,000 MT CO_2e/year. Applicable air district regulatory measures would further reduce emissions from PCCP implementation. Emissions from construction and O&M activities associated with Covered Activities, however, could still result in short-term exceedances of PCAPCD GHG significance thresholds indicated in Table 4.2-4. This impact would be significant and unavoidable.

NEPA also requires an evaluation of how a project will adapt to the effects of climate change. Since it is unknown at this time the extent, duration, and physical manifestation of activities associated with the PCCP, the analysis of climate change effects would be evaluated on a project-by-project basis during future NEPA project review. However, general effects of climate change that could affect the Plan Area include the following.

- Decreased water quality, supply, and availability.
- Increased temperatures leading to increases in ozone pollution levels.
- Extirpation or extinction of plant and wildlife species.
- Increased vulnerability of forests due to pest infestation and increased temperatures.

- Increased challenges for the agricultural industry due to potential water shortages and higher temperatures.

CEQA Determination: Construction and O&M activities associated with implementation of the PCCP would result in temporary emissions of GHGs. Emissions resulting from PCCP implementation are not anticipated to exceed PCAPCD's construction threshold 10,000 MT CO_2e/year. Applicable air district regulatory measures would further reduce emissions from PCCP implementation. Emissions from construction and O&M activities associated with Covered Activities, however, could still result in short-term exceedances of PCAPCD GHG significance thresholds indicated in Table 4.2-4. This impact would be significant and unavoidable.

Impact AQ-7: Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing emissions of greenhouse gases (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

Assembly Bill 32

AB 32 codifies the state's GHG emissions reduction targets for 2020. ARB adopted the 2008 Scoping Plan and 2014 First Update as a framework for achieving AB 32. The 2008 Scoping Plan and 2014 First Update outline a series of technologically feasible and cost-effective measures to reduce statewide GHG emissions. As discussed in Section 3.2.1 of Chapter 3, *Affected Environment*, ARB adopted the *2017 Climate Change Scoping Plan* in November 2017, and it proposes continuing the major programs of the AB 32 Scoping Plan.

AB 32 has been implemented effectively with a suite of complementary strategies that serve as a model going forward. California is on target for meeting the GHG emission reduction goal of reducing emissions to 1990 levels by 2020. Many of the GHG reduction measures (e.g., Low Carbon Fuel Standard, Advanced Clean Car standards, and Cap-and-Trade) have been adopted over the last five years and implementation activities are ongoing.

Effects resulting from PCCP implementation and Covered Activities within Placer County would be temporary in nature, and O&M GHG emissions are assumed to be minor. Furthermore, PCAPCD's GHG significance thresholds described in Section 4.2.1 are based on compliance with AB 32. As described in Impact AQ-6, construction- and operation-related GHG emissions associated with PCCP implementation activities within Placer County are not anticipated to exceed PCAPCD thresholds, and implementation of PCAPCD regulatory measures would further reduce GHG emissions. Therefore, effects within Placer County resulting from PCCP implementation would not conflict with AB 32 reduction targets.

Effects resulting from PCCP implementation within Sutter County would also be temporary in nature, and O&M emissions would be minor. The activities would be consistent with construction-related measures in the *Sutter County Climate Action Plan* (Sutter County CAP) (Sutter County 2010), which was adopted to support overall AB 32 reduction targets. As described in Impact AQ-6, construction-related GHG emissions in Sutter County resulting from PCCP implementation are not anticipated to exceed PCAPCD thresholds, and implementation of PCAPCD regulatory measures would further reduce GHG emissions. Therefore, emissions within Sutter County associated with PCCP implementation would not conflict with AB 32 reduction targets.

GHG emissions that would be associated with Covered Activities are discussed in the EIR for the *City of Lincoln General Plan*. This EIR determined that development activities resulting from the

implementation of the general plan would be associated with construction and operational emissions that would generate a significant amount of GHG emissions (City of Lincoln 2008). These emissions would be considered to potentially make a cumulatively considerable incremental contribution to global climate change. This impact would be significant and unavoidable.

The EIR for the *Placer County General Plan* did not analyze GHG emissions (Placer County 1994). However, the level of growth associated with the general plan would be expected to generate a significant amount of GHG emissions that would be considered to potentially make a cumulatively considerable incremental contribution to global climate change and result in a significant and unavoidable impact.

Emissions resulting from Covered Activities within Sutter County would also be temporary in nature. The activities would be consistent with construction-related measures in the Sutter County CAP, which was adopted to support overall AB 32 reduction targets. As described in Impact AQ-6, construction-related GHG emissions in Sutter County resulting from Covered Activities are not anticipated to exceed PCAPCD thresholds, and implementation of PCAPCD regulatory measures would further reduce GHG emissions. Therefore, emissions within Sutter County associated with Covered Activities would not conflict with AB 32 reduction targets.

Accordingly, Covered Activities associated with the PCCP within Placer County would conflict with AB 32 reduction targets.

SB 32 and Executive Order S-3-05

As discussed in Section 3.2.1 of Chapter 3, *Affected Environment*, SB 32 established an interim GHG reduction target of 40% below 1990 levels by 2030, and EO S-3-05 established a long-term goal of reducing statewide GHG emissions to 80% below 1990 levels by 2050. Achieving these long-term GHG reduction policies will require systemic changes in how energy is produced and used.

ARB adopted the 2017 Climate Change Scoping Plan in November 2017, as a framework to achieve the 2030 GHG reduction goal described in SB 32. The 2017 Scoping Plan carries forward GHG reduction measures from the AB 32 2014 First Update, as well as new potential measures to help achieve the State's 2030 target across all sectors.

Achieving EO S-3-05 will require even more aggressive changes to all sectors of the economy and will require participation of all levels of government to further reduce GHG emissions. The extent to which the proposed Plan's emissions and resulting impacts would be mitigated through implementation of state-wide (or nationwide) changes is not known. Although many GHG reduction measures outlined in the 2017 Scoping Plan will likely continue to be implemented and enhanced beyond the year 2030, no plan for meeting the 2050 GHG reduction goal described in EO S-3-05 has yet been adopted.

Emissions resulting from PCCP implementation and Covered Activities beyond year 2020 within Placer County would be considered temporary, and emissions from O&M activities would be minor. As described in Impact AQ-6, construction-related GHG emissions within Placer County resulting from PCCP implementation are not anticipated to exceed PCAPCD thresholds, and implementation of PCAPCD regulatory measures would further reduce GHG emissions. Therefore, effects within Placer County associated with the PCCP would not conflict with SB 32 reduction targets. However, because PCAPCD recommends GHG offsets for a 20-year period for operations (and only for the periods of activity exceeding thresholds for construction activities), they would not help meet the 2050 EO S-3-

05 reduction targets. Lead Agencies may require offsets, but they would not help in meeting 2050 targets.

Emissions resulting from PCCP implementation and Covered Activities beyond year 2020 within Sutter County would also be temporary in nature, and O&M emissions would be minor. As described in Impact AQ-6, construction-related GHG emissions in Sutter County resulting from PCCP implementation and Covered Activities are not anticipated to exceed PCAPCD thresholds, and implementation of PCAPCD regulatory measures would further reduce GHG emissions. Therefore, effects within Sutter County associated with PCCP implementation would not conflict with SB 32 reduction targets. However, because PCAPCD recommends GHG offsets for a 20-year period for operations (and only for the periods of activity exceeding thresholds for construction activities), they would not help meet the 2050 EO S-3-05 reduction targets. Lead Agencies may require offsets, but they would not help in meeting 2050 targets.

GHG emissions that would be associated with Covered Activities are discussed in the EIR for the *City of Lincoln General Plan*. This EIR determined that development activities in the general plan would be associated with construction and operational emissions that would generate a significant amount of GHG emissions (City of Lincoln 2008). These emissions would be considered to potentially make a cumulatively considerable incremental contribution to global climate change. This impact would be significant and unavoidable.

The EIR for the *Placer County General Plan* did not analyze GHG emissions (Placer County 1994). However, the level of growth associated with the general plan would be expected to generate a significant amount of GHG emissions that would be considered to potentially make a cumulatively considerable incremental contribution to global climate change and result in a significant and unavoidable impact.

Emissions resulting from Covered Activities within Sutter County would also be temporary in nature. The activities would be consistent with construction-related measures in the Sutter County CAP. As described in Impact AQ-6, construction-related GHG emissions in Sutter County resulting from Covered Activities are not anticipated to exceed PCAPCD thresholds, and implementation of PCAPCD regulatory measures would further reduce GHG emissions. Therefore, emissions within Sutter County associated with Covered Activities would not conflict with SB 32 reduction targets.

Accordingly, Covered Activities associated with the PCCP within Placer County would conflict with SB 32 and EO S-3-05 reduction targets.

NEPA Determination: As discussed in Section 3.2.1 of Chapter 3, *Affected Environment*, NEPA case-law establishes a precedent that GHG impacts should be evaluated in NEPA. Construction and O&M activities associated with implementation of the PCCP would result in temporary emissions of GHGs. Emissions resulting from activities associated with PCCP implementation are not anticipated to exceed PCAPCD's construction threshold of 10,000 MT CO_2e/year. Applicable air district regulatory measures would further reduce emissions from PCCP implementation. Emissions resulting from PCCP implementation would not conflict with AB 32 or SB 32. Emissions from construction and O&M activities associated with Covered Activities, however, could still result in short-term exceedances of PCAPCD GHG significance thresholds indicated in Table 4.2-4 and would conflict with AB 32 and SB 32. This impact would be significant and unavoidable.

CEQA Determination: Construction and O&M activities associated with implementation of the PCCP would result in temporary emissions of GHGs. Emissions resulting from activities associated with PCCP implementation are not anticipated to exceed PCAPCD's construction threshold of 10,000 MT CO_2e/year. Applicable air district regulatory measures would further reduce emissions from PCCP implementation. Emissions resulting from PCCP implementation would not conflict with AB 32 or SB 32. Emissions from construction and O&M activities associated with Covered Activities, however, could still result in short-term exceedances of PCAPCD GHG significance thresholds indicated in Table 4.2-4 and would conflict with AB 32 and SB 32. This impact would be significant and unavoidable.

Alternative 3—Reduced Take/Reduced Fill

Under Alternative 3, there would be a reduction in land conversion in the Potential Future Growth Area (PFG) from that proposed in the proposed action of approximately 1,000 acres, as described in Section 2.4.3.

The PCCP conservation strategy and its components, designed to provide for conservation of landscapes, natural communities, and Covered Species, would be the same under Alternative 3 as under the proposed action.

Impact AQ-1: Conflict with or obstruct implementation of the applicable air quality plan (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

As described under Impact AQ-1 for Alternative 2, the proposed action, implementation of the PCCP and Covered Activities would require the use of construction equipment throughout the Plan Area.

Emissions resulting from the full range of Covered Activities, including area sources and point sources, are discussed in the EIRs for the general plans within the PCCP Plan Area, and are described below.

Alternative 3 would reallocate future land development to other land cover types, resulting in a corresponding increase in conversion of some of the other natural community types, and the total extent of land conversion in the Valley PFG would be reduced by approximately 1,000 acres; however, the overall construction activity and development that would occur under Alternative 3 would be comparable to what is proposed under Alternative 2, the proposed action. Equipment would be used for construction and O&M activities associated with implementation of the PCCP as described above for Alternative 2, but the locations of construction and O&M activities are currently unknown for this and the other alternatives.

As described under Impact AQ-1 for Alternative 2, if construction- and operational-related emissions from implementation of these activities exceed air district thresholds, the activities could conflict with the air quality plans in the applicable air district, and the impact would be significant. Although implementation of Alternative 3 would result in a reduction in the overall potential footprint for urban development in the Plan Area, this impact would be significant if pollutant emissions would exceed the general conformity *de minimis* thresholds indicated in Table 4.2-1 or air district thresholds indicated in Tables 4.2-2, 4.2-3, 4.2-5, and 4.2-6. Implementation of BMPs included in the Plan, including BMP #6 for Roadside Construction, which includes dust control measures for active construction areas, would reduce these impacts but may not reduce them to a less-than-significant level.

Although PCCP implementation would not require a large amount of construction equipment or land disturbance and emissions are anticipated to be minor, FRAQMD's construction thresholds for ROG and NO_X of 25 pounds/day may be exceeded by even the relatively minor amount of construction activity associated with Plan implementation, compared with the large amount of construction activity associated with Covered Activities. Effects of the PCCP within Placer County are not anticipated to exceed PCAPCD's construction thresholds for any criteria pollutant. Applicable air district regulatory measures, shown in Appendices F and G, as well as criteria pollutant offsets for activities within FRAQMD jurisdiction in Sutter County (refer to Mitigation Measure AQ-1), would reduce emissions from construction and O&M activities associated with the Plan, and the City or the County could require criteria pollutant offsets, reducing emissions below air district and *de minimis* thresholds.

The EIR for the *City of Lincoln General Plan* determined that activities in the general plan associated with construction and operational emissions from anticipated growth would generate significant amounts of criteria pollutants in excess of PCAPCD thresholds (City of Lincoln 2008). These emissions could potentially conflict with the applicable air quality plans described under Impact AQ-1 of Alternative 2, the proposed action. This impact would be considered significant and unavoidable.

The EIR for the *Placer County General Plan* determined that activities in the general plan would be associated with cumulative emissions from anticipated growth that would generate significant amounts of criteria pollutants in excess of PCAPCD thresholds (Placer County 1994). These emissions could potentially conflict with the applicable air quality plans described under Impact AQ-1 of Alternative 2, the proposed action. This impact would be considered significant and unavoidable.

Similar to construction and O&M activities associated with the Plan, construction emissions associated with Covered Activities within Sutter County are anticipated to exceed FRAQMD's construction thresholds for ROG and NO_X. Applicable air district regulatory measures, shown in Appendix G, criteria pollutant offsets for activities within FRAQMD jurisdiction in Sutter County (refer to Mitigation Measure AQ-1), would reduce emissions from construction and O&M activities associated with Covered Activities and the County could require criteria pollutant offsets, reducing emissions below air district and *de minimis* thresholds. Accordingly, emissions from construction and O&M activities associated with Covered Activities are not anticipated to conflict with or obstruct implementation of the applicable air quality plan.

NEPA Determination: Implementation of BMPs described in the Plan, which are intended to minimize the effects of dust on vegetation and wildlife habitats in the Plan Area, would help reduce effects on humans in the vicinity of dust-generating Covered Activity and conservation measure work. Emissions from construction and O&M activities associated with effects resulting from implementation of the PCCP under Alternative 3 are not anticipated to exceed general conformity *de minimis* thresholds indicated in Table 4.2-1 as these activities are anticipated to be minimal and exceeding *de minimis* thresholds requires a significant amount of construction activity to occur. Emissions from construction and O&M activities associated with Covered Activities under Alternative 3, however, could result in short-term exceedances of general conformity *de minimis* thresholds indicated in Table 4.2-1. This impact would be significant and unavoidable.

CEQA Determination: Implementation of BMPs described in the Plan, which are intended to minimize the effects of dust on vegetation and wildlife habitats in the Plan Area, would help reduce effects on humans in the vicinity of dust-generating Covered Activity and conservation measure work. Effects resulting from implementation of the PCCP under Alternative 3 may exceed FRAQMD's construction thresholds for ROG and NO_X of 25 pounds/day. In addition to applicable FRAQMD regulatory measures shown in Appendix G, Mitigation Measure AQ-1 would reduce emissions from PCCP implementation to a level below FRAQMD thresholds. Effects of implementation of the PCCP within Placer County are not anticipated to exceed PCAPCD's construction thresholds for any criteria pollutant with implementation of applicable PCAPCD regulatory measures shown in Appendix F. Emissions from construction and O&M activities associated with Covered Activities, however, could still result in short-term exceedances of air district significance thresholds indicated in Tables 4.2-2, 4.2-3, 4.2-5, and 4.2-6. This impact would be significant and unavoidable.

Mitigation Measure AQ-1: Implement FRAQMD exhaust controls and criteria pollutant offsets during construction and O&M activities

Impact AQ-2: Violation of any air quality standard or substantial contribution to an existing or projected air quality violation (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

As described under Impact AQ-2 for Alternative 2, the proposed action, PCCP implementation and construction and O&M activities associated with Covered Activities would result in air pollutant emissions and earth movement that could generate dust. Alternative 3 would reallocate future land development to other land cover types, resulting in a corresponding increase in conversion of some of the other natural community types, and the total extent of land conversion in the Valley PFG would be reduced by approximately 1,000 acres; however, the overall construction activity that would occur under Alternative 3 would be comparable to what is proposed under Alternative 2.

This impact would be significant if construction and O&M activities were such that pollutant emissions would exceed the general conformity *de minimis* thresholds indicated in Table 4.2-1 or air district thresholds indicated in Tables 4.2-2, 4.2-3, 4.2-5, and 4.2-6. Implementation of BMPs included in the Plan, including BMP #6 for Roadside Construction, which includes dust control measures for active construction areas, would reduce criteria pollutant emissions, but may not reduce emissions to less-than-significant levels.

As mentioned in Impact AQ-1, applicable air district regulatory measures shown in Appendices F and G, as well as criteria pollutant offsets for activities within FRAQMD jurisdiction in Sutter County (refer to Mitigation Measure AQ-1), would reduce emissions from PCCP implementation to a level below air district and *de minimis* thresholds such that emissions would not violate any air quality standard or contribute substantially to an existing or project air quality violation.

Emissions resulting from Covered Activities are discussed in the EIRs for the general plans within the Plan Area, and are described below.

The EIR for the *City of Lincoln General Plan* determined that activities in the general plan would be associated with construction and operational emissions from anticipated growth that would generate significant amounts of criteria pollutants (City of Lincoln 2008). These emissions could exceed the general conformity *de minimis* thresholds indicated in Table 4.2-1 or applicable air district significance thresholds indicated in Tables 4.2-2, 4.2-3, 4.2-5, and 4.2-6. This impact would be significant and unavoidable.

The EIR for the *Placer County General Plan* determined that activities in the general plan would be associated with cumulative emissions from anticipated growth that would generate significant amounts of criteria pollutants (Placer County 1994). These emissions could exceed the general conformity *de minimis* thresholds indicated in Table 4.2-1 or applicable air district significance thresholds indicated in Tables 4.2-2, 4.2-3, 4.2-5, and 4.2-6. This impact would be significant and unavoidable.

Similar to construction and O&M activities associated with the PCCP, construction emissions associated with Covered Activities within Sutter County are anticipated to exceed FRAQMD's construction thresholds for ROG and NO_X. Applicable air district regulatory measures, shown in Appendix G, as well as criteria pollutant offsets for activities within FRAQMD jurisdiction in Sutter County (refer to Mitigation Measure AQ-1), would reduce emissions from construction and O&M activities associated with Covered Activities and the County could require criteria pollutant offsets, reducing emissions below air district and *de minimis* thresholds. Accordingly, emissions from construction and O&M activities associated with Covered Activities in Sutter County would be less than significant.

NEPA Determination: Implementation of BMPs described in the Plan, which are intended to minimize the effects of dust on vegetation and wildlife habitats in the Plan Area, would help reduce effects on humans in the vicinity of dust-generating Covered Activity and conservation measure work. Emissions from construction and O&M activities associated with resulting from implementation of the PCCP under Alternative 3 are not anticipated to exceed the general conformity *de minimis* thresholds indicated in Table 4.2-1. Emissions from construction and O&M activities associated with Covered Activities under Alternative 3, however, could result in short-term exceedances of general conformity *de minimis* thresholds indicated in Table 4.2-1. This impact would be significant and unavoidable.

CEQA Determination: Implementation of BMPs described in the Plan, which are intended to minimize the effects of dust on vegetation and wildlife habitats in the Plan Area, would help reduce effects on humans in the vicinity of dust-generating Covered Activity and conservation measure work. Effects resulting from implementation of the PCCP under Alternative 3 may exceed FRAQMD's construction thresholds for ROG and NO_X of 25 pounds/day. In addition to applicable FRAQMD regulatory measures shown in Appendix G, Mitigation Measure AQ-1 would reduce emissions from PCCP implementation to a level below FRAQMD thresholds. Effects of implementation of the PCCP within Placer County are not anticipated to exceed PCAPCD's construction thresholds for any criteria pollutant with implementation of applicable PCAPCD regulatory measures shown in Appendix F. Emissions from construction and O&M activities associated with Covered Activities under Alternative 3, however, could still result in short-term exceedances of air district significance thresholds indicated in Tables 4.2-2, 4.2-3, 4.2-5, and 4.2-6. This impact would be significant and unavoidable.

Mitigation Measure AQ-1: Implement FRAQMD exhaust controls and criteria pollutant offsets during construction and O&M activities

Impact AQ-3: Potential to result in a cumulatively considerable net increase of any criteria pollutant for which the project region is a nonattainment area for an applicable federal or state ambient air quality standard (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

As described under Impact AQ-3 for Alternative 2, the proposed action, effects of Covered Activities under Alternative 3 and effects of implementation of the PCCP a would result in air pollutant emissions and earth movement that could generate dust. Alternative 3 would reallocate future land development to other land cover types, resulting in a corresponding increase in conversion of some of the other natural community types, and the total extent of land conversion in the Valley PFG would be reduced by approximately 1,000 acres; however, the overall construction activity that would occur under Alternative 3 would be comparable to what is proposed under Alternative 2.

As mentioned in Alternative 2, applicable air district regulatory measures shown in Appendices F and G, as well as criteria pollutant offsets for activities within FRAQMD jurisdiction in Sutter County (refer to Mitigation Measure AQ-1), would reduce emissions resulting from PCCP implementation to a level below air district and *de minimis* thresholds such that emissions would not result in a cumulatively considerable increase of any criteria pollutant.

Emissions resulting from Covered Activities are discussed in the EIRs for the general plans within the Plan Area, and are described below.

The EIR for the *City of Lincoln General Plan* determined that activities in the general plan would be associated with construction and operational emissions from anticipated growth that would generate significant amounts of criteria pollutants (City of Lincoln 2008). These emissions could exceed the general conformity *de minimis* thresholds indicated in Table 4.2-1 or applicable air district significance thresholds indicated in Tables 4.2-2, 4.2-3, 4.2-5, and 4.2-6. This impact would be significant and unavoidable.

The EIR for the *Placer County General Plan* determined that activities in the general plan would be associated with cumulative emissions from anticipated growth that would generate significant amounts of criteria pollutants (Placer County 1994). These emissions could exceed the general conformity *de minimis* thresholds indicated in Table 4.2-1 or applicable air district significance thresholds indicated in Tables 4.2-2, 4.2-3, 4.2-5, and 4.2-6. This impact would be significant and unavoidable.

Similar to construction and O&M activities associated with the PCCP, construction emissions associated with Covered Activities within Sutter County are anticipated to exceed FRAQMD's construction thresholds for ROG and NO_X. Applicable air district regulatory measures, shown in Appendix G, as well as criteria pollutant offsets for activities within FRAQMD jurisdiction in Sutter County (refer to Mitigation Measure AQ-1), would reduce emissions from construction and O&M activities associated with Covered Activities and the County could require criteria pollutant offsets, reducing emissions below air district and *de minimis* thresholds. Accordingly, emissions from construction and O&M activities associated with Covered Activities in Sutter County would be less than significant.

NEPA Determination: Implementation of BMPs described in the Plan, which are intended to minimize the effects of dust on vegetation and wildlife habitats in the Plan Area, would help reduce effects on humans in the vicinity of dust-generating Covered Activity and conservation measure work. Emissions from construction and O&M activities associated with implementation of the PCCP

under Alternative 3 are not anticipated to exceed the general conformity *de minimis* thresholds indicated in Table 4.2-1. Emissions from construction and O&M activities associated with Covered Activities under Alternative 3, however, could result in short-term exceedances of general conformity *de minimis* thresholds indicated in Table 4.2-1. This impact would be significant and unavoidable.

CEQA Determination: Implementation of BMPs described in the Plan, which are intended to minimize the effects of dust on vegetation and wildlife habitats in the Plan Area, would help reduce effects on humans in the vicinity of dust-generating Covered Activity and conservation measure work. Effects may exceed FRAQMD's construction thresholds for ROG and NO_X of 25 pounds/day. In addition to applicable FRAQMD regulatory measures shown in Appendix G, Mitigation Measure AQ-1 would reduce emissions from PCCP implementation to a level below FRAQMD thresholds. Effects of implementation of the PCCP within Placer County are not anticipated to exceed PCAPCD's construction thresholds for any criteria pollutant with implementation of applicable PCAPCD regulatory measures shown in Appendix F. Emissions from construction and O&M activities associated with Covered Activities under Alternative 3, however, could still result in short-term exceedances of air district significance thresholds indicated in Tables 4.2-2, 4.2-3, 4.2-5, and 4.2-6. This impact would be significant and unavoidable.

Mitigation Measure AQ-1: Implement FRAQMD exhaust controls and criteria pollutant offsets during construction and O&M activities

Impact AQ-4: Exposure of sensitive receptors to substantial pollutant concentrations (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

As described under Impact AQ-4 for Alternative 2, the proposed action, effects of the PCCP and effects of Covered Activities under Alternative would result in air pollutant emissions and earth movement that could generate dust. Alternative 3 would reallocate future land development to other land cover types, resulting in a corresponding increase in conversion of some of the other natural community types, and the total extent of land conversion in the Valley PFG would be reduced by approximately 1,000 acres; however, the overall construction activity that would occur under Alternative 3 would be comparable to what is proposed under Alternative 2.

Localized Fugitive Particulate Matter Concentrations

As described under Impact AQ-4 for Alternative 2, effects of the PCCP and effects associated with Covered Activities under Alternative 3 would result in air pollutant emissions and earth movement that could generate dust. Exhaust-related PM emissions are discussed below under *Diesel Particulate Matter*. Most of the fugitive emissions are generated by project site grading and earthmoving activities; O&M activities would generate minor fugitive dust emissions.

PM2.5 particles are considered to be inhalable fine particles, and they may adversely affect the human respiratory system (especially in people who are naturally sensitive or susceptible to breathing problems). Although construction activities associated with Alternative 3 would generate fugitive dust emissions, the PCAPCD and FRAQMD consider fugitive dust impacts to be less than significant with implementation of fugitive dust control measures; see Section 3.2.1 in Chapter 3, *Affected Environment*, and Appendices F and G for the discussion of air district fugitive dust regulations. Implementation of applicable air district fugitive dust control measures shown in Appendices F and G would ensure compliance of Alternative 3 activities and Covered Activities with

the applicable air district rules, and to avoid significant impacts on receptors from localized fugitive dust generation.

Diesel Particulate Matter

As described under Impact AQ-4 for Alternative 2, effects of the PCCP and effects associated with Covered Activities under Alternative 3 would result in air pollutant emissions. The locations of construction and O&M activities are currently unknown. It is expected that some construction activity could occur near sensitive receptors in the city of Lincoln, city of Roseville, the unincorporated townsite of Sheridan, as well as rural residences throughout the Plan Area. However, all construction projects must abide by air district rules and regulatory measures adopted to reduce emissions throughout the region (refer to Section 3.2.1 of Chapter 3, *Affected Environment,* and Appendices F and G for relevant PCAPCD and FRAQMD rules). These rules and regulatory measures would reduce the potential for substantial pollutant emissions, including DPM, from implementation of Alternative 3 and Covered Activities and would minimize air pollution impacts on sensitive receptors. However, there may be instances where project-specific conditions preclude the reduction of health risks from DPM below adopted thresholds. Therefore, health impacts from DPM exposure are conservatively considered to be significant and unavoidable.

Localized Carbon Monoxide Concentrations

As described under Impact AQ-4 for Alternative 2, the Plan Area encompasses a mostly rural region considered attainment for CO, except for the southern portion of the Plan Area considered maintenance areas for CO, under federal and state air quality standards, as shown in Tables 3.2-6 and 3.2-7. Minor increases in traffic and congestion associated with implementation of Alternative 3, including habitat restoration, construction, and O&M activities, in different locations throughout the Plan Area would be temporary and minor in any given location. Accordingly, implementation of Alternative 3 would not contribute to or worsen localized CO concentrations from increased traffic or congestion associated with the PCCP. Increases in traffic and congestion associated with Covered Activities, including transportation projects, construction, and O&M activities, in different locations throughout the Plan Area would be temporary in any given location. Neither PCAPCD nor FRAQMD have project- or cumulative-level thresholds of significance for construction or operational CO emissions. Also, CO emissions from Covered Activities are not anticipated to cause a violation of the NAAQS or CAAQS.

Therefore, health impacts from CO exposure are considered to be less than significant.

Asbestos

As described under Impact AQ-4 for Alternative 2, the eastern portion of the Plan Area is located in an area that is known to contain naturally occurring asbestos (California Department of Conservation 2000). For construction and grading projects associated with Alternative 3 that would disturb 1 acre or less, ARB's ATCM requires several specific actions to minimize emissions of dust such as vehicle speed limitations, application of water prior to and during the ground disturbance, keeping storage piles wet or covered, and track-out prevention and removal (California Air Resources Board 2002). Construction projects that would disturb more than 1 acre must prepare and obtain air district approval for an asbestos dust mitigation plan. The plan must specify how the project will minimize emissions and must address specific emission sources. Regardless of the size of the disturbance, activities must not result in emissions that are visible crossing the property line.

Following ARB's guidance above, construction activities associated with Alternative 4 would have a less-than-significant impact on naturally occurring asbestos exposure.

Regarding ACMs, activities that disturb materials containing any amount of asbestos are subject to certain requirements of the Cal/OSHA asbestos standard found in 8 CCR 1529. Typically, removal or disturbance of more than 100 sf of materials containing more than 1% of asbestos must be performed by a registered asbestos abatement contractor, but associated waste labeling is not required if the materials contain 1% or less of asbestos. When the asbestos content of materials exceeds 1%, virtually all requirements of the standard become effective.

Materials containing more than 1% of asbestos are also subject to NESHAPs. Regulated ACMs (friable ACMs and nonfriable ACMs that will become friable during demolition operations) must be removed from structures before they are demolished. Certain nonfriable ACMs and materials containing 1% or less of asbestos may remain in highway structures, such as guardrail and bridges, during demolition; however, waste handling/disposal issues and Cal/OSHA work requirements may make this cost-prohibitive. With respect to potential worker exposure, notification, and registration requirements, Cal/OSHA defines *ACMs* as construction materials that contain more than 1% of asbestos (8 CCR 341.6).

Following state and federal guidance above, construction and O&M associated with PCCP implementation and Covered Activities would have a less-than-significant impact on asbestos exposure from ACMs.

NEPA Determination: Implementation of BMPs described in the Plan, which are intended to minimize the effects of dust on vegetation and wildlife habitats in the Plan Area, in addition to applicable air district rules and regulations, would help reduce effects from naturally occurring asbestos exposure and fugitive PM emissions on sensitive receptors in the vicinity of dust-generating Covered Activity and conservation measure work to less-than-significant levels. Cal/OSHA and NESHAP standards would also reduce ACM exposure to less-than-significant levels. Emissions from construction and O&M activities associated with PCCP implementation and Covered Activities, however, could result in exposure of sensitive receptors to substantial DPM pollutant concentrations even with implementation of applicable air district rules and regulations. This impact would be considered significant and unavoidable.

CEQA Determination: Similar to the NEPA conclusion, implementation of BMPs described in the Plan, which are intended to minimize the effects of dust on vegetation and wildlife habitats in the Plan Area, in addition to applicable air district rules and regulations, would help reduce effects from naturally occurring asbestos exposure and fugitive PM emissions on sensitive receptors in the vicinity of dust-generating Covered Activity and conservation measure work to less-than-significant levels. Cal/OSHA and NESHAP standards would also reduce ACM exposure to less-than-significant levels. Emissions from construction and O&M activities associated with PCCP implementation and Covered Activities, however, could result in exposure of sensitive receptors to substantial DPM pollutant concentrations even with implementation of applicable air district rules and regulations. This impact would be considered significant and unavoidable.

Impact AQ-5: Potential to create objectionable odors affecting a substantial number of people (NEPA: less than significant; CEQA: less than significant)

Effects of implementation of the PCCP under Alternative 3 and effects associated with Covered Activities under Alternative 3 would require heavy-duty diesel-powered equipment that could potentially create objectionable odors. It is expected that some construction activity could occur near sensitive receptors in the city of Lincoln, as well as rural residences throughout the Plan Area. However, construction activities would be temporary in nature and would not be likely to result in nuisance odors that would violate PCAPCD Rule 205 or *Sutter County General Plan* Policy ER 9.9 (Sutter County 2011). Given mandatory compliance with applicable rules and policies, no construction activities or materials are proposed that would create a significant level of objectionable odors. Furthermore, implementation of BMPs included in the Plan and applicable air district regulatory measures would reduce exhaust emissions during construction and minimize odor impacts on sensitive receptors.

Additionally, as future development under Alternative 3 must comply with Placer County and the City of Lincoln's zoning ordinances and buffer zone policies, odor-generating uses would only be developed in areas zoned for such uses. Consequently, new odor-generating uses would not be developed near residences or other receptors that would be sensitive to odors.

Therefore, these activities would not create objectionable odors affecting a substantial number of people.

NEPA Determination: Construction and operational activities associated with Alternative 3 could result in exposure of sensitive receptors in the Plan Area to substantial pollutant concentrations and, consequently, objectionable odors. However, future development must comply with air district rules, general plan policies, and the appropriate jurisdiction's zoning ordinances and buffer zone policies. Also, with implementation of applicable air district regulations, odor exposure would be further reduced and this impact would be less than significant.

CEQA Determination: Construction and operational activities associated with Alternative 3 could result in exposure of sensitive receptors in the Plan Area to substantial pollutant concentrations and, consequently, objectionable odors. However, future development must comply with air district rules, general plan policies, and the appropriate jurisdiction's zoning ordinances and buffer zone policies. Also, with implementation of applicable air district regulations, odor exposure would be further reduced and this impact would be less than significant. No mitigation has been identified.

Impact AQ-6: Generation of greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

As described under Impact AQ-6 for Alternative 2, PCAPCD has formally adopted GHG thresholds for construction and operation of projects. PCAPCD GHG thresholds will be applied to construction and O&M activities associated with effects within PCAPCD's and FRAQMD's jurisdiction since FRAQMD has not adopted GHG thresholds (Spaethe pers. comm.). The effects of implementation of the PCCP under Alternative 3 and effects associated with Covered Activities under Alternative 3 would require heavy-duty construction equipment, which would generate GHG emissions.

As discussed in Alternative 2, the relatively minor amount of construction activity associated with effects of the PCCP within Placer and Sutter Counties is not anticipated to exceed PCAPCD's GHG thresholds. Applicable air district regulatory measures would further reduce GHG emissions from Plan implementation within Placer and Sutter Counties. Consequently, construction and O&M activities associated with Plan implementation would not generate a significant amount of GHG emissions.

GHG emissions that would be associated with Covered Activities are discussed in the EIR for the *City of Lincoln General Plan*. This EIR determined that development activities in the general plan would be associated with construction and operational emissions that would generate a significant amount of GHG emissions (City of Lincoln 2008). These emissions would be considered to potentially make a cumulatively considerable incremental contribution to global climate change. This impact would be significant and unavoidable.

The EIR for the *Placer County General Plan* did not analyze GHG emissions (Placer County 1994). However, the level of growth associated with the general plan would be expected to generate a significant amount of GHG emissions that would be considered to potentially make a cumulatively considerable incremental contribution to global climate change and result in a significant and unavoidable impact.

Similar to construction and O&M activities associated with the PCCP, construction emissions associated with Covered Activities within Sutter County are not anticipated to exceed PCAPCD's GHG thresholds. Applicable air district regulatory measures would further reduce GHG emissions from Covered Activities within Sutter County. Consequently, construction and O&M activities associated with Covered Activities in Sutter County would not generate a significant amount of GHG emissions.

NEPA Determination: As discussed in Section 3.2.1 of Chapter 3, *Affected Environment*, NEPA case-law establishes a precedent that GHG impacts should be evaluated in NEPA. Construction and O&M activities associated with implementation of Alternative 3 would result in temporary emissions of GHGs. Effects of implementation of the PCCP under Alternative 3 are not anticipated to exceed PCAPCD's construction threshold of 10,000 MT CO_2e/year. Applicable air district regulatory measures would further reduce emissions from PCCP implementation. Emissions from construction and O&M activities associated with effects of Covered Activities under Alternative 3, however, could still result in short-term exceedances of PCAPCD GHG significance thresholds indicated in Table 4.2-4. This impact would be significant and unavoidable.

NEPA also requires an evaluation of how a project will adapt to the effects of climate change. Since it is unknown at this time the extent, duration, and physical manifestation of activities associated with Alternative 3, the analysis of climate change effects would be evaluated on a project-by-project basis during future NEPA project review. However, general effects of climate change that could affect the Plan Area include the following.

- Decreased water quality, supply, and availability.
- Increased temperatures leading to increases in ozone pollution levels.
- Extirpation or extinction of plant and wildlife species.
- Increased vulnerability of forests due to pest infestation and increased temperatures.
- Increased challenges for the agricultural industry due to potential water shortages and higher temperatures.

CEQA Determination: Construction and O&M activities associated with implementation of Alternative 3 would result in temporary emissions of GHGs. Effects of implementation of the PCCP under Alternative 3 are not anticipated to exceed PCAPCD's construction threshold of 10,000 MT CO_2e/year. Applicable air district regulatory measures would further reduce emissions from PCCP implementation. Emissions from construction and O&M activities associated with effects of Covered Activities under Alternative 3, however, could still result in short-term exceedances of PCAPCD GHG significance thresholds indicated in Table 4.2-4. This impact would be significant and unavoidable.

Impact AQ-7: Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing emissions of greenhouse gases (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

Assembly Bill 32

AB 32 codifies the state's GHG emissions reduction targets for 2020. ARB adopted the 2008 Scoping Plan and 2014 First Update as a framework for achieving AB 32. The 2008 Scoping Plan and 2014 First Update outline a series of technologically feasible and cost-effective measures to reduce statewide GHG emissions. As discussed in Section 3.2.1 of Chapter 3, *Affected Environment*, ARB adopted the *2017 Climate Change Scoping Plan Update* in November 2017, and it proposes continuing the major programs of the AB 32 Scoping Plan.

AB 32 has been implemented effectively with a suite of complementary strategies that serve as a model going forward. California is on target for meeting the GHG emission reduction goal of reducing emissions to 1990 levels by 2020. Many of the GHG reduction measures (e.g., Low Carbon Fuel Standard, Advanced Clean Car standards, and Cap-and-Trade) have been adopted over the last five years and implementation activities are ongoing.

Effects of implementation of the PCCP under Alternative 3 and effects associated with Covered Activities under Alternative 3 within Placer County would be temporary in nature, and O&M GHG emissions are assumed to be minor. Furthermore, PCAPCD's GHG significance thresholds described in Section 4.2.1 are based on compliance with AB 32. As described in Impact AQ-6, construction- and operation-related GHG emissions associated with PCCP implementation activities within Placer County are not anticipated to exceed PCAPCD thresholds, and implementation of PCAPCD regulatory measures would further reduce GHG emissions. Therefore, effects of implementation of the PCCP under Alternative 3 within Placer County associated with Alternative 3 would not conflict with AB 32 reduction targets.

Effects of implementation of the PCCP under Alternative 3 and effects associated with Covered Activities under Alternative 3 within Sutter County would also be temporary in nature and O&M emissions would be minor. The activities would be consistent with construction-related measures in the Sutter County CAP, which was adopted to support overall AB 32 reduction targets. As described in Impact AQ-6, construction-related GHG emissions in Sutter County resulting from PCCP implementation and Covered Activities are not anticipated to exceed PCAPCD thresholds, and implementation of PCAPCD regulatory measures would further reduce GHG emissions. Therefore, effects of implementation of the PCCP under Alternative 3 within Sutter County associated with Alternative 3 would not conflict with AB 32 reduction targets.

GHG emissions that would be associated with Covered Activities are discussed in the EIR for the *City of Lincoln General Plan.* This EIR determined that development activities in the general plan would be associated with construction and operational emissions that would generate a significant amount

of GHG emissions (City of Lincoln 2008). These emissions would be considered to potentially make a cumulatively considerable incremental contribution to global climate change. This impact would be significant and unavoidable.

The EIR for the *Placer County General Plan* did not analyze GHG emissions (Placer County 1994). However, the level of growth associated with the general plan would be expected to generate a significant amount of GHG emissions that would be considered to potentially make a cumulatively considerable incremental contribution to global climate change and result in a significant and unavoidable impact.

Emissions resulting from Covered Activities within Sutter County would also be temporary in nature. The activities would be consistent with construction-related measures in the Sutter County CAP, which was adopted to support overall AB 32 reduction targets. As described in Impact AQ-6, construction-related GHG emissions in Sutter County resulting from Covered Activities are not anticipated to exceed PCAPCD thresholds, and implementation of PCAPCD regulatory measures would further reduce GHG emissions. Therefore, emissions within Sutter County associated with Covered Activities would not conflict with AB 32 reduction targets.

Accordingly, Covered Activities associated with Alternative 3 within Placer County would conflict with AB 32 reduction targets.

SB 32 and Executive Order S-3-05

As discussed in Section 3.2.1 of Chapter 3, *Affected Environment*, SB 32 established an interim GHG reduction target of 40% below 1990 levels by 2030, and EO S-3-05 established a long-term goal of reducing statewide GHG emissions to 80% below 1990 levels by 2050. Achieving these long-term GHG reduction policies will require systemic changes in how energy is produced and used.

ARB adopted the 2017 Climate Change Scoping Plan in November 2017, as a framework to achieve the 2030 GHG reduction goal described in SB 32. The 2017 Scoping Plan carries forward GHG reduction measures from the AB 32 2014 First Update, as well as new potential measures to help achieve the State's 2030 target across all sectors.

Achieving EO S-3-05 will require even more aggressive changes to all sectors of the economy and will require participation of all levels of government to further reduce GHG emissions. The extent to which the proposed Plan's emissions and resulting impacts would be mitigated through implementation of state-wide (or nationwide) changes is not known. Although many GHG reduction measures outlined in the 2017 Scoping Plan will likely continue to be implemented and enhanced beyond the year 2030, no plan for meeting the 2050 GHG reduction goal described in EO S-3-05 has yet been adopted.

Emissions resulting from PCCP implementation and Covered Activities beyond year 2020 within Placer County would be considered temporary, and O&M emissions would be minor. As described in Impact AQ-6, construction- and operation-related GHG emissions associated with PCCP implementation activities within Placer County are not anticipated to exceed PCAPCD thresholds, and implementation of PCAPCD regulatory measures would further reduce GHG emissions. Therefore, PCCP implementation under Alternative 3 within Placer County would not conflict with SB 32 reduction targets. However, because PCAPCD recommends GHG offsets for a 20-year period for operations (and only for the periods of activity exceeding thresholds for construction activities),

they would not help meet the 2050 EO S-3-05 reduction targets. Lead Agencies may require offsets, but they would not help in meeting 2050 targets.

Emissions resulting from PCCP implementation and Covered Activities beyond year 2020 within Sutter County would also be temporary in nature, and O&M emissions would be minor. As described in Impact AQ-6, construction-related GHG emissions in Sutter County resulting from PCCP implementation and Covered Activities are not anticipated to exceed PCAPCD thresholds, and implementation of PCAPCD regulatory measures would further reduce GHG emissions. Therefore, PCCP implementation under Alternative 4 within Sutter County would not conflict with SB 32 reduction targets. However, because PCAPCD recommends GHG offsets for a 20-year period for operations (and only for the periods of activity exceeding thresholds for construction activities), they would not help meet the 2050 EO S-3-05 reduction targets. Lead Agencies may require offsets, but they would not help in meeting 2050 targets.

GHG emissions that would be associated with Covered Activities are discussed in the EIR for the *City of Lincoln General Plan*. This EIR determined that development activities in the general plan would be associated with construction and operational emissions that would generate a significant amount of GHG emissions (City of Lincoln 2008). These emissions would be considered to potentially make a cumulatively considerable incremental contribution to global climate change. This impact would be significant and unavoidable.

The EIR for the *Placer County General Plan* did not analyze GHG emissions (Placer County 1994). However, the level of growth associated with the general plan would be expected to generate a significant amount of GHG emissions that would be considered to potentially make a cumulatively considerable incremental contribution to global climate change and result in a significant and unavoidable impact.

Emissions resulting from Covered Activities within Sutter County would also be temporary in nature. The activities would be consistent with construction-related measures in the Sutter County CAP. As described in Impact AQ-6, construction-related GHG emissions in Sutter County resulting from Covered Activities are not anticipated to exceed PCAPCD thresholds, and implementation of PCAPCD regulatory measures would further reduce GHG emissions. Therefore, emissions within Sutter County associated with Covered Activities would not conflict with SB 32 reduction targets.

Accordingly, Covered Activities associated with Alternative 3 within Placer County would conflict with SB 32 and EO S-3-05 reduction targets.

NEPA Determination: As discussed in Section 3.2.1 of Chapter 3, *Affected Environment*, NEPA case-law establishes a precedent that GHG impacts should be evaluated in NEPA. Construction and O&M activities associated with implementation of the PCCP under Alternative 3 would result in temporary emissions of GHGs. Effects of implementation of the PCCP under Alternative 3 are not anticipated to exceed PCAPCD's construction threshold of 10,000 MT CO_2e/year. Applicable air district regulatory measures would further reduce emissions from PCCP implementation. Effects of implementation of the PCCP under Alternative 3 would not conflict with AB 32 or SB 32. Emissions from construction and O&M activities associated with Covered Activities under Alternative 3, however, could still result in short-term exceedances of PCAPCD GHG significance thresholds indicated in Table 4.2-4 and would conflict with AB 32 and SB 32. This impact would be significant and unavoidable.

CEQA Determination: Construction and O&M activities associated with implementation of Alternative 3 would result in temporary emissions of GHGs. Effects associated with implementation of the PCCP under Alternative 3 are not anticipated to exceed PCAPCD's construction threshold of 10,000 MT CO_2e/year. Applicable air district regulatory measures would further reduce emissions from PCCP implementation. Effects from implementation of the PCCP under Alternative 3 would not conflict with AB 32 or SB 32. Emissions from construction and O&M activities associated with Covered Activities under Alternative 3, however, could still result in short-term exceedances of PCAPCD GHG significance thresholds indicated in Table 4.2-4 and would conflict with AB 32 and SB 32. This impact would be significant and unavoidable.

Alternative 4—Reduced Permit Term

Under Alternative 4, the PCCP would include the same permit conditions for Covered Activities and same conservation measures and conservation strategy as the PCCP, except the permit term would be for 30 years instead of 50. Because of the shorter permit term, longer-term projects would not be covered. Additionally, there would be lower levels of urban and suburban development. As a result, the amount of conservation would be less, generally in proportion to the lower level of development. Finally, it is expected that less funding would be needed for acquisition, management, and restoration of a lesser amount of conservation lands (i.e., a smaller conservation strategy).

Impact AQ-1: Conflict with or obstruct implementation of the applicable air quality plan (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

As described under Impact AQ-1 for Alternative 2, the proposed action, PCCP implementation and Covered Activities would require the use of construction equipment throughout the Plan Area. Alternative 4 would reduce the permit term in the Plan Area from 50 years to 30 years and accordingly there would be less growth covered by the PCCP. The form and type of growth is projected to be the same; there would just be less of it with a permit term of 30 years. A shorter permit term would also reduce the amount of conservation that would occur. The overall construction activity and development that would occur under Alternative 4 would be comparable to what is proposed under Alternative 2, the proposed action. Equipment would be used for construction activities, as well as O&M activities, but the locations of construction and O&M activities are currently unknown for this and the other alternatives.

As described under Impact AQ-1 for Alternative 2, if construction- and operational-related emissions from implementation of the PCCP exceed air district thresholds, the activities could conflict with the air quality plans in the applicable air district, and the impact would be significant. Although implementation of Alternative 4 would result in a reduction in the overall potential footprint for urban development in the Plan Area, this impact would be significant if pollutant emissions would exceed the general conformity *de minimis* thresholds indicated in Table 4.2-1 or air district thresholds indicated in Tables 4.2-2, 4.2-3, 4.2-5, and 4.2-6. Implementation of BMPs included in the Plan, including BMP #6 for Roadside Construction, which includes dust control measures for active construction areas, would reduce these impacts, but may not reduce them to a less-than-significant level.

Although PCCP implementation would not require a large amount of construction equipment or land disturbance and emissions are anticipated to be minor, FRAQMD's construction thresholds for ROG and NO_X of 25 pounds/day may be exceeded by even the relatively minor amount of construction activity associated with PCCP implementation, compared with the large amount of construction

activity associated with Covered Activities. Effects of the PCCP within Placer County are not anticipated to exceed PCAPCD's construction thresholds for any criteria pollutant. Applicable air district regulatory measures, shown in Appendices F and G, as well as criteria pollutant offsets for activities within FRAQMD jurisdiction in Sutter County (refer to Mitigation Measure AQ-1), would reduce emissions from construction and O&M activities associated with the PCCP and the City or the County could require criteria pollutant offsets, reducing emissions below air district and *de minimis* thresholds.

Emissions resulting from Covered Activities are discussed in the EIRs for the general plans within the Plan Area, and are described below.

The EIR for the *City of Lincoln General Plan* determined that activities in the general plan would be associated with construction and operational emissions from anticipated growth that would generate significant amounts of criteria pollutants in excess of PCAPCD thresholds (City of Lincoln 2008). These emissions could potentially conflict with the applicable air quality plans described under Impact AQ-1 of Alternative 2, the proposed action. This impact would be considered significant and unavoidable.

The EIR for the *Placer County General Plan* determined that activities in the general plan would be associated with cumulative emissions from anticipated growth that would generate significant amounts of criteria pollutants in excess of PCAPCD thresholds (Placer County 1994). These emissions could potentially conflict with the applicable air quality plans described under Impact AQ-1 of Alternative 2, the proposed action. This impact would be considered significant and unavoidable.

Similar to construction and O&M activities associated with the PCCP, construction emissions associated with Covered Activities within Sutter County are anticipated to exceed FRAQMD's construction thresholds for ROG and NO_X. Applicable air district regulatory measures, shown in Appendix G, criteria pollutant offsets for activities within FRAQMD jurisdiction in Sutter County (refer to Mitigation Measure AQ-1), would reduce emissions from construction and O&M activities associated with Covered Activities and the County could require criteria pollutant offsets, reducing emissions below air district and *de minimis* thresholds. Accordingly, emissions from construction and O&M activities associated with Covered Activities are not anticipated to conflict with or obstruct implementation of the applicable air quality plan.

NEPA Determination: Implementation of BMPs described in the Plan, which are intended to minimize the effects of dust on vegetation and wildlife habitats in the Plan Area, would help reduce effects on humans in the vicinity of dust-generating Covered Activity and conservation measure work. Emissions from construction and O&M activities associated with PCCP implementation under Alternative 4 are not anticipated to exceed general conformity *de minimis* thresholds indicated in Table 4.2-1 because activities associated with PCCP implementation are anticipated to be minimal and exceeding *de minimis* thresholds requires a significant amount of construction activity. Emissions from construction and O&M activities associated with Covered Activities of Alternative 4, however, could result in short-term exceedances of general conformity *de minimis* thresholds indicated in Table 4.2-1. This impact would be significant and unavoidable.

CEQA Determination: Implementation of BMPs described in the Plan, which are intended to minimize the effects of dust on vegetation and wildlife habitats in the Plan Area, would help reduce effects on humans in the vicinity of dust-generating Covered Activity and conservation measure work. Emissions from construction and O&M activities associated with PCCP implementation under

Alternative 4 may exceed FRAQMD's construction thresholds for ROG and NO_X of 25 pounds/day. In addition to applicable FRAQMD regulatory measures shown in Appendix G, Mitigation Measure AQ-1 would reduce emissions from PCCP implementation to a level below FRAQMD thresholds. Effects of implementation of the PCCP within Placer County are not anticipated to exceed PCAPCD's construction thresholds for any criteria pollutant with implementation of applicable PCAPCD regulatory measures shown in Appendix F. Emissions from construction and O&M activities associated with Covered Activities of Alternative 4, however, could still result in short-term exceedances of air district significance thresholds indicated in Tables 4.2-2, 4.2-3, 4.2-5, and 4.2-6. This impact would be significant and unavoidable.

Mitigation Measure AQ-1: Implement FRAQMD exhaust controls and criteria pollutant offsets during construction and O&M activities

Impact AQ-2: Violation of any air quality standard or substantial contribution to an existing or projected air quality violation (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

As described under Impact AQ-2 for Alternative 2, the proposed action, PCCP implementation and construction and O&M activities associated with Covered Activities would result in air pollutant emissions and earth movement that could generate dust. Alternative 4 would reduce the potential footprint for urban development and would reduce the amount of conservation in the Plan Area by reducing the permit term in the Plan Area from 50 years to 30 years; however, the overall construction activity that would occur under Alternative 4 would be comparable to what is proposed under Alternative 2.

This impact would be significant if construction and O&M activities were such that pollutant emissions would exceed the general conformity *de minimis* thresholds indicated in Table 4.2-1 or air district thresholds indicated in Tables 4.2-2, 4.2-3, 4.2-5, and 4.2-6. Implementation of BMPs included in the Plan, including BMP #6 for Roadside Construction, which includes dust control measures for active construction areas, would reduce criteria pollutant emissions, but may not reduce emissions to less than significant levels.

As mentioned in Impact AQ-1, applicable air district regulatory measures shown in Appendices F and G, as well as criteria pollutant offsets for activities within FRAQMD jurisdiction in Sutter County (refer to Mitigation Measure AQ-1), would reduce emissions from PCCP implementation to a level below air district and *de minimis* thresholds such that emissions would not violate any air quality standard or contribute substantially to an existing or project air quality violation.

Emissions resulting from Covered Activities are discussed in the EIRs for the general plans within the Plan Area, and are described below.

The EIR for the *City of Lincoln General Plan* determined that activities in the general plan would be associated with construction and operational emissions from anticipated growth that would generate significant amounts of criteria pollutants (City of Lincoln 2008). These emissions could exceed the general conformity *de minimis* thresholds indicated in Table 4.2-1 or applicable air district significance thresholds indicated in Tables 4.2-2, 4.2-3, 4.2-5, and 4.2-6. This impact would be significant and unavoidable.

The EIR for the *Placer County General Plan* determined that activities in the general plan would be associated with cumulative emissions from anticipated growth that would generate significant amounts of criteria pollutants (Placer County 1994). These emissions could exceed the general conformity *de minimis* thresholds indicated in Table 4.2-1 or applicable air district significance thresholds indicated in Tables 4.2-2, 4.2-3, 4.2-5, and 4.2-6. This impact would be significant and unavoidable.

Similar to construction and O&M activities associated with the PCCP, construction emissions associated with Covered Activities within Sutter County are anticipated to exceed FRAQMD's construction thresholds for ROG and NO_X. Applicable air district regulatory measures, shown in Appendix G, as well as criteria pollutant offsets for activities within FRAQMD jurisdiction in Sutter County (refer to Mitigation Measure AQ-1), would reduce emissions from construction and O&M activities associated with Covered Activities and the County could require criteria pollutant offsets, reducing emissions below air district and *de minimis* thresholds. Accordingly, emissions from construction and O&M activities associated with Covered Activities in Sutter County would be less than significant.

NEPA Determination: Implementation of BMPs described in the Plan, which are intended to minimize the effects of dust on vegetation and wildlife habitats in the Plan Area, would help reduce effects on humans in the vicinity of dust-generating Covered Activity and conservation measure work. Emissions from construction and O&M activities associated with PCCP implementation under Alternative 4 are not anticipated to exceed the general conformity *de minimis* thresholds indicated in Table 4.2-1. Emissions from construction and O&M activities associated with Covered Activities of Alternative 4, however, could result in short-term exceedances of general conformity *de minimis* thresholds indicated in Table 4.2-1. This impact would be significant and unavoidable.

CEQA Determination: Implementation of BMPs described in the Plan, which are intended to minimize the effects of dust on vegetation and wildlife habitats in the Plan Area, would help reduce effects on humans in the vicinity of dust-generating Covered Activity and conservation measure work. Emissions resulting from PCCP implementation under Alternative 4 may exceed FRAQMD's construction thresholds for ROG and NO_X of 25 pounds/day. In addition to applicable air district regulatory measures, Mitigation Measure AQ-1 would reduce emissions from PCCP implementation to a level below air district thresholds. Emissions from construction and O&M activities associated with Covered Activities of Alternative 4, however, could still result in short-term exceedances of air district significance thresholds indicated in Tables 4.2-2, 4.2-3, 4.2-5, and 4.2-6. This impact would be significant and unavoidable.

Mitigation Measure AQ-1: Implement FRAQMD exhaust controls and criteria pollutant offsets during construction and O&M activities

Impact AQ-3: Potential to result in a cumulatively considerable net increase of any criteria pollutant for which the project region is a nonattainment area for an applicable federal or state ambient air quality standard (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

As described under Impact AQ-3 for Alternative 2, the proposed action, PCCP implementation and construction and O&M activities associated with Covered Activities would result in air pollutant emissions and earth movement that could generate dust. Alternative 4 would reduce the potential footprint for urban development and would reduce the amount of conservation in the Plan Area by

reducing the permit term in the Plan Area from 50 years to 30 years; however, the overall construction activity that would occur under Alternative 4 would be comparable to what is proposed under Alternative 2.

As mentioned in Alternative 2, applicable air district regulatory measures shown in Appendices F and G, as well as criteria pollutant offsets for activities within FRAQMD jurisdiction in Sutter County (refer to Mitigation Measure AQ-1), would reduce emissions resulting from PCCP implementation to a level below air district and *de minimis* thresholds such that emissions would not result in a cumulatively considerable increase of any criteria pollutant.

Emissions resulting from Covered Activities are discussed in the EIRs for the general plans within the Plan Area, and are described below.

The EIR for the *City of Lincoln General Plan* determined that activities in the general plan would be associated with construction and operational emissions from anticipated growth that would generate significant amounts of criteria pollutants (City of Lincoln 2008). These emissions could exceed the general conformity *de minimis* thresholds indicated in Table 4.2-1 or applicable air district significance thresholds indicated in Tables 4.2-2, 4.2-3, 4.2-5, and 4.2-6. This impact would be significant and unavoidable.

The EIR for the *Placer County General Plan* determined that activities in the general plan would be associated with cumulative emissions from anticipated growth that would generate significant amounts of criteria pollutants (Placer County 1994). These emissions could exceed the general conformity *de minimis* thresholds indicated in Table 4.2-1 or applicable air district significance thresholds indicated in Tables 4.2-2, 4.2-3, 4.2-5, and 4.2-6. This impact would be significant and unavoidable.

Similar to construction and O&M activities associated with the PCCP, construction emissions associated with Covered Activities within Sutter County are anticipated to exceed FRAQMD's construction thresholds for ROG and NO_X. Applicable air district regulatory measures, shown in Appendix G, as well as criteria pollutant offsets for activities within FRAQMD jurisdiction in Sutter County (refer to Mitigation Measure AQ-1), would reduce emissions from construction and O&M activities associated with Covered Activities and the County could require criteria pollutant offsets, reducing emissions below air district and *de minimis* thresholds. Accordingly, emissions from construction and O&M activities associated with Covered Activities in Sutter County would be less than significant.

NEPA Determination: Implementation of BMPs described in the Plan, which are intended to minimize the effects of dust on vegetation and wildlife habitats in the Plan Area, would help reduce effects on humans in the vicinity of dust-generating Covered Activity and conservation measure work. Emissions from construction and O&M activities associated with PCCP implementation under Alternative 4 are not anticipated to exceed the general conformity *de minimis* thresholds indicated in Table 4.2-1. Emissions from construction and O&M activities associated with Covered Activities of Alternative 4, however, could result in short-term exceedances of general conformity *de minimis* thresholds indicated in Table 4.2-1. This impact would be significant and unavoidable.

CEQA Determination: Implementation of BMPs described in the Plan, which are intended to minimize the effects of dust on vegetation and wildlife habitats in the Plan Area, would help reduce effects on humans in the vicinity of dust-generating Covered Activity and conservation measure work. Emissions resulting from PCCP implementation under Alternative 4 may exceed FRAQMD's

construction thresholds for ROG and NO_X of 25 pounds/day. In addition to applicable FRAQMD regulatory measures shown in Appendix G, MM AQ-1 would reduce emissions from PCCP implementation to a level below FRAQMD thresholds. Effects of implementation of the PCCP within Placer County are not anticipated to exceed PCAPCD's construction thresholds for any criteria pollutant with implementation of applicable PCAPCD regulatory measures shown in Appendix F. Emissions from construction and O&M activities associated with Covered Activities of Alternative 4, however, could still result in short-term exceedances of air district significance thresholds indicated in Tables 4.2-2, 4.2-3, 4.2-5, and 4.2-6. This impact would be significant and unavoidable.

Mitigation Measure AQ-1: Implement FRAQMD exhaust controls and criteria pollutant offsets during construction and O&M activities

Impact AQ-4: Exposure of sensitive receptors to substantial pollutant concentrations (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

As described under Impact AQ-4 for Alternative 2, the proposed action, PCCP implementation and construction and O&M activities associated with Covered Activities would result in air pollutant emissions and earth movement that could generate dust. Alternative 4 would reduce the potential footprint for urban development and would reduce the amount of conservation in the Plan Area by reducing the permit term in the Plan Area from 50 years to 30 years; however, the overall construction activity that would occur under Alternative 4 would be comparable to what is proposed under Alternative 2.

Localized Fugitive Particulate Matter Concentrations

As described under Impact AQ-4 for Alternative 2, the proposed action, PCCP implementation and construction and O&M activities associated with Covered Activities would result in air pollutant emissions and earth movement that could generate dust. Exhaust-related PM emissions are discussed below under *Diesel Particulate Matter*. Most of the fugitive emissions are generated by project site grading and earthmoving activities; O&M activities would generate minor fugitive dust emissions.

PM2.5 particles are considered to be inhalable fine particles, and they may adversely affect the human respiratory system (especially in people who are naturally sensitive or susceptible to breathing problems). Although construction activities associated with Alternative 4 would generate fugitive dust emissions, the PCAPCD and FRAQMD consider fugitive dust impacts to be less than significant with implementation of fugitive dust control measures; see Section 3.2.1 in Chapter 3, *Affected Environment*, and Appendices F and G for the discussion of air district fugitive dust regulations. Implementation of applicable air district fugitive dust control measures shown in Appendices F and G would ensure compliance of Alternative 4 activities and Covered Activities with the applicable air district rules, and to avoid significant impacts on receptors from localized fugitive dust generation.

Diesel Particulate Matter

As described under Impact AQ-4 for Alternative 2, PCCP implementation and construction and O&M activities associated with Covered Activities would result in air pollutant emissions. The locations of construction and O&M activities are currently unknown. It is expected that some construction activity could occur near sensitive receptors in the city of Lincoln, city of Roseville, the unincorporated townsite of Sheridan, as well as rural residences throughout the Plan Area.

However, all construction projects must abide by air district rules and regulatory measures adopted to reduce emissions throughout the region (refer to Section 3.2.1 of Chapter 3, *Affected Environment,* and Appendices F and G for relevant PCAPCD and FRAQMD rules). These rules and regulatory measures would reduce the potential for substantial pollutant emissions, including DPM, from implementation of Alternative 4 and Covered Activities and would minimize air pollution impacts on sensitive receptors. However, there may be instances where project-specific conditions preclude the reduction of health risks from DPM below adopted thresholds. Therefore, health impacts from DPM exposure are conservatively considered to be significant and unavoidable.

Localized Carbon Monoxide Concentrations

The Plan Area encompasses a mostly rural region considered attainment for CO, except for the southern portion of the Plan Area considered maintenance areas for CO, under federal and state air quality standards, as shown in Tables 3.2-6 and 3.2-7. Minor increases in traffic and congestion associated with implementation of Alternative 4, including habitat restoration, construction, and O&M activities, in different locations throughout the Plan Area would be temporary and minor in any given location. Accordingly, implementation of Alternative 4 would not contribute to or worsen localized CO concentrations from increased traffic or congestion associated with the PCCP. Increases in traffic and congestion associated with Covered Activities, including transportation projects, construction, and O&M activities, in different locations throughout the Plan Area would be temporary in any given location. Neither PCAPCD nor FRAQMD have project- or cumulative-level thresholds of significance for construction or operational CO emissions. Also, CO emissions from Covered Activities are not anticipated to cause a violation of the NAAQS or CAAQS.

Therefore, health impacts from CO exposure are considered to be less than significant.

Asbestos

As described under Impact AQ-4 for Alternative 2, the eastern portion of the Plan Area is located in an area that is known to contain naturally occurring asbestos (California Department of Conservation 2000). For construction and grading projects associated with Alternative 4 that would disturb 1 acre or less, ARB's ATCM requires several specific actions to minimize emissions of dust such as vehicle speed limitations, application of water prior to and during the ground disturbance, keeping storage piles wet or covered, and track-out prevention and removal (California Air Resources Board 2002). Construction projects that would disturb more than 1 acre must prepare and obtain air district approval for an asbestos dust mitigation plan. The plan must specify how the project will minimize emissions and must address specific emission sources. Regardless of the size of the disturbance, activities must not result in emissions that are visible crossing the property line.

Following ARB's guidance above, construction activities associated with Alternative 4 would have a less-than-significant impact on naturally occurring asbestos exposure.

Regarding ACMs, activities that disturb materials containing any amount of asbestos are subject to certain requirements of the Cal/OSHA asbestos standard found in 8 CCR 1529. Typically, removal or disturbance of more than 100 sf of materials containing more than 1% of asbestos must be performed by a registered asbestos abatement contractor, but associated waste labeling is not required if the materials contain 1% or less of asbestos. When the asbestos content of materials exceeds 1%, virtually all requirements of the standard become effective.

Materials containing more than 1% of asbestos are also subject to NESHAPs. Regulated ACMs (friable ACMs and nonfriable ACMs that will become friable during demolition operations) must be removed from structures before they are demolished. Certain nonfriable ACMs and materials containing 1% or less of asbestos may remain in highway structures, such as guardrail and bridges, during demolition; however, waste handling/disposal issues and Cal/OSHA work requirements may make this cost-prohibitive. With respect to potential worker exposure, notification, and registration requirements, Cal/OSHA defines *ACMs* as construction materials that contain more than 1% of asbestos (8 CCR 341.6).

Following state and federal guidance above, construction and O&M associated with PCCP implementation and Covered Activities would have a less-than-significant impact on asbestos exposure from ACMs.

NEPA Determination: Implementation of BMPs described in the Plan, which are intended to minimize the effects of dust on vegetation and wildlife habitats in the Plan Area, in addition to applicable air district rules and regulations, would help reduce effects from naturally occurring asbestos exposure and fugitive PM emissions on sensitive receptors in the vicinity of dust-generating Covered Activity and conservation measure work to less-than-significant levels. Cal/OSHA and NESHAP standards would also reduce ACM exposure to less-than-significant levels. Emissions from construction and O&M activities associated with PCCP implementation and Covered Activities, however, could result in exposure of sensitive receptors to substantial DPM pollutant concentrations even with implementation of applicable air district rules and regulations. This impact would be considered significant and unavoidable.

CEQA Determination: Similar to the NEPA conclusion, implementation of BMPs described in the Plan, which are intended to minimize the effects of dust on vegetation and wildlife habitats in the Plan Area, in addition to applicable air district rules and regulations, would help reduce effects from naturally occurring asbestos exposure and fugitive PM emissions on sensitive receptors in the vicinity of dust-generating Covered Activity and conservation measure work to less-than-significant levels. Cal/OSHA and NESHAP standards would also reduce ACM exposure to less-than-significant levels. Emissions from construction and O&M activities associated with PCCP implementation and Covered Activities, however, could result in exposure of sensitive receptors to substantial DPM pollutant concentrations even with implementation of applicable air district rules and regulations. This impact would be considered significant and unavoidable.

Impact AQ-5: Potential to create objectionable odors affecting a substantial number of people (NEPA: less than significant; CEQA: less than significant)

Construction and O&M activities associated with PCCP implementation and Covered Activities would require heavy-duty diesel-powered equipment that could potentially create objectionable odors. It is expected that some construction activity could occur near sensitive receptors in the city of Lincoln, as well as rural residences throughout the Plan Area. However, construction activities would be temporary in nature and would not be likely to result in nuisance odors that would violate PCAPCD Rule 205 or *Sutter County General Plan* Policy ER 9.9 (Sutter County 2011). Given mandatory compliance with applicable rules and policies, no construction activities or materials are proposed that would create a significant level of objectionable odors. Furthermore, implementation of BMPs included in the Plan and applicable air district regulatory measures would reduce exhaust emissions during construction and minimize odor impacts on sensitive receptors.

Additionally, as future development under Alternative 4 must comply with Placer County and the City of Lincoln's zoning ordinances and buffer zone policies, odor-generating uses would only be developed in areas zoned for such uses. Consequently, new odor-generating uses would not be developed near residences or other receptors that would be sensitive to odors.

Therefore, these activities would not create objectionable odors affecting a substantial number of people.

NEPA Determination: Construction activities associated with Alternative 4 could result in exposure of sensitive receptors in the Plan Area to substantial pollutant concentrations and, consequently, objectionable odors. However, future development must comply with air district rules, general plan policies, and the appropriate jurisdiction's zoning ordinances and buffer zone policies. Also, with implementation of applicable air district regulations, odor exposure would be further reduced and this impact would be less than significant.

CEQA Determination: Construction activities associated with Alternative 4 could result in exposure of sensitive receptors in the Plan Area to substantial pollutant concentrations and, consequently, objectionable odors. However, future development must comply with air district rules, general plan policies, and the appropriate jurisdiction's zoning ordinances and buffer zone policies. Also, with implementation of applicable air district regulations, odor exposure would be further reduced and this impact would be less than significant. No mitigation has been identified.

Impact AQ-6: Generation of greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

As described under Impact AQ-6 for Alternative 2, the proposed action, PCAPCD has formally adopted GHG thresholds for construction and operation of projects. PCAPCD GHG thresholds will be applied to construction and O&M activities associated with PCCP implementation and Covered Activities within PCAPCD's and FRAQMD's jurisdiction because FRAQMD has not adopted GHG thresholds (Spaethe pers. comm.). PCCP implementation under Alternative 4 would require heavy-duty construction equipment, which would generate GHG emissions.

As discussed in Alternative 2, the relatively minor amount of construction activity associated with effects of the PCCP within Placer and Sutter Counties is not anticipated to exceed PCAPCD's GHG thresholds. Applicable air district regulatory measures would further reduce GHG emissions from Plan implementation within Placer and Sutter Counties. Consequently, construction and O&M activities associated with Plan implementation would not generate a significant amount of GHG emissions.

GHG emissions that would be associated with Covered Activities are discussed in the EIR for the *City of Lincoln General Plan*. This EIR determined that development activities in the general plan would be associated with construction and operational emissions that would generate a significant amount of GHG emissions (City of Lincoln 2008). These emissions would be considered to potentially make a cumulatively considerable incremental contribution to global climate change. This impact would be significant and unavoidable.

The EIR for the *Placer County General Plan* did not analyze GHG emissions (Placer County 1994). However, the level of growth associated with the general plan would be expected to generate a significant amount of GHG emissions that would be considered to potentially make a cumulatively

considerable incremental contribution to global climate change and result in a significant and unavoidable impact.

Similar to construction and O&M activities associated with the PCCP, construction and O&M emissions associated with Covered Activities within Sutter County are not anticipated to exceed PCAPCD's GHG thresholds. Applicable air district regulatory measures would further reduce GHG emissions from Covered Activities within Sutter County. Consequently, construction and O&M activities associated with Covered Activities in Sutter County would not generate a significant amount of GHG emissions.

NEPA Determination: As discussed in Section 3.2.1 of Chapter 3, *Affected Environment*, NEPA case-law establishes a precedent that GHG impacts should be evaluated in NEPA. Construction and O&M activities associated with implementation of Alternative 4 would result in temporary emissions of GHGs. Emissions resulting from PCCP implementation under Alternative 4 are not anticipated to exceed PCAPCD's construction threshold of 10,000 MT CO_2e/year. Applicable air district regulatory measures would further reduce emissions from PCCP implementation. Emissions from construction and O&M activities associated with Covered Activities of Alternative 4, however, could still result in short-term exceedances of PCAPCD GHG significance thresholds indicated in Table 4.2-4. This impact would be significant and unavoidable.

NEPA also requires an evaluation of how a project will adapt to the effects of climate change. Since it is unknown at this time the extent, duration, and physical manifestation of activities associated with Alternative 4, the analysis of climate change effects would be evaluated on a project-by-project basis during future NEPA project review. However, general effects of climate change that could affect the Plan Area include the following.

- Decreased water quality, supply, and availability.
- Increased temperatures leading to increases in ozone pollution levels.
- Extirpation or extinction of plant and wildlife species.
- Increased vulnerability of forests due to pest infestation and increased temperatures.
- Increased challenges for the agricultural industry due to potential water shortages and higher temperatures.

CEQA Determination: Construction and O&M activities associated with implementation of Alternative 4 would result in temporary emissions of GHGs. Emissions from PCCP implementation under Alternative 4 are not anticipated to exceed PCAPCD's construction threshold of 10,000 MT CO_2e/year. Applicable air district regulatory measures would further reduce emissions from PCCP implementation. Emissions from construction and O&M activities associated with Covered Activities of Alternative 4, however, could still result in short-term exceedances of PCAPCD GHG significance thresholds indicated in Table 4.2-4. This impact would be significant and unavoidable.

Impact AQ-7: Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing emissions of greenhouse gases (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

Assembly Bill 32

AB 32 codifies the state's GHG emissions reduction targets for 2020. ARB adopted the 2008 Scoping Plan and 2014 First Update as a framework for achieving AB 32. The 2008 Scoping Plan and 2014 First Update outline a series of technologically feasible and cost-effective measures to reduce statewide GHG emissions. As discussed in Section 3.2.1 of Chapter 3, *Affected Environment*, ARB adopted the *2017 Climate Change Scoping Plan Update* in November 2017, and it proposes continuing the major programs of the AB 32 Scoping Plan.

AB 32 has been implemented effectively with a suite of complementary strategies that serve as a model going forward. California is on target for meeting the GHG emission reduction goal of reducing emissions to 1990 levels by 2020. Many of the GHG reduction measures (e.g., Low Carbon Fuel Standard, Advanced Clean Car standards, and Cap-and-Trade) have been adopted over the last five years and implementation activities are ongoing.

Emissions resulting from PCCP implementation and Covered Activities under Alternative 4 within Placer County would be temporary in nature, and O&M GHG emissions are assumed to be minor. Furthermore, PCAPCD's GHG significance thresholds described in Section 4.2.1 are based on compliance with AB 32. As described in Impact AQ-6, construction- and operation-related GHG emissions associated with PCCP implementation activities within Placer County are not anticipated to exceed PCAPCD thresholds, and implementation of PCAPCD regulatory measures would further reduce GHG emissions. Therefore, PCCP implementation under Alternative 4 within Placer County would not conflict with AB 32 reduction targets.

Emissions resulting from PCCP implementation and Covered Activities under Alternative 4 within Sutter County would also be temporary in nature and, and O&M emissions would be minor. The activities would be consistent with construction-related measures in the Sutter County CAP, which was adopted to support overall AB 32 reduction targets. As described in Impact AQ-6, construction-related GHG emissions in Sutter County resulting from PCCP implementation and Covered Activities are not anticipated to exceed PCAPCD thresholds, and implementation of PCAPCD regulatory measures would further reduce GHG emissions. Therefore, PCCP implementation under Alternative 4 within Sutter County would not conflict with AB 32 reduction targets.

GHG emissions that would be associated with Covered Activities are discussed in the EIR for the *City of Lincoln General Plan*. This EIR determined that development activities in the general plan would be associated with construction and operational emissions that would generate a significant amount of GHG emissions (City of Lincoln 2008). These emissions would be considered to potentially make a cumulatively considerable incremental contribution to global climate change. This impact would be significant and unavoidable.

The EIR for the *Placer County General Plan* did not analyze GHG emissions (Placer County 1994). However, the level of growth associated with the general plan would be expected to generate a significant amount of GHG emissions that would be considered to potentially make a cumulatively considerable incremental contribution to global climate change and result in a significant and unavoidable impact.

Emissions resulting from Covered Activities within Sutter County would also be temporary in nature. The activities would be consistent with construction-related measures in the Sutter County CAP, which was adopted to support overall AB 32 reduction targets. As described in Impact AQ-6, construction-related GHG emissions in Sutter County resulting from Covered Activities are not anticipated to exceed PCAPCD thresholds, and implementation of PCAPCD regulatory measures would further reduce GHG emissions. Therefore, emissions within Sutter County associated with Covered Activities would not conflict with AB 32 reduction targets.

Accordingly, Covered Activities associated with Alternative 4 within Placer County would conflict with AB 32 reduction targets.

SB 32 and Executive Order S-3-05

As discussed in Section 3.2.1 of Chapter 3, *Affected Environment*, SB 32 established an interim GHG reduction target of 40% below 1990 levels by 2030, and EO S-3-05 established a long-term goal of reducing statewide GHG emissions to 80% below 1990 levels by 2050. Achieving these long-term GHG reduction policies will require systemic changes in how energy is produced and used.

ARB adopted the 2017 Climate Change Scoping Plan in November 2017, as a framework to achieve the 2030 GHG reduction goal described in SB 32. The 2017 Scoping Plan carries forward GHG reduction measures from the AB 32 2014 First Update, as well as new potential measures to help achieve the State's 2030 target across all sectors.

Achieving EO S-3-05 will require even more aggressive changes to all sectors of the economy and will require participation of all levels of government to further reduce GHG emissions. The extent to which the proposed Plan's emissions and resulting impacts would be mitigated through implementation of state-wide (or nationwide) changes is not known. Although many GHG reduction measures outlined in the 2017 Scoping Plan will likely continue to be implemented and enhanced beyond the year 2030, no plan for meeting the 2050 GHG reduction goal described in EO S-3-05 has yet been adopted.

Emissions resulting from PCCP implementation and Covered Activities beyond year 2020 within Placer County would be considered temporary, and O&M emissions would be minor. As described in Impact AQ-6, construction- and operation-related GHG emissions associated with PCCP implementation activities within Placer County are not anticipated to exceed PCAPCD thresholds, and implementation of PCAPCD regulatory measures would further reduce GHG emissions. Therefore, PCCP implementation under Alternative 4 within Placer County would not conflict with SB 32 reduction targets. However, because PCAPCD recommends GHG offsets for a 20-year period for operations (and only for the periods of activity exceeding thresholds for construction activities), they would not help meet the 2050 EO S-3-05 reduction targets. Lead Agencies may require offsets, but they would not help in meeting 2050 targets.

Emissions resulting from PCCP implementation and Covered Activities beyond year 2020 within Sutter County would also be temporary in nature, and O&M emissions would be minor. As described in Impact AQ-6, construction-related GHG emissions in Sutter County resulting from PCCP implementation and Covered Activities are not anticipated to exceed PCAPCD thresholds, and implementation of PCAPCD regulatory measures would further reduce GHG emissions. Therefore, PCCP implementation under Alternative 4 within Sutter County would not conflict with SB 32 reduction targets. However, because PCAPCD recommends GHG offsets for a 20-year period for operations (and only for the periods of activity exceeding thresholds for construction activities),

they would not help meet the 2050 EO S-3-05 reduction targets. Lead Agencies may require offsets, but they would not help in meeting 2050 targets.

GHG emissions that would be associated with Covered Activities are discussed in the EIR for the *City of Lincoln General Plan*. This EIR determined that development activities in the general plan would be associated with construction and operational emissions that would generate a significant amount of GHG emissions (City of Lincoln 2008). These emissions would be considered to potentially make a cumulatively considerable incremental contribution to global climate change. This impact would be significant and unavoidable.

The EIR for the *Placer County General Plan* did not analyze GHG emissions (Placer County 1994). However, the level of growth associated with the general plan would be expected to generate a significant amount of GHG emissions which would be considered to potentially make a cumulatively considerable incremental contribution to global climate change and result in a significant and unavoidable impact.

Emissions resulting from Covered Activities within Sutter County would also be temporary in nature. The activities would be consistent with construction-related measures in the Sutter County CAP. As described in Impact AQ-6, construction-related GHG emissions in Sutter County resulting from Covered Activities are not anticipated to exceed PCAPCD thresholds, and implementation of PCAPCD regulatory measures would further reduce GHG emissions. Therefore, emissions within Sutter County associated with Covered Activities would not conflict with SB 32 reduction targets.

Accordingly, Covered Activities associated with Alternative 4 within Placer County would conflict with SB 32 and EO S-3-05 reduction targets.

NEPA Determination: As discussed in Section 3.2.1 of Chapter 3, *Affected Environment*, NEPA case-law establishes a precedent that GHG impacts should be evaluated in NEPA. Construction and O&M activities associated with implementation of Alternative 4 would result in temporary emissions of GHGs. Emissions resulting from PCCP implementation under Alternative 4 are not anticipated to exceed PCAPCD's construction threshold of 10,000 MT CO_2e/year. Applicable air district regulatory measures would further reduce emissions from PCCP implementation. PCCP implementation under Alternative 4 would not conflict with AB 32 or SB 32. Emissions from construction and O&M activities associated with Covered Activities of Alternative 4, however, could still result in short-term exceedances of PCAPCD GHG significance thresholds indicated in Table 4.2-4 and would conflict with AB 32 and SB 32. This impact would be significant and unavoidable.

CEQA Determination: Construction and O&M activities associated with implementation of Alternative 4 would result in temporary emissions of GHGs. Emissions resulting from PCCP implementation under Alternative 4 are not anticipated to exceed PCAPCD's construction threshold of 10,000 MT CO_2e/year. Applicable air district regulatory measures would further reduce emissions from PCCP implementation. PCCP implementation under Alternative 4 would not conflict with AB 32 or SB 32. Emissions from construction and O&M activities associated with Covered Activities of Alternative 4, however, could still result in short-term exceedances of PCAPCD GHG significance thresholds indicated in Table 4.2-4 and would conflict with AB 32 and SB 32. This impact would be significant and unavoidable.

4.2.3 Cumulative Analysis

Methods and Approach

According to guidance from PCAPCD and FRAQMD, an impact would have a significant cumulative impact if emissions from the project exceeded the district's thresholds, or if the project conflicts with the applicable air quality attainment plan. For this analysis, the applicable air district's thresholds were used to assess cumulative impacts.

Cumulative Impacts

Past, present, and reasonably foreseeable future projects are identified in Section 4.0, *Environmental Consequences*. Overall, these projects have had or are anticipated to have a cumulative impact on air quality as a result of land-disturbing activities such as converting agricultural lands to urban development, including roadway projects, and developing and operating infrastructure projects.

With respect to the action alternatives, emissions resulting from construction and operation of the implementation of the Covered Activities, including implementation of the PCCP conservation strategy, in combination with other development in the Sacramento Valley and Mountain Counties Air Basins, could result in cumulatively significant levels of emissions under all alternatives. As discussed above, some of the Covered Activities would generate emissions that could exceed applicable air district thresholds, which, according PCAPCD and FRAQMD guidance, would result in cumulative impacts. Implementation of applicable air district regulatory measures would reduce emissions; however, it is anticipated they would not reduce construction emissions to below applicable air district thresholds. As PCAPCD's and FRAQMD's CEQA Handbooks indicate that projects in excess of their numeric thresholds listed in Tables 4.2-2 through 4.2-6 would result in a significant cumulative impact unless offset, this impact is considered significant and unavoidable.

Alternative 1—No Action

Emissions resulting from construction and operation of the land uses resulting from implementation of the local jurisdictions' general plans, in combination with other development in the Sacramento Valley and Mountain Counties Air Basins, could result in cumulatively significant levels of emissions under all alternatives. As discussed above, some land uses would generate emissions that could exceed applicable air district thresholds, which, according PCAPCD and FRAQMD guidance, would result in cumulative impacts. Implementation of applicable air district regulatory measures would reduce emissions; however, it is anticipated they would not reduce construction- and operation-related emissions to below applicable air district thresholds. As PCAPCD's and FRAQMD's CEQA Handbooks indicate that projects in excess of their numeric thresholds listed in Tables 4.2-2 through 4.2-6 would result in a significant cumulative impact unless offset, this impact is considered significant and unavoidable.

Alternative 2—Proposed Action

Build-out of the general plans for the jurisdictions encompassed by the Plan Area is anticipated to result in cumulative air pollutant and GHG emissions increases related to the construction and operation of various projects in the Plan Area. Emissions from these projects could combine with emissions from Covered Activities associated with the proposed action to result in significant cumulative air quality and GHG emission impacts.

Build-out of the general plans of Placer County and the City of Lincoln, in conjunction with activities associated with Alternative 2, the proposed action, could result in a cumulative impact related to construction- and operation-related air pollutant and GHG emissions. Alternative 2's contribution to this effect would be considered cumulatively considerable, as the magnitude of emissions of air pollutants and GHGs from Covered Activities and other future projects is currently unknown. Although applicable air district regulatory measures, described in Section 3.2.1, *Regulatory Setting*, and shown in Appendices F and G, would reduce the project-related construction and operational air quality and GHG emission impacts, cumulative impacts related to air pollutant and GHG emissions in the Plan Area may still be significant. Cumulative construction- and operation-related air quality and GHG emissions impacts would conservatively be considered to be significant and unavoidable.

In addition to the effects associated with build-out of the general plans, the conservation measures associated with the proposed action would result in temporary construction and maintenance projects and therefore would not result in a substantial permanent increase in air pollutant and GHG emissions in the Plan Area and therefore would not make a cumulatively considerable contribution to a cumulative air quality and GHG emissions impact.

Alternative 3—Reduced Take/Reduced Fill

As discussed for Alternative 2, the proposed action, Alternative 3 would result in a cumulatively considerable contribution to a cumulative construction air quality and GHG emissions impact in the Plan Area. Although applicable air district regulatory measures, described in Section 3.2.1, *Regulatory Setting*, and shown in Appendices F and G, would reduce the project-related construction and operational air quality and GHG emission impacts, cumulative impacts related to air pollutant and GHG emissions in the Plan Area may still be significant. Cumulative construction- and operation-related air quality and GHG emissions impacts would conservatively be considered to be significant and unavoidable.

In addition to the effects associated with build-out of the general plans, the conservation measures associated with Alternative 3 would result in temporary construction and maintenance projects and therefore would not result in a substantial permanent increase in air pollutant and GHG emissions in the Plan Area and therefore would not make a cumulatively considerable contribution to a cumulative air quality and GHG emissions impact.

Alternative 4—Reduced Permit Term

As discussed for Alternative 2, the proposed action, Alternative 4 would result in a cumulatively considerable contribution to a cumulative construction air quality and GHG emissions impact in the Plan Area. Although applicable air district regulatory measures, described in Section 3.2.1, *Regulatory Setting*, and shown in Appendices F and G, would reduce the project-related construction and operational air quality and GHG emission impacts, cumulative impacts related to air pollutant and GHG emissions in the Plan Area may still be significant. Cumulative construction- and operation-related air quality and GHG emissions impacts would conservatively be considered to be significant and unavoidable.

In addition to the effects associated with build-out of the general plans, the conservation measures associated with Alternative 4 would result in temporary construction and maintenance projects and therefore would not result in a substantial permanent increase in air pollutant and GHG emissions in

the Plan Area and therefore would not make a cumulatively considerable contribution to a cumulative operational air quality and GHG emissions impact.

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4.3 Biological Resources

4.3.1 Methods and Significance Criteria

Methods

This section evaluates the effects on biological resources that would result from implementation of the proposed action and alternatives.

Anticipated changes in land cover/land use for each alternative are described in Chapter 2, *Proposed Action and Alternatives*. See Section 4.0, *Environmental Consequences*, for a description of the methodology used across all resource chapters for the analysis of cumulative effects.

For preparation of this section, the information used to conduct the environmental consequences analysis came primarily from information available in the Plan and associated GIS data but also included information obtained from available databases (e.g., the California Natural Diversity Database [CNDDB]), other mapping sources, and available reports and literature.

The methods used to evaluate permanent, temporary, and indirect effects on biological resources in this section are largely similar to those used in the Plan effects analysis (Chapter 4 of the Plan; see Appendix A). Effects on biological resources not covered in the Plan were similarly evaluated, relying on the same land cover mapping. Other biological resource issues were also considered: effects on state- and federally protected wetlands and waters, wildlife movement corridors, potential for introducing or spreading invasive plants, and consistency with other plans and policies.

The effects of implementing the Plan were evaluated quantitatively for those Covered Activities that would result in land conversion—primarily urban, suburban, and rural residential development—and qualitatively for Plan implementation actions that cannot be easily quantified, such as the conservation measures (e.g., habitat restoration and enhancement). The EIS/EIR relies on the quantification of effects developed for the Plan, as described in Section 4.3, *Methods for Quantifying Effects*, of the Plan. The assessment of these effects is not based on development footprints but rather on growth scenarios under the general plans of Placer County and the City of Lincoln (i.e., the local jurisdictions) as well as the Sacramento Area Council of Governments' 2016 regional Metropolitan Transportation Plan/Sustainable Communities Strategy. The qualitative assessment of effects was based on the EIS/EIR team's review and interpretation of the Plan's conservation measures.

Implementation of Alternative 2, the proposed action, or other alternatives could result in direct, indirect, and cumulative impacts on biological resources. *Direct impacts* are those effects of a project that occur at the same time and place as project implementation, such as removal of habitat through ground disturbance. *Indirect impacts* are those effects that occur either later in time or at a distance from project activities but are reasonably foreseeable, such as downstream loss of aquatic species from effects on water quality. Direct and indirect impacts can be permanent or temporary. *Cumulative impacts* are those incremental effects of a project that, even if less than significant themselves, could in combination with the effects of other projects significantly affect biological resources.

Direct and indirect effects of Plan implementation and Covered Activities would be anticipated to result from the types of actions listed below. A more detailed discussion of the Covered Activities is provided in Chapter 3 of the Plan.

- Grading, excavation, trenching, and placement of fill material.
- Vegetation removal to reduce fire hazards and control invasive plants.
- Construction of new infrastructure.
- Widening of existing and development of new roads.
- Increase in impervious surfaces.
- Temporary disturbance associated with maintenance and/or operation of water facilities and other waterways.
- Increased disturbance of wildlife associated with recreation.

For the purposes of this analysis, and as defined in the Plan, temporary effects are defined as all effects that persist for less than 1 year. Projects with temporary effects would return habitat to pre-project conditions within 1 year from the time of groundbreaking. Impact and conservation acreages for the action alternatives are presented in Appendix H.

For each alternative, the analysis focuses on the resources of concern: natural communities, covered species, non-covered species, and general biological resources. Because this document is designed to satisfy both NEPA and CEQA requirements, each impact analysis presents a NEPA and a CEQA conclusion. The NEPA conclusion reflects comparison of the alternative's effect with the effect of the no action alternative (the NEPA point of comparison).

The CEQA conclusion reflects comparison of the alternative's effect with Existing Conditions (the CEQA baseline). The cumulative analyses for all resources and all alternatives are addressed at the end of this section.

Because the EIS/EIR defines habitat for tricolored blackbird and valley elderberry longhorn beetle differently than the Plan, the effects estimates for those species in the EIS/EIR are different than in the Plan, as described below.

- **Tricolored Blackbird:** As discussed in Section 3.3, *Affected Environment*, the EIS/EIR assumes that nesting and foraging habitat for tricolored blackbird could occur at any elevation in the Plan Area (i.e., up to the maximum elevation of 1,600 feet). The EIS/EIR uses the same natural community mapping as the Plan but includes more refined mapping datasets to complement these data. Because the species is known to nest in some specific crop types, crop type data for the Plan Area were obtained from the U.S. Department of Agriculture's CropScape—Cropland Data Layer (U.S. Department of Agriculture 2009). Crop data were obtained for 2009 and queried for wheat and triticale (crop hybrid of wheat and rye), two crop types in which the species is known to nest (Meese 2014). Though crop types often change from year to year, the intent of this analysis is to provide an estimate of what these acreages could be in a given year. To estimate the Plan's effects on these crops, their total acreages were multiplied by fractions of *Other Ag* permanently and temporarily affected under the Plan (i.e., Other Ag affected/Other Ag total). The Other Ag category includes all non-rice agriculture. This approach provides estimates of permanent and temporary impacts on these crop types; the impacts were added to the take limits for fresh emergent wetland in both the valley and foothills (the Plan species model only

considered fresh emergent marsh at elevations to 300 feet as suitable nesting habitat for tricolored blackbird).

As noted in Section 3.3, *Affected Environment*, the EIS/EIR also considers blackberry thickets as suitable nesting substrates. Tricolored blackbirds nest primarily in blackberry thickets in the foothill region of the Sierra Nevada (Airola et al. 2015:97), which includes the eastern portion of the Plan Area. To estimate the extent of this nesting habitat in the foothills, the GIS dataset associated with the California Department of Fish and Wildlife's (CDFW's) *Northern Sierra Nevada Foothills Vegetation Project* (Menke et al. 2011) was queried for the *Rubus armeniacus* vegetation alliance (Himalayan blackberry) in the Plan Area. To estimate what the Plan's effects on this community could be, the vegetation alliance was intersected with the Plan land cover mapping for the foothills. The resulting spreadsheet showed the Plan land cover types in which these blackberry thickets occur. To develop an impact estimate on these blackberry thickets, the acreages of the thickets within each land cover type were multiplied by the fraction of those land cover types that would affected under the Plan (Plan impact acres on land cover type in foothills/total acres land cover type in foothills). The resulting impact estimate was then added to the fresh emergent wetland impact throughout the Plan Area and the estimated impacts on wheat and triticale for total nesting impact.

As discussed in Section 3.3, *Affected Environment*, the EIS/EIR analysis expanded the Plan model for tricolored blackbird foraging habitat to include the foothills and added rice. The EIS/EIR then used the Plan's estimated effects on these communities to obtain an estimate of effects on tricolored blackbird foraging habitat.

- **Valley Elderberry Longhorn Beetle:** As discussed in Section 3.3, *Affected Environment*, the EIS/EIR analysis expanded the Plan habitat model for valley elderberry longhorn beetle to include valley oak woodland, riverine/riparian, and urban riparian communities throughout the Plan Area (up to 1,600 feet in elevation). The effects were estimated using the Plan's estimated effects on these communities throughout the Plan Area, except for urban riparian, for which there are no effects estimates. It was assumed that most areas surrounding urban riparian are already developed, that any impacts on this community would be minimal, and that if elderberry shrubs are present they would be detected during implementation of individual projects.

Significance Criteria

NEPA regulations do not provide any guidance on thresholds of significance for biological resources. The U.S. Fish and Wildlife Service (USFWS) has determined that to inform its decision on the significance of effects on the human environment it is appropriate to use Appendix G of the State CEQA Guidelines; factual or scientific information and data; views of the public in the affected area; the policy/regulatory environment of affected jurisdictions; and regulatory standards of federal, state, regional, and local agencies. Therefore, in accordance with Appendix G of the State CEQA Guidelines and professional judgment, the EIS/EIR analysis assumes that action alternatives would result in a significant effect if they would result in any of the conditions listed below.

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW, USFWS, or the National Marine Fisheries Service (NMFS).
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the CDFW, USFWS, or NMFS.

- Have a substantial adverse effect on federally protected wetlands and waters as defined by Section 404 of the Clean Water Act (CWA) (including, but not limited to, marshes, and vernal pools) through direct removal, filling, hydrological interruption, or other means.
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
- Conflict with the provisions of an adopted habitat conservation plan (HCP), natural community conservation plan (NCCP), or other approved local, regional, or state habitat conservation plan.

4.3.2 Impacts and Mitigation Measures

Alternative 1—No Action

Under Alternative 1, urban development and public infrastructure projects would proceed pursuant to the approved general plans of Placer County and the City of Lincoln and in accordance with applicable South Placer Regional Transportation Authority (SPRTA) and Placer County Water Agency (PCWA) best management practices. Because the proposed buildout under Alternative 2, the proposed action, is based on the approved general plans and future growth scenarios, the effects of development under Alternative 1 would be the same as those under Alternative 2. However, no regional conservation strategy or conservation measures would be implemented; therefore, effects on biological resources associated with the conservation strategy and the specific conservation measures identified in the Plan would not occur.

Natural Communities

Impact BIO-1: Effects on vernal pool complex (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

Under Alternative 1, development associated with implementation of the general plans of Placer County and the City of Lincoln would result in approximately 12,550 acres (28% of this community in the Plan Area) of permanent impacts and approximately 455 acres of temporary impacts on vernal pool complex.

Indirect impacts on vernal pool complex could result from construction activities in the Plan Area, such as grading, trenching, changes to hydrology, and changes to topography. Indirect effects on vernal pools are generally considered by USFWS to occur when ground-disturbing activities take place within 250 feet of a vernal pool—more specifically, when it can be demonstrated that the hydrology supporting a pool has been altered. Indirect effects on vernal pool complexes were estimated in the Plan at 1,979 acres. These indirect effects could adversely affect the functions and services of vernal pool–type wetlands and supporting uplands in vernal pool complexes.

Operations and maintenance activities associated with transportation, wastewater programs, water supply, solid waste management, and utilities in and adjacent to grasslands could result in the inadvertent introduction of invasive plant species, removal and trimming of vegetation for utility and transportation maintenance, ground disturbance associated with infrastructure maintenance

and the establishment of seasonal fire breaks, and the accidental release of vehicle oils and fuels that could alter the species composition of this natural community.

Mitigation for these impacts would be developed and implemented on a project-specific basis pursuant to applicable existing local (e.g., general plans); state (e.g., California Endangered Species Act [CESA], 1600, CEQA); and federal (e.g., federal Endangered Species Act [ESA], CWA, NEPA) laws, regulations, and policies.

NEPA Determination: The permanent loss of 12,550 acres and temporary disturbance of 455 acres of vernal pool complex associated with Alternative 1, in the absence of a coordinated conservation effort, would be a significant impact.

CEQA Determination: The permanent loss of 12,550 acres and temporary disturbance of 455 acres of vernal pool complex associated with Alternative 1, in the absence of a coordinated conservation effort, would constitute a significant and unavoidable impact through the substantial loss of a natural community in the Plan Area.

Impact BIO-2: Effects on grassland (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

Under Alternative 1, development associated with implementation of the Placer County and the City of Lincoln general plans would result in approximately 6,900 acres of permanent impacts (approximately 20% of this community) and approximately 235 acres of temporary impacts on grasslands in the Plan Area.

Operations and maintenance activities associated with transportation, wastewater programs, water supply, solid waste management, and utilities in and adjacent to grasslands could result in the inadvertent introduction of invasive plant species, removal and trimming of vegetation for utility and transportation maintenance, ground disturbance associated with utility maintenance and the establishment of seasonal fire breaks, and the accidental release of vehicle oils and fuels that could alter the species composition of this natural community.

Mitigation for these impacts would be developed and implemented on a project-specific basis.

NEPA Determination: The permanent loss of 6,900 acres and temporary disturbance of 235 acres of grassland associated with Alternative 1, in the absence of a coordinated conservation effort, would be a significant impact.

CEQA Determination: The permanent loss of 6,900 acres and temporary disturbance of 235 acres of grassland associated with Alternative 1, in the absence of a coordinated conservation effort, would constitute a significant and unavoidable impact through the substantial loss of a natural community in the Plan Area.

Impact BIO-3: Effects on aquatic/wetland complex (NEPA: less than significant; CEQA: less than significant)

Under Alternative 1, development associated with implementation of the Placer County and City of Lincoln general plans would result in approximately 260 acres (9% of this community in the Plan Area) of permanent impacts and approximately 105 acres of temporary impacts on aquatic/wetland complex.

Operations and maintenance activities associated with transportation, wastewater programs, water supply, solid waste management, and utilities in and adjacent to aquatic/wetland complex could result in the inadvertent introduction of invasive plant species, removal and trimming of vegetation for utility and transportation maintenance, ground disturbance associated with utility maintenance and the establishment of seasonal fire breaks, and the accidental release of vehicle oils and fuels that could alter the species composition of this natural community.

Mitigation for these impacts would be developed and implemented on a project-specific basis pursuant to the CWA, as well as ESA and CESA where applicable. The CWA requires a no net loss of wetland/waters functions and services.

NEPA Determination: The permanent loss of 260 acres and temporary disturbance of 105 acres of aquatic/wetland complex associated with Alternative 1 would be adverse. In light of the regulatory permitting requirements for aquatic/wetland complex, which require no net loss of wetland/waters functions and services, the effects of Alternative 1 would be likely reduced to a less than significant level.

CEQA Determination: The permanent loss of 260 acres and temporary disturbance of 105 acres of aquatic/wetland complex associated with Alternative 1 would be a significant impact. Compliance with regulatory permitting requirements for protected wetlands and waters, which require no net loss of wetland/waters functions and services, would likely reduce the impacts of Alternative 1 to a less-than-significant level.

Impact BIO-4: Effects on riverine/riparian complex (NEPA: less than significant; CEQA: less than significant)

Under Alternative 1, development associated with implementation of the Placer County and City of Lincoln general plans would result in approximately 490 acres (9% of this community in the Plan Area) of permanent impacts and approximately 165 acres of temporary impacts on riverine/riparian complex.

Operations and maintenance activities associated with transportation, wastewater programs, water supply, solid waste management, and utilities in and adjacent to riverine/riparian complex could result in the inadvertent introduction of invasive plant species, removal and trimming of vegetation for utility and transportation maintenance, ground disturbance associated with utility maintenance and the establishment of seasonal fire breaks, and the accidental release of vehicle oils and fuels that could alter the species composition of this natural community.

Mitigation for these impacts would be developed and implemented on a project-specific basis pursuant to the CWA and Fish and Game Code Sections 1600-1603, as well as ESA and CESA where applicable. The CWA requires a no net loss of wetland/waters functions and services.

NEPA Determination: The permanent loss of 490 acres and temporary disturbance of 165 acres of riverine/riparian complex associated with Alternative 1 would constitute a significant impact. In light of the regulatory permitting requirements for riverine/riparian complex, which typically require no net loss of riverine functions and services and mitigation for effects on riparian vegetation, the effects of Alternative 1 would be likely reduced to a less-than-significant level.

CEQA Determination: The permanent loss of 490 acres and temporary disturbance of 165 acres of riverine/riparian complex associated with Alternative 1 would be a significant impact. In light of the regulatory permitting requirements for riverine/riparian complex, which typically require no net

loss of riverine functions and services and mitigation for effects on riparian vegetation, the effects of Alternative 1 would likely be reduced to a less-than-significant level.

Impact BIO-5: Effects on oak woodland (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

Under Alternative 1, development associated with implementation of the Placer County and City of Lincoln general plans would result in approximately 6,210 acres (12% of this community in the Plan Area) of permanent impacts and approximately 180 acres of temporary impacts on oak woodland.

Operations and maintenance activities associated with transportation, wastewater programs, water supply, solid waste management, and utilities in and adjacent to oak woodland could result in the inadvertent introduction of invasive plant species, removal and trimming of vegetation for utility and transportation maintenance, ground disturbance associated with utility maintenance and the establishment of seasonal fire breaks, and the accidental release of vehicle oils and fuels that could alter the species composition of this natural community.

Mitigation for these impacts would be developed and implemented on a project-specific basis under CEQA subject to the related ordinances of the City of Lincoln and Placer County.

NEPA Determination: The permanent loss of 6,210 acres and temporary disturbance of 180 acres of oak woodland associated with Alternative 1, in the absence of a coordinated conservation effort, a coordinated and connected reserve system, implementation of the avoidance and minimization measures, and implementation of the conditions on Covered Activities (see Chapter 8 of the Plan for a detailed account of all measures), would be a significant impact.

CEQA Determination: The permanent loss of 6,210 acres and temporary disturbance of 180 acres of oak woodland associated with Alternative 1, in the absence of a coordinated conservation effort, a coordinated and connected reserve system, implementation of the avoidance and minimization measures, and implementation of the conditions on Covered Activities (see Chapter 8 of the Plan for a detailed account of all measures), would constitute a significant and unavoidable impact through the substantial loss of a natural community in the Plan Area.

Impact BIO-6: Effects on valley oak woodland (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

Under Alternative 1, development associated with implementation of the Placer County and City of Lincoln general plans would result in approximately 140 acres (10% of this community in the Plan Area) of permanent impacts and approximately 25 acres of temporary impacts on valley oak woodlands in the Plan Area.

Operations and maintenance activities associated with transportation, wastewater programs, water supply, solid waste management, and utilities in and adjacent to valley oak woodland could result in the inadvertent introduction of invasive plant species, removal and trimming of vegetation for utility and transportation maintenance, ground disturbance associated with utility maintenance and the establishment of seasonal fire breaks, and the accidental release of vehicle oils and fuels that could alter the species composition of this natural community.

Mitigation for these impacts would be developed and implemented on a project-specific basis under CEQA subject to the related ordinances of the City of Lincoln and Placer County.

NEPA Determination: The permanent loss of 140 acres and temporary disturbance of 25 acres of valley oak woodland associated with Alternative 1, in the absence of a coordinated conservation effort, a coordinated and connected reserve system, implementation of the avoidance and minimization measures, and implementation of the conditions on Covered Activities (see Chapter 8 of the Plan for a detailed account of all measures), would be a significant impact.

CEQA Determination: The permanent loss of 140 acres and temporary disturbance of 25 acres of valley oak woodland associated with Alternative 1, in the absence of a coordinated conservation effort, a coordinated and connected reserve system, implementation of the avoidance and minimization measures, and implementation of the conditions on Covered Activities (see Chapter 8 of the Plan for a detailed account of all measures), would constitute a significant and unavoidable impact through the substantial loss of a natural community in the Plan Area.

Special-Status Plants

Impact BIO-7: Effects on special-status plants in vernal pool habitats (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

Several special-status plant species that grow in vernal pools are known to occur in the Plan Area region: dwarf downingia, Boggs Lake hedge-hyssop, hogwallow starfish, Ahart's dwarf rush, Red Bluff dwarf rush, legenere, pincushion navarretia, and adobe navarretia. There are known occurrences in the Plan Area for all these species. Table 4.3-1 shows the numbers of these recorded occurrences in each Plan Area component (California Department of Fish and Wildlife 2017; Consortium of California Herbaria 2017a; Preston pers. comm.).

Development in the Plan Area would result in permanent and temporary impacts on vernal pool habitat for special-status plants. Plan Area A includes 45,065 acres of vernal pool complex that are potential habitat for these species. In the Valley portion of the Plan Area, permanent impacts would total 570 acres of vernal pool–type wetland habitat within 12,400 acres of vernal pool complex (approximately 28% of the vernal pool complex community in Plan Area A). These impacts would result primarily from urban/suburban development, transportation projects, and infrastructure projects. Known occurrences of dwarf downingia (three) and pincushion navarretia (one) could be removed as a result of such projects. In Plan Area B, development in non-participating cities would result in 10 acres of permanent impacts on vernal pool-type wetlands. Known extant occurrences of dwarf downingia (nine), Boggs Lake hedge-hyssop (two), and legenere (one) could be removed as a result of these development activities. One occurrence of Red Bluff dwarf rush could also be affected; however, this record of the species is questionable and may be due to a misidentification of another species as Red Bluff dwarf rush. Additional undiscovered occurrences of special-status vernal pool plants could be removed in the Plan Area as a result of project construction in Plan Areas A and B.

Table 4.3-1. Known Occurrences of Special-Status Plant Species in Vernal Pool Habitats in Plan Area

Species	Valley PFG	Plan Area B	Existing Reserve Area	Reserve Acquisition Area	Total # of Occurrences in Plan Area[a]	Total # of Occurrences in California[a]
Dwarf downingia	3	11 (2)	3 (1)	4	21 (3)	126 (8)
Boggs Lake hedge-hyssop	0	3 (1)	1	0	4 (1)	94 (3)
Hogwallow starfish	0	0	0	1	1	175[b]
Ahart's dwarf rush	0	0	1	0	1	13 (1)
Red Bluff dwarf rush[c]	0	1	0	0	1	56(4)
Legenere	0	2 (1)	0	1	3 (1)	78 (8)
Pincushion navarretia	1	0	0	0	1	14
Adobe navarretia	0	0	2	0	2[b]	57

Note: Numbers in () are the number of occurrences that are extirpated or possibly extirpated.

[a] Sources: California Department of Fish and Wildlife 2017; Consortium of California Herbaria 2017a; Preston pers. comm.

[b] CRPR 4 species in this table are not recorded in the CNDDB, and the numbers of occurrences are based on the number of specimen records in the Consortium of California Herbaria (2017a), except for the single occurrence of hogwallow starfish in the RAA (Preston pers. comm.). Individual herbaria records do not necessarily correspond to what would be recorded as individual occurrences in the CNDDB, collections from the same location may be in more than one herbarium and be counted as more than one record, and the records do not include reviews for locations that may be extirpated. The occurrence numbers of CRPR 4 species in California, therefore, are included for context but should not be interpreted as absolute.

[c] Red Bluff dwarf rush occurs in mesic areas, including edges of vernal pools and wet areas in woodland habitats, and is, therefore, listed in both Table 4.3-1 and Table 4.3-2. Note that this occurrence in the CNDDB is in question and may be due to a misidentification of another species as Red Bluff dwarf rush. Because this record remains in the CNDDB and has not been resolved, it is included here.

An additional 100 acres of vernal pool complex would be permanently affected in the Foothills portion of the Plan Area, although there are no recorded occurrences of special-status vernal pool plant species in this area.

Temporary impacts of development activities on vernal pool wetland habitat for special-status plants would not exceed 25 acres in the Valley portion of the Plan Area and 5 acres in Plan Area B. These temporary impacts would be associated with urban/suburban development, rural residential development, transportation construction, fuels management, vegetation management, infrastructure operations and maintenance, and infrastructure construction.

Indirect impacts on vernal pool communities and wetland habitat in the Plan Area that support special-status plants could result from construction activities, such as grading and removal of vegetation. These activities could adversely affect habitat function for special-status plants by altering the topography and hydrology that supports vernal pools and wetland habitat.

Under Alternative 1, mitigation for impacts that affect occurrences and habitat of special-status vernal pool plants would be developed and implemented on a project-specific basis. Because no regional conservation strategy, conservation measures, or conditions on Covered Activities would be implemented, there would be no potential impacts on these species associated with vernal pool

restoration or creation activities, but there would also be no beneficial effects on special-status vernal pool species from managing and enhancing preserved vernal pool habitat.

NEPA Determination: Implementation of Alternative 1 could result in the loss of extant occurrences of special-status plants, including up to 12 occurrences of dwarf downingia, 2 occurrences of Boggs Lake hedge-hyssop, 1 potential occurrence of Red Bluff dwarf rush, 1 occurrence of legenere, 1 occurrence of pincushion navarretia, and 1 occurrence of adobe navarretia. Alternative 1 would also permanently remove up to 580 acres of vernal pool–type wetland habitat for special-status plants in the Plan Area. No compensation for these impacts is specified under Alternative 1, but the impacts would be mitigated on a project-specific basis. Loss of vernal pool habitat and occurrences of special-status plants, in the absence of a coordinated conservation effort, a coordinated and connected reserve system, implementation of the avoidance and minimization measures, and implementation of the conditions on Covered Activities (see Chapter 8 of the Plan for a detailed account of all measures), would constitute a significant impact on special-status vernal pool species.

CEQA Determination: Implementation of Alternative 1 could result in the loss of extant occurrences of special-status plants, including up to 12 occurrences of dwarf downingia, 2 occurrences of Boggs Lake hedge-hyssop, 1 potential occurrence of Red Bluff dwarf rush, 1 occurrence of legenere, 1 occurrence of pincushion navarretia, and 1 occurrence of adobe navarretia. Alternative 1 would also permanently remove up to 580 acres of vernal pool–type wetland habitat for special-status plants in the Plan Area. No compensation for these impacts is specified under Alternative 1, but the impacts would be mitigated on a project-specific basis. Loss of vernal pool habitat and occurrences of special-status plants, in the absence of a coordinated conservation effort, a coordinated and connected reserve system, implementation of the avoidance and minimization measures, and implementation of the conditions on Covered Activities (see Chapter 8 of the Plan for a detailed account of all measures), would constitute a significant and unavoidable impact.

Impact BIO-8: Effects on special-status plants in oak woodland habitats (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

Oak woodland habitats, as discussed here, include the oak–foothill pine and chaparral land cover types included in the oak woodland natural community, as well as valley oak woodland. Several special-status plant species that grow in oak woodland habitats are known to occur in the Plan Area region: big-scale balsamroot, Brandegee's clarkia, stinkbells, Butte County fritillary, Red Bluff dwarf rush, dubious pea, hoary navarretia, streambank spring beauty, and sylvan microseris. There are recorded occurrences in the Plan Area for all these species except streambank spring beauty and sylvan microseris. Occurrences of streambank spring beauty occur near but outside of the PCWA operations and maintenance component of the Plan Area. Table 4.3-2 shows the numbers of these recorded occurrences in each Plan Area component (California Department of Fish and Wildlife 2017; Consortium of California Herbaria 2017b, 2017c, 2017d).

Table 4.3-2. Known Occurrences of Special-Status Plant Species in Oak Woodland Habitats in the Plan Area

Species	Valley PFG	Foothills PFG	Plan Area B	Existing Reserve Area	Reserve Acquisition Area	PCWA O&M	Total # of Occurrences in Plan Area[a]	Total # of Occurrences in California[a]
Big-scale balsamroot	1	(1)	1	0	0	0	3	43 (2)
Brandegee's clarkia	4		1	1	0		6	89
Streambank spring beauty	0	0	0	0	0	0	0	75[b]
Stinkbells	0	0	(1)	0	0	0	1	32 (2)
Butte County fritillary	0	0	0	0	0	1	1	235 (1)
Red Bluff dwarf rush[c]	0	0	1	0	0	0	1	56 (4)
Dubious pea	0	0	1	0	0	0	1	7
Sylvan microseris	1	0	1	0	0	0	0	212[b]
Hoary navarretia	3	0	3	0	1	0	0	76[b]

Note: Numbers in () are the number of the total occurrences that are extirpated or possibly extirpated.
O&M = operations and maintenance.

[a] Sources: California Department of Fish and Wildlife 2017; Consortium of California Herbaria 2017b, 2017c, 2017d.

[b] Most CRPR 4 species in this table, with the exception of Brandegee's clarkia, are not recorded in the CNDDB; therefore, numbers of occurrences are based on information in the Consortium of California Herbaria (2017b, 2017c, 2017d). Individual herbaria records do not necessarily correspond to what would be recorded as individual occurrences in the CNDDB, collections from the same location may be in more than one herbarium and be counted as more than one record, and the records do not include reviews for locations that may be extirpated. The total occurrence numbers of CRPR 4 species in California, therefore, are included for context but should not be interpreted as absolute.

[c] Note that this occurrence in the CNDDB is in question and may be due to a misidentification of another species as Red Bluff dwarf rush. Because this record remains in the CNDDB and has not been resolved, it is included here.

Development activities under Alternative 1 would result in permanent and temporary impacts on oak woodland habitat for special-status plants. Plan Area A includes 52,234 acres of oak woodland habitats that are potential habitat for these species. In the Valley portion of the Plan Area, permanent impacts would total 1,140 acres of oak woodland habitats (approximately 2% of total in Plan Area A). Known occurrences of big-scale balsamroot (one) and Brandegee's clarkia (four) in the Valley portion could be removed as a result of individual projects. In the Foothill portion, permanent impacts would total 5,200 acres of oak woodland habitats (approximately 10% of total oak woodland in Plan Area A); however, no extant occurrences of special-status plants are recorded in the Foothill Potential Future Growth Area (PFG). Impacts in Plan Area A would result primarily from urban/suburban development, transportation projects, and infrastructure projects. In Plan Area B, development activities in non-participating cities would result in impacts on a total of 20 acres of oak woodland habitats. Known occurrences of big-scale balsamroot, Brandegee's clarkia, and dubious pea (one occurrence each) could be removed as a result of these activities. One occurrence of Red Bluff dwarf rush could also be affected; however, this record of the species is questionable and may be due to a misidentification of another species as Red Bluff dwarf rush. Additional undiscovered occurrences of special-status plants could be removed by project construction in Plan Areas A and B.

Temporary impacts of development activities on oak woodland habitats for special-status plants would not exceed 55 acres in the Valley portion of the Plan Area, 140 acres in the Foothill portion, and 10 acres in Plan Area B. These temporary impacts would be associated with urban/suburban development, rural residential development, transportation construction, fuels management, vegetation management, infrastructure operations and maintenance, and infrastructure construction.

Indirect impacts on oak woodland habitats that support special-status plants could result from construction activities in the Plan Area, such as grading and removal of vegetation. These activities could adversely affect habitat function for special-status plants by altering the topography and hydrology in these habitats.

Under Alternative 1, mitigation for impacts that affect occurrences of and habitat for special-status plants in oak woodlands would be developed and implemented on a project-specific basis. Because no regional conservation strategy, conservation measures, or conditions on Covered Activities would be implemented, there would be no potential impacts on these species associated with oak woodland restoration or creation activities, but there would also be no beneficial effects on special-status species in oak woodlands from managing and enhancing preserved oak woodland habitats.

NEPA Determination: Implementation of Alternative 1 could result in the loss of up to two occurrences of big-scale balsamroot, five occurrences of Brandegee's clarkia, one potential occurrence of Red Bluff dwarf rush, and one occurrence of dubious pea. Alternative 1 would also result in the permanent removal of up to 6,350 acres of oak woodland habitats for special-status plants in the Plan Area. No compensation for these impacts is specified under Alternative 1, but the impacts would be mitigated on a project-specific basis. Loss of oak woodland habitats and occurrences of special-status plants, in the absence of a coordinated conservation effort, a coordinated and connected reserve system, implementation of the avoidance and minimization measures, and implementation of the conditions on Covered Activities (see Chapter 8 of the Plan for a detailed account of all measures), would constitute a significant impact on special-status species in oak woodlands.

CEQA Determination: Implementation of Alternative 1 could result in the loss of up to two occurrences of big-scale balsamroot, five occurrences of Brandegee's clarkia, one potential occurrence of Red Bluff dwarf rush, and one occurrence of dubious pea. Alternative 1 would also result in the permanent removal of up to 6,350 acres of oak woodland habitats for special-status plants in the Plan Area. No compensation for these impacts is specified under Alternative 1, but the impacts would be mitigated on a project-specific basis. Loss of oak woodland habitats and occurrences of special-status plants, in the absence of a coordinated conservation effort, a coordinated and connected reserve system, implementation of the avoidance and minimization measures, and implementation of the conditions on Covered Activities (see Chapter 8 of the Plan for a detailed account of all measures), would constitute a significant and unavoidable impact.

Impact BIO-9: Effects on special-status plants in grassland habitats (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

Several special-status plant species that occur in annual grasslands and vernal pool complex uplands are known to occur in the Plan Area region: big-scale balsamroot, hispid bird's-beak, stinkbells, Red Bluff dwarf rush, sylvan microseris, and hoary navarretia. With the exception of hispid bird's-beak, which would only occur in grassland or vernal pool upland habitat in the Plan Area, all these species also occur in oak woodland and chaparral habitats, as discussed in Impact BIO-8. There are recorded

occurrences in the Plan Area for all these species. Table 4.3-2 shows the numbers of these recorded occurrences in each Plan Area component; a single occurrence of hispid bird's-beak is recorded in an existing preserve in Plan Area B (California Department of Fish and Wildlife 2017; Consortium of California Herbaria 2017c, 2017d).

Development activities under Alternative 1 would result in permanent and temporary impacts on grassland habitats for special-status plants. Plan Area A includes 21,887 acres mapped as grassland, as well as the upland portion of 45,065 acres mapped as vernal pool complex. Pasture is not included in this analysis as potential special-status plant habitat, because it is a managed habitat with almost no native plant species. Permanent impacts in the Valley portion of the Plan Area would total 3,500 acres of grassland habitat (approximately 15% of this community in Plan Area A) and 11,830 acres of vernal pool complex upland (approximately 26% of total vernal pool complex in Plan Area A). A known occurrence of big-scale balsamroot in the Valley portion of the Plan Area could be removed by anticipated projects. Permanent impacts in the Foothill portion would total 3,300 acres of grassland habitat (approximately 15% of the community in Plan Area A) and 100 acres of vernal pool complex upland (approximately 0.2% of total vernal pool complex in Plan Area A); however, no extant occurrences of special-status plants are recorded in the Foothill portion. Impacts in Plan Area A would result primarily from urban/suburban development, transportation projects, and infrastructure projects. In Plan Area B, permanent impacts from development activities in non-participating cities would affect 100 acres of grassland habitat and 40 acres of vernal pool complex upland. One known occurrence of big-scale balsamroot could be removed as a result of these activities. One occurrence of Red Bluff dwarf rush could also be affected; however, this record of the species is questionable and may be due to a misidentification of another species as Red Bluff dwarf rush. Additional undiscovered occurrences of special-status plants could be removed in the Plan Area as a result of project construction in Plan Areas A and B.

Temporary impacts of development activities on grassland habitat for special-status plants would not exceed 125 acres in the Valley portion of the Plan Area, 90 acres in the Foothill portion, and 20 acres in Plan Area B. Temporary impacts of such activities on vernal pool complex upland would not exceed 410 acres in the Valley Portion of the Plan area, 10 acres in the Foothill portion, and 5 acres in Plan Area B. These temporary impacts would be associated with urban/suburban development, rural residential development, transportation construction, fuels management, vegetation management, infrastructure operations and maintenance, and infrastructure construction.

Indirect impacts on grassland and vernal pool complex upland habitats that support special-status plants could result from construction activities such as grading and removal of vegetation. These activities could adversely affect habitat function for special-status plants by altering the topography and hydrology in grasslands and uplands surrounding vernal pools.

Under Alternative 1, mitigation for impacts that affect occurrences of and habitat for special-status plants in grasslands and vernal pool uplands would be developed and implemented on a project-specific basis. Because no regional conservation strategy, conservation measures, or conditions on Covered Activities would be implemented, there would be no potential impacts on these species associated with grassland or vernal pool upland restoration or creation activities, but there would also be no beneficial effects on special-status species in grassland or vernal pool upland from managing and enhancing preserved habitats.

NEPA Determination: Implementation of Alternative 1 could result in the loss of up to two occurrences of big-scale balsamroot and one potential occurrence of Red Bluff dwarf rush.

Alternative 1 would also result in the permanent removal of up to 6,900 acres of grassland and the upland portion of the 12,550 acres of vernal pool complex that are habitats for special-status plants in the Plan Area. No compensation for these impacts is specified under Alternative 1, but the impacts would be mitigated on a project-specific basis. Loss of grassland and vernal pool upland habitats and occurrences of special-status plants, in the absence of a coordinated conservation effort, a coordinated and connected reserve system, implementation of the avoidance and minimization measures, and implementation of the conditions on Covered Activities (see Chapter 8 of the Plan for a detailed account of all measures), would constitute a significant impact.

CEQA Determination: Implementation of Alternative 1 could result in the loss of up to two occurrences of big-scale balsamroot and one potential occurrence of Red Bluff dwarf rush. Alternative 1 would also result in the permanent removal of up to 6,900 acres of grassland and the upland portion of the 12,550 acres of vernal pool complex that are habitats for special-status plants in the Plan Area. No compensation for these impacts is specified under Alternative 1, but the impacts would be mitigated on a project-specific basis. Loss of grassland and vernal pool upland habitats and occurrences of special-status plants would constitute a significant and unavoidable impact.

Impact BIO-10: Effects on special-status plants in fresh emergent marsh and riverine habitats (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

One special-status plant species that grows in fresh emergent marsh and slow-moving riverine habitats (Sanford's sagittaria) has potential to occur in the Plan Area region. Although the Plan Area is within the range of Sanford's sagittaria and supports suitable habitat for the species, there are no currently known occurrences in the Plan Area (California Department of Fish and Wildlife 2017).

Development activities under Alternative 1 would result in permanent and temporary impacts on marsh and riverine habitat for special-status plants. Potential habitats for these species in Plan Area A include 1,112 acres of marsh and 868 acres of riverine, a portion of which would be suitable habitat for Sanford's sagittaria. Permanent impacts in the Valley portion of the Plan Area would total 50 acres of fresh emergent marsh habitat (approximately 4% of this community in Plan Area A) and 80 acres of riverine habitat (approximately 9% of this community in Plan Area A). Permanent impacts in the Foothill portion would total 50 acres of fresh emergent marsh habitat (approximately 4% of this community in Plan Area A) and 30 acres of riverine habitat (approximately 3% of this community in Plan Area A). Impacts in Plan Area A would result primarily from urban/suburban development, transportation projects, and infrastructure projects. In Plan Area B, permanent impacts of development activities in non-participating cities would total 5 acres of fresh emergent marsh habitat and 5 acres of riverine habitat. No known occurrences of special-status plants associated with marsh or riverine habitats would be removed as a result of the projects; however, currently undiscovered occurrences of special-status plants could be removed in the Plan Area as a result of project construction in Plan Areas A and B.

Temporary impacts of development activities on fresh emergent marsh habitat for special-status plants would not exceed 25 acres in the Valley portion of the Plan Area, 15 acres in the Foothill portion, and 10 acres in Plan Area B. Temporary impacts on riverine habitat for special-status plants would not exceed 30 acres in the Valley portion of the Plan Area, 10 acres in the Foothill portion, and 10 acres in Plan Area B. These temporary impacts would be associated with urban/suburban development, rural residential development, transportation construction, fuels management, vegetation management, infrastructure operations and maintenance, and infrastructure construction.

Indirect impacts on fresh emergent marsh and riverine habitats that are suitable for special-status plants could result from construction activities, such as grading and removal of vegetation. These activities could adversely affect habitat function for special-status plants by altering the topography and hydrology that supports these habitats.

Under Alternative 1, mitigation for impacts that affect habitat for special-status plants in fresh emergent marsh and riverine habitats would be developed and implemented on a project-specific basis. Because no regional conservation strategy, conservation measures, or conditions on Covered Activities would be implemented, there would be no potential impacts on these species associated with fresh emergent marsh or riverine restoration or creation activities, but there would also be no beneficial effects on special-status species in these habitats from managing and enhancing preserved habitats. However, no special-status plants associated with fresh emergent marsh or riverine habitats are known to occur in the Plan Area and the amount of loss of these habitats would be a small percentage of the total community present in the Plan Area.

NEPA Determination: Implementation of Alternative 1 could affect currently undiscovered occurrences of special-status plants in freshwater emergent marsh and riverine habitats. Alternative 1 would also result in the permanent removal of up to 105 acres of fresh emergent marsh and 115 acres of riverine habitats for special-status plants in the Plan Area. No compensation for these impacts is specified under Alternative 1, and the impacts would be mitigated on a project-specific basis. Because of the uncertainty of adequately mitigating an impact of this extent in the absence of a regional conservation strategy, the impact on special-status species in emergent marsh and riverine habitats would be significant and unavoidable.

CEQA Determination: Implementation of Alternative 1 could affect currently undiscovered occurrences of special-status plants in freshwater emergent marsh and riverine habitats. Alternative 1 would also permanently remove up to 105 acres of fresh emergent marsh and 115 acres of riverine habitats for special-status plants in the Plan Area. No compensation for these impacts is included under Alternative 1, and the impacts would be mitigated on a project-specific basis. Because of the uncertainty of adequately mitigating an impact of this extent in the absence of a regional conservation strategy, the impact on special-status species in emergent marsh and riverine habitats would be significant and unavoidable.

Special-Status Fish and Wildlife

Impact BIO-11: Potential for construction and operation effects on Chinook salmon (fall-/late fall–run) and Central Valley steelhead (NEPA: less than significant; CEQA: less than significant)

Alternative 1 would result in permanent direct effects on riparian woodland/riverine habitat totaling 490 acres: 480 acres in Plan Area A (9% of total riverine/riparian habitat in the Plan Area) and 10 acres in Plan Area B. Temporary direct effects would total 165 acres (3% of this community) in Plan Area A and 20 acres in Plan Area B. These direct impacts would result from road crossings (i.e., bridge work and culverts) and water supply, flood control, and stormwater management activities.

These activities could cause a permanent change in substrate composition and channel morphology in aquatic habitat; create a permanent loss of shallow-water habitat, riparian vegetation, and instream woody material; and change instream flows if water is diverted from streams and if woody material, including beaver dams, is removed from creeks that could benefit habitat for fish.

Construction activities could also have direct effects on fish; heavy equipment use in the active channel could kill or injure fish. Finally, these activities could result in localized alterations in channel form and patterns of erosion and sedimentation that over time could alter aquatic habitat structure and function from existing conditions.

Temporary effects on salmonid streams are expected to result from road crossings, water supply projects, flood control projects, and instream restoration activities. Impact mechanisms associated with these activities include accidental introduction of contaminants and sediment into flowing water and noise at individual project construction sites.

Permanent indirect effects resulting from transportation projects and urban and rural residential development include noise, visual disturbance, and ground vibrations that could cause Chinook salmon and steelhead to avoid suitable aquatic habitat. Vehicles on bridges can increase noise levels and the release of petroleum-based chemicals into waterways, in turn causing decreased spawning, migratory, and rearing success. An increase in the input of contaminants (e.g., petroleum-based chemicals, pesticides, heavy metals) to waterways could result from the presence of new impervious surfaces associated with residential development, transportation projects, and other facilities if runoff enters waterways. Contaminants can adversely affect fish directly through exposure or indirectly through adverse effects on food organisms (e.g., macroinvertebrates), including the bioaccumulation of toxic compounds in these organisms.

Designated critical habitat for Central Valley steelhead in the Plan Area occurs in Coon Creek, Doty Creek, Auburn Ravine, Secret Ravine, Miner's Ravine, and Dry Creek. Approximately 1.24 miles (1.3% of total designated critical habitat in the Plan Area) could be permanently affected by bridge construction, water supply, flood control, and stormwater management activities.

Essential fish habitat (EFH) for Chinook salmon also occurs in the Plan Area. Construction and operation of the activities listed above would result in permanent effects on EFH.

Alternative 1 could result in adverse effects on Chinook salmon and steelhead and their critical habitat. Project proponents would apply for permits on a project-by-project basis. Because no regional conservation strategy, conservation measures, or conditions on Covered Activities would be implemented, there would be no potential impacts on these species associated with habitat restoration or creation activities, but there would also be no beneficial effects of a regional conservation strategy on special-status species.

NEPA Determination: The permanent loss of 490 acres and temporary disturbance of 185 acres of riparian woodland/riverine habitat associated with Alternative 1 would constitute a significant impact through habitat modification and potential direct mortality of a special-status species. However, in view of the regulatory and permitting requirements for streams and riparian habitat, as well as the likelihood of future project-level mitigation measures, the effects on steelhead and Chinook salmon would be less than significant.

CEQA Determination: The permanent loss of 490 acres and temporary disturbance of 185 acres of riparian woodland/riverine habitat associated with Alternative 1 would constitute a significant impact through habitat modification and potential direct mortality of a special-status species. However, in view of the regulatory and permitting requirements for streams and riparian habitat, as well as the likelihood of future project-level mitigation measures, the effects on steelhead and Chinook salmon would be less than significant.

Impact BIO-12: Potential for construction and operation effects on non-covered species (hardhead and Pacific lamprey) (NEPA: less than significant; CEQA: less than significant)

Alternative 1 would result in permanent direct effects on riparian woodland/riverine habitat totaling 490 acres: 480 acres in Plan Area A (9% of total riverine/riparian habitat in the Plan Area) and 10 acres in Plan Area B. Temporary direct effects would total 165 acres (3% of this community) in Plan Area A and 20 acres in Plan Area B. These direct impacts would result from road crossings (i.e., bridge work and culverts) and water supply, flood control, and stormwater management activities.

These activities could cause a permanent change in substrate composition and channel morphology in aquatic habitat; create a permanent loss of shallow-water habitat, riparian vegetation, and instream woody material; and change instream flows if water is diverted from streams and if woody material, including beaver dams, is removed from creeks that could benefit habitat for fish. Construction activities could also have direct effects on fish; heavy equipment use in the active channel could kill or injure fish. Finally, these activities could result in localized alterations in channel form and patterns of erosion and sedimentation that over time could alter aquatic habitat structure and function from existing conditions.

Temporary effects on streams are expected to result from road crossings, water supply projects, flood control projects, and instream restoration activities. Impact mechanisms associated with these activities include accidental introduction of contaminants and sediment into flowing water and noise at project construction sites.

Permanent indirect effects resulting from transportation projects and urban and rural residential development include noise, visual disturbance, and ground vibrations that could cause hardhead and Pacific Lamprey to avoid suitable aquatic habitat. Vehicles on bridges can increase noise levels and the release of petroleum-based chemicals into waterways, in turn causing decreased spawning, migratory, and rearing success. An increase in the input of contaminants (e.g., petroleum-based chemicals) to waterways could result from the presence of new impervious surfaces associated with residential development, transportation projects, and other facilities if runoff enters waterways. Contaminants can adversely affect fish directly through exposure or indirectly through adverse effects on food organisms (e.g., macroinvertebrates), including the bioaccumulation of toxic compounds in these organisms.

NEPA Determination: The permanent loss of 490 acres and temporary disturbance of 185 acres of riparian woodland/riverine habitat associated with Alternative 1 would constitute a significant impact through habitat modification and potential direct mortality of a special-status species. However, in view of the regulatory and permitting requirements for streams and riparian habitat, as well as the likelihood of future project-level mitigation measures, the effects on hardhead and Pacific lamprey would be less than significant.

CEQA Determination: The permanent loss of 490 acres and temporary disturbance of 185 acres of riparian woodland/riverine habitat associated with Alternative 1 would constitute a significant impact through habitat modification and potential direct mortality of a special-status species. However, in view of the regulatory and permitting requirements for streams and riparian habitat, as well as the likelihood of future project-level mitigation measures, the effects on hardhead and Pacific lamprey would be less than significant.

Impact BIO-13: Effects on valley elderberry longhorn beetle (NEPA: less than significant; CEQA: less than significant)

The CNDDB lists 12 occurrences of valley elderberry longhorn beetle in the Plan Area (California Department of Fish and Wildlife 2017). Appendix D, *Species Accounts*, of the Plan provides more detail on the status and distribution of the species throughout its range.

Alternative 1 would result in permanent and temporary impacts on valley elderberry longhorn beetle habitat. Permanent impacts would result in the loss of up to 630 acres of habitat (7% of 8,153 acres of habitat in the Plan Area), primarily from urban/suburban development, rural residential development, transportation projects, and infrastructure projects. These losses would almost entirely occur within the Valley portion of Plan Area A, with small losses (20 acres) in Plan Area B.

Temporary impacts on valley elderberry longhorn beetle habitat would not exceed 190 acres (2%) of habitat in the Plan Area. These temporary impacts would be associated with urban/suburban development, rural residential development, transportation construction, fuels management, vegetation management, infrastructure operations and maintenance, and infrastructure construction.

Indirect effects on valley elderberry longhorn beetle habitat include accumulation of dust on shrubs resulting from up-wind disturbances, flood control practices that could fragment habitat used by valley elderberry longhorn beetle, increased risk of wildfire, and the spread of invasive plants and animals that could affect the species.

Mitigation for these impacts would be developed and implemented on a project-specific basis.

NEPA Determination: The permanent loss of 630 acres and temporary disturbance to 190 acres of valley elderberry longhorn beetle habitat associated with Alternative 1 would constitute a potentially significant impact through habitat modification and potential direct mortality of a special-status species. However, in view of the federal protections for this species and the likely project-level mitigation, the effects of Alternative 1 on valley elderberry longhorn beetle would be less than significant.

CEQA Determination: The permanent loss of 630 acres and temporary disturbance to 190 acres of valley elderberry longhorn beetle habitat associated with Alternative 1 would constitute a potentially significant impact through habitat modification and potential direct mortality of a special-status species. However, in view of the federal protections for this species and the likely project-level mitigation, the effects of Alternative 1 on valley elderberry longhorn beetle would be less than significant.

Impact BIO-14: Effects on vernal pool branchiopods (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

The CNDDB lists 1 occurrence of Conservancy fairy shrimp, 63 occurrences of vernal pool fairy shrimp, and 3 occurrences of vernal pool tadpole shrimp in the Plan Area (California Department of Fish and Wildlife 2017).

Alternative 1 would result in permanent and temporary impacts on vernal pool complex and wetland habitat for vernal pool branchiopods. Permanent impacts would result in the loss of up to 12,550 acres of vernal pool complex, supporting 580 acres of vernal pool–type wetlands (28% and 26% of these habitats in the Plan Area, respectively). These impacts would result primarily from

urban/suburban development, rural residential development, transportation projects, and infrastructure projects. These losses would be primarily in the Valley portion of Plan Area A, with small losses occurring in the Foothill portion (100 acres) and Plan Area B (50 acres).

Temporary impacts on vernal pool branchiopod habitat would not exceed 25 acres of vernal pool–type wetlands (1% of this habitat type in the Plan Area) and 455 acres of vernal pool complex (1%). These temporary impacts would be associated with urban/suburban development, rural residential development, transportation construction, fuels management, vegetation management, infrastructure operations and maintenance, and infrastructure construction.

Indirect impacts on vernal pool complex could result from construction activities in the Plan Area, such as grading, trenching, changes to hydrology, and changes to topography. Indirect effects on vernal pools are generally considered to occur when ground-disturbing activities take place within 250 feet of a vernal pool—more specifically, when it can be demonstrated that the hydrology supporting a pool has been altered. Indirect effects on vernal pool complexes were estimated in the Plan at 1,979 acres. These indirect effects could adversely affect the functions and services of vernal pool–type wetlands and supporting uplands in vernal pool complexes. These effects could result from construction and maintenance of infrastructure associated with urban and rural development, installation and maintenance of utility lines, road improvements, drainage facility improvements, and flood control projects.

Mitigation for these impacts would be developed and implemented on a project-specific basis.

NEPA Determination: The permanent loss of up to 12,550 acres of vernal pool complex supporting up to 580 acres of vernal pool–type wetland and temporary disturbance of 25 acres of wetland habitat and 455 acres of vernal pool complex habitat associated with Alternative 1, in the absence of a coordinated conservation effort, a coordinated and connected reserve system, implementation of the avoidance and minimization measures, and implementation of the conditions on Covered Activities (see Chapter 8 of the Plan for a detailed account of all measures), would constitute a significant impact through habitat modification and potential direct mortality of a special-status species.

CEQA Determination: The permanent loss of up to 12,550 acres of vernal pool complex supporting up to 580 acres of vernal pool–type wetland and temporary disturbance of 25 acres of wetland habitat and 449 acres of vernal pool complex habitat associated with Alternative 1, in the absence of a coordinated conservation effort, a coordinated and connected reserve system, implementation of the avoidance and minimization measures, and implementation of the conditions on Covered Activities (see Chapter 8 of the Plan for a detailed account of all measures), would constitute a significant impact through habitat modification and potential direct mortality of a special-status species. Because it is not certain that project-level mitigation measures would adequately address this effect, it is considered a significant and unavoidable impact.

Impact BIO-15: Effects on California red-legged frog (NEPA: less than significant; CEQA: less than significant)

The CNDDB lists three occurrences of California red-legged frog in one population in the Plan Area, near the town site of Michigan Bluff near Foresthill (California Department of Fish and Wildlife 2017). All these occurrences are limited to a conservation bank site (Big Gun Conservation Bank) that is being managed for California red-legged frog (Plan Area B5). There are no known occurrences in Plan Area A, B1, B2, B3, or B4.

Alternative 1 would result in permanent and temporary impacts on California red-legged frog habitat. Permanent development projects would result in the loss of up to 672 acres of aquatic breeding and foraging habitat (8% of a total 8,532 acres of aquatic habitat) and up to 8,551 acres of upland movement and refugia habitat (11% of 75,306 acres of modeled upland habitat) in the Foothill portion of Plan Area A. These impacts would result primarily from urban/suburban development, rural residential development, transportation projects, and infrastructure projects.

Development projects would temporarily affect up to 168 acres of aquatic habitat and 214 acres of upland habitat in the Foothill portion of Plan Area A. These temporary impacts would be associated with urban/suburban development, rural residential development, transportation construction, fuels management, vegetation management, infrastructure operations and maintenance, and infrastructure construction.

Short-term construction-related effects on California red-legged frog include the generation of dust, which has the potential to interfere with the oxygen diffusion process and can transport toxic compounds that may affect frogs. Runoff from urban development and other construction activities could degrade the aquatic habitats that support this species. Additional indirect effects are expected to result from in-stream activities that could degrade aquatic habitat; habitat fragmentation as a result of urban and rural development and the construction of new roads and other infrastructure; and the introduction, establishment, and spread of invasive plants and predators (e.g., domestic pets, raccoons, coyotes, skunks, bullfrogs) that thrive in human-dominated environments. Because California red-legged frogs are not expected to occur in Plan Area A, indirect effects on the species are expected to be negligible, if any.

Mitigation for these impacts would be developed and implemented on a project-specific basis.

NEPA Determination: The permanent loss of 672 acres of aquatic habitat and 8,551 acres of upland habitat and temporary loss of 168 acres of aquatic habitat and 214 acres of upland for California red-legged frog associated with Alternative 1, in the absence of a coordinated conservation effort, a coordinated and connected reserve system, implementation of the avoidance and minimization measures, and implementation of the conditions on Covered Activities (see Chapter 8 of the Plan for a detailed account of all measures), would constitute a significant impact through habitat modification and potential direct mortality of a special-status species. However, in view of the federal protections for this species and the likely project-level mitigation, the effects of Alternative 1 on California red-legged frog would be less than significant.

CEQA Determination: The permanent loss of 672 acres of aquatic habitat and 8,551 acres of upland habitat and temporary loss of 168 acres of aquatic habitat and 214 acres of upland for California red-legged frog associated with Alternative 1, in the absence of a coordinated conservation effort, a coordinated and connected reserve system, implementation of the avoidance and minimization measures, and implementation of the conditions on Covered Activities (see Chapter 8 of the Plan for a detailed account of all measures), would constitute a significant impact through habitat modification and potential direct mortality of a special-status species. Considering the federal protections for this species and the likely project-level mitigation, the effects of Alternative 1 on California red-legged frog would be less than significant.

Impact BIO-16: Effects on foothill yellow-legged frog (NEPA: less than significant; CEQA: less than significant)

Although foothill yellow-legged frog is widely scattered in suitable riverine and riparian habitat throughout the foothills of Placer County, the CNDDB lists no occurrences of this species in the Plan Area (California Department of Fish and Wildlife 2017). The nearest record slightly more than 3 miles from the eastern border of the Plan Area. Appendix D, *Species Accounts*, of the Plan provides more detail on the status and distribution of yellow-legged frog throughout its range and in Placer County.

Alternative 1 would result in permanent and temporary impacts on foothill yellow-legged frog habitat. Permanent impacts would result in the loss of up to 155 acres of foothill yellow-legged frog year-round habitat (8% of a total 1,837 acres of suitable habitat) in the Foothill portion of the Plan Area (i.e., streams above 500 feet). These impacts would result primarily from urban/suburban development, rural residential development, transportation projects, and infrastructure projects.

Permanent development projects would temporarily affect up to 39 acres of year-round foothill yellow-legged frog habitat in the Plan Area (2% of a total 1,837 acres). These temporary impacts would be associated with urban/suburban development, rural residential development, transportation construction, fuels management, vegetation management, infrastructure operations and maintenance, and infrastructure construction.

Short-term construction-related effects on foothill yellow-legged frog include the generation of dust, which has the potential to interfere with the oxygen diffusion process and can transport toxic compounds that may affect frogs. Runoff from urban development and other activities could degrade the aquatic habitats that support this species. Additional indirect effects are expected to result from in-stream activities that could degrade aquatic habitat; habitat fragmentation as a result of urban and rural development and the construction of new roads and other infrastructure; and the introduction, establishment, and spread of invasive plants and predators (e.g., domestic pets, raccoons, coyotes, skunks, bullfrogs) that thrive in human-dominated environments.

Mitigation for these impacts would be developed and implemented on a project-specific basis.

NEPA Determination: Alternative 1 would result in the permanent loss of up to 155 acres and temporary loss of up to 39 acres of habitat for foothill yellow-legged frog. In the absence of a coordinated conservation effort, a coordinated and connected reserve system, implementation of the avoidance and minimization measures, and implementation of the conditions on Covered Activities (see Chapter 8 of the Plan for a detailed account of all measures), this would constitute a significant impact through habitat modification and potential direct mortality of a special-status species. However, in view of the Section 404/401 regulations, Streambed Alteration Agreements for streams that support this species, and the likely project-level mitigation, the effects of Alternative 1 on foothill yellow-legged frog would be less than significant.

CEQA Determination: Alternative 1 would result in the permanent loss of up to 155 acres and temporary loss of up to 39 acres of habitat for foothill yellow-legged frog. In the absence of a coordinated conservation effort, a coordinated and connected reserve system, implementation of the avoidance and minimization measures, and implementation of the conditions on Covered Activities (see Chapter 8 of the Plan for a detailed account of all measures), this would constitute a significant impact through habitat modification and potential direct mortality of a special-status species. However, in view of the Section 404/401 regulations, Streambed Alteration Agreements for

streams that support this species, and the likely project-level mitigation, the effects of Alternative 1 on foothill yellow-legged frog would be less than significant.

Impact BIO-17: Effects on western spadefoot, a non-covered species (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

The CNDDB lists five occurrences of western spadefoot in the Plan Area (California Department of Fish and Wildlife 2017).

Alternative 1 would result in permanent and temporary impacts on western spadefoot habitat. Permanent impacts would result in the loss of up to 20,200 acres of potential western spadefoot habitat: 12,550 acres of vernal pool complex that includes 580 acres of vernal pool–type wetlands, 6,900 acres of grassland, 260 acres of aquatic/wetland, and 490 acres of riverine/riparian. The majority of potential habitat is located in Plan Area A, and losses would result primarily from urban/suburban development, rural residential development, transportation projects, and infrastructure projects. This analysis may overestimate effects on spadefoot because the analysis is based on habitat types that may not be suitable in their entirety for spadefoot.

Development activities would temporarily affect up to 960 acres of potential western spadefoot habitat: 455 acres of vernal pool complex that includes 30 acres of vernal pool type wetlands, 235 acres of grassland, 105 acres of aquatic/wetland, and 165 acres of riverine/riparian. These temporary impacts would be associated with urban/suburban development, rural residential development, transportation construction, fuels management, vegetation management, infrastructure operations and maintenance, and infrastructure construction.

Recurring maintenance activities in the Plan Area may directly (through inadvertent mortality) and indirectly (through noise, visual disturbance, and ground vibrations) affect western spadefoot.

Permanent development within 500 feet of western spadefoot habitat could indirectly affect the species through increased vehicular traffic and the development of new roadways, causing mortalities; in-stream activities and runoff from developed areas that could degrade aquatic habitat; habitat fragmentation as a result of urban and rural development and the construction of new roads and other infrastructure; introduction, establishment, and spread of invasive plant and animal species; and increased predation rates, from domestic pets and invasive wildlife species.

Mitigation for these impacts would be developed and implemented on a project-specific basis.

NEPA Determination: The permanent loss of up to 20,200 acres and temporary disturbance to 960 acres of potential western spadefoot habitat associated with Alternative 1, in the absence of a coordinated conservation effort, a coordinated and connected reserve system, implementation of the avoidance and minimization measures, and implementation of the conditions on Covered Activities (see Chapter 8 of the Plan for a detailed account of all measures), would constitute a significant impact through habitat modification and potential direct mortality of a special-status species.

CEQA Determination: The permanent loss of up to 20,200 acres and temporary disturbance to 960 acres of potential western spadefoot habitat associated with Alternative 1, in the absence of a coordinated conservation effort, a coordinated and connected reserve system, implementation of the avoidance and minimization measures, and implementation of the conditions on Covered Activities (see Chapter 8 of the Plan for a detailed account of all measures), would constitute a significant impact through habitat modification and potential direct mortality of a special-status

species. Because it is not certain that project-level mitigation measures would adequately address this effect, it is considered a significant and unavoidable impact.

Impact BIO-18: Effects on giant garter snake (NEPA: less than significant; CEQA: less than significant)

A population of giant garter snake has been documented approximately 1.5–5 miles west and south of the Placer County line in the Sutter and Natomas Basins of Sutter and Sacramento Counties; the closest occurrence is recorded in the Natomas Basin of Sacramento County, approximately 1.5 miles southwest of the Placer County line (Figure 5-3 in the Plan). Appendix D, *Species Accounts*, of the Plan provides more detail on the status and distribution of the species throughout its range.

Alternative 1 would result in permanent and temporary impacts on aquatic and upland habitat for giant garter snake. Permanent impacts would result in the loss of up to 1,438 acres of aquatic habitat (7% of a total 19,511 acres of habitat in the Plan Area) and 483 acres of upland habitat (14% of a total 3,537 acres). These losses would result primarily from urban/suburban development, rural residential development, transportation projects, and infrastructure projects, primarily in the Valley portion of Plan Area A, with small losses (49 acres) in Plan Area B.

Temporary impacts on giant garter snake habitat would not exceed 203 acres of aquatic habitat in the Plan Area (1% of total aquatic habitat) and 22 acres of upland habitat (1% of total upland habitat). These temporary impacts would be associated with urban/suburban development, rural residential development, transportation construction, fuels management, vegetation management, infrastructure operations and maintenance, and infrastructure construction.

Indirect effects could result from construction and maintenance of infrastructure associated with urban and rural development and from changes in hydrology caused by land conversion. Additionally, in-stream activities such as installation and maintenance of utility lines, road improvements, drainage facility improvements, and flood control projects may indirectly affect giant garter snake.

Mitigation for these impacts would be developed and implemented on a project-specific basis.

NEPA Determination: The permanent loss of 1,438 acres of aquatic habitat and 483 acres of upland habitat and temporary disturbance to 203 acres of aquatic habitat and 22 acres of upland giant habitat associated with Alternative 1, in the absence of a coordinated conservation effort, a coordinated and connected reserve system, implementation of the avoidance and minimization measures, and implementation of the conditions on Covered Activities (see Chapter 8 of the Plan for a detailed account of all measures), would constitute a significant effect. However, in view of the federal protections for this species and the likely project-level mitigation, the effects of Alternative 1 on giant garter snake would be less than significant.

CEQA Determination: The permanent loss of 1,438 acres of aquatic habitat and 483 acres of upland habitat and temporary disturbance to 203 acres of aquatic habitat and 22 acres of upland giant habitat associated with Alternative 1, in the absence of a coordinated conservation effort, a coordinated and connected reserve system, implementation of the avoidance and minimization measures, and implementation of the conditions on Covered Activities (see Chapter 8 of the Plan for a detailed account of all measures), would constitute a significant effect. However, in view of the federal protections for this species and the likely project-level mitigation, the effects of Alternative 1 on giant garter snake would be less than significant.

Impact BIO-19: Effects on western pond turtle (NEPA: less than significant; CEQA: less than significant)

The CNDDB lists four occurrences of western pond turtle in the Plan Area (California Department of Fish and Wildlife 2017).

Alternative 1 would result in permanent and temporary impacts on western pond turtle aquatic and upland habitat. Permanent impacts would result in the loss of 750 acres of aquatic habitat (7% of a total 10,244 acres of aquatic habitat) and up to 1,407 acres of upland habitat for western pond turtle (10% of a total 14,263 acres of upland habitat) in the Plan Area. These impacts would result primarily from urban/suburban development, rural residential development, transportation projects, and infrastructure projects, primarily in the Valley and Foothill portions of Plan Area A; small losses (20 acres) would occur in Plan Area B.

Temporary impacts on western pond turtle would not exceed 250 acres of aquatic habitat (2% of total aquatic habitat) and 40 acres of upland habitat (less than 1% of total upland habitat). These temporary impacts would be associated with urban/suburban development, rural residential development, transportation construction, fuels management, vegetation management, infrastructure operations and maintenance, and infrastructure construction.

Indirect effects are expected to result from increased vehicular traffic and the development of new roadways, causing mortalities; in-stream activities and runoff from developed areas that could degrade aquatic habitat; habitat fragmentation as a result of urban and rural development and the construction of new roads and other infrastructure; introduction, establishment, and spread of invasive plant and animal species; and increased predation rates, particularly on eggs and young, by domestic pets and invasive wildlife species.

Mitigation for these impacts would be developed and implemented on a project-specific basis.

NEPA Determination: The permanent loss of 750 acres of aquatic habitat and 1,407 acres of upland habitat and the temporary disturbance of 250 acres of aquatic habitat and 40 acres of upland habitat associated with Alternative 1, in the absence of a coordinated conservation effort, a coordinated and connected reserve system, implementation of the avoidance and minimization measures, and implementation of the conditions on Covered Activities (see Chapter 8 of the Plan for a detailed account of all measures), would constitute a significant impact through habitat modification and potential direct mortality of a special-status species. Because impacts on this special-status species would likely entail appropriate project-level mitigation, the effects of Alternative 1 on western pond turtle would be less than significant.

CEQA Determination: The permanent loss of 750 acres of aquatic habitat and 1,407 acres of upland habitat and the temporary disturbance of 250 acres of aquatic habitat and 40 acres of upland habitat associated with Alternative 1, in the absence of a coordinated conservation effort, a coordinated and connected reserve system, implementation of the avoidance and minimization measures, and implementation of the conditions on Covered Activities (see Chapter 8 of the Plan for a detailed account of all measures), would constitute a significant impact through habitat modification and potential direct mortality of a special-status species. Because impacts on this special-status species would likely entail appropriate project-level mitigation, the effects of Alternative 1 on western pond turtle would be less than significant.

Impact BIO-20: Effects on coast horned lizard, a non-covered species (NEPA: less than significant; CEQA: less than significant)

The Plan Area is within the known range of coast horned lizard and contains suitable habitat; however, there are no CNDDB records for the species within the Plan Area (California Department of Fish and Wildlife 2017).

Alternative 1 would result in permanent and temporary impacts on coast horned lizard habitat. Permanent impacts would result in loss of 13,625 acres of natural communities that contain suitable habitat elements for coast horned lizard (e.g., open areas with sandy substrates): 6,900 acres of grasslands (20% of this community in the Plan Area), 6,350 acres of oak and valley oak woodland (12%), and 375 acres of riparian woodland (less than 8%). These losses would result primarily from urban/suburban development, rural residential development, transportation projects, and infrastructure projects.

Development activities would temporarily affect up to 555 acres of habitat for coast horned lizard: 235 acres of grassland (1% of this community), 205 acres of valley oak and oak woodland (<1%), and 115 acres of riparian woodland (2%) in the Plan Area. These temporary impacts would be associated with urban/suburban development, rural residential development, transportation construction, fuels management, vegetation management, infrastructure operations and maintenance, and infrastructure construction.

Indirect effects are expected to result from increased vehicular traffic and the development of new roadways, causing mortalities; habitat fragmentation as a result of urban and rural development and the construction of new roads and other infrastructure; introduction, establishment, and spread of invasive plant and animal species; and increased predation rates, from domestic pets and invasive wildlife species. Recurring maintenance activities within the Plan Area, such as transportation facility maintenance, utility service facilities maintenance, and vegetation management, may periodically directly and indirectly affect coast horned lizard.

Mitigation for these impacts would be developed and implemented on a project-specific basis.

NEPA Determination: The permanent loss of 13,625 acres and temporary disturbance of 555 acres of potential coast horned lizard habitat, associated with Alternative 1, in the absence of a coordinated conservation effort, a coordinated and connected reserve system, implementation of the avoidance and minimization measures, and implementation of the conditions on Covered Activities (see Chapter 8 of the Plan for a detailed account of all measures), would constitute a potentially significant impact through habitat modification and potential direct mortality of a special-status species. However, in view of the likely project-level mitigation, the effects of Alternative 1 on coast horned lizard would be less than significant.

CEQA Determination: The permanent loss of 13,625 acres and temporary disturbance of 555 acres of potential coast horned lizard habitat, associated with Alternative 1, in the absence of a coordinated conservation effort, a coordinated and connected reserve system, implementation of the avoidance and minimization measures, and implementation of the conditions on Covered Activities (see Chapter 8 of the Plan for a detailed account of all measures), would constitute a potentially significant impact through habitat modification and potential direct mortality of a special-status species. However, in view of the likely project-level mitigation, the effects of Alternative 1 on coast horned lizard would be less than significant.

Impact BIO-21: Effects on Swainson's hawk (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

The CNDDB lists 17 extant occurrences of Swainson's hawks nesting in the Plan Area, all in the Valley portion (California Department of Fish and Wildlife 2017).

Alternative 1 would result in permanent and temporary impacts on Swainson's hawk. Permanent impacts would not exceed 149 acres of nesting habitat (8% of nesting habitat in Plan Area A) and 16,267 acres of foraging habitat (30% of suitable habitat). These impacts would result primarily from urban/suburban development, rural residential development, transportation projects, and infrastructure projects.

Temporary impacts on Swainson's hawk habitat would not exceed 10 acres of nesting habitat and 602 acres of foraging habitat. These temporary impacts would be associated with urban/suburban development, rural residential development, transportation construction, fuels management, vegetation management, infrastructure operations and maintenance, infrastructure construction, and conservation activities.

In addition to habitat losses, development activities have the potential to directly affect Swainson's hawk through injury and mortality. Construction-related activities would not be expected to result in direct mortality of adult or fledged Swainson's hawks if they were present in or near such activities, because they would be expected to avoid contact with construction equipment. However, if Swainson's hawks were to nest in or near a construction area, construction-related activities, including equipment operation, noise, and visual disturbances could affect nests or lead to their abandonment, potentially resulting in mortality of eggs and nestlings.

Swainson's hawk nesting and foraging behavior in the vicinity of proposed construction areas could be directly affected by construction activities. Construction noise above background noise levels (i.e., greater than 50 A-weighted decibels [dBA]) could extend 500–5,250 feet from the edge of construction activities. However, no data are available that identify the extent to which these noise levels could affect Swainson's hawks. Effects associated with construction include noise and visual disturbance caused by grading, contouring, and other ground-disturbing operations outside the project footprint but within 500 feet of it. Construction and subsequent maintenance-related noise and visual disturbances could mask calls and disrupt foraging and nesting behaviors. The use of mechanical equipment during construction activities could cause the accidental release of petroleum or other contaminants that could affect Swainson's hawk foraging habitat.

Indirect effects are expected to result from increased vehicular traffic associated with the development of new roadways, causing mortalities; habitat fragmentation as a result of urban and rural development and the construction of new roads and other infrastructure; introduction, establishment, and spread of invasive plant species.

Mitigation for these impacts would be developed and implemented on a project-specific basis.

NEPA Determination: The permanent loss of 149 acres of nesting habitat and 16,267 acres of foraging habitat and the temporary disturbance of 10 acres of nesting habitat and 602 acres of foraging habitat associated with Alternative 1, in the absence of a coordinated conservation effort, a coordinated and connected reserve system, implementation of the avoidance and minimization measures, and implementation of the conditions on Covered Activities (see Chapter 8 of the Plan for a detailed account of all measures), would constitute a significant impact.

CEQA Determination: The permanent loss of 149 acres of nesting habitat and 16,267 acres of foraging habitat and the temporary disturbance of 10 acres of nesting habitat and 602 acres of foraging habitat associated with Alternative 1, in the absence of a coordinated conservation effort, a coordinated and connected reserve system, implementation of the avoidance and minimization measures, and implementation of the conditions on Covered Activities (see Chapter 8 of the Plan for a detailed account of all measures), would constitute a significant and unavoidable through a substantial loss of habitat (9% nesting and 30% foraging) and fragmentation of foraging habitat.

Impact BIO-22: Effects on California black rail (NEPA: less than significant; CEQA: less than significant)

The CNDDB lists two extant occurrences of California black rail in the Plan Area: one in the Valley portion of Plan Area B and one in the Foothill portion of the RAA in Plan Area A (California Department of Fish and Wildlife 2017).

Alternative 1 would result in permanent and temporary impacts on California black rail. Permanent impacts would not exceed 105 acres (9% of suitable habitat Plan Area A). These impacts would result primarily from urban/suburban development, rural residential development, transportation projects, and infrastructure projects. The impacts would be roughly equally split between the Valley and Foothill portions, with a small amount (5 acres) in Plan Area B.

Temporary impacts on California black rail habitat are estimated at 41 acres. These temporary impacts would be associated with urban/suburban development, rural residential development, transportation construction, fuels management, vegetation management, infrastructure operations and maintenance, and infrastructure construction.

In addition to causing habitat losses, construction activities have the potential to directly affect California black rails through injury and mortality. Operation of construction equipment may cause injury to or mortality of individuals. Risk would be greatest to eggs and nestlings susceptible to land-clearing activities through nest abandonment and increased exposure to the elements or to predators. Construction activities could temporarily fragment existing California black rail habitat; grading, filling, contouring, and other ground-disturbing operations could temporarily reduce the extent and functions supported by the affected habitat.

California black rail nesting behavior in the vicinity of proposed construction areas could be directly affected by construction activities. Construction noise above background noise levels (greater than 50 dBA) could extend 500–5,250 feet from the edge of construction activities. However, no data are available that identify the extent to which these noise levels could affect California black rail. Effects associated with construction include noise, dust, and visual disturbance caused by grading, filling, contouring, and other ground-disturbing operations outside the project footprint but within 500 feet of it. Construction and subsequent maintenance-related noise and visual disturbances could mask calls, disrupt foraging and nesting behaviors, and reduce the functions of suitable nesting habitat for this species. The use of mechanical equipment during construction activities could cause the accidental release of petroleum or other contaminants that could affect black rails in the surrounding habitat. The inadvertent discharge of sediment or excessive dust adjacent to black rail habitat could also affect the species.

Indirect effects are expected to result from increased vehicular traffic associated with the development of new roadways, causing mortalities; runoff from developed areas that could degrade habitat; habitat fragmentation as a result of urban and rural development and the construction of

new roads and other infrastructure; introduction, establishment, and spread of invasive plant and animal species; and increased predation rates, particularly on eggs and young, from domestic pets and invasive wildlife species.

Mitigation for these impacts would be developed and implemented on a project-specific basis.

NEPA Determination: The permanent loss of 105 acres and the temporary disturbance of 41 acres of California black rail habitat associated with Alternative 1 would be a significant impact. Because California black rail is a fully protected species, meaning that take cannot be authorized, and in view of the regulatory permitting requirements for wetlands, which typically require no net loss of wetland/waters functions and services, the effects of Alternative 1 would be less than significant under the assumption that take of the species would be avoided and impacts on habitat would be fully mitigated.

CEQA Determination: The permanent loss of 105 acres and the temporary disturbance of 41 acres of California black rail habitat associated with Alternative 1 would be a significant impact. Because California black rail is a fully protected species, meaning that take cannot be authorized, and in view of the regulatory permitting requirements for wetlands, which typically require no net loss of wetland/waters functions and services, the effects of Alternative 1 would be less than significant under the assumption that take of the species would be avoided and impacts on habitat would be fully mitigated.

Impact BIO-23: Effects on burrowing owl (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

The CNDDB lists four extant occurrences of burrowing owl in the Plan Area, all in the Valley portion (California Department of Fish and Wildlife 2017).

Alternative 1 would result in permanent and temporary impacts on burrowing owl. Permanent impacts would not exceed 16,444 acres of habitat (30% in of suitable habitat Plan Area A). These impacts would result primarily from urban/suburban development, rural residential development, transportation projects, and infrastructure projects. The impacts would occur almost entirely with the valley portion of Plan Area A, with a smaller amount (200 acres) occurring in Plan Area B.

Temporary impacts on burrowing owl habitat would not exceed at 609 acres. These temporary impacts would be associated with urban/suburban development, rural residential development, transportation construction, fuels management, vegetation management, infrastructure operations and maintenance, and infrastructure construction.

In addition to causing habitat losses, construction activities have the potential to directly affect individual burrowing owls through injury and mortality. Operation of construction equipment may cause injury to or mortality of burrowing owls. Risk would be greatest to eggs and nestlings susceptible to land-clearing activities through nest abandonment and increased exposure to the elements or to predators. Construction activities could temporarily fragment existing burrowing owl habitat: grading, filling, contouring, and other initial ground-disturbing operations could temporarily reduce the extent and functions supported by the affected habitat.

Burrowing owl nesting behavior in the vicinity of proposed construction areas could be directly affected by construction activities. Construction noise above background noise levels (greater than 50 dBA) could extend 500–5,250 feet from the edge of construction activities. However, no data are available that identify the extent to which these noise levels could affect burrowing owl. Effects

associated with construction include noise, dust, and visual disturbance caused by grading, filling, contouring, and other ground-disturbing operations outside the project footprint but within 500 feet of it. Construction and subsequent maintenance-related noise and visual disturbances could mask calls, disrupt foraging and nesting behaviors, and reduce the functions of suitable nesting habitat for this species. The use of mechanical equipment during construction activities could cause the accidental release of petroleum or other contaminants that could affect burrowing owls in the surrounding habitat. The inadvertent discharge of sediment or excessive dust adjacent to burrowing owl habitat could also affect the species.

Indirect effects are expected to result from increased vehicular traffic associated with the development of new roadways, causing mortalities; runoff from developed areas that could degrade habitat; habitat fragmentation as a result of urban and rural development and the construction of new roads and other infrastructure; introduction, establishment, and spread of invasive plant and animal species; and increased predation rates, particularly on eggs and young, from domestic pets and invasive wildlife species.

Mitigation for these impacts would be developed and implemented on a project-specific basis.

NEPA Determination: The permanent loss of 16,444 acres and the temporary disturbance of 609 acres of burrowing owl habitat associated with Alternative 1, in the absence of a coordinated conservation effort, a coordinated and connected reserve system, implementation of the avoidance and minimization measures, and implementation of the conditions on Covered Activities (see Chapter 8 of the Plan for a detailed account of all measures), would constitute a significant impact.

CEQA Determination: The permanent loss of 16,444 acres and the temporary disturbance of 609 acres of burrowing owl habitat associated with Alternative 1, in the absence of a coordinated conservation effort, a coordinated and connected reserve system, implementation of the avoidance and minimization measures, and implementation of the conditions on Covered Activities (see Chapter 8 of the Plan for a detailed account of all measures), would constitute a significant and unavoidable impact through substantial loss of habitat (30%), habitat fragmentation, and potential mortality of a special-status species. Because it is not certain that project-level mitigation measures would adequately address this effect, it is considered a significant and unavoidable impact.

Impact BIO-24: Effects on tricolored blackbird (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

The CNDDB lists 14 extant occurrences of tricolored blackbird in the Plan Area, all but one of which occur in the Valley portion of the Plan Area (California Department of Fish and Wildlife 2017). The occurrence in the Foothills portion is at an elevation just above 300 feet. All the occurrences are either in the RAA or on existing reserves.

Alternative 1 would result in permanent and temporary impacts on tricolored blackbird. Permanent impacts are estimated at 782 acres of nesting habitat (18% of total habitat in Plan Area A) and 22,268 acres of foraging habitat (21% in Plan Area A). These impacts would result primarily from urban/suburban development, rural residential development, transportation projects, and infrastructure projects. Most of the impacts on nesting and foraging habitat (77% and 81%, respectively) would be in the Valley portion of the Plan Area.

Temporary impacts on tricolored blackbird habitat are estimated at 103 acres of nesting habitat and 836 acres of foraging habitat. These temporary impacts would be associated with urban/suburban

development, rural residential development, transportation construction, fuels management, vegetation management, infrastructure operations and maintenance, and infrastructure construction.

In addition to causing habitat losses, construction activities have the potential to directly affect tricolored blackbirds through injury and mortality. Operation of construction equipment may cause injury to or mortality of tricolored blackbirds. Risk would be greatest to eggs and nestlings susceptible to land-clearing activities through nest abandonment or increased exposure to the elements and to predators. Injury to or mortality of adults and fledged juveniles would not be expected because individuals would be expected to avoid contact with construction equipment. Construction activities could temporarily fragment existing tricolored blackbird habitat: grading, filling, contouring, and other initial ground-disturbing operations could temporarily reduce the extent and functions supported by the affected habitat.

Tricolored blackbird nesting behavior in the vicinity of proposed construction areas could be directly affected by construction activities. Construction noise above background noise levels (greater than 50 dBA) could extend 500–5,250 feet from the edge of construction activities. However, no data are available that identify the extent to which these noise levels could affect tricolored blackbird. Effects associated with construction include noise, dust, and visual disturbance caused by grading, filling, contouring, and other ground-disturbing operations outside the project footprint but within 1,300 feet of it. Construction and subsequent maintenance-related noise and visual disturbances could mask calls, disrupt foraging and nesting behaviors, and reduce the functions of suitable nesting habitat for these species. The use of mechanical equipment during construction activities could cause the accidental release of petroleum or other contaminants that could affect tricolored blackbirds in the surrounding habitat. The inadvertent discharge of sediment or excessive dust adjacent to tricolored blackbird habitat could also affect the species.

Indirect effects are expected to result from increased vehicular traffic associated with the development of new roadways, causing mortalities; runoff from developed areas that could degrade habitat; habitat fragmentation as a result of urban and rural development and the construction of new roads and other infrastructure; introduction, establishment, and spread of invasive plant and animal species; and increased predation rates, particularly on eggs and young, from domestic pets and invasive wildlife species.

Mitigation for these impacts would be developed and implemented on a project-specific basis.

NEPA Determination: The permanent loss of 782 acres of nesting habitat and 22,268 acres of foraging habitat and the temporary disturbance of 103 acres of nesting habitat and 836 acres of foraging habitat associated with Alternative 1, in the absence of a coordinated conservation effort, a coordinated and connected reserve system, implementation of the avoidance and minimization measures, and implementation of the conditions on Covered Activities (see Chapter 8 of the Plan for a detailed account of all measures), would constitute a significant impact.

CEQA Determination: The permanent loss of 782 acres of nesting habitat and 22,268 acres of foraging habitat and the temporary disturbance of 103 acres of nesting habitat and 836 acres of foraging habitat associated with Alternative 1, in the absence of a coordinated conservation effort, a coordinated and connected reserve system, implementation of the avoidance and minimization measures, and implementation of the conditions on Covered Activities (see Chapter 8 of the Plan for a detailed account of all measures), would constitute a significant impact through substantial loss of habitat (18% nesting and 21% foraging) and potential mortality of a special-status species. Because

it is not certain that project-level mitigation measures would adequately address this effect, it is considered a significant and unavoidable impact.

Impact BIO-25: Effects on non-covered bats (NEPA: less than significant; CEQA: less than significant)

The CNDDB lists three occurrences of Townsend's big-eared bat and one occurrence of pallid bat in the Plan Area (California Department of Fish and Wildlife 2017). At least 11 special-status bats are known to or could occur in the Plan Area (Townsend's big-eared bat, pallid bat, spotted bat, silver-haired bat, western red bat, hoary bat, fringed myotis, Yuma myotis, long-eared myotis, long-legged myotis, and small-footed myotis). These bat species employ varied roost strategies, from solitary roosting in tree foliage to colonial roosting in trees, caves, mines, and artificial structures such as tunnels, buildings, and bridges. Various roost strategies also include night roosts, maternity roosts, migration stopover, and hibernation. The natural community/land cover types considered for the assessment of effects on bat roosting habitat comprise oak woodland and valley oak woodland (all types) and riverine/riparian. Because roosting habitat is by its nature the limiting factor for habitats' ability to support bat populations, impacts on foraging habitat were not considered for the purposes of this analysis, although foraging habitat would benefit from the conservation actions proposed under the conservation strategy.

Alternative 1 would result in permanent and temporary impacts on special-status bat roosting habitat. Permanent impacts would result in the loss of up to 6,725 acres of bat roosting habitat (12% of suitable habitat in the Plan Area): 375 acres of riparian woodland, 140 acres of valley oak woodland, and 6,210 acres of oak woodland. In addition, bridge replacement and improvements could affect bats that utilize bridge weep holes and crevices for roosting. An unknown number of roost sites in artificial structures, orchards, and urban landscaping could also be affected.

Development projects would temporarily affect up to 320 acres of roosting habitat in the Plan Area. These temporary impacts would be associated with urban/suburban development, rural residential development, transportation construction, fuels management, vegetation management, infrastructure operations and maintenance, and infrastructure construction.

Permanent development within 500 feet of bat roosting habitat could cause alterations in behavior through visual and noise disturbances associated with both construction and normal ongoing human activities if bats are present. Recurring, periodic maintenance activities may indirectly (through noise and visual disturbance) affect roosting bats; activities such as vegetation management and bridge maintenance could result in harm or mortality to young and adults, as well as reduced reproductive success.

Mitigation for these impacts would be developed and implemented on a project-specific basis.

NEPA Determination: The permanent loss of 6,725 acres and temporary disturbance of 320 acres of potential roosting habitat for special-status bats associated with Alternative 1, in the absence of a coordinated conservation effort, a coordinated and connected reserve system, implementation of the avoidance and minimization measures, and implementation of the conditions on Covered Activities (see Chapter 8 of the Plan for a detailed account of all measures), would constitute a significant impact through habitat modification and potential direct mortality of a special-status species. In view of the likely project-level mitigation, the effects of Alternative 1 on special-status bats would be less than significant.

CEQA Determination: The permanent loss of 6,725 acres and temporary disturbance of 320 acres of potential roosting habitat for special-status bats associated with Alternative 1, in the absence of a coordinated conservation effort, a coordinated and connected reserve system, implementation of the avoidance and minimization measures, and implementation of the conditions on Covered Activities (see Chapter 8 of the Plan for a detailed account of all measures), would constitute a significant impact through habitat modification and potential direct mortality of a special-status species. In view of the Section 404/401 regulations and Streambed Alteration Agreements that would protect riparian woodland habitat and the likely project-level mitigation, the effects of Alternative 1 on special-status bats would be less than significant.

Impact BIO-26: Effects on American badger, a non-covered species (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

The CNDDB lists one recorded occurrence of American badger in the Plan Area (California Department of Fish and Wildlife 2017).

Alternative 1 would result in permanent and temporary impacts on American badger habitat. Permanent impacts would result in the loss of up to 6,900 acres of grasslands (20% of this community in Plan Area A) that are potential habitat for American badger. The majority of potential habitat is located in Plan Area A and would be lost primarily as a result of urban/suburban development, rural residential development, transportation projects, and infrastructure projects.

Development projects would temporarily affect up to 235 acres of American badger habitat in the Plan Area. These temporary impacts would be associated with urban/suburban development, rural residential development, transportation construction, fuels management, vegetation management, infrastructure operations and maintenance, and infrastructure construction.

Permanent development within 500 feet of American badger habitat could cause alterations in behavior through visual and noise disturbances associated with both construction and normal ongoing activities. Recurring maintenance activities, such as transportation facility maintenance, utility service facilities maintenance, and vegetation management, may periodically affect American badger both directly and indirectly. Additional indirect effects are expected to result from increased vehicular traffic and the development of new roadways, causing mortalities; habitat fragmentation as a result of urban and rural development and the construction of new roads and other infrastructure; and the introduction, establishment, and spread of invasive plant and animal species.

Mitigation for these impacts would be developed and implemented on a project-specific basis.

NEPA Determination: The permanent loss of 6,900 acres and temporary disturbance of 235 acres of grassland habitat suitable to support American badger associated with Alternative 1, in the absence of a coordinated conservation effort, a coordinated and connected reserve system, implementation of the avoidance and minimization measures, and implementation of the conditions on Covered Activities (see Chapter 8 of the Plan for a detailed account of all measures), would constitute a significant impact through habitat modification and potential direct mortality of a special-status species.

CEQA Determination: The permanent loss of 6,900 acres and temporary disturbance of 235 acres of grassland habitat suitable to support American badger associated with Alternative 1, in the absence of a coordinated conservation effort, a coordinated and connected reserve system, implementation of the avoidance and minimization measures, and implementation of the conditions

on Covered Activities (see Chapter 8 of the Plan for a detailed account of all measures), would constitute a significant impact through a substantial amount of habitat modification (20% in the Plan Area) and potential direct mortality of a special-status species. Because it is not certain that project-level mitigation measures would adequately address this effect, it is considered a significant and unavoidable impact.

Other Biological Resources

Impact BIO-27: Effects on protected wetlands and waters (NEPA: less than significant; CEQA: less than significant)

Under Alternative 1, development associated with implementation of the Placer County and City of Lincoln general plans would result in approximately 1,330 acres of permanent impacts on constituent habitats (i.e., vernal pool, vernal pool–type wetland, fresh emergent marsh, lacustrine, non–vernal pool seasonal wetland, riparian, and riverine) that could contain or be considered protected wetlands and waters. Moreover, some agricultural lands and water conveyance facilities (e.g., rice lands, canals, ditches) may be considered protected wetlands and waters that could be affected under Alternative 1. Exact acreages of impacts would be determined based on project-level wetland delineations. These impacts would result primarily from urban/suburban development, rural residential development, transportation projects, and infrastructure projects. Effects on wetlands and waters would occur primarily in the Valley portion of the Plan Area.

Temporary impacts on protected wetlands and waters mapped as constituent habitats could be up to 300 acres. These temporary impacts would be associated with urban/suburban development, rural residential development, transportation construction, fuels management, vegetation management, infrastructure operations and maintenance, and infrastructure construction.

Operations and maintenance activities associated with transportation, wastewater programs, water supply, solid waste management, and utilities in and adjacent to wetlands and other waters could result in the inadvertent introduction of invasive plant species, removal and trimming of vegetation for utility and transportation maintenance, ground disturbance associated with utility maintenance and the establishment of seasonal fire breaks, and the accidental release of vehicle oils and fuels that could alter the species composition of these communities.

Mitigation for these impacts would be developed and implemented on a project-specific basis pursuant to the CWA. The CWA requires a no net loss of wetland/waters functions and services.

NEPA Determination: The permanent loss of approximately 1,330 acres and temporary disturbance of 300 acres of constituent habitats that could contain or be considered protected wetlands and waters associated under Alternative 1 would constitute a potentially significant impact. In view of the regulatory permitting requirements for protected wetlands and waters, which typically require no net loss of wetland/waters functions and services, the effects of Alternative 1 would likely be reduced to less than significant.

CEQA Determination: The permanent loss of approximately 1,330 acres and temporary disturbance of 300 acres of constituent habitats that could contain or be considered protected wetlands and waters associated under Alternative 1 would constitute a potentially significant impact. In view of the regulatory permitting requirements for protected wetlands and waters, which typically require no net loss of wetland/waters functions and services, the effects of Alternative 1 would likely be reduced to less than significant.

Impact BIO-28: Effects on fish and wildlife corridors (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

Figure 4.3-1 shows the PFGs under the Plan relative to Essential Connectivity Areas (ECAs) mapped as part of the California Essential Habitat Connectivity Project. As seen in this figure, the Valley PFG overlaps with portions of the Curry Creek–Coon Creek ECA and the Coon Creek–Bear River ECA. Several existing reserves fall within the Curry Creek–Coon Creek ECA, which runs north–south and is dominated by vernal pool complex, annual grassland, and rice lands. The Valley PFG bisects this ECA in two areas: one is north of Nicolaus Road and west of State Route (SR) 65 and if built out entirely would result in a 0.75-mile separation between an existing vernal pool reserve to the north and vernal pool complex to the south. The other area is north of Sunset Boulevard and west of Fiddyment Road and if fully developed would create a 3-mile separation between vernal complex and grasslands north and south of this area. Buildout of this portion of the ECA could isolate natural lands to the south in Roseville and to the southeast in the Plan Area.

Some development would take place along the southern edge of the Coon Creek–Bear River ECA, in the portion of the PFG around Sheridan, and in the area south of Camp Far West Reservoir; however, large areas of the ECA would be within the RAA and would be available for conservation efforts. Connectivity of similar habitat types within this ECA would remain intact if the PFG were fully developed. This ECA is dominated by vernal pool complex and grasslands in the west and south and oak woodland to the east and north. The ECA would largely support wildlife movement both within and to areas outside the Plan Area.

The southeastern edge of the Foothill PFG overlaps the western edge of the Marble Valley–Sawtooth Ridge ECA in an area between Auburn Folsom Road on the west and Folsom Lake and the North Fork American River on the east. Most of the land cover in this area, dominated by oak woodland, is already protected as part of the Folsom Lake State Recreation Area and thus will likely remain suitable for wildlife movement.

NEPA Determination: Alternative 1 would result in the isolation of some natural habitats that are currently linked with similar habitats in the western half of the Plan Area; such isolation would constitute a potentially significant impact on wildlife corridors. In the absence of a coordinated conservation effort, a coordinated and connected reserve system, implementation of the avoidance and minimization measures, and implementation of the conditions on Covered Activities (see Chapter 8 of the Plan for a detailed account of all measures), effects on wildlife corridors from buildout under the general plans and continued rural residential development and agricultural conversion to less wildlife-friendly crops would be a significant impact.

CEQA Determination: Alternative 1 would result in the isolation of some natural habitats that are currently linked with similar habitats in the western half of the Plan Area; such isolation would constitute a potentially significant impact on wildlife corridors. In the absence of a coordinated conservation effort, a coordinated and connected reserve system, implementation of the avoidance and minimization measures, and implementation of the conditions on Covered Activities (see Chapter 8 of the Plan for a detailed account of all measures), effects on wildlife corridors from buildout under the general plans and continued rural residential development and agricultural conversion to less wildlife-friendly crops would be a significant impact. Because it is not certain that project-level mitigation measures would adequately address this effect, it is considered a significant and unavoidable impact.

Impact BIO-29: Effects of invasive plant species (NEPA: less than significant; CEQA: less than significant)

Alternative 1 could have adverse effects on natural communities, wildlife, and native plants as a result of the introduction and spread of invasive plant species through development, operations, maintenance, and some conservation activities throughout the Plan Area. Invasive plant species threaten the diversity or abundance of native plant species through competition for resources, predation, parasitism, hybridization with native populations, introduction of pathogens, and physical or chemical alteration of the invaded habitat. Unlike the native plants they displace, many invasive plant species do not provide the food, shelter, or other habitat components on which many native fish and wildlife species depend. Invasive species also have the potential to harm human health and the economy by adversely affecting natural ecosystems, water delivery, flood protection systems, recreation, agricultural lands, and developed areas.

The effects of invasive plant species and measures to reduce their introduction and spread are typically addressed on a project-by-project basis in the relevant environmental documents and permits.

NEPA Determination: Alternative 1 has the potential to result in the introduction and spread of invasive plant species; however, with implementation of typical project-level mitigation, this potential effect would be less than significant.

CEQA Determination: Alternative 1 has the potential to result in the introduction and spread of invasive plant species; however, implementation of typical project-level mitigation would reduce this potential impact to a less-than-significant level.

Alternative 2—Proposed Action

The analysis of effects under Alternative 2 verifies and relies on the effects estimates for natural communities and covered species presented in the Plan, with the exceptions described in Section 4.3.1, *Methods and Significance Criteria*. The analysis in this section also uses the Plan's natural community mapping data for determining effects on non-covered species. The effects on natural communities, covered species, and streams and salmonid habitat under Alternative 2 are presented in Tables H-1, H-2, and H-3 in Appendix H, respectively. The conservation acreages are presented in Tables H-4 and H-5 in Appendix H.

Natural Communities

Impact BIO-1: Effects on vernal pool complex (NEPA: less than significant; CEQA: less than significant)

Covered Activities under Alternative 2, the proposed action, would result in permanent and temporary impacts on vernal pool complex. Permanent impacts on vernal pool complex totaling 12,550 acres, approximately 28% of this community in Plan Area A, would result primarily from urban/suburban development, a limited amount of rural residential development, transportation projects, and infrastructure projects. These losses would occur primarily in the Valley portion of Plan Area A, with small losses occurring in the Foothill portion (100 acres) and Plan Area B (50 acres).

Existing vernal pool complexes could be permanently altered by the restoration/creation of a portion of the 900 acres of vernal pool–type wetlands in these complexes through implementation of the conservation strategy. As described in CM3 VPCG-1, the Plan would allow vernal pool–type wetlands to be created/restored in up to 6,000 acres of existing vernal pool complex that can accommodate additional wetlands, typically in existing low- and medium-density vernal pool complexes (i.e., with less than 5% density of existing vernal pool-type wetlands), as well as in grasslands without existing vernal pools where there is evidence of vernal pools in the past and agricultural lands (e.g., field crops and rice lands). According to CM1 VPCG-1 and CM2 VPCG-2, some of this restoration and enhancement may also be undertaken in existing vernal pool–type wetlands to improve degraded conditions. If vernal pool restoration/creation is to be implemented in existing vernal pool complexes, these activities could affect upland resources and the hydrologic balance of the existing pools in these complexes.

To address these concerns, the Plan includes the following language in CM1 VPCG-2.

- Any sites identified for restoration/creation will not affect any vernal pools onsite.
- Sufficient land is available for protection to provide the necessary vernal pool complex restoration/creation, including surrounding grasslands, to ensure the local watershed is sustaining vernal pool hydrology.
- Vernal pool density is representative of intact vernal pool complex in the vicinity of the restoration site. Restoration will not result in a density of vernal pools greater than 10% density, unless it can be demonstrated by historical or other data (e.g., aerial photograph) that a higher density is appropriate. The intention is to mimic historic conditions for high value vernal pool complexes.

Furthermore, CM3 VPCG-2 states:

> Creation of vernal pools within a vernal pool complex of existing pools can alter the hydrology of the existing pools and can affect ground-nesting bees and other upland plants and animals (U.S. Fish and Wildlife Service 2005). To minimize effects to existing vernal pool complexes, vernal pools will only be created in areas where they will be isolated hydrologically from existing pools and when adequate amounts of surrounding upland habitat are protected, as demonstrated in site-level restoration plans.

Temporary impacts of Covered Activities on vernal pool complex would not exceed 455 acres, or approximately 1% of this community in Plan Area A. These temporary impacts would be associated with urban/suburban development, rural residential development, transportation construction, fuels management, vegetation management, infrastructure operations and maintenance, and infrastructure construction. Conservation actions of Plan implementation that could temporarily affect vernal pool complex include restoration and enhancement actions such as grading and contouring to restore, create, and enhance vernal pool–type wetlands in reserves.

Indirect impacts on vernal pool complex could result from a variety of activities on adjoining land uses that change the hydrology of a complex as well as construction activities in the Plan Area, such as grading, trenching, and changes to topography. Indirect effects on vernal pools are generally considered to occur when ground-disturbing activities take place within 250 feet of a vernal pool—more specifically, when it can be demonstrated that the hydrology supporting a pool has been altered. Indirect effects on vernal pool complexes were estimated in the Plan at 1,979 acres. These indirect effects could adversely affect the functions and services of vernal pool–type wetlands and supporting uplands in vernal pool complexes.

Permanent loss of vernal pool complex under Alternative 2 would be offset by the protection and management of 17,000 acres, improving the overall functions and services of vernal pools, and the restoration/creation of 3,000 acres of vernal pool complex in reserves within the Plan Area. The protection and restoration of vernal pool complex would be supported by the following objectives and conservation measures.

- Objective VPCG-1.1, Protect Existing Vernal Pool Complexes
- CM1 L-2, Reserve Acquisition Strategy
- CM1 L-4, Connectivity within Plan Area
- CM1 VPCG-1, Vernal Pool Complex Protection
- CM1 VPCG-2, Reserve Design for Vernal Pool Restoration/Creation
- CM2 L-1, Vegetation Management and Invasive Plant Control
- CM2 L-3, Develop and Implement Fire Management Plans
- CM2 VPCG-1, Vernal Pool Complex Enhancement and Hydrologic Conditions
- CM3 VPCG-1, Vernal Pool Complex Restoration/Creation
- CM4 L-1, Low-Impact Development Standards
- CM4 VPCG-1, Conduct Outreach to Private Landowners

Temporarily affected vernal pool complexes would be restored through implementation of General Condition 4, Temporary Effects, which requires that temporarily affected areas be restored to pre-project conditions or better based on performance standards such as percent vegetative cover, restored topography, and restored hydrology.

Potential effects on vernal pool complex during construction and operations and maintenance would be avoided and minimized through the implementation of General Conditions 1, 2, and 4; Community Conditions 1.1, 1.2, 1.3, 1.4, and 1.5; and Regional Public Project Conditions 2 and 3. These conditions are described in Chapter 6 of the Plan.

These objectives, conservation measures, and conditions establish performance standards for measuring the effectiveness of proposed conservation actions. The proposed landscape-level conservation of 20,000 acres of vernal pool complexes—17,000 acres protected and 3,000 acres restored/created—including enhancement of degraded conditions in existing complexes that would be protected and long-term management of these resources, would mitigate the effects of the proposed action. The proposed conditions further demonstrate the intent to avoid and minimize effects over the life of the Plan.

NEPA Determination: The permanent loss of 12,550 acres and temporary disturbance of 455 acres of vernal pool complex associated with Alternative 2, in the absence of other conservation actions, would constitute a potentially significant impact. These effects would be offset by the Plan's commitment to conserve 20,000 acres of vernal pool complex. As described in Chapter 5 of the Plan, Objective VPCG-1.1 and Conservation Measures CM1 L-2, CM1 L-4, CM1 VPCG-1, CM1 VPCG-2, CM2 L-1, CM2 L-3, CM2 VPCG-1, CM3 VPCG-1, CM4 L-1, and CM4 VPCG-1 would guide the implementation of vernal pool complex creation, enhancement, restoration, and protection by ensuring that reserve lands are established in large, interconnected blocks that result in no net loss of wetlands and provide sufficient upland habitat to facilitate the conservation and recovery of covered vernal pool

branchiopods. These measures would ensure that the reserves are managed in perpetuity for the benefit of covered and native species. As described in Chapter 6 of the Plan, potential effects on vernal pool complexes during construction would be avoided and minimized through the implementation of General Conditions 1, 2, and 4; Community Conditions 1.1, 1.2, 1.3, 1.4, and 1.5; and Regional Public Project Conditions 2 and 3. Considering these proposed conservation actions set forth by the Plan's goals, objectives, conservation measures, and conditions, the overall effects of Alternative 2 on vernal pool complex in the Plan Area would be less than significant.

CEQA Determination: The permanent loss of 12,550 acres and temporary disturbance of 455 acres of vernal pool complex associated with Alternative 2, in the absence of other conservation actions, would constitute a significant impact through loss of a natural community in the Plan Area.

The natural community creation, enhancement, restoration, and protection together with conservation measures and conditions pertaining to the long-term management of vernal pool complex in the Plan Area support the conclusion that the impacts of Alternative 2 on vernal pool complex would be less than significant. No mitigation has been identified.

Impact BIO-2: Effects on grassland (NEPA: less than significant; CEQA: less than significant)

Covered Activities under Alternative 2, the proposed action, would result in both permanent and temporary impacts on the grassland natural community. Permanent impacts on grasslands would total 6,900 acres, or roughly 20% of the grassland in Plan Area A, resulting primarily from urban/suburban development, rural residential development, transportation projects, and infrastructure projects. These losses would be roughly split between the Valley and Foothill portions of Plan Area A (i.e., 3,400 and 3,300 acres, respectively), and approximately 100 acres would be lost in Plan Area B. An unknown amount of grassland may also be permanently converted to wetlands as part of vernal pool complex restoration, riparian restoration, marsh restoration, and oak woodland restoration. Exact amounts of grassland that would be converted to other natural communities is not known at this time, but these could comprise up to 3,000 acres if all the vernal pool complex restoration/creation were to be undertaken in the grassland community.

Temporary impacts on grasslands from Covered Activities would not exceed 235 acres, less than 1% of this community in Plan Area A. These temporary impacts would be associated with urban/suburban development, rural residential development, transportation construction, fuels management, vegetation management, infrastructure operations and maintenance, and infrastructure construction. Conservation actions from Plan implementation could also temporarily disturb grasslands at grading or vegetation management locations.

Permanent loss of grassland under Alternative 2 would be partially offset by the protection and management of 2,740 acres and the restoration of 1,000 acres of grasslands in reserves in the Plan Area. The protection and restoration of grasslands would be supported by the following objectives and conservation measures.

- Objective VPCG-1.3, Protect Grasslands
- Objective VPCG-1.4, Restore Grasslands
- CM2 VPCG-3, Grassland Protection
- CM3 VPCG-2, Grassland Restoration
- CM1 L-2, Reserve Acquisition Strategy

- CM2 L-1, Vegetation Management and Invasive Plant Control
- CM2 L-3, Develop and Implement Fire Management Plans

Because grasslands are a component of vernal pool complexes, the effects on grasslands would also be offset by the protection and restoration of 20,000 acres of vernal pool complex.

Temporarily affected grasslands would be restored with implementation of General Condition 4, Temporary Effects, which requires that temporarily affected areas be restored to pre-project conditions or better based on performance standards such as percent vegetative cover and restored topography.

These objectives, conservation measures, and the general condition establish performance standards for measuring the effectiveness of proposed conservation actions.

NEPA Determination: The permanent loss of 6,900 acres and temporary disturbance of 235 acres of grassland associated with Alternative 2, in the absence of other conservation actions, would constitute a potentially significant impact; however, with the protection and restoration guided by the Plan's goals, objectives, conservation measures, and conditions, the overall effects of Alternative 2 on grasslands in the Plan Area would be less than significant.

CEQA Determination: The permanent loss of 6,900 acres and temporary disturbance of 235 acres of grassland associated with Alternative 2, in the absence of other conservation actions, would constitute a significant impact through loss a natural community in the Plan Area.

The natural community restoration and protection activities would constitute adequate mitigation for CEQA purposes. The conservation measures for grasslands, in addition to those for vernal pool complexes, are more than sufficient to support the conclusion that the impacts of Alternative 2 on grassland would be less than significant. No mitigation has been identified.

Impact BIO-3: Effects on aquatic/wetland complex (NEPA: less than significant; CEQA: less than significant)

Covered Activities under Alternative 2, the proposed action, would result in permanent and temporary impacts on the aquatic/wetland complex natural community. Permanent impacts on aquatic/wetland complex would total 260 acres (9% of this community in the Plan Area): 105 acres of fresh emergent marsh, 103 acres of lacustrine, and 52 acres of non–vernal pool seasonal wetlands. These impacts would result primarily from urban/suburban development, rural residential development, transportation projects, and infrastructure projects. These losses would be roughly split between the Valley and Foothill portions of Plan Area A (i.e., 120 and 130 acres, respectively), and approximately 10 acres would be lost in Plan Area B.

Temporary impacts on aquatic/wetland complex from Covered Activities would not exceed 105 acres—4% of this community in Plan Area A. These impacts—comprising 50 acres of fresh emergent marsh, 28 acres of lacustrine, and 27 acres of non–vernal pool seasonal wetlands—would be associated with urban/suburban development, rural residential development, transportation construction, fuels management, vegetation management, infrastructure operations and maintenance, and infrastructure construction. Some conservation actions through Plan implementation may also temporarily disturb aquatic/wetland complex where grading, vegetation management, or other physical change to the natural community is required.

Permanent loss of aquatic/wetland complex under Alternative 2 would be offset by the protection and management of 600 acres, improving the overall functions and services of wetlands, and the restoration/creation of 410 acres of aquatic/wetland complex in reserves in the Plan Area. The protection and restoration of aquatic/wetland complex would be supported by the following objectives and conservation measures.

- Objective AW-1.1, Protect Aquatic/Wetlands Complex Natural Community
- CM1 L-2, Reserve Acquisition Strategy
- CM1 AW-1, Aquatic/Wetlands Protection
- CM2 L-1, Vegetation Management and Invasive Plant Control
- CM2 AW-1, Aquatic/Wetlands Complex Vegetation Control
- CM2 AW-2, Fencing Wetlands and Ponds
- CM2 AW-3, Sediment Removal
- CM2 AW-6, Provision of Vegetative Cover
- CM 2 AW-8, Maintenance and Enhancement of Water Quality
- CM3 AW-1, Aquatic/Wetlands Complex Restoration/Creation
- CM4 AW-1, Conduct Public Outreach

Temporarily affected aquatic/wetlands complex would be restored through implementation of General Condition 4, Temporary Effects, which requires that temporarily affected areas be restored to pre-project conditions or better based on performance standards, such as percent vegetative cover, restored topography, and restored hydrology within 1 year.

Potential effects on aquatic/wetlands complex during construction and operations and maintenance would be avoided and minimized through implementation of General Condition 1, Community Conditions 1.3 and 1.5, and Regional Public Project Conditions 2 and 3. These conditions are described in Chapter 6 of the Plan.

These objectives, conservation measures, and conditions establish performance standards for measuring the effectiveness of proposed conservation actions. The acres of protection and restoration satisfy the typical mitigation that would be applied to the project-level effects, as well as mitigating the effects of the other conservation measures. The proposed conditions further demonstrate the intent to avoid and minimize effects over the life of the Plan.

- **NEPA Determination:** The permanent loss of 260 acres and temporary disturbance of 105 acres of aquatic/wetland complex associated with Alternative 2, in the absence of other conservation actions, would constitute a potentially significant impact. These effects would be offset by the Plan's commitment to conserve 1,010 acres of aquatic/wetland complex. As described in Chapter 5 of the Plan, Objective AW-1.1 and Conservation Measures CM1 L-2, CM1 AW-1, CM2 L-1, CM2 AW-1, CM2 AW-2, CM2 AW-3, CM2 AW-6, CM 2 AW-8, CM3 AW-1, and CM4 AW-1 would guide the implementation of aquatic/wetland complex creation, enhancement, restoration, and protection by ensuring that a range of aquatic and wetland types are conserved and will increase the acreage and ecological function of wetland and aquatic communities in the Plan Area. These measures would ensure that the reserves are managed in perpetuity for the benefit of covered and native species. As described in Chapter 6 of the Plan, potential effects on

aquatic/wetland complexes during construction would be avoided and minimized through the implementation of General Condition 1; Community Conditions 1.3 and 1.5, and Regional Public Project Conditions 2 and 3. Considering these proposed conservation actions set forth by the Plan's goals, objectives, conservation measures, and conditions, the overall effects of Alternative 2 on aquatic/wetland complex in the Plan Area would be less than significant.

CEQA Determination: The permanent loss of 260 acres and temporary disturbance of 105 acres of aquatic/wetland complex associated with Alternative 2, in the absence of other conservation actions, would constitute a significant impact through loss a natural community in the Plan Area.

The natural community creation, enhancement, restoration, and protection activities would constitute adequate mitigation for CEQA purposes. The conservation measures and conditions relevant to aquatic/wetland complex are more than sufficient to support the conclusion that the impacts of Alternative 2 on aquatic/wetland complex would be less than significant. No mitigation has been identified.

Impact BIO-4: Effects on riverine/riparian complex (NEPA: less than significant; CEQA: less than significant)

Covered Activities under Alternative 2, the proposed action, would result in permanent and temporary impacts on the riverine/riparian complex natural community. Permanent impacts on riverine/riparian complex would total 490 acres (9% of this community in the Plan Area): 165 acres of riverine and 375 acres of riparian. These impacts would result primarily from urban/suburban development, rural residential development, transportation projects, and infrastructure projects. A total of 150 acres would be lost in the Valley portion of Plan Area A, 330 acres in the Foothill portion, and 10 acres in Plan Area B. As discussed in Section 3.4.5, *Riverine/Riparian Complex*, of the Plan, because of limitations in mapping, not all the area mapped as riverine habitat consists of the wetted stream width but can include grasslands, valley oak woodland, fresh emergent wetland, off-channel wetlands, and seasonal wetlands. Unlike land conversion where the natural community is converted by the Covered Activity, in-stream activities would leave the stream channel intact and in some cases in an improved condition.

The descriptions of in-stream activities identified in Chapter 2, *Covered Activities*, and Section 4.4.1.6, *In-Stream Programs Effects*, of the Plan show that the actual activities within riverine habitat would be implemented along short segments, typically on the order of 100 feet, at multiple locations throughout the Plan Area. Covered Activities that would have quantifiable effects on streams consist of road crossings, water supply, pipelines not associated with road crossings (i.e., those pipelines going beneath streams and not attached to a bridge), flood control, and fish passage enhancement projects. Of these, road crossings would account for the majority of permanent effects on streams.

Temporary impacts on riverine/riparian complex from Covered Activities would not exceed 165 acres—3% of this community in Plan Area A. These impacts, comprising 50 acres of riverine and 115 acres of riparian, would be associated with urban/suburban development, rural residential development, transportation construction, fuels management, vegetation management, infrastructure operations and maintenance, and infrastructure construction. Some conservation actions through Plan implementation may also temporarily disturb riverine/riparian complex where grading, vegetation management, or other physical change to the natural community is required.

Permanent loss of riverine/riparian complex under Alternative 2 would be offset by the protection and management of 2,200 acres, improving the overall functions and services of these waters, and the restoration/creation of 1,425 acres of riverine/riparian complex in reserves in the Plan Area. The protection and restoration of riverine/riparian complex would be supported by the following objectives and conservation measures.

- Objective RAR-1.1, Protect Riverine/Riparian Complex
- Objective RAR-1.3, Restore Riverine/Riparian Complex
- CM1 L-2, Reserve Acquisition Strategy
- CM1 RAR-1, Riverine and Riparian Protection
- CM1 RAR-2, Reserve Design for Riparian Restoration
- CM2 L-1, Vegetation Management and Invasive Plant Control
- CM2 RAR-1, Riparian Vegetation Management
- CM3 RAR-1, Riparian Natural Community Restoration

Temporarily affected riverine/riparian complex would be restored through implementation of General Condition 4, Temporary Effects, which requires that temporarily affected areas be restored to pre-project conditions or better based on performance standards such as percent vegetative cover, restored topography, and restored hydrology.

Potential effects on riverine/riparian complex during construction and operations and maintenance would be avoided and minimized through the implementation of General Condition 1, Community Conditions 2.1, 2.2, 2.3, and 2.4, Stream Conditions 1 and 2, and Regional Public Project Conditions 2 and 3. These conditions are described in Chapter 6 of the Plan.

These objectives, conservation measures, and conditions establish performance standards for measuring the effectiveness of proposed conservation actions. The acres of protection and restoration satisfy the typical mitigation that would be applied to the project-level effects, as well as mitigating the effects of the other conservation measures. The proposed conditions further demonstrate the intent to avoid and minimize effects over the life of the Plan.

- **NEPA Determination:** The permanent loss of 490 acres and temporary disturbance of 165 acres of riverine/riparian complex associated with Alternative 2, in the absence of other conservation actions, would constitute a potentially significant impact. These effects would be offset by the Plan's commitment to conserve 3,625 acres of riverine/riparian complex. As described in Chapter 5 of the Plan, Objectives RAR-1.1 and RAR-1.3, and Conservation Measures CM1 L-2, CM1 RAR-1, CM1 RAR-2, CM2 L-1, CM2 RAR-1, and CM3 RAR-1 would guide the implementation of riverine/riparian complex creation, enhancement, restoration, and protection by ensuring large intact riparian stands are protected, riverine habitat next to preserves are protected, invasive species are managed, in-stream habitat for fish and wildlife is enhanced, and areas are restored with native species. These measures would ensure that the reserves are managed in perpetuity for the benefit of covered and native species. As described in Chapter 6 of the Plan, potential effects on riverine/riparian complexes during construction would be avoided and minimized through the implementation of General Condition 1; Community Conditions 2.1, 2.2, 2.3, and 2.4; Stream Conditions 1 and 2; and Regional Public Project Conditions 2 and 3. Considering these proposed conservation actions set forth by the

Plan's goals, objectives, conservation measures, and conditions, the overall effects of Alternative 2 on riverine/riparian complex in the Plan Area would be less than significant.

CEQA Determination: The permanent loss of 490 acres and temporary disturbance of 165 acres of riverine/riparian complex associated with Alternative 2, in the absence of other conservation actions, would constitute a significant impact through loss of a natural community in the Plan Area.

The natural community creation, enhancement, restoration, and protection activities would constitute adequate mitigation for CEQA purposes. The conservation measures and conditions relevant to riverine/riparian complex are more than sufficient to support the conclusion that the impacts of Alternative 2 on riverine/riparian complex would be less than significant. No mitigation has been identified.

Impact BIO-5: Effects on oak woodland (NEPA: less than significant; CEQA: less than significant)

Covered Activities under Alternative 2, the proposed action, would result in permanent and temporary impacts on the oak woodland natural community. Permanent impacts on oak woodland would total 6,210 acres (12% of this community in the Plan Area). These impacts would result primarily from urban/suburban development, rural residential development, transportation projects, and infrastructure projects. A total of 1,100 acres would be lost in the Valley portion of Plan Area A, 5,100 acres in the Foothill portion, and 10 acres in Plan Area B.

Temporary impacts on oak woodland from Covered Activities would not exceed 180 acres—less than 1% of the community present in Plan Area A. These temporary impacts would be associated with urban/suburban development, rural residential development, transportation construction, fuels management, vegetation management, infrastructure operations and maintenance, and infrastructure construction. Some conservation actions through Plan implementation may also temporarily disturb oak woodland in locations where grading, vegetation management, or other physical change to the natural community is required.

Permanent loss of oak woodland under Alternative 2 would be offset by the protection and management of 10,110 acres and the restoration of 100 acres of oak woodland in reserves in the Plan Area. The protection and restoration of oak woodland would be supported by the following objectives and conservation measures.

- Objective RAR-1.3, Restore Riverine/Riparian Complex
- Objective OW-1.1, Protect Oak Woodlands
- CM1 L-2, Reserve Acquisition Strategy
- CM1 OW-1, Oak Woodland Protection
- CM1 OW-2, Reserve Design for Oak Woodland Restoration
- CM2 L-1, Vegetation Management and Invasive Plant Control
- CM2 OW-1, Oak Woodland Vegetation Enhancement and Management
- CM2 OW-2, Control of Invasive Animals that Limit Oak Regeneration
- CM3 OW-1, Oak Woodland Restoration

Temporarily affected riverine/riparian complex would be restored with the implementation of General Condition 4, Temporary Effects, which requires that temporarily affected areas be restored to pre-project conditions or better based on performance standards such as percent vegetative cover and restored topography.

Potential effects on oak woodlands during construction and operations and maintenance would be avoided and minimized through implementation of General Condition 1 and Regional Public Project Conditions 2 and 3. These conditions are described in Chapter 6 of the Plan.

These objectives, conservation measures, and conditions establish performance standards for measuring the effectiveness of proposed conservation actions. The acres of protection and restoration satisfy the typical mitigation that would be applied to the project-level effects, as well as mitigating the effects of the other conservation measures. The proposed conditions further demonstrate the intent to avoid and minimize effects over the life of the Plan.

NEPA Determination: The permanent loss of 6,210 acres and temporary disturbance of 180 acres of oak woodland associated with Alternative 2, in the absence of other conservation actions, would constitute a potentially significant impact; however, with the protection and restoration guided by the Plan's goals, objectives, conservation measures, and conditions, the overall effects of Alternative 2 on oak woodland in the Plan Area would be less than significant.

CEQA Determination: The permanent loss of 6,210 acres and temporary disturbance of 180 acres of oak woodland associated with Alternative 2, in the absence of other conservation actions, would constitute a significant impact through loss of a natural community in the Plan Area. The natural community restoration and protection activities would constitute adequate mitigation for CEQA purposes. The conservation measures and conditions relevant to riverine/riparian complex are more than sufficient to support the conclusion that the impacts of Alternative 2 on oak woodland would be less than significant. No mitigation has been identified.

Impact BIO-6: Effects on valley oak woodland (NEPA: less than significant; CEQA: less than significant)

Covered Activities under Alternative 2, the proposed action, would result in permanent and temporary impacts on the valley oak woodland natural community. Permanent impacts on valley oak woodland would total 140 acres (10% of this community in the Plan Area). These impacts would result primarily from urban/suburban development, rural residential development, transportation projects, and infrastructure projects. A total of 30 acres would be lost in the Valley portion of Plan Area A, 100 acres in the Foothill portion, and 10 acres in Plan Area B.

Temporary impacts on valley oak woodland from Covered Activities would not exceed 25 acres—2% of this community in Plan Area A. These temporary impacts would be associated with urban/suburban development, rural residential development, transportation construction, fuels management, vegetation management, infrastructure operations and maintenance, and infrastructure construction. Some conservation actions through Plan implementation may also temporarily disturb valley oak woodland in locations where grading, vegetation management, or other physical change to the natural community is required.

Permanent loss of valley oak woodland under Alternative 2 would be offset by the protection and management of 190 acres and the restoration of 225 acres of valley oak woodland in reserves in the

Plan Area. The protection and restoration of oak woodland would be supported by the following objectives and conservation measures.

- Objective RAR-1.3, Restore Riverine/Riparian Complex
- Objective OW-1.1, Protect Oak Woodlands
- CM1 L-2, Reserve Acquisition Strategy
- CM1 OW-1, Oak Woodland Protection
- CM1 OW-2, Reserve Design for Oak Woodland Restoration
- CM2 L-1, Vegetation Management and Invasive Plant Control
- CM2 OW-1, Oak Woodland Vegetation Enhancement and Management
- CM2 OW-2, Control of Invasive Animals that Limit Oak Regeneration
- CM3 OW-1, Oak Woodland Restoration

Temporarily affected riverine/riparian complex would be restored through implementation of General Condition 4, Temporary Effects, which requires that temporarily affected areas be restored to pre-project conditions or better based on performance standards such as percent vegetative cover and restored topography.

Potential effects on valley oak woodlands during construction and operations and maintenance would be avoided and minimized through the implementation of General Condition 1 and Regional Public Project Conditions 2 and 3. These conditions are described in Chapter 6 of the Plan.

These objectives, conservation measures, and conditions establish performance standards for measuring the effectiveness of proposed conservation actions. The acres of protection and restoration satisfy the typical mitigation that would be applied to the project-level effects, as well as mitigating the effects of the other conservation measures. The proposed conditions further demonstrate the intent to avoid and minimize effects over the life of the Plan.

NEPA Determination: The permanent loss of 140 acres and temporary disturbance of 25 acres of valley oak woodland associated with Alternative 2, in the absence of other conservation actions, would constitute a potentially significant impact; however, with the protection and restoration guided by the Plan's goals, objectives, conservation measures, and conditions, the overall effects of Alternative 2 on valley oak woodland in the Plan Area would be less than significant.

CEQA Determination: The permanent loss of 140 acres and temporary disturbance of 25 acres of valley oak woodland associated with Alternative 2, in the absence of other conservation actions, would constitute a significant impact through loss of a natural community in the Plan Area.

The natural community restoration and protection activities would constitute adequate mitigation for CEQA purposes. The conservation measures and conditions relevant to valley oak woodland are more than sufficient to support the conclusion that the impacts under Alternative 2 on valley oak woodland would be less than significant. No mitigation has been identified.

Special-Status Plants

Impact BIO-7: Effects on special-status plants in vernal pool habitats (NEPA: less than significant with mitigation; CEQA: less than significant with mitigation)

Special-status plant species that grow in vernal pools and are known to occur in the Plan Area region include dwarf downingia, Boggs Lake hedge-hyssop, hogwallow starfish, Ahart's dwarf rush, Red Bluff dwarf rush, legenere, pincushion navarretia, and adobe navarretia. There are known occurrences in the Plan Area for all these species. Table 4.3-1 shows the numbers of these recorded occurrences in each Plan Area component (California Department of Fish and Wildlife 2017; Consortium of California Herbaria 2017a; Preston pers. comm.).

Covered Activities under Alternative 2, the proposed action, would result in permanent and temporary impacts on vernal pool habitat for special-status plants. Plan Area A includes 45,065 acres of vernal pool complex that are potential habitat for these species. In the Valley portion of the Plan Area, permanent impacts would total 570 acres of vernal pool–type wetland habitat and 12,400 acres of vernal pool complex (approximately 28% of the vernal pool complex community in Plan Area A). These impacts would result primarily from urban/suburban development, transportation projects, and infrastructure projects. Known occurrences of dwarf downingia (three) and pincushion navarretia (one) could be removed as a result of such projects. In Plan Area B, permanent impacts on vernal pool-type wetlands from Covered Activities in non-participating cities would total 10 acres. Known occurrences of dwarf downingia (nine), Boggs Lake hedge-hyssop (two), and legenere (one) could be removed as a result of these Covered Activities. One occurrence of Red Bluff dwarf rush could also be affected; however, this record of the species is questionable and may be due to a misidentification of another species as Red Bluff dwarf rush. Additional undiscovered occurrences of special-status vernal pool plants could be removed in the Plan Area as a result of project construction in Plan Areas A and B.

An additional 100 acres of vernal pool complex would be permanently affected in the Foothills portion of the Plan Area, although there are no recorded occurrences of special-status vernal pool plant species in this area.

An unknown amount of vernal pool complex wetland habitat may be permanently altered by the restoration/creation of a portion of the 900 acres of vernal pool, seasonal wetland, and seasonal swale wetlands included in implementation of the Plan's conservation strategy. If vernal pool restoration/creation is to take place in existing vernal pool complexes, these activities could affect existing wetland habitat, as well as upland resources and the hydrologic balance of the existing pools in these complexes. However, implementation of CM1 VPCG-2, Vernal Pool Complex Enhancement and Hydrologic Conditions, and CM3 VPCG-2, Grassland Restoration, would prevent restoration/creation from affecting existing vernal pools by ensuring that the local watershed is sufficient to support additional pools and that adequate upland habitat around existing pools is protected.

Temporary impacts of Covered Activities on vernal pool wetland habitat for special-status plants would not exceed 25 acres of vernal pool complex in the Valley portion of the Plan Area and 5 acres in Plan Area B. These temporary impacts would be associated with urban/suburban development, rural residential development, transportation construction, fuels management, vegetation management, infrastructure operations and maintenance, and infrastructure construction. Temporary effects associated with fuels management, vegetation management, and infrastructure operations and maintenance would occur in areas previously disturbed by similar activities (e.g.,

existing fire breaks, areas previously disturbed by infrastructure construction), and therefore the likelihood of rare plants occurring in these areas is low. Some conservation actions through Plan implementation may also temporarily disturb vernal pool wetland habitat for special-status plants in locations where grading, vegetation management, or other physical change is required.

Indirect impacts on vernal pool communities and wetland habitat in the Plan Area that support special-status plants could result from construction activities such as grading and removal of vegetation. These activities could adversely affect habitat function for special-status plants by altering the topography and hydrology that support vernal pools and wetland habitat.

Permanent loss of vernal pool habitat for special-status plants resulting from Covered Activities under Alternative 2 would be offset by the protection and management of 17,000 acres and restoration of 3,000 acres of vernal pool complex in reserves in the Plan Area. Within these areas, 790 acres of vernal pool–type wetlands would be protected and up to 900 acres restored. Known occurrences of dwarf downingia (four) and legenere (one) are within the Reserve Acquisition Area (RAA). Known occurrences of dwarf downingia (two), Boggs Lake hedge-hyssop (one), Ahart's dwarf rush (one), and adobe navarretia (two) are already protected on existing reserves in the Plan Area. The protection and restoration of vernal pool habitat for special-status plants would be supported by the following conservation measures.

- CM1 L-2, Reserve Acquisition Strategy
- CM1 VPCG-1, Vernal Pool Complex Protection
- CM1 VPCG-2, Reserve Design for Vernal Pool Restoration/Creation
- CM1 AW-1, Aquatic/Wetlands Complex Protection
- CM2 L-1, Vegetation Management and Invasive Plant Control
- CM2 L-3, Develop and Implement Fire Management Plans
- CM2 VPCG-1, Vernal Pool complex and Grassland Vegetation Management
- CM2 AW-1, Aquatic/Wetlands Complex Vegetation Control
- CM2 AW-3, Sediment Removal
- CM3 VPCG-1, Vernal Pool Complex Restoration/Creation

Temporarily affected vernal pool habitat for special-status plants would be restored through implementation of General Condition 4, Temporary Effects, which requires that temporarily affected areas be restored to pre-project conditions or better, based on performance standards such as percent vegetative cover, restored hydrology, and restored topography.

Implementation of Community Condition 1, Wetland Avoidance and Minimization (Vernal Pool and Aquatic/Wetland Complex), and the specific measures contained in the condition would protect the hydrology and habitat quality of vernal pool habitat for special-status plants. Community Condition 1.4 would potentially offset loss of special-status plants through the salvaging of seed from affected pools for creation and restoration elsewhere.

Although they do not apply to special-status plant species, these conservation measures and conditions establish performance standards for considering the effectiveness of proposed conservation actions. In addition, the impacts of Covered Activities, which includes urban/suburban development, transportation projects, and infrastructure projects, under Alternative 2 on

occurrences of and habitat for non-covered special-status plants would be mitigated on a project-by-project basis through the local land use approval process, including CEQA review, for discretionary projects. Substantial ancillary benefits for these plant species are also expected to result from Plan implementation, because it would establish a comprehensive reserve management program that would enhance habitat conditions in a variety of natural communities that may support non-covered special-status plants. Any potential effects on these plants from fuels management, vegetation management, and infrastructure operations and maintenance, though not likely subject to additional environmental review, would be offset because the entities implementing these projects would be participating in the Plan and contributing funds for the implementation of the conservation strategy; furthermore the likelihood of rare plants occurring in these areas is low because these areas were likely previously disturbed by similar activities (e.g., existing fire breaks, areas previously disturbed by infrastructure construction). The implementation of conservation measures to create and restore vernal pool habitat, which may affect these plant populations, may not be subject to further approvals or review that may identify effects on these plants.

NEPA Determination: Implementation of Alternative 2 could result in the loss of extant occurrences of special-status plants, including up to 12 occurrences of dwarf downingia, 2 occurrences of Boggs Lake hedge-hyssop, 1 potential occurrence of Red Bluff dwarf rush, 1 occurrence of legenere, 1 occurrence of pincushion navarretia, and 1 occurrence of adobe navarretia. Alternative 2 would also permanently remove up to 580 acres of vernal pool–type wetland habitat for special status-plants in the Plan Area. However, the protection and restoration guided by the Plan's goals, objectives, conservation measures, and conditions would ensure that habitat loss from Covered Activities, which include urban/suburban development, transportation projects, infrastructure projects, fuels management, vegetation management, and infrastructure operations and maintenance, would be compensated for and preserved habitat would be managed in perpetuity and thus the effects would be reduced to a less-than-significant level.

Conservation measures to create, restore, enhance, and manage vernal pool habitat could remove existing populations of special-status plants if these actions take place in previously undisturbed vernal pool complexes and if there are no opportunities to identify and avoid these populations through subsequent NEPA review; therefore, these activities could have significant impacts on special-status plants. Implementation of Mitigation Measure BIO-1 would reduce this effect to a less-than-significant level.

CEQA Determination: Implementation of Alternative 2 could result in the loss of extant occurrences of special-status plants, including up to 12 extant occurrences of dwarf downingia, 2 extant occurrences of Boggs Lake hedge-hyssop, 1 potential occurrence of Red Bluff dwarf rush, 1 extant occurrence of legenere, 1 occurrence of pincushion navarretia, and 1 occurrence of adobe navarretia. Alternative 2 would also permanently remove up to 580 acres of vernal pool–type wetland habitat for special-status plants in the Plan Area. However, the protection and restoration guided by the Plan's goals, objectives, conservation measures, and conditions would ensure that habitat loss from Covered Activities, which include urban/suburban development, transportation projects, infrastructure projects, fuels management, vegetation management, and infrastructure operations and maintenance, would be compensated for, and preserved habitat would be managed in perpetuity and thus would reduce these effects to a less-than-significant level.

Conservation measures to create, restore, enhance, and manage vernal pool habitat could remove existing populations of special-status plants if these actions take place in previously undisturbed vernal pool complexes and if there are no opportunities to identify and avoid these populations

through subsequent CEQA review; therefore, restoration, enhancement, and management activities could have significant impacts on special-status plants. Implementation of Mitigation Measure BIO-1 would reduce this potential impact to a less-than-significant level.

Mitigation Measure BIO-1: Conduct surveys for and avoid special-status plants in proposed restoration and enhancement areas

The Placer Conservation Authority (PCA) will retain qualified botanists to survey proposed restoration and enhancement areas, those portions of reserve areas where management activities will result in ground disturbing activities in previous undisturbed areas and/or vegetation removal, to document the presence of special-status plants before restoring and enhancing habitat where vegetation would be removed and/or grading would occur. Surveys would not be required for firebreaks in reserves that are pre-existing but would be required prior to the establishment of new firebreaks but not thereafter. Surveys would not be required prior to the use of cattle grazing. The botanists will conduct a floristic survey following recent CDFW botanical survey guidelines or other Resource Agency–approved protocol (California Department of Fish and Wildlife 2018). All plant species observed will be identified to the level necessary to determine whether they qualify as special-status plants or are plant species with unusual or significant range extensions. The guidelines also require that field surveys be conducted when special-status plants that could occur in the area are evident and identifiable, generally during the reported blooming period. To account for different special-status plant identification periods, one or more series of field surveys may be required in spring and summer.

If any special-status plants are identified during the surveys, the botanists will photograph them and map their locations, document the location and extent of the population on a CNDDB Survey Form, and submit the completed Survey Form to the CNDDB. Based on the mapped locations, the PCA will redesign or modify proposed habitat restoration to avoid direct or indirect effects on special-status plants.

Exclusionary construction fencing and explanatory signage will be placed around the perimeter of special-status plant occurrences that could be affected by restoration activities throughout the period during which such activities are conducted. Signage will explain the nature of the sensitive resource and warn that no effect on the plants is allowed. The fencing will include a buffer zone of at least 20 feet between the special-status plants and construction activities. All exclusionary fencing will be maintained in good condition throughout the construction period. The establishment of activity exclusion zones will not be required if construction-related disturbances would occur more than 250 feet from the occupied habitat site.

Before any work, including grading, occurs in the restoration or enhancement area, a qualified biologist will conduct mandatory contractor/worker awareness training for construction personnel. The awareness training will be provided to all construction personnel to brief them on the need to avoid effects on special-status plants and the penalties for not complying with permit requirements. The biologist will inform all construction personnel about the life history of special-status plant species that occur in the restoration area, the importance of maintaining habitat, and the terms and conditions of the authorizing document. Proof of this instruction will be submitted to CDFW or other overseeing agency, as appropriate.

The PCA or its contractors will retain qualified biologists to monitor construction activities adjacent to special-status plants. The biologists will assist the construction crew, as needed, to

comply with all project implementation restrictions and guidelines. In addition, the biologists will be responsible for ensuring that the PCA or its contractors maintain the exclusion fencing adjacent to special-status plants.

Impact BIO-8: Effects on special-status plants in oak woodland habitats (NEPA: less than significant with mitigation; CEQA: less than significant with mitigation)

Oak woodland habitats, as discussed here, include the oak–foothill pine and chaparral land cover types included in the oak woodland natural community, as well as valley oak woodland. Several special-status plant species grow in oak woodland habitats and are known to occur in the Plan Area region: big-scale balsamroot, Brandegee's clarkia, stinkbells, Butte County fritillary, Red Bluff dwarf rush, dubious pea, hoary navarretia, streambank spring beauty, and sylvan microseris. There are recorded occurrences in the Plan Area for all these species except streambank spring beauty and sylvan microseris. Occurrences of streambank spring beauty occur near but outside of the PCWA operations and maintenance component of the Plan Area. Table 4.3-2 shows the numbers of these recorded occurrences in each Plan Area component (California Department of Fish and Wildlife 2017; Consortium of California Herbaria 2017b, 2017c, 2017d).

Covered Activities under Alternative 2, the proposed action, would result in permanent and temporary impacts on oak woodland habitat for special-status plants. Plan Area A includes 52,234 acres of oak woodland habitats that are potential habitat for these species. In the Valley portion of the Plan Area, permanent impacts would total 1,130 acres of oak woodland habitats (approximately 2% of total in Plan Area A). Known occurrences of big-scale balsamroot (one) and Brandegee's clarkia (four) in the Valley portion could be removed as a result of individual projects. In the Foothill portion, permanent impacts would total 5,200 acres of oak woodland habitats (approximately 10% of total oak woodland in Plan Area A); however, no extant occurrences of special-status plants are recorded in the Foothill PFG. Impacts in Plan Area A would result primarily from urban/suburban development, transportation projects, and infrastructure projects. In Plan Area B, Covered Activities in non-participating cities would result in impacts on a total of 20 acres of oak woodland habitats. Known occurrences of big-scale balsamroot, Brandegee's clarkia, and dubious pea (one occurrence each) could be removed as a result of these Covered Activities. One occurrence of Red Bluff dwarf rush could also be affected; however, this record of the species is questionable and may be due to a misidentification of another species as Red Bluff dwarf rush. Additional undiscovered occurrences of special-status plants could be removed in the Plan Area as a result of project construction in Plan Areas A and B.

Temporary impacts of Covered Activities on oak woodland habitats for special-status plants would not exceed 55 acres in the Valley portion of the Plan Area, 140 acres in the Foothill portion, and 10 acres in Plan Area B. These temporary impacts would be associated with urban/suburban development, rural residential development, transportation construction, fuels management, vegetation management, infrastructure operations and maintenance, and infrastructure construction. Temporary effects associated with fuels management, vegetation management, and infrastructure operations and maintenance would occur in areas previously disturbed by similar activities (e.g., existing fire breaks, areas previously disturbed by infrastructure construction), and therefore the likelihood of rare plants occurring in these areas is low. Some conservation actions through Plan implementation may also temporarily disturb oak woodland habitats for special-status plants at locations of grading, vegetation management, or other physical change to the habitat.

Indirect impacts on oak woodland habitats that support special-status plants could result from construction activities in the Plan Area, such as grading and removal of vegetation. These activities could adversely affect habitat function for special-status plants by altering the topography and hydrology in these habitats.

Permanent loss of oak woodland habitats for special-status plants from Covered Activities under Alternative 2 would be offset by the protection and management of 10,110 acres of oak woodland and 190 acres of valley oak woodland, as well as restoration of 100 acres of oak woodland and 285 acres of valley oak woodland in reserves in the Plan Area. One known occurrence of Brandegee's clarkia is already protected in an existing reserve in the Foothill RAA. The protection and restoration of oak woodland habitats for special-status plants would be supported by the following conservation measures.

- CM1 L-2, Reserve Acquisition Strategy
- CM1 OW-1, Oak Woodland Protection
- CM1 OW-2, Reserve Design for Oak Woodland Restoration
- CM2 L-1, Vegetation Management and Invasive Plant Control
- CM2 L-3, Develop and Implement Fire Management Plans
- CM2 OW-1, Oak Woodland Vegetation Enhancement and Management
- CM2 OW-2, Control of Invasive Animals that Limit Oak Regeneration
- CM3 OW-1, Oak Woodland Restoration

Temporarily affected oak woodland habitats for special-status plants would be restored through implementation of General Condition 4, Temporary Effects, which requires that temporarily affected areas be restored to pre-project conditions or better, based on performance standards such as percent vegetative cover, restored hydrology, and restored topography.

Implementation of Community Conditions 3.1, Valley Oak Woodland Alliance, and 3.2, Valley oak Woodland and Individual Valley Oak Trees, would protect valley oak woodlands larger than 1 acre and the hydrology of the woodlands, as well as valley oak woodlands smaller than 1 acre and individual valley oak trees.

Although they do not apply to special-status plant species, these conservation measures and conditions establish performance standards for measuring the effectiveness of proposed conservation actions. In addition, the impacts of Covered Activities, which includes urban/suburban development, transportation projects, and infrastructure projects, under Alternative 2 on occurrences of and habitat for non-covered special-status plants would be mitigated on a project-by-project basis for discretionary projects. Substantial ancillary benefits for these plant species are expected to result from Plan implementation, because it would establish a comprehensive reserve management program that would enhance habitat conditions in a variety of natural communities that may support special-status plants. Any potential effects on these plants from fuels management, vegetation management, and infrastructure operations and maintenance, though not likely subject to additional environmental review, would be offset because the entities implementing these projects would be participating in the Plan and contributing funds for the implementation of the conservation strategy; furthermore the likelihood of rare plants occurring in these areas is low because these areas were likely previously disturbed by similar activities (e.g., existing fire breaks, areas previously disturbed by infrastructure construction). The implementation of conservation

measures to create and restore oak woodland habitat, which may affect these plant populations, may not be subject to further approvals or review that may identify effects on these plants.

NEPA Determination: Implementation of Alternative 2 could result in the loss of up to two occurrences of big-scale balsamroot, five occurrences of Brandegee's clarkia, one potential occurrence of Red Bluff dwarf rush, and one occurrence of dubious pea. Alternative 2 would also result in the permanent removal of up to 6,350 acres of oak woodland habitats for special-status plants in the Plan Area. However, the protection and restoration guided by the Plan's goals, objectives, conservation measures, and conditions would ensure that habitat loss from Covered Activities, which include urban/suburban development, transportation projects, infrastructure projects, fuels management, vegetation management, and infrastructure operations and maintenance would be compensated for and preserved habitat would be managed in perpetuity and thus the effects would be reduced to a less-than-significant level.

Conservation measures to create, restore, enhance, and manage oak woodland habitat could remove existing populations of special-status plants if these actions take place in previously undisturbed oak woodlands and if there are no opportunities to identify and avoid these populations through subsequent NEPA review; therefore these activities could have adverse impacts on special-status plants. Implementation of Mitigation Measure BIO-1 would reduce this effect to a less-than-significant level.

CEQA Determination: Implementation of Alternative 2 could result in the loss of up to two occurrences of big-scale balsamroot, five occurrences of Brandegee's clarkia, one potential occurrence of Red Bluff dwarf rush, and one occurrence of dubious pea. Alternative 2 would also permanently remove up to 6,350 acres of oak woodland habitats for special-status plants in the Plan Area. However, the protection and restoration guided by the Plan's goals, objectives, conservation measures, and conditions would ensure that habitat loss from Covered Activities, which include urban/suburban development, transportation projects, infrastructure projects, fuels management, vegetation management, and infrastructure operations and maintenance, would be compensated for and preserved habitat would be managed in perpetuity and thus the effects would be reduced to a less-than-significant level.

Conservation measures to create, restore, enhance, and manage oak woodland habitat could remove existing populations of special-status plants if these actions take place in previously undisturbed oak woodlands and if there are no opportunities to identify and avoid these populations through subsequent CEQA review; therefore, restoration and enhancement activities could have adverse impacts on special-status plants. Implementation of Mitigation Measure BIO-1 would reduce this potential impact to a less-than-significant level.

Mitigation Measure BIO-1: Conduct surveys for and avoid special-status plants in proposed restoration and enhancement areas

Impact BIO-9: Effects on special-status plants in grassland habitats (NEPA: less than significant with mitigation; CEQA: less than significant with mitigation)

Several special-status plant species that occur in annual grasslands and vernal pool complex uplands are known to occur in the Plan Area region: big-scale balsamroot, hispid bird's-beak, stinkbells, Red Bluff dwarf rush, sylvan microseris, and hoary navarretia. With the exception of hispid bird's-beak, which only occurs in grassland or vernal pool upland habitat in the Plan Area, all these species also occur in oak woodland and chaparral habitats, as discussed in Impact BIO-8. There are recorded

CNDDB occurrences or herbarium records in the Plan Area for all these species. Table 4.3-2 shows the numbers of these recorded occurrences in each Plan Area component; a single occurrence of hispid bird's-beak is recorded in an existing preserve in Plan Area B (California Department of Fish and Wildlife 2017; Consortium of California Herbaria 2017c, 2017d).

Covered Activities under Alternative 2, the proposed action, would result in permanent and temporary impacts on grassland habitats for special-status plants. Plan Area A includes 21,887 acres mapped as grassland, as well as the upland portion of 45,065 acres mapped as vernal pool complex. Pasture is not included in this analysis as potential special-status plant habitat, because it is a managed habitat with almost no native plant species. Permanent impacts in the Valley portion of the Plan Area would total 3,400 acres of grassland habitat (approximately 15% of this community in Plan Area A) and 11,830 acres of vernal pool complex upland (approximately 26% of total vernal pool complex in Plan Area A). A known occurrence of big-scale balsamroot in the Valley portion of the Plan Area could be removed by anticipated projects. Permanent impacts in the Foothill portion would total 3,300 acres of grassland habitat (approximately 15% of the community in Plan Area A) and 100 acres of vernal pool complex upland (approximately 0.2% of total vernal pool complex in Plan Area A); however, no extant occurrences of special-status plants are recorded in the Foothill portion. Impacts in Plan Area A would result primarily from urban/suburban development, transportation projects, and infrastructure projects. In Plan Area B, permanent impacts from Covered Activities in non-participating cities would affect 100 acres of grassland habitat and 40 acres of vernal pool complex upland. One known occurrence of big-scale balsamroot could be removed as a result of these Covered Activities. One occurrence of Red Bluff dwarf rush could also be affected; however, this record of the species is questionable and may be due to a misidentification of another species as Red Bluff dwarf rush. Additional undiscovered occurrences of special-status plants could be removed in the Plan Area as a result of project construction in Plan Areas A and B.

An unknown amount of vernal pool complex wetland habitat may be permanently altered by the restoration/creation of a portion of the 900 acres of vernal pool, seasonal wetland, and seasonal swale wetlands included in implementation of the Plan's conservation strategy. If vernal pool restoration/creation is to take place in existing vernal pool complexes, these activities could affect upland resources and the hydrologic balance of the existing pools in these complexes. However, implementation of CMI VPCG-2, Vernal Pool Complex Enhancement and Hydrologic Conditions, and CM3 VPCG-2, *Grassland Restoration*, would ensure that restoration/creation activities retain sufficient local watershed uplands to support additional pools and to protect adequate upland habitat around existing pools.

Temporary impacts of Covered Activities on grassland habitat for special-status plants would not exceed 125 acres in the Valley portion of the Plan Area, 90 acres in the Foothill portion, and 20 acres in Plan Area B. Temporary impacts of Covered Activities on vernal pool complex upland would not exceed 410 acres in the Valley Portion of the Plan area, 10 acres in the Foothill portion, and 5 acres in Plan Area B. These temporary impacts would be associated with urban/suburban development, rural residential development, transportation construction, fuels management, vegetation management, infrastructure operations and maintenance, and infrastructure construction. Temporary effects associated with fuels management, vegetation management, and infrastructure operations and maintenance would occur in areas previously disturbed by similar activities (e.g., existing fire breaks, areas previously disturbed by infrastructure construction), and therefore the likelihood of rare plants occurring in these areas is low. Some conservation actions through Plan implementation may also temporarily affect grassland habitat for special-status plants in locations where grading, vegetation management, or other physical change to grassland habitat is required.

Indirect impacts on grassland and vernal pool complex upland habitats that support special-status plants could result from construction activities such as grading and removal of vegetation. These activities could adversely affect habitat function for special-status plants by altering the topography and hydrology in grasslands and uplands surrounding vernal pools.

Permanent loss of grassland habitat for special-status plants from Covered Activities under Alternative 2 would be offset by the protection and management of 2,740 acres of grassland and up to 16,210 acres of vernal pool complex uplands (estimated flexible conservation acreage), as well as restoration of 1,000 acres of grassland and up to 2,100 acres of vernal pool complex uplands in Plan Area reserves. The protection and restoration of grassland and vernal pool complex upland habitat for special-status plants would be would be supported by the following conservation measures.

- CM1 L-2, Reserve Acquisition Strategy
- CM2 L-1, Vegetation Management and Invasive Plant Control
- CM2 L-3, Develop and Implement Fire Management Plans
- CM3, VPCG-1, Vernal Pool Complex Restoration/Creation
- CM3 VPCG-2, Grassland Restoration

Temporarily affected grassland and vernal pool complex upland habitats for special-status plants would be restored through implementation of General Condition 4, Temporary Effects, which requires that temporarily affected areas be restored to pre-project conditions or better, based on performance standards such as percent vegetative cover, restored hydrology, and restored topography.

Although they do not apply to special-status plant species, these conservation measures and conditions establish performance standards for considering the effectiveness of proposed conservation actions. In addition, the impacts of Covered Activities, which includes urban/suburban development, transportation projects, and infrastructure projects, under Alternative 2 on occurrences of and habitat for non-covered special-status plants would be mitigated on a project-by-project basis for discretionary projects. Ancillary benefits for these plant species are also expected to result from Plan implementation, because it would establish a comprehensive reserve management program that would enhance habitat conditions in a variety of natural communities that may support non-covered special-status plants. Any potential effects on these plants from fuels management, vegetation management, and infrastructure operations and maintenance, though not likely subject to additional environmental review, would be offset because the entities implementing these projects would be participating in the Plan and contributing funds for the implementation of the conservation strategy; furthermore the likelihood of rare plants occurring in these areas is low because these areas were likely previously disturbed by similar activities (e.g., existing fire breaks, areas previously disturbed by infrastructure construction). The implementation of conservation measures to create, restore, enhance, and manage grassland and upland vernal pool complex, habitat, which may affect these plant populations, may not be subject to further approvals or review that may identify effects on these plants.

NEPA Determination: Implementation of Plan Alternative 2 could result in the loss of up to two occurrences of big-scale balsamroot and one potential occurrence of Red Bluff dwarf rush. Covered Activities associated with Alternative 2 would also result in the permanent removal of up to 6,900 acres of grassland and the upland portion of the 12,550 acres of vernal pool complex that supports habitat for special-status plants in the Plan Area. However, the protection and restoration guided by

the Plan's goals, objectives, conservation measures, and conditions would ensure that habitat loss from Covered Activities, which include urban/suburban development, transportation projects, infrastructure projects, fuels management, vegetation management, and infrastructure operations and maintenance, would be compensated for and preserved habitat would be managed in perpetuity and thus the effects would be reduced to a less-than-significant level.

Conservation measures to create, restore, enhance, and manage grassland habitat could remove existing populations of special-status plants if these actions take place in previously undisturbed grassland and if there are no opportunities to identify and avoid these populations through subsequent NEPA review; therefore, these activities could have adverse impacts on special-status plants. Implementation of Mitigation Measure BIO-1 would reduce this effect to a less-than-significant level.

CEQA Determination: Implementation of Plan Alternative 2 could result in the loss of up to two occurrences of big-scale balsamroot and one potential occurrence of Red Bluff dwarf rush. Covered Activities associated with Alternative 2 would also permanently remove up to 6,900 acres of grassland and the upland portion of the 12,550 acres of vernal pool complex that supports habitat for special-status plants in the Plan Area. However, the protection and restoration guided by the Plan's goals, objectives, conservation measures, and conditions would ensure that habitat loss from Covered Activities, which include urban/suburban development, transportation projects, infrastructure projects, fuels management, vegetation management, and infrastructure operations and maintenance would be compensated for and preserved habitat would be managed in perpetuity and thus the effects would be reduced to a less-than-significant level.

Conservation measures to create, restore, enhance, and manage grassland habitat could remove existing populations of special-status plants if these actions take place in previously undisturbed grassland and if there are no opportunities to identify and avoid these populations through subsequent CEQA review; therefore, these activities could have adverse impacts on special-status plants. Implementation of Mitigation Measure BIO-1 would reduce this potential impact to a less-than-significant level.

Mitigation Measure BIO-1: Conduct surveys for and avoid special-status plants in proposed restoration and enhancement areas

Impact BIO-10: Effects on special-status plants in fresh emergent marsh and riverine habitats (NEPA: less than significant with mitigation; CEQA: less than significant with mitigation)

One special-status plant species that grows in fresh emergent marsh and slow-moving riverine habitats (Sanford's sagittaria) has potential to occur in the Plan Area region. The Plan Area is within the range of Sanford's sagittaria and supports suitable habitat for the species. There are no CNDDB-documented occurrences in the Plan Area, although one CNDDB occurrence is in Sacramento County adjacent to the Plan Area (California Department of Fish and Wildlife 2017). There are a total of 93 occurrences in California, 8 of which are extirpated or possibly extirpated. In addition, there is inoculation of this species in the Silvergate Mitigation Bank that is not included in the CNDDB (Wildlands 2003). No impacts on the mitigation bank would result from implementation of the Plan.

Covered Activities under Alternative 2, the proposed action, would result in permanent and temporary impacts on marsh and riverine habitat for special-status plants. Potential habitats for these species in Plan Area A include 1,112 acres of marsh and 868 acres of riverine, a portion of which would be suitable habitat for Sanford's sagittaria. Permanent impacts in the Valley portion of

the Plan Area would total 50 acres of fresh emergent marsh habitat (approximately 4% of this community in Plan Area A) and 80 acres of riverine habitat (approximately 9% of this community in Plan Area A). Permanent impacts in the Foothill portion would total 50 acres of fresh emergent marsh habitat (approximately 4% of this community in Plan Area A) and 30 acres of riverine habitat (approximately 3% of this community in Plan Area A). Impacts in Plan Area A would result primarily from urban/suburban development, transportation projects, and infrastructure projects. In Plan Area B, permanent impacts of Covered Activities in non-participating cities would total 5 acres of fresh emergent marsh habitat and 5 acres of riverine habitat. No known occurrences of special-status plants associated with marsh or riverine habitats would be removed as a result of the projects; however, currently undiscovered occurrences of special-status plants could be removed in the Plan Area as a result of project construction in Plan Areas A and B.

Temporary impacts of Covered Activities on fresh emergent marsh habitat for special-status plants would not exceed 25 acres in the Valley portion of the Plan Area, 15 acres in the Foothill portion, and 10 acres in Plan Area B. Temporary impacts on riverine habitat for special-status plants would not exceed 30 acres in the Valley portion of the Plan Area, 10 acres in the Foothill portion, and 10 acres in Plan Area B. These temporary impacts would be associated with urban/suburban development, rural residential development, transportation construction, fuels management, vegetation management, infrastructure operations and maintenance, and infrastructure construction. Temporary effects associated with fuels management, vegetation management, and infrastructure operations and maintenance would occur in areas previously disturbed by similar activities (e.g., existing fire breaks, areas previously disturbed by infrastructure construction), and therefore the likelihood of rare plants occurring in these areas is low. Some conservation actions through Plan implementation may also temporarily disturb fresh emergency marsh habitat for special-status plants at locations where grading, vegetation management, or other physical change to the habitat is required.

Indirect impacts on fresh emergent marsh and riverine habitats that are suitable for special-status plants could result from construction activities such as grading and removal of vegetation. These activities could adversely affect habitat function for special-status plants by altering the topography and hydrology that support these habitats.

Permanent loss of fresh emergent marsh and riverine habitats for special-status plants from Covered Activities under Alternative 2 would be offset by the protection and management of 256 acres of fresh emergent marsh and up to 308 acres of riverine in Plan Area reserves. In addition, there would be restoration of up to 196 acres of fresh emergent marsh and up to 172 acres of riverine in Plan Area reserves. The protection of fresh emergent marsh and riverine habitats for special-status plants would be supported by the following conservation measures.

- CM1 L-2, Reserve Acquisition Strategy
- CM1 AW-1, Aquatic/Wetlands Complex Protection
- CM2 L-1, Vegetation Management and Invasive Plant Control
- CM2 L-3, Develop and Implement Fire Management Plans
- CM2 RAR-1, Riparian Vegetation Management
- CM2 AW-1, Aquatic/Wetlands Complex Vegetation Control
- CM2 AW-2, Fencing Wetlands and Ponds

- CM2 AW-3, Sediment Removal
- CM2 AW-7, Maintenance of Water Depths and Hydrological Cycles
- CM2 AW-9, Maintenance and Enhancement of Water Quality
- CM3 AW-1, Aquatic/Wetlands Complex Restoration/Creation

Temporarily affected fresh emergent marsh and riverine habitats for special-status plants would be restored through implementation of General Condition 4, Temporary Effects, which requires that temporarily affected areas be restored to pre-project conditions or better, based on performance standards such as percent vegetative cover, restored hydrology, and restored topography.

Implementation of Community Condition 2, Riverine and Riparian Avoidance and Minimization, and the specific measures contained in the condition would protect the hydrology and habitat quality of riverine habitat for special-status plants. Community Condition 1.2, Avoidance of Aquatic/Wetland Complex Constituent Habitat, would encourage avoidance of impacts on fresh emergent marsh habitat.

Although they do not apply to special-status plant species, these conservation measures and conditions establish performance standards for considering the effectiveness of proposed conservation actions. In addition, the impacts of Covered Activities, which includes urban/suburban development, transportation projects, and infrastructure projects, under Alternative 2 on occurrences of and habitat for non-covered special-status plants would be mitigated on a project-by-project basis for discretionary projects. Ancillary benefits for these plant species are also expected to result from Plan implementation, because it would establish a comprehensive reserve management program that would enhance habitat conditions in a variety of natural communities that may support non-covered special-status plants. Any potential effects on these plants from fuels management, vegetation management, and infrastructure operations and maintenance, though not likely subject to additional environmental review, would be offset because the entities implementing these projects would be participating in the Plan and contributing funds for the implementation of the conservation strategy; furthermore the likelihood of rare plants occurring in these areas is low because these areas were likely previously disturbed by similar activities (e.g., existing fire breaks, areas previously disturbed by infrastructure construction). The implementation of conservation measures to create, restore, enhance, and manage fresh emergent marsh and riverine habitats, which may affect these plant populations, may not be subject to further approvals or review that may identify effects on these plants.

NEPA Determination: Implementation of Alternative 2 could affect currently undiscovered occurrences of special-status plants in freshwater emergent marsh and riverine habitats. Alternative 2 would also result in the permanent removal of up to 105 acres of fresh emergent marsh and 115 acres of riverine habitats for special-status plants in the Plan Area. However, the protection and restoration guided by the Plan's goals, objectives, conservation measures, and conditions would ensure that habitat loss from Covered Activities, which include urban/suburban development, transportation projects, infrastructure projects, fuels management, vegetation management, infrastructure operations and maintenance, would be compensated for and preserved habitat would be managed in perpetuity and thus the effects would be reduced to a less-than-significant level.

Conservation measures to create, restore, enhance, and manage emergent marsh and riverine habitat could remove existing populations of special-status plants if these actions take place in previously undisturbed habitat and if there are no opportunities to identify and avoid these

populations through subsequent NEPA review; therefore these activities could have adverse impacts on special-status plants. Implementation of Mitigation Measure BIO-1 would reduce this effect to a less-than-significant level.

CEQA Determination: Implementation of Alternative 2 could affect currently undiscovered occurrences of special-status plants in freshwater emergent marsh and riverine habitats. Alternative 2 would also permanently remove up to 105 acres of fresh emergent marsh and 115 acres of riverine habitats for special-status plants in the Plan Area. However, the protection and restoration guided by the Plan's goals, objectives, conservation measures, and conditions would ensure that habitat loss from Covered Activities, which include urban/suburban development, transportation projects, infrastructure projects, fuels management, vegetation management, infrastructure operations and maintenance, would be compensated for and preserved habitat would be managed in perpetuity and thus would reduce these effects to a less-than-significant level.

Conservation measures to create, restore, enhance, and manage emergent marsh and riverine habitats, which could remove existing populations of special-status plants if these actions take place in previously undisturbed habitat and if there are no opportunities to identify and avoid these populations through subsequent CEQA review; therefore, restoration could have significant impacts on special-status plants. Implementation of Mitigation Measure BIO-1 would reduce this potential impact to a less-than-significant level.

Mitigation Measure BIO-1: Conduct surveys for and avoid special-status plants in proposed restoration and enhancement areas

Special-Status Fish and Wildlife

Impact BIO-11: Potential for construction and operation effects on Chinook salmon (fall-/late fall–run) and Central Valley steelhead (NEPA: less than significant; CEQA: less than significant)

Implementation of the Plan Covered Activities under Alternative 2, the proposed action, would result in permanent and temporary direct effects on Central Valley steelhead and Chinook salmon habitat. Permanent direct effects on riparian woodland/riverine habitat would total 490 acres: 480 acres in Plan Area A (9% of total riverine/riparian habitat in the Plan Area) and 10 acres in Plan Area B. Implementation of the Plan Covered Activities under Alternative 2 would result in temporary direct effects on 165 acres: 145 acres in Plan Area A (3% of this community in Plan Area A) and 20 acres in Plan Area B. These direct impacts would result from road crossings (i.e., bridge work and culverts); water supply, flood control, and stormwater management activities; and activities of individual landowners, typically in rural residential settings. In addition, riparian/riverine protection, conservation, and enhancement activities associated with Plan implementation could affect Central Valley steelhead and Chinook salmon habitat.

These activities could cause a permanent change in substrate composition and channel morphology in aquatic habitat; create a permanent loss of shallow-water habitat, riparian vegetation, and instream woody material; and change instream flows if water is diverted from streams and if woody material, including beaver dams, is removed from creeks that could benefit habitat for fish. Implementation of the Plan Covered Activities could also have direct effects on fish during construction; heavy equipment use in the active channel and impact pile driving could kill or injure fish. Finally, these activities could result in localized alterations in channel form and patterns of

erosion and sedimentation that over time could alter aquatic habitat structure and function from existing conditions.

Implementation of conservation measures addressing riverine and riparian communities and covered salmonids would have a beneficial permanent direct effect on steelhead and Chinook salmon. Aquatic habitat improvement activities include floodplain restoration/reconnection projects in the Dry Creek, Auburn Ravine, and Coon Creek watersheds; bridge and culvert improvement projects; channel improvements to natural channels; fish passage enhancements including removal of fish barriers, low-flow crossings, and development of fish screens; and placement of spawning gravels. These activities would benefit steelhead and Chinook salmon spawning, migratory, and rearing habitat, contributing to higher survival of these covered species in the Plan Area.

Temporary effects on salmonid streams are expected to result from road crossings, water supply projects, flood control projects, and instream restoration activities. Impact mechanisms associated with these activities include accidental introduction of contaminants and sediment into flowing water and noise at individual project construction sites. Removing or altering existing riparian habitat for habitat improvement activities under the Plan could temporarily affect water temperature and habitat complexity. Recurring maintenance activities within and outside the Plan Area, such as transportation facility maintenance, flood control and stormwater facility maintenance, and vegetation management, may have temporary direct effects on Chinook salmon and steelhead through the release of sediment and contaminants and the removal of in-channel woody material.

Permanent indirect effects resulting from transportation projects and urban and rural residential development include noise, visual disturbance, and ground vibrations that could cause Chinook salmon and steelhead to avoid suitable aquatic habitat. Vehicles on bridges can increase noise levels and the release of petroleum-based chemicals into waterways, in turn causing decreased spawning, migratory, and rearing success. An increase in the input of contaminants (e.g., petroleum-based chemicals, pesticides, heavy metals) to waterways could result from residential development, the presence of new impervious surfaces associated with residential development, transportation projects, and other facilities if runoff enters waterways. Contaminants can adversely affect fish directly through exposure or indirectly through adverse effects on food organisms (e.g., macroinvertebrates), including the bioaccumulation of toxic compounds in these organisms.

Designated critical habitat for Central Valley steelhead is present in the Plan Area. Critical habitat for steelhead occurs in Coon Creek, Doty Creek, Auburn Ravine, Secret Ravine, Miner's Ravine, and Dry Creek. Approximately 1.24 miles (1.3% of total designated critical habitat in the Plan Area) could be permanently affected by bridge construction, flood control and stormwater management activities, natural resource protection activities, and the conservation strategy. The conservation strategy and the conditions listed below are expected to have a beneficial effect on critical habitat for Central Valley steelhead.

Essential fish habitat (EFH) for Chinook salmon also occurs in the Plan Area. Construction and operation of the activities listed above and the conservation strategy (restoration, enhancement, and management actions) would result in permanent effects on EFH. The conservation activities and Conditions discussed below will increase EFH value for Pacific salmonids and have a beneficial impact on EFH.

The Plan seeks to conserve and protect the stream systems throughout western Placer County and to increase spawning, rearing, and migratory success of covered salmonids in the Auburn Ravine, Coon Creek, and Dry Creek watersheds. The following landscape-, natural community–, and species-level objectives and conservation measures would provide fish movement, protect watershed health, and protect habitat for covered salmonids in support of goal FISH-1.

- Objective L-1.1, Establish a Large, Interconnected Reserve System
- Objective L-2.1, Protect Habitat Linkages
- Objective L-2.3, Establish East–West Corridors
- Objective L-3.1, Implement Low Impact Development Standards
- Objective L-3.2, Reduce Invasive Non-native Species and Increase Native Species
- Objective VPCG-1.1, Protect Existing Vernal Pool Complexes
- Objective VPCG-1.2, Restore/Create Vernal Pool Complexes
- Objective VPCG-1.3, Protect Grasslands
- Objective VPCG-1.4, Restore/Create Vernal Pool Complexes
- Objective RAR-1.1, Protect Riverine/Riparian Complex
- Objective RAR-1.2, Protect Riverine Habitat Constituent
- Objective RAR-1.3, Restore Riverine/Riparian Complex
- Objective RAR-1.5, Remove or Modify Fish Barriers;
- Objective RAR-1.7, Enhance Streams.
- Objective OW-1.1, Protect Oak Woodlands
- Objective OW-1.2, Restore Oak Woodlands
- Objective FISH-1.1, Protect Salmonid Spawning and Migrating Habitat
- Objective FISH-1.2, Protect Riparian Habitat for Fish
- Objective FISH-1.3, Protect Oak Woodlands for Fish
- CM1 RAR-1, Riverine and Riparian Protection
- CM1 RAR-2, Reserve Design for Riparian Restoration
- CM2 RAR-1, Riparian Vegetation Management
- CM2 RAR-2, Removal and/or Modification of Barriers to Fish Passage
- CM2 RAR-3, Modify Unscreened Water Diversion
- CM2 RAR-4, Improvement of In-channel Features
- CM2 RAR-7, Non-native Animals Species Control
- CM3 RAR-1, Riparian Natural Community Restoration

These objectives and conservation measures are intended to protect 88.6 stream miles in the Reserve System, including 25 stream miles of salmonid spawning habitat and 10 miles of salmonid migrating habitat, primarily on stream reaches along Coon Creek, Doty Ravine (a major tributary of

Coon Creek), and Auburn Ravine, in keeping with the *Central Valley Chinook and Steelhead Recovery Plan* (National Marine Fisheries Service 2014). In addition, 558 acres of riparian habitat along salmonid spawning stream reaches and 342 acres of riparian habitat along salmonid migrating reaches—primarily along Coon Creek, Doty Ravine, and Auburn Ravine—would also be protected. To protect and improve water quality and watershed integrity in the Coon Creek watershed, 12,490 acres of oak woodland and grassland would be protected in the Foothills portion of the Plan Area, and 9,869 acres in the Coon Creek watershed.

In addition to the biological objectives listed above, the following general, community, and stream system conditions would benefit covered salmonids.

- General Condition 1, Watershed Hydrology and Water Quality
- General Condition 2, Conservation Lands: Development Interface Design Requirements
- General Condition 3, Land Conversion
- General Condition 4, Temporary Effects
- General Condition 5, Conduct Worker Training
- Community Condition 2, Riverine and Riparian Avoidance and Minimization
- Community Condition 2.1, Riverine and Riparian Avoidance
- Community Condition 2.2, Minimize Riverine and Riparian Effects, Community Condition 2.3, Riverine and Riparian Restoration
- Community Condition 2.4, Placer County Water Agency Operations and Maintenance Best Management Practice
- Stream System Condition 1, Stream System Avoidance
- Species Condition 7, Central Valley Steelhead and Central Valley Fall-/Late Fall-Run Chinook Salmon (Salmonids)
- In-Stream and Stream System BMPs

The application of Low-Impact Development Standards would improve water quality for covered fish species. The restoration of riparian natural community would further benefit these species by providing cover and shade for thermoregulation and by providing vegetation that is a source of invertebrates upon which covered salmonids feed.

These goals, objectives, general conditions, and conservation measures establish performance standards for measuring the effectiveness of restoration actions. The acres of protection and restoration satisfy the typical mitigation that would be applied to the project-level effects, as well as mitigating the effects of the other conservation measures.

NEPA Determination: The permanent loss of 490 acres and temporary disturbance of 165 acres of riparian woodland/riverine habitat associated with Alternative 2, in the absence of other conservation actions, would constitute a potentially significant impact through habitat modification and potential direct mortality of a special-status species. However, with habitat protection and restoration associated with the conservation components, guided by landscape-scale goals and objectives, the overall effects of Alternative 2 on covered salmonids would be less than significant.

CEQA Determination: The permanent loss of 490 acres and temporary disturbance of 165 acres of riparian woodland/riverine habitat associated with Alternative 2, in the absence of other conservation actions, would constitute a significant impact through habitat modification and potential direct mortality of a special-status species. The natural community restoration and protection activities would constitute adequate mitigation for CEQA purposes. The biological goals and conservation measures relevant to covered salmonids are more than sufficient to support the conclusion that the impacts of Alternative 2 on covered salmonids would be less than significant. No mitigation has been identified.

Impact BIO-12: Potential for construction and operation effects on non-covered species (hardhead and Pacific lamprey) (NEPA: less than significant; CEQA: less than significant)

Implementation of the Plan Covered Activities under Alternative 2, the proposed action, would result in permanent and temporary direct effects on hardhead and Pacific lamprey habitat. Permanent direct effects on riparian woodland/riverine habitat would total 490 acres: 480 acres in Plan Area A (9% of total riverine/riparian habitat in the Plan Area) and 10 acres in Plan Area B. Implementation of the Plan and Covered Activities under Alternative 2 would result in temporary direct effects on 165 acres: 145 acres in Plan Area A (3% of this community in Plan Area A) and 20 acres in Plan Area B. These direct impacts would result from road crossings (i.e., bridge work and culverts) and water supply, flood control, and stormwater management activities. In addition, riparian/riverine protection, conservation, and enhancement activities of Plan implementation could affect hardhead and Pacific lamprey habitat.

These activities could cause a permanent change in substrate composition and channel morphology in aquatic habitat; create a permanent loss of shallow-water habitat, riparian vegetation, and instream woody material; and change instream flows if water is diverted from streams and if woody material, including beaver dams, is removed from creeks that could benefit habitat for fish. Implementation of the Plan and Covered Activities could also have direct effects on fish during construction; heavy equipment use in the active channel could kill or injure fish. Finally, these activities could result in localized alterations in channel form and patterns of erosion and sedimentation that over time could alter aquatic habitat structure and function from existing conditions.

Implementation of conservation measures addressing riverine and riparian communities and covered salmonids would have a beneficial permanent direct effect on hardhead and Pacific lamprey through the protection and restoration of up to 3,121 acres of riverine/riparian habitat and 88.6 linear miles of open water habitat. Aquatic habitat improvement activities include floodplain restoration/reconnection projects in the Dry Creek, Auburn Ravine, and Coon Creek watersheds; bridge and culvert improvement projects; channel improvements to natural channels; fish passage enhancements including removal of fish barriers, low-flow crossings, and development of fish screens; and placement of spawning gravels (lamprey would benefit from spawning gravel placement). These activities would benefit hardhead and lamprey spawning, migratory, and rearing habitat, contributing to higher survival of non-covered species in the Plan Area.

Temporary effects on streams may result from road crossings, necessary operation and maintenance on water supply projects, flood control projects, and instream restoration activities. Impact mechanisms associated with these activities include accidental introduction of contaminants and sediment into flowing water and noise at project construction sites. Removing or altering existing riparian habitat in order to initiate habitat improvement activities under the Plan could

temporarily affect water temperature and habitat complexity. Recurring maintenance activities within and outside the Plan Area, such as transportation facility maintenance, flood control and stormwater facility maintenance, and vegetation management, may have temporary direct effects on hardhead and Pacific lamprey through the release of sediment and contaminants and the removal of in-channel woody material.

Permanent indirect effects resulting from transportation projects and urban and rural residential development include noise, visual disturbance, and ground vibrations that could cause hardhead and Pacific Lamprey to avoid suitable aquatic habitat. Vehicles on bridges can increase noise levels and the release of petroleum-based chemicals into waterways, in turn causing decreased spawning, migratory, and rearing success. An increase in the input of contaminants (e.g., petroleum-based chemicals, pesticides, heavy metals) to waterways could result from the presence of new impervious surfaces associated with residential development, transportation projects, and other facilities if runoff enters waterways. Contaminants such as pesticides and heavy metals can adversely affect fish directly through exposure or indirectly through adverse effects on food organisms (e.g., macroinvertebrates), including the bioaccumulation of toxic compounds in these organisms.

As disclosed in the discussion of Impact BIO-11, the goals, objectives, general conditions, and conservation measures establish performance standards for measuring the effectiveness of restoration actions. The acres of protection and restoration satisfy the typical mitigation that would be applied to the project-level effects, as well as mitigating the effects of the other conservation measures.

NEPA Determination: The permanent loss of 490 acres and temporary disturbance of 165 acres of riparian woodland/riverine habitat associated with Alternative 2, in the absence of other conservation actions, would constitute a potentially significant impact through habitat modification and potential direct mortality of a special-status species. However, with habitat protection and restoration associated with the conservation components, guided by landscape-scale goals and objectives, the overall effects of Alternative 2 on hardhead and Pacific lamprey would be less than significant.

CEQA Determination: The permanent loss of 490 acres and temporary disturbance of 165 acres of riparian woodland/riverine habitat associated with Alternative 2, in the absence of other conservation actions, would constitute a significant impact through habitat modification and potential direct mortality of a special-status species. The natural community restoration and protection activities would constitute adequate mitigation for CEQA purposes. The biological goals and conservation measures relevant to covered salmonids are more than sufficient to support the conclusion that the impacts of Alternative 2 on hardhead and Pacific lamprey would be less than significant. No mitigation has been identified.

Impact BIO-13: Effects on valley elderberry longhorn beetle (NEPA: less than significant; CEQA: less than significant)

The CNDDB lists 12 occurrences of valley elderberry longhorn beetle in the Plan Area (California Department of Fish and Wildlife 2017). Appendix D, *Species Accounts*, of the Plan provides more detail on the status and distribution of the species throughout its range.

Covered Activities under Alternative 2, the proposed action, would result in permanent and temporary impacts on valley elderberry longhorn beetle habitat. Permanent impacts would result in the loss of up to 630 acres of habitat (7% of 8,153 acres of habitat in the Plan Area), primarily from

urban/suburban development, rural residential development, transportation projects, and infrastructure projects. These losses would almost entirely occur within the Valley portion of Plan Area A, with small losses (20 acres) in Plan Area B.

Temporary impacts of Covered Activities on valley elderberry longhorn beetle habitat would not exceed 190 acres (2%) of habitat in the Plan Area. These temporary impacts would be associated with urban/suburban development, rural residential development, transportation construction, fuels management, vegetation management, infrastructure operations and maintenance, and infrastructure construction. Restoration and enhancement under Plan implementation that could temporarily affect valley elderberry longhorn beetle habitat include grading and contouring to restore, create, and enhance wetlands in reserves.

Indirect effects on valley elderberry longhorn beetle habitat include accumulation of dust on shrubs resulting from up-wind disturbances, flood control practices that could fragment habitat used by valley elderberry longhorn beetle, increased risk of wildfire, and the spread of invasive plants and animals that could affect the species.

The permanent and temporary loss of valley elderberry longhorn habitat would be offset by the protection and management of 2,390 acres and restoration of 1,710 acres of valley elderberry longhorn beetle habitat. The protection and restoration of valley elderberry longhorn beetle habitat would be supported by the following goals, objectives, conservation measures, and conditions.

- GOAL VELB-1, Habitat to support a sustained population of valley elderberry longhorn beetle within the Reserve System
- Objective RAR-1.1, Protect Riverine/Riparian Complex
- Objective RAR-1.3, Restore Riverine/Riparian Complex
- Objective RAR-1.4, Enhance Riparian Vegetation
- Objective OW-1.4, Protect Oak Woodlands
- Objective VELB-1.1, Restore Valley Elderberry Longhorn Beetle Habitat
- CM1, Establish Reserve System
- CM2, Manage and Enhance the Reserve System
- CM3, Restore and Create Natural Communities and Covered Species' Habitat.
- CM3 VELB-1, Valley Elderberry Longhorn Habitat Restoration
- CM1 RAR-1, Riverine and Riparian Protection
- CM2 RAR-1 Riparian Vegetation Management
- CM3 RAR-1, Riparian Natural Community Restoration
- CM1 OW-1, Oak Woodland Protection
- General Condition 2, Conservation Lands: Development Interface Design Requirements
- General Condition 4, Temporary Effects
- General Condition 5, Conduct Worker Training
- Community Condition 2, Riverine and Riparian Avoidance and Minimization

- Stream System Condition 1, Stream System Avoidance
- Stream System Condition 2, Stream System Mitigation: Restoration
- Regional Public Projects Condition 1, Transportation and Other Infrastructure Projects Design Requirements
- Regional Public Projects Condition 2, Transportation and Other Infrastructure Projects Construction BMPs
- Regional Public Projects Condition 3, Operations and Maintenance BMPs
- Species Condition 8, Valley Elderberry Longhorn Beetle

The Plan's model for valley elderberry longhorn beetle only considers modeled habitat up to an elevation of 650 feet; accordingly Species Condition 8 only requires surveys up to this elevation. As noted in Section 3.3, *Affected Environment*, the species is known to occur up to 1,875 feet in Placer County and is considered to occur up to 3,000 feet across the species' range. There is a chance that elderberry shrubs, including occupied shrubs, could be missed if surveys are not conducted above 650 feet. Despite this limitation, the Plan's protection, management, and restoration (which includes planting elderberry shrubs) of 4,100 acres of riparian habitat and valley oak woodland contrasted with 630 acres of impact (a ratio greater than 6:1) would more than compensate for the potential effects on the species.

These goals, objectives, conservation measures, and conditions establish performance standards for measuring the effectiveness of proposed conservation actions. The acres of protection and restoration satisfy the typical mitigation that would be applied to the project-level effects, as well as mitigating the effects of the other conservation measures. The proposed conditions further demonstrate the intent to avoid and minimize effects over the life of the Plan.

NEPA Determination: The permanent loss of 630 acres and temporary disturbance of 190 acres of valley elderberry longhorn beetle habitat associated with Alternative 2, in the absence of other conservation actions, would constitute a potentially significant impact through habitat modification and potential direct mortality of a special-status species. However, with the protection and restoration guided by the Plan's goals, objectives, conservation measures, and conditions, the overall effects of Alternative 2 on valley elderberry longhorn beetle would be less than significant.

CEQA Determination: The permanent loss of 630 acres and temporary disturbance to 190 acres of valley elderberry longhorn beetle habitat associated with Alternative 2, in the absence of other conservation actions, would constitute a significant impact as a result of habitat modification and potential direct mortality of a special-status species. The natural community restoration and protection activities would constitute adequate mitigation for CEQA purposes. The biological goals and conservation measures for valley elderberry longhorn beetle are more than sufficient to support the conclusion that the impacts of Alternative 2 on valley elderberry longhorn beetle would be less than significant. No mitigation has been identified.

Impact BIO-14: Effects on vernal pool branchiopods (NEPA: less than significant; CEQA: less than significant)

The CNDDB lists 1 occurrence of Conservancy fairy shrimp, 63 occurrences of vernal pool fairy shrimp, and 3 occurrences of vernal pool tadpole shrimp in the Plan Area (California Department of Fish and Wildlife 2017).

Covered Activities under Alternative 2, the proposed action, would result in permanent and temporary impacts on vernal pool complex and wetland habitat for vernal pool branchiopods. Permanent impacts would result in the loss of up to 580 acres of vernal pool–type wetlands within 12,550 acres of vernal pool complex (26% and 28% of these habitats in the Plan Area, respectively). These impacts would result primarily from urban/suburban development, rural residential development, transportation projects, and infrastructure projects. These losses would be primarily in the Valley portion of Plan Area A, with small losses occurring in Plan Area B (15 acres).

Temporary impacts of Covered Activities on vernal pool branchiopod habitat would not exceed 25 acres of vernal pool–type wetlands (1% of this habitat type in the Plan Area) and 455 acres of vernal pool complex (1%). These temporary impacts would be associated with urban/suburban development, rural residential development, transportation construction, fuels management, vegetation management, infrastructure operations and maintenance, infrastructure construction, and conservation activities. Conservation actions through Plan implementation that could temporarily affect vernal pool complex include restoration and enhancement actions such as grading and contouring to restore, create, and enhance vernal pool–type wetlands in reserves.

Indirect impacts on vernal pool complex could result from construction activities in the Plan Area, such as grading, trenching, changes to hydrology, and changes to topography. Indirect effects on vernal pools are generally considered to occur when ground-disturbing activities take place within 250 feet of a vernal pool—more specifically, when it can be demonstrated that the hydrology supporting a pool has been altered. Indirect effects on vernal pool complexes were estimated in the Plan at 1,979 acres. These indirect effects could adversely affect the functions and services of vernal pool–type wetlands and supporting uplands in vernal pool complexes. These effects could result from construction and maintenance of infrastructure associated with urban and rural development, installation and maintenance of utility lines, road improvements, drainage facility improvements, and flood control projects.

Goal VPB-1 as set forth in the Plan seeks to sustain populations of vernal pool branchiopods within the Reserve System. Permanent loss of vernal pool complex under Alternative 2 would be offset by the protection and management of 17,000 acres and the restoration of 3,000 acres of vernal pool complex in reserves within the Plan Area. The protection and restoration of vernal pool complex would be supported by the following biological objectives, conservation measures, and conditions.

- Objective VPCG-1.1, Protect Existing Vernal Pool Complexes
- Objective VPB-1.1, Maintain Vernal Pool Fairy Shrimp Occupancy in the Reserve System
- Objective VPB-1.2, Maintain Vernal Pool Tadpole Shrimp Occupancy in the Reserve System
- Objective VPB-2.1, Protect Conservancy Fairy Shrimp Occurrences
- CM1, Establish Reserve System
- CM1 L-2, Reserve Acquisition Strategy
- CM1 L-4, Connectivity within Plan Area
- CM1 VPCG-1, Vernal Pool Complex Protection
- CM1 VPCG-2, Reserve Design for Vernal Pool Restoration/Creation
- CM1 VPB-1, Protection and Restoration of Occupied Vernal Pool Fairy Shrimp and Vernal Pool Tadpole Shrimp Habitat

- CM2, Manage and Enhance the Reserve System
- CM2 L-1, Vegetation Management and Invasive Plant Control
- CM2 L-3, Develop and Implement Fire Management Plans
- CM2 VPCG-1, Vernal Pool Complex Enhancement and Hydrologic Conditions
- CM3, Restore and Create Natural Communities and Covered Species' Habitat
- CM3 VPCG-1, Vernal Pool Complex Restoration/Creation
- CM3 VPB-1, Translocation of Vernal Pool Branchiopod Cysts
- CM4 L-1, Low-Impact Development Standards
- CM4 VPCG-1, Conduct Outreach to Private Landowners
- General Condition 1, Watershed Hydrology and Water Quality
- General Condition 2, Conservation Lands: Development Interface Design Requirements
- General Condition 4, Temporary Effects
- General Condition 5, Conduct Worker Training
- Community Condition 1, Wetland Avoidance and Minimization (Vernal Pool and Aquatic/Wetland Complex)
- Regional Public Projects Condition 1, Transportation and Other Infrastructure Projects Design Requirements
- Regional Public Projects Condition 2, Transportation and Other Infrastructure Projects Construction BMPs
- Regional Public Projects Condition 3, Operations and Maintenance BMPs
- Species Condition 9, Conservancy Fairy Shrimp
- Species Condition 10, Vernal Pool Fairy Shrimp and Vernal Pool Tadpole Shrimp

Objectives VPB-1.1 and VPB-1.2 would seek to maintain an occupancy rate equal to or greater than the rate lost as a result of Covered Activities within the 20,000 acres of protected, restored, and created vernal pool habitat described above. Objective VPB-2.1 would protect two occurrences of Conservancy fairy shrimp for the first occurrence lost and three occurrences for each additional occurrence lost. CM1 VPB-1 would ensure an occupancy rate that is equal to or greater than the occupancy rate of vernal pools lost as a result of Covered Activities. CM3 VPB-1 would be implemented primarily in sites that do not support populations of branchiopods and in restored or created wetlands.

These goals, objectives, conservation measures, and conditions establish performance standards for measuring the effectiveness of restoration actions. The acres of protection and restoration satisfy the typical mitigation that would be applied to the project-level effects, as well as mitigating the effects of the other conservation measures. The proposed conditions further demonstrate the intent to avoid and minimize effects over the life of the Plan.

NEPA Determination: The permanent loss of up to 580 acres of vernal pool–type wetlands within 12,550 acres of vernal pool complex and temporary disturbance of 25 acres of vernal pool–type wetlands within 445 acres of vernal pool complex associated with Alternative 2, in the absence of

other conservation actions, would constitute a potentially significant impact through habitat modification and potential direct mortality of a special-status species. However, with the protection and restoration guided by the Plan's goals, objectives, conservation measures, and conditions, the overall effects of Alternative 2 on aquatic/wetland complex in the Plan Area would be less than significant.

CEQA Determination: The permanent loss of up to 580 acres of vernal pool type wetlands within 12,550 acres of vernal pool complex and temporary disturbance to 25 acres of vernal pool type wetlands within 445 acres of vernal pool complex habitat associated with Alternative 2, in the absence of other conservation actions, would constitute a significant impact through habitat modification and potential direct mortality of a special-status species. The natural community restoration and protection activities would constitute adequate mitigation for CEQA purposes. The biological objectives, conservation measures, and conditions for vernal pool branchiopods are more than sufficient to support the conclusion that the impacts of habitat loss and direct mortality on vernal pool branchiopods under Alternative 2 would be less than significant. No mitigation has been identified.

Impact BIO-15: Effects on California red-legged frog (NEPA: less than significant; CEQA: less than significant)

The CNDDB lists three occurrences of California red-legged frog in one population in the Plan Area, near the town site of Michigan Bluff near Foresthill (California Department of Fish and Wildlife 2017). All these occurrences are limited to a conservation bank site (Big Gun Conservation Bank) that is being managed for California red-legged frog (Plan Area B5). There are no known occurrences in Plan Areas A, B1, B2, B3, or B4.

Covered Activities under Alternative 2, the proposed action, would result in permanent and temporary impacts on habitat that is presumed to be currently unoccupied by California red-legged frog. Permanent development projects would result in the loss of up to 672 acres of currently unoccupied aquatic breeding and foraging habitat (8% of a total 8,532 acres of aquatic habitat) and up to 8,551 acres of currently unoccupied upland movement and refugia habitat (11% of 75,306 acres of modeled upland habitat) in the Foothill portion of Plan Area A. These impacts would result primarily from urban/suburban development, rural residential development, transportation projects, and infrastructure projects. Moreover, restoration, enhancement, and management actions associated with the Plan could result in inadvertent mortality; result in the release of contaminants (e.g., fuels, lubricants) into habitat, potentially affecting survival; and cause erosion that could affect habitat.

Covered Activities would temporarily affect up to 168 acres of currently unoccupied aquatic habitat and 214 acres of currently unoccupied upland habitat in the Foothill portion of Plan Area A. These temporary impacts would be associated with urban/suburban development, rural residential development, transportation construction, fuels management, vegetation management, infrastructure operations and maintenance, infrastructure construction, and conservation activities. Conservation actions that could temporarily affect California red-legged frog include grading and contouring to restore, create, and enhance wetlands and riparian habitat in reserves.

Short-term construction-related effects on California red-legged frog if individuals were to become established in portions of Plan Areas A, B1, B2, B3, or B4 include the generation of dust, which has the potential to interfere with the oxygen diffusion process and can transport toxic compounds that may affect frogs. Runoff from urban development and other Covered Activities could degrade the

aquatic habitats that support this species. Additional indirect effects are expected to result from in-stream activities that could degrade aquatic habitat; habitat fragmentation as a result of urban and rural development and the construction of new roads and other infrastructure; and the introduction, establishment, and spread of invasive plants and predators (e.g., domestic pets, raccoons, coyotes, skunks, bullfrogs) that thrive in human-dominated environments. Because California red-legged frogs are not expected to occur in Plan Areas A, B1, B2, B3, or B4, indirect effects on the species are expected to be negligible, if any.

Under Alternative 2, the permanent and temporary loss of California red-legged frog aquatic and upland habitat would be offset by the protection of 1,168 acres and restoration of 1,241 acres of aquatic habitat and the protection of 12,484 acres and restoration of 160 acres of upland habitat. The Plan would also protect 88.6 stream miles in the Reserve System, providing habitat and facilitating dispersal for California red-legged frogs.

The protection and restoration of occupied and suitable habitat for California red-legged frog would be supported by the following objectives, conservation measures, and conditions.

- Objective AW-1.1, Protect Aquatic/Wetland Complex Natural Community
- Objective AW-1.2, Restore/Create Aquatic/Wetland Complex Natural Community
- Objective RAR-1.1, Protect Riverine/Riparian Complex
- Objective RAR-1.3, Restore Riverine/Riparian Complex
- Objective CRLF-1.1, Protect Occupied California Red-legged Frog Habitat
- Objective CRLF-2.1, Protect Suitable California Red-Legged Frog Habitat in the Plan Area
- Objective CRLF-2.2, Restore Suitable California Red-Legged Frog Habitat
- CM1, Establish Reserve System
- CM1 L-4, Connectivity within Plan Area
- CM1 NC-1, Siting Restoration
- CM1 CRLF-1, Purchase of California Red-legged Frog Conservation Credits at the Big Gun Conservation Bank
- CM1 CRLF-2, California Red-legged Frog Habitat Protection
- CM2, Manage and Enhance the Reserve System
- CM2 L-4, Maintenance and Enhancement of Reserve System Permeability
- CM2 AW-5, Basking Habitat Enhancement
- CM2 RAR-1, Riparian Vegetation Management
- CM2 RAR-4, Improvement of In-channel Features
- CM2 RAR-7, Non-native Animal Species Control
- CM3, Restore and Create Natural Communities and Covered Species' Habitat
- CM3 AW-1, Aquatic/Wetlands Complex Restoration and Creation
- CM3 RAR-1, Riparian Natural Community Natural Community Restoration
- General Condition 1, Watershed Hydrology and Water Quality

- General Condition 2, Conservation Lands: Development Interface Design Requirements
- General Condition 4, Temporary Effects
- General Condition 5, Conduct Worker Training
- Community Condition 2, Riverine and Riparian Avoidance and Minimization
- Stream System Condition 1, Stream System Avoidance
- Stream System Condition 2, Stream System Mitigation: Restoration
- Regional Public Projects Condition 1, Transportation and Other Infrastructure Projects Design Requirements
- Regional Public Projects Condition 2, Transportation and Other Infrastructure Projects Construction BMPs
- Regional Public Projects Condition 3, Operations and Maintenance BMPs

Achievement of Objective CRLF-1.1 would protect at least 2 acres of occupied California red-legged frog habitat in Plan Area B5 by Year 2 and an additional 2 acres by Year 5. Implementation of CM1 NC-1, CM1 CRLF-1, CM1 CRLF-2, CM2 AW-5, and CM3 AW-1 would result in a large interconnected Reserve System that provides aquatic and upland habitat for California red-legged frog, minimizes edge effects of development, and potentially facilitates movement and genetic exchange between populations if California red-legged frogs expand into the Plan Area. Implementation of CM1 L-4 and CM2 L-4 would facilitate California red-legged frog movement through the Reserve System. Implementation of CM2 RAR-1, CM2 RAR-4, CM2 RAR-7, and CM3 RAR-1 would reduce the spread of invasive non-native plant species, minimizing the degradation of California red-legged frog habitat (e.g., controlling plants that invade stream channels) and increasing habitat for the species within the stream system. These measures would also aim to control non-native invasive animal species, minimizing predation of California red-legged frogs by invasive predators.

These goals, objectives, conservation measures, and conditions establish performance standards for measuring the effectiveness of restoration actions. The acres of protection and restoration satisfy the typical mitigation that would be applied to the project-level effects, as well as mitigating the effects of the other conservation measures.

NEPA Determination: The permanent loss of 672 acres of aquatic habitat and 8,551 acres of upland habitat and the temporary loss of 168 acres of aquatic habitat and 214 acres of upland for California red-legged frog associated with Alternative 2, in the absence of other conservation actions, would constitute a potentially significant impact through habitat modification and potential direct mortality of a special-status species. However, with the protection and restoration guided by the Plan's goals, objectives, conservation measures, and conditions, the overall effects of Alternative 2 on California red-legged frog would be less than significant.

CEQA Determination: The permanent loss of 672 acres of aquatic habitat and 8,551 acres of upland habitat and the temporary loss of 168 acres of aquatic habitat and 214 acres of upland for California red-legged frog associated with Alternative 2, in the absence of other conservation actions, would constitute a significant impact through habitat modification and potential direct mortality of a special-status species. The natural community restoration and protection activities would constitute adequate mitigation for CEQA purposes. The biological objectives, conservation measures, and conditions relevant to California red-legged frog are more than sufficient to support the conclusion

that the impacts of habitat loss and direct mortality on California red-legged frog under Alternative 2 would be less than significant. No mitigation has been identified.

Impact BIO-16: Effects on foothill yellow-legged frog (NEPA: less than significant; CEQA: less than significant)

Although foothill yellow-legged frog is widely scattered in suitable riverine and riparian habitat throughout the foothills of Placer County, the CNDDB lists no occurrences of this species in the Plan Area (California Department of Fish and Wildlife 2017). The nearest record slightly more than 3 miles from the eastern border of the Plan Area. Appendix D, *Species Accounts*, of the Plan provides more detail on the status and distribution of yellow-legged frog throughout its range and in Placer County.

Covered Activities under Alternative 2, the proposed action, would result in permanent and temporary impacts on foothill yellow-legged frog habitat. Permanent impacts would result in the loss of up to 155 acres of foothill yellow-legged frog year-round habitat (8% of a total 1,837 acres of suitable habitat) in in the Foothill portion of the Plan Area (i.e., streams above 500 feet). These impacts would result primarily from urban/suburban development, rural residential development, transportation projects, and infrastructure projects. Other Covered Activities that could affect habitat are in-stream activities, which include flood control and stormwater management projects, fish passage projects, and bank stabilization activities. Moreover, implementation of Plan restoration, enhancement, and management actions could result in inadvertent mortality; result in the release of contaminants (e.g., fuels, lubricants) into habitat, potentially affecting survival; and cause erosion that could affect habitat.

Covered Activities would temporarily affect up to 39 acres of year-round foothill yellow-legged frog habitat in the Plan Area (2% of a total 1,837 acres). These temporary impacts would be associated with urban/suburban development, rural residential development, transportation construction, fuels management, vegetation management, infrastructure operations and maintenance, and infrastructure construction. Conservation actions through Plan implementation that could temporarily affect foothill yellow-legged frog include grading and contouring to restore, create, and enhance wetlands and riparian habitat in reserves.

Short-term construction-related effects on foothill yellow-legged frog include the generation of dust, which has the potential to interfere with the oxygen diffusion process and can transport toxic compounds that may affect frogs. Runoff from urban development and other Covered Activities could degrade the aquatic habitats that support this species. Additional indirect effects are expected to result from in-stream activities that could degrade aquatic habitat; habitat fragmentation as a result of urban and rural development and the construction of new roads and other infrastructure; and the introduction, establishment, and spread of invasive plants and predators (e.g., domestic pets, raccoons, coyotes, skunks, bullfrogs) that thrive in human-dominated environments.

Under Alternative 2, the permanent and temporary loss of foothill yellow-legged frog habitat would be offset by the protection of 83 acres and restoration of 83 acres of foothill yellow-legged frog habitat in the Plan Area.

The protection and restoration of suitable habitat for foothill yellow-legged frog would be supported by the following objectives, conservation measures, and conditions.

- Objective RAR-1.1, Protect Riverine/Riparian Complex

- Objective RAR-1.2, Protect Riverine Habitat Constituent
- Objective RAR-1.3, Restore Riverine/Riparian Complex
- Objective FYLF-1.1, Protect Foothill Yellow-legged Frog Riverine Habitat
- Objective FYLF-1.2, Protect Foothill Yellow-legged Frog Riparian Habitat
- Objective FYLF-1.3, Restore Riparian Habitat for Foothill Yellow-legged Frog
- CM1, Establish Reserve System
- CM1 L-4, Connectivity within Plan Area
- CM1 FYLF-1, Foothill Yellow-legged Frog Habitat Protection
- CM1 NC-1, Siting Restoration
- CM2, Manage and Enhance the Reserve System
- CM2 L-4, Maintenance and Enhancement of Reserve System Permeability
- CM2 RAR-1, Riparian Vegetation Management
- CM2 RAR-4, Improvement of In-channel Features
- CM2 RAR-5, Non-native Animal Species Control
- CM3, Restore and Create Natural Communities and Covered Species' Habitat
- CM3 RAR-1, Riparian Natural Community Restoration
- General Condition 1, Watershed Hydrology and Water Quality
- General Condition 2, Conservation Lands: Development Interface Design Requirements
- General Condition 4, Temporary Effects
- General Condition 5, Conduct Worker Training
- Community Condition 2, Riverine and Riparian Avoidance and Minimization
- Stream System Condition 1, Stream System Avoidance
- Stream System Condition 2, Stream System Mitigation: Restoration
- Regional Public Projects Condition 1, Transportation and Other Infrastructure Projects Design Requirements
- Regional Public Projects Condition 2, Transportation and Other Infrastructure Projects Construction BMPs
- Regional Public Projects Condition 3, Operations and Maintenance BMPs

Implementation of CM1 FYLF-1, CM1 NC-1, and CM3 RAR-1 would result in a large interconnected Reserve System that provides riverine and riparian habitat for foothill yellow-legged frog, minimizes edge effects of development, and potentially facilitates movement and genetic exchange between populations if foothill yellow-legged frogs expand into the Plan Area. Implementation of CM2 RAR-1, CM2 RAR-4, CM2 RAR-5, and CM3 RAR-1 would reduce the spread of invasive non-native plant species, minimizing the degradation of foothill yellow-legged frog habitat (e.g., controlling plants that invade stream channels) and increasing habitat for the species within the stream system. These

measures would also aim to control non-native invasive animal species, minimizing predation of California red-legged frogs by invasive predators.

These goals, objectives, conservation measures, and conditions establish performance standards for measuring the effectiveness of restoration actions. The acres of protection and restoration satisfy the typical mitigation that would be applied to the project-level effects, as well as mitigating the effects of the other conservation measures.

NEPA Determination: The permanent loss of up to 155 acres and temporary loss of up to 39 acres of habitat for foothill yellow-legged frogs associated with Alternative 2, in the absence of other conservation actions, would constitute a potentially significant impact through habitat modification and potential direct mortality of a special-status species. However, with the protection and restoration guided by the Plan's goals, objectives, conservation measures, and conditions, the overall effects of Alternative 2 on foothill yellow-legged frog would be less than significant.

CEQA Determination: The permanent loss of up to 155 acres and temporary loss of up to 39 acres of habitat for foothill yellow-legged frogs associated with Alternative 2, in the absence of other conservation actions, would constitute a potentially adverse effect through habitat modification and potential direct mortality of a special-status species. The natural community restoration and protection activities would constitute adequate mitigation for CEQA purposes. The biological objectives, conservation measures, and conditions relevant to foothill yellow-legged frog are more than sufficient to support the conclusion that the impacts of habitat loss and direct mortality on foothill yellow-legged frog under Alternative 2 would be less than significant. No mitigation has been identified.

Impact BIO-17: Effects on western spadefoot, a non-covered species (NEPA: less than significant; CEQA: less than significant)

The CNDDB lists five occurrences of western spadefoot in western Placer County but within the incorporated boundaries of Roseville, a non-participating city (California Department of Fish and Wildlife 2017).

Covered Activities under Alternative 2, the proposed action, including infrastructure and other Permittee Covered Activities within Roseville, could result in permanent and temporary impacts on western spadefoot habitat. Permanent impacts would result in the loss of up to 20,200 acres of potential western spadefoot habitat in the Plan Area; this amount includes 12,550 acres of vernal pool complex supporting 580 acres of vernal pool–type wetlands, 6,900 acres of grassland, 260 acres of aquatic/wetland, and 490 acres of riverine/riparian. Most of this potential habitat is located in Plan Area A, and losses would result primarily from urban/suburban development, rural residential development, transportation projects, and infrastructure projects. This analysis may overestimate effects on spadefoot because the analysis is based on habitat types that may not be suitable in their entirety for spadefoot.

Covered Activities would temporarily affect up to 990 acres of potential western spadefoot habitat, including 30 acres of vernal pool–type wetlands within 455 acres of vernal pool complex, 235 acres of grassland, 105 acres of aquatic/wetland, and 165 acres of riverine/riparian. These temporary impacts would be associated with urban/suburban development, rural residential development, transportation construction, fuels management, vegetation management, infrastructure operations and maintenance, infrastructure construction, and conservation activities. Conservation actions

through Plan implementation that could temporarily affect western spadefoot include grading and contouring to restore, create, and enhance wetlands in reserves.

Recurring maintenance activities in the Plan Area may directly (through inadvertent mortality) and indirectly (through noise, visual disturbance, and ground vibrations) affect western spadefoot. Outside of the wet season, western spadefoots spend much of their time in underground burrows and crevices, making them vulnerable to ground-disturbing activities in upland areas they occupy. Moreover, restoration, enhancement, and management actions could result in inadvertent mortality; result in the release of contaminants (e.g., fuels, lubricants) into habitat, potentially affecting survival; and cause erosion that could affect habitat.

Permanent development within 500 feet of western spadefoot habitat could indirectly affect the species through increased vehicular traffic and the development of new roadways, causing mortalities; in-stream activities and runoff from developed areas that could degrade aquatic habitat; habitat fragmentation as a result of urban and rural development and the construction of new roads and other infrastructure; introduction, establishment, and spread of invasive plant and animal species; and increased predation rates from domestic pets, use of mosquitofish for mosquito abatement, and invasive wildlife species (e.g., bullfrogs).

Under Alternative 2, the permanent and temporary loss of western spadefoot habitat would be offset by implementation of the conservation strategy for vernal pool branchiopods, resulting in the protection and management of 17,000 acres and the restoration of 3,000 acres of wetland habitat and vernal pool complex. In addition, the protection of 2,740 acres and restoration of 1,000 acres of grassland; the protection of 600 acres and restoration of 410 acres of aquatic/wetlands; and the protection of 2,200 acres and protection of 1,425 acres of riverine/riparian could provide potential habitat for western spadefoot.

The protection, restoration, and management of suitable habitat for western spadefoot would be supported by the following objectives, conservation measures, and conditions.

- Objective VPCG-1.1, Protect Existing Vernal Pool Complexes
- Objective VPCG 1.2, Restore/Create Vernal Pool Complexes
- Objective VPCG-1.3, Protect Grasslands
- Objective VPCG-1.4, Restore Grasslands
- Objective AW-1.1, Protect Aquatic/Wetland Complex Natural Community
- Objective AW-1.2, Restore/Create Aquatic/Wetland Complex Natural Community
- Objective AW-1.3, Maintain and Enhance Wetlands and Ponds
- Objective RAR-1.1, Protect Riverine/Riparian Complex
- Objective RAR-1-2, Protect Riverine Constituent Habitat
- Objective RAR-1.3, Restore Riverine/Riparian Complex
- Objective RAR-1.4, Enhance Riparian Vegetation
- CM1, Establish Reserve System
- CM1 L-2, Reserve Acquisition Strategy
- CM1-L-3, Connectivity and Conservation within the Region

- CM1 L-4 Connectivity within the Plan Area
- CM1 VPCG-1, Vernal Pool Complex Protection
- CM1 VPCG-2, Reserve Design for Vernal Pool Restoration/Creation
- CM1 VPCG-3, Grassland Protection
- CM1 AW-1, Aquatic/Wetlands Complex Protection
- CM1 RAR-1, Riverine and Riparian Protection
- CM1 RAR-2, Siting Riparian Restoration
- CM2, Manage and Enhance the Reserve System
- CM2 L-1, Vegetation Management and Invasive Plant Control
- CM2 L-3, Develop and Implement Fire Management Plans
- CM2 L-4, Maintenance and Enhancement of Reserve System Permeability
- CM2 VPCG-1, Vernal Pool Complex Enhancement and Hydrologic Conditions
- CM2 AW-1, Aquatic/Wetlands Complex Vegetation Control
- CM2 AW-2, Fencing Wetlands and Ponds
- CM2 AW-4, Non-native Predator Control
- CM2 AW-7, Maintenance of Water Depths and Hydrological Cycles
- CM2 AW-8, Maintenance and Enhancement of Water Quality
- CM2 RAR-1, Riparian Vegetation Management
- CM2 RAR-4, Improvement of In-channel Features
- CM2 RAR-5, Non-native Animal Species Control
- CM3, Restore and Create Natural Communities and Covered Species' Habitat
- CM3 AW-1, Aquatic/Wetlands Complex Restoration/Creation
- CM3 VPCG-1, Vernal Pool Complex Restoration/Creation
- CM3 VPCG-2 Grasslands Restoration
- CM3 RAR-1, Riparian Natural Community Restoration
- CM4 L-1, Low-Impact Development Standards
- CM4 VPCG-1, Conduct Outreach to Private Landowners.
- General Condition 1, Watershed Hydrology and Water Quality
- General Condition 2, Conservation Lands: Development Interface Design Requirements
- General Condition 4, Temporary Effects
- General Condition 5, Conduct Worker Training
- Community Condition 1, Wetland Avoidance and Minimization (Vernal Pool and Aquatic/Wetland Complex)

- Regional Public Projects Condition 1, Transportation and Other Infrastructure Projects Design Requirements
- Regional Public Projects Condition 2, Transportation and Other Infrastructure Projects Construction BMPs
- Regional Public Projects Condition 3, Operations and Maintenance BMPs
- Species Condition 8, Conservancy Fairy Shrimp

Implementation of CM1-L-3, CM1 L-4, CM1 VPCG-3, CM3 VPCG-2, CM1 RAR-1, CM1 RAR-2, CM2 L-4, CM2 RAR-1, CM3 RAR-1, CM1 AW-1, and CM3 AW-1 would result in a large, interconnected Reserve System supporting upland and aquatic habitat for western spadefoot, enabling the species to disperse between primary habitat areas, and facilitating genetic exchange. Implementation of CM2 AW-2, CM2 RAR-4, and CM2 AW-7 would increase aquatic habitat for western spadefoot in the stream system.

Although they do not apply to non-covered special-status wildlife species, these objectives, conservation measures, and conditions establish performance standards for measuring the effectiveness of proposed conservation actions. In addition, Covered Activities under Alternative 2 that affect habitat of non-covered special-status wildlife would be mitigated on a project-by-project basis for discretionary projects. Ancillary benefits for these wildlife species are also anticipated to result from Plan implementation, because it would establish a comprehensive reserve management program that would enhance habitat conditions in a variety of natural communities that may support non-covered special-status wildlife. Mitigation for impacts from projects that are not subject to discretionary review, including implementation of conservation measures to create and restore vernal pool complex, vernal pool–type wetlands, grassland, aquatic/wetland, and riverine/riparian habitat, is unlikely.

NEPA Determination: The permanent loss of up to 20,200 acres and temporary disturbance of up to 960 acres of potential western spadefoot habitat associated with Alternative 2, though likely an overestimate of effects, in the absence of other conservation actions, would constitute a potentially significant impact through habitat modification and potential direct mortality of a special-status species. However, with the protection and restoration guided by the Plan's goals, objectives, conservation measures, and conditions, the overall effects of Alternative 2 on western spadefoot would be less than significant.

CEQA Determination: The permanent loss of up to 20,200 acres and temporary disturbance of up to 960 acres of potential western spadefoot habitat associated with Alternative 2, though likely an overestimate of effects, in the absence of other conservation actions, would constitute a potentially significant impact through habitat modification and potential direct mortality of a special-status species. The natural community restoration and protection activities would constitute adequate mitigation for CEQA purposes. The biological goals and conservation measures relevant to western spadefoot are more than sufficient to support the conclusion that the impacts of Alternative 2 on western spadefoot would be less than significant. No mitigation has been identified.

Impact BIO-18: Effects on giant garter snake (NEPA: less than significant; CEQA: less than significant)

A population of giant garter snake has been documented approximately 1.5–5 miles west and south of the Placer County line in the Sutter and Natomas Basins of Sutter and Sacramento Counties; the

closest occurrence is recorded in the Natomas Basin of Sacramento County, approximately 1.5 miles southwest of the Placer County line (Figure 5-3 in the Plan) in Plan Area A. There are also multiple giant garter snake CNDDB records immediately north and south of Cross Canal. These records do not mention snakes occurring in the canal itself (California Department of Fish and Wildlife 2017). Cross Canal is part of Plan Area B4, which is slated for fish passage improvements. Appendix D, *Species Accounts,* of the Plan provides more detail on the status and distribution of the species throughout its range. The far western portion of the Plan Area adjacent to Sutter and Sacramento Counties is within the American Basin Recovery Unit identified in the *Recovery Plan for Giant Garter Snake (Thamnophis gigas)* (U.S. Fish and Wildlife Service 2017).

Covered Activities under Alternative 2, the proposed action, would result in permanent and temporary impacts on aquatic and upland habitat for giant garter snake. Permanent impacts would result in the loss of up to 1,438 acres of aquatic habitat (7% of a total 19,511 acres of habitat in the Plan Area) and 483 acres of upland habitat (14% of a total 3,537 acres). These losses would result primarily from urban/suburban development, rural residential development, transportation projects, and infrastructure projects, primarily in the Valley portion of Plan Area A, with small losses (49 acres) in Plan Area B.

Temporary impacts of Covered Activities on giant garter snake habitat would not exceed 203 acres of aquatic habitat in the Plan Area (1% of total aquatic habitat) and 22 acres of upland habitat (1% of total upland habitat). These temporary impacts would be associated with urban/suburban development, rural residential development, transportation construction, vegetation management, infrastructure operations and maintenance, and infrastructure construction. Conservation actions through Plan implementation that could temporarily affect giant garter snake habitat include restoration and enhancement actions such as grading and contouring to restore, create, and enhance wetlands in reserves.

Indirect effects could result from construction and maintenance of infrastructure associated with urban and rural development and from changes in hydrology caused by land conversion. Additionally, in-stream activities such as installation and maintenance of utility lines, road improvements, drainage facility improvements, and flood control projects may indirectly affect giant garter snake. Restoration, enhancement, and management actions could result in inadvertent mortality; result in the release of contaminants (e.g., fuels, lubricants) into habitat, potentially affecting survival; and cause erosion that could affect habitat.

Under Alternative 2, the permanent and temporary loss of giant garter snake aquatic and upland habitat would be offset by the protection of 2,000 acres of rice lands and additional protection and restoration of aquatic and wetland natural communities, for a total protection of 2,702 acres and restoration of 529 acres of aquatic habitat and the protection of 1,763 acres and restoration of 449 acres of upland habitat for giant garter snake.

The Plan establishes a goal of protecting suitable giant garter snake habitat to facilitate the expansion of giant garter snake into the Reserve System. Conservation activities would include measures to result in a large, interconnected Reserve System supporting upland and aquatic habitat enabling the species to disperse between primary habitat areas, and facilitating genetic exchange. Creation of basking sites, control of non-native invasive plants to maintain habitat integrity, and control of non-native predators to reduce mortality of individual snakes would all contribute to survival and restoration of the species. The protection, restoration, and management of suitable

habitat for giant garter snake would be supported by the following objectives, conservation measures, and conditions.

- Objective GGS-1.1, Protect and Manage Giant Garter Snake Habitat
- CM1, Establish Reserve System
- CM1 L-4, Connectivity within the Plan Area
- CM1 NC-1, Siting Restoration
- CM1 AW-1, Aquatic/Wetlands Complex Protection
- CM1 GGS-1, Giant Garter Snake Habitat Protection
- CM2, Manage and Enhance the Reserve System
- CM2 L-4, Maintenance and Enhancement of Reserve System Permeability
- CM2 VPCG-3, Ground Squirrel Population Enhancement
- CM2 AW-1, Aquatic/Wetlands Complex Vegetation Control
- CM2 AW-2, Fencing Wetlands and Ponds
- CM2 AW-4, Non-native Predator Control
- CM2 AW-5, Basking Habitat Enhancement
- CM2 AW-7, Maintenance of Water Depths and Hydrological Cycles
- CM2 AW-8, Maintenance and Enhancement of Water Quality
- CM2 RAR-1, Riparian Vegetation Management
- CM2 RAR-4, Improvement of In-channel Features
- CM2 RAR-5, Non-native Animal Species Control
- CM2 AO-1, Provision of Patches of Native Vegetation in Rice Lands
- CM2 AO-2 Development and Water Implementation of a Water Management Plan
- CM3, Restore and Create Natural Communities and Covered Species' Habitat.
- CM3 AW-1, Aquatic/Wetlands Complex Restoration/Creation
- General Condition 1, Watershed Hydrology and Water Quality
- General Condition 2, Conservation Lands: Development Interface Design Requirements
- General Condition 4, Temporary Effects
- General Condition 5, Conduct Worker Training
- Community Condition 2, Riverine and Riparian Avoidance and Minimization
- Stream System Condition 1, Stream System Avoidance
- Stream System Condition 2, Stream System Mitigation: Restoration
- Regional Public Projects Condition 1, Transportation and Other Infrastructure Projects Design Requirements

- Regional Public Projects Condition 2, Transportation and Other Infrastructure Projects Construction BMPs
- Regional Public Projects Condition 3, Operations and Maintenance BMPs
- Species Condition 5, Giant Garter Snake

These goals, objectives, conservation measures, and conditions establish performance standards for measuring the effectiveness of restoration actions. The acres of protection and restoration satisfy the typical mitigation that would be applied to the project-level effects, as well as mitigating the effects of the other conservation measures.

NEPA Determination: The permanent loss of 1,438 acres of aquatic habitat and 483 acres of upland habitat and the temporary disturbance of 203 acres of aquatic habitat and 22 acres of upland habitat associated with Alternative 2, in the absence of other conservation actions, would constitute a potentially significant impact through habitat modification and potential direct mortality of a special-status species. However, with the protection and restoration guided by the Plan's goals, objectives, conservation measures, and conditions, the overall effects of Alternative 2 on giant garter snake would be less than significant.

CEQA Determination: The permanent loss of 1,438 acres of aquatic and 483 acres of upland habitat and the temporary disturbance of 203 acres of aquatic and 22 acres of upland habitat associated with Alternative 2, in the absence of other conservation actions, would constitute a significant impact through habitat modification and potential direct mortality of a special-status species. The natural community restoration and protection activities would constitute adequate mitigation for CEQA purposes. The biological objectives, conservation measures, and conditions relevant to giant garter snake are more than sufficient to support the conclusion that the impacts of habitat loss and direct mortality on giant garter snake under Alternative 2 would be less than significant. No mitigation has been identified.

Impact BIO-19: Effects on western pond turtle (NEPA: less than significant; CEQA: less than significant)

The CNDDB lists four occurrences of western pond turtle in the Plan Area (California Department of Fish and Wildlife 2017).

Covered Activities under Alternative 2, the proposed action, would result in permanent and temporary impacts on aquatic and upland habitat for western pond turtle. Permanent impacts would result in the loss of 750 acres of aquatic habitat (7% of a total 10,244 acres of aquatic habitat) and up to 1,407 acres of upland habitat for western pond turtle (10% of a total 14,263 acres of upland habitat) in the Plan Area. These impacts would result primarily from urban/suburban development, rural residential development, transportation projects, and infrastructure projects, primarily in the Valley and Foothill portions of Plan Area A; small losses (20 acres) would occur in Plan Area B.

Temporary impacts of Covered Activities on western pond turtle would not exceed 250 acres of aquatic habitat (2% of total aquatic habitat) and 40 acres of upland habitat (less than 1% of total upland habitat). These temporary impacts would be associated with urban/suburban development, rural residential development, transportation construction, fuels management, vegetation management, infrastructure operations and maintenance, and infrastructure construction.

Conservation actions through Plan implementation that could temporarily affect western pond turtle include grading and contouring to restore, create, and enhance wetlands in reserves.

Indirect effects are expected to result from increased vehicular traffic and the development of new roadways, causing mortalities; in-stream activities and runoff from developed areas that could degrade aquatic habitat; habitat fragmentation as a result of urban and rural development and the construction of new roads and other infrastructure; introduction, establishment, and spread of invasive plant and animal species; and increased predation rates, particularly on eggs and young, by domestic pets and invasive wildlife species. Moreover, restoration, enhancement, and management actions could result in inadvertent mortality; result in the release of contaminants (e.g., fuels, lubricants) into habitat, potentially affecting survival; and cause erosion that could affect habitat.

Under Alternative 2, the permanent and temporary loss of western pond turtle aquatic and upland habitat would be offset by the protection of 2,800 acres and restoration of 1,850 acres of aquatic habitat for western pond turtle and the protection of 3,859 acres and restoration of 1,930 acres of upland habitat.

The Plan establishes a goal of providing habitat for a sustained population of western pond turtles in the Reserve System. Conservation activities would include measures to result in a large, interconnected Reserve System supporting upland and aquatic habitat enabling the species to disperse between primary habitat areas, and facilitating genetic exchange. Increasing basking sites and cover, control of non-native invasive plants to maintain habitat integrity and access to basking sites, and control of non-native predators to reduce mortality of young turtles and eggs would all contribute to survival of the species. The protection, restoration, and management of suitable habitat for western pond turtle would be supported by the following objectives, conservation measures, and conditions.

- Objective WPT-1.1, Protect and Enhance Western Pond Turtle Habitat
- Objective WPT-1.2, Restore Western Pond Turtle Habitat
- CM1, Establish Reserve System
- CM1 L-4, Connectivity within the Plan Area
- CM1 NC-1, Siting Restoration
- CM1 WPT-1, Western Pond Turtle Habitat Protection
- CM2, Manage and Enhance the Reserve System
- CM2 L-4, Maintenance and Enhancement of Reserve System Permeability
- CM2 AW-1, Aquatic/Wetlands Complex Vegetation Control
- CM2 AW-2, Fencing Wetlands and Ponds, CM2 AW-3 Sediment Removal
- CM2 AW-4, Non-native Predator Control,
- CM2 AW-5, Basking Habitat Enhancement, CM2 RAR-4 Improvement of In-channel Features
- CM2 AW-7, Maintenance of Water Depths and Hydrological Cycles
- CM2 AW-8, Maintenance and Enhancement of Water Quality
- CM2 RAR-1, Riparian Vegetation Management
- CM2 RAR-5, Non-native Animal Species Control

- CM2 WPT-1, Western Pond Turtle Habitat Enhancement
- CM3, Restore and Create Natural Communities and Covered Species' Habitat
- CM3, AW-1 Aquatic/Wetlands Complex Restoration/Creation
- General Condition 1, Watershed Hydrology and Water Quality
- General Condition 2, Conservation Lands: Development Interface Design Requirements
- Community Condition 2, Riverine and Riparian Avoidance and Minimization
- Stream System Condition 1, Stream System Avoidance
- Stream System Condition 2, Stream System Mitigation: Restoration
- Regional Public Projects Condition 1, Transportation and Other Infrastructure Projects Design Requirements
- Regional Public Projects Condition 2, Transportation and Other Infrastructure Projects Construction BMPs
- Regional Public Projects Condition 3, Operations and Maintenance BMPs

These goals, objectives, conservation measures, and conditions establish performance standards for measuring the effectiveness of restoration actions. The acres of protection and restoration satisfy the typical mitigation that would be applied to the project-level effects, as well as mitigating the effects of the other conservation measures.

NEPA Determination: The permanent loss of 750 acres of aquatic habitat and 1,407 acres of upland habitat and the temporary disturbance of 250 acres of aquatic habitat and 40 acres of upland habitat associated with Alternative 2, in the absence of other conservation actions, would constitute a potentially significant impact through habitat modification and potential direct mortality of a special-status species. However, with habitat protection and restoration associated with the conservation components, guided by landscape-scale goals and objectives, the effects of Alternative 2 as a whole on western pond turtle would be less than significant.

CEQA Determination: The permanent loss of 750 acres of aquatic habitat and 1,407 acres of upland habitat and the temporary disturbance of 250 acres of aquatic habitat and 40 acres of upland habitat associated with Alternative 2, in the absence of other conservation actions, would constitute a significant impact through habitat modification and potential direct mortality of a special-status species. The natural community restoration and protection activities would constitute adequate mitigation for CEQA purposes. The biological objectives, conservation measures, and conditions relevant to western pond turtle are more than sufficient to support the conclusion that the impacts of habitat loss and direct mortality on western pond under Alternative 2 would be less than significant. No mitigation has been identified.

Impact BIO-20: Effects on coast horned lizard, a non-covered species (NEPA: less than significant with mitigation; CEQA: less than significant with mitigation)

The CNDDB lists no occurrences of coast horned lizard in the Plan Area (California Department of Fish and Wildlife 2017).

Covered Activities under Alternative 2, the proposed action, would result in permanent and temporary impacts on coast horned lizard habitat. Permanent impacts would result in loss of 13,625

acres of natural communities that contain suitable habitat elements for coast horned lizard (e.g., open areas with sandy substrates): 6,900 acres of grasslands (20% of this community in the Plan Area), 6,350 acres of oak and valley oak woodland (12%), and 375 acres of riparian woodland (less than 8%). These losses would result primarily from urban/suburban development, rural residential development, transportation projects, and infrastructure projects. The suitable habitat elements for this species are open areas with sandy substrates; consequently, the impact acreage reported here, which is based on impacts on natural communities that may contain these elements, is likely a large overestimate.

Covered Activities would temporarily affect up to 555 acres of habitat for coast horned lizard: 235 acres of grassland (1% of this community), 205 acres of valley oak and oak woodland (<1%), and 115 acres of riparian woodland (2%) in the Plan Area. These temporary impacts would be associated with urban/suburban development, rural residential development, transportation construction, fuels management, vegetation management, infrastructure operations and maintenance, and infrastructure construction. Plan conservation actions that could temporarily affect coast horned lizard habitat include restoration and enhancement actions such as grading and contouring to restore, create, and enhance grasslands, oak woodlands and riparian habitat in reserves.

Indirect effects are expected to result from increased vehicular traffic and the development of new roadways, causing mortalities; habitat fragmentation as a result of urban and rural development and the construction of new roads and other infrastructure; introduction, establishment, and spread of invasive plant and animal species; and increased predation rates from domestic pets and invasive wildlife species. Recurring maintenance activities within the Plan Area, such as transportation facility maintenance, utility service facilities maintenance, and vegetation management, may periodically directly and indirectly affect coast horned lizard. Moreover, restoration, enhancement, and management actions could result in inadvertent mortality; result in the release of contaminants (e.g., fuels, lubricants) into habitat, potentially affecting survival; and cause erosion that could affect habitat.

Under Alternative 2, the permanent loss of coast horned lizard habitat would be offset by the protection of 14,932 acres and restoration of 2,638 acres of grassland, oak woodland, valley oak woodland, and riparian woodland communities in the Plan Area.

The protection, restoration, and management of suitable habitat for coast horned lizard would be supported by the following objectives, conservation measures, and conditions.

- CM1, Establish Reserve System
- CM1-L-3, Connectivity and Conservation within the Region
- CM1 L-4, Connectivity within the Plan Area
- CM1 NC-1, Siting Restoration
- CM1 VPCG-3, Grassland Protection
- CM1 RAR-1, Riverine and Riparian Protection
- CM1 RAR-2, Siting Riparian Restoration
- CM1 OW-1, Oak Woodlands Protection
- CM1 OW-2, Siting Oak Woodlands Restoration

- CM2, Manage and Enhance the Reserve System
- CM2 L-4, Maintenance and Enhancement of Reserve System Permeability
- CM2 RAR-1, Riparian Vegetation Management
- CM2 RAR-5, Non-native Animal Species Control
- CM2 OW-1, Oak Woodland Vegetation Enhancement and Management
- CM3, Restore and Create Natural Communities and Covered Species' Habitat
- CM3, VPCG-2 Grasslands Restoration
- CM3 RAR-1, Riparian Natural Community Restoration
- General Condition 2, Conservation Lands: Development Interface Design Requirements
- General Condition 4, Temporary Effects
- General Condition 5, Conduct Worker Training
- Community Condition 2, Riverine and Riparian Avoidance and Minimization
- Community Condition 3, Valley Oak Woodland
- Regional Public Projects Condition 1, Transportation and Other Infrastructure Projects Design Requirements
- Regional Public Projects Condition 2, Transportation and Other Infrastructure Projects Construction BMPs
- Regional Public Projects Condition 3, Operations and Maintenance BMPs

Although they do not apply to non-covered special-status wildlife species, these objectives, conservation measures, and conditions establish performance standards for measuring the effectiveness of proposed conservation actions. In addition, Covered Activities under Alternative 2 that affect habitat of non-covered special-status wildlife would be mitigated on a project-by-project basis for discretionary projects. Ancillary benefits for these wildlife species are also anticipated to result from Plan implementation, because it would establish a comprehensive reserve management program that would enhance habitat conditions in a variety of natural communities that may support non-covered special-status wildlife. Mitigation for impacts from projects that are not subject to discretionary review, including implementation of conservation measures to create and restore grassland, valley oak woodland, oak woodland, and riparian woodland habitat, is unlikely.

NEPA Determination: The permanent loss of 13,625 acres and temporary disturbance of 555 acres of potential coast horned lizard habitat associated with Alternative 2, in the absence of other conservation actions, would constitute a potentially significant impact through habitat modification and potential direct mortality of a special-status species. However, with the protection and restoration guided by the Plan's goals, objectives, conservation measures, and conditions and the implementation of Mitigation Measure BIO-2, the overall effects of Alternative 2 on coast horned lizard would be less than significant.

CEQA Determination: The permanent loss of 13,625 acres and temporary disturbance of 555 acres of potential coast horned lizard habitat associated with Alternative 2, in the absence of other conservation actions, would constitute a significant impact through habitat modification and potential direct mortality of a special-status species. The natural community restoration and

protection activities would constitute adequate mitigation for CEQA purposes. The biological goals and conservation measures relevant to coast horned lizard and implementation of Mitigation Measure BIO-2 would reduce this impact to a less-than-significant level.

Mitigation Measure BIO-2: Conduct preconstruction surveys for coast horned lizard

For all ground-disturbing activities in sandy, friable soils related to conservation actions under the Plan, PCA will retain a qualified biologist to conduct a habitat assessment in areas that are relatively undisturbed or have a moderate to high potential to support the coast horned lizard. The biologist will survey for coast horned lizard in areas of suitable habitat concurrently with the preconstruction surveys for covered species. If coast horned lizards are found in work areas, the biologist will first attempt to allow the individuals to move out of the work area on their own, but if conditions do not allow this, the biologist will capture individuals and relocate them to the nearest suitable habitat outside the work area as allowed under the biologist's current Scientific Collecting Permit amended for such handling. To the extent feasible, work in areas of suitable habitat for coast horned lizard should not be conducted during periods of cold and hot temperatures (below 67°F and above 100°F), because individuals would be relatively inactive at these temperatures and could be taking cover in loose soil, in burrows or crevices, or under structures such as rocks or logs (Morey 2000). This measure would reduce the impact of horned lizards being crushed by vehicles and equipment.

Impact BIO-21: Effects on Swainson's hawk (NEPA: less than significant; CEQA: less than significant)

The CNDDB lists 17 extant occurrences of Swainson's hawks nesting in the Plan Area, all in the Valley portion (California Department of Fish and Wildlife 2017).

Covered Activities under Alternative 2, the proposed action, would result in permanent and temporary impacts on Swainson's hawk. Permanent impacts would not exceed 149 acres of nesting habitat (8% of nesting habitat in Plan Area A) and 16,267 acres of foraging habitat (30% of suitable habitat). These impacts would result primarily from urban/suburban development, rural residential development, transportation projects, and infrastructure projects.

Temporary impacts on Swainson's hawk habitat would not exceed 10 acres of nesting habitat and 602 acres of foraging habitat. These temporary impacts would be associated with urban/suburban development, rural residential development, transportation construction, fuels management, vegetation management, infrastructure operations and maintenance, and infrastructure construction. Implementation of Plan conservation actions may also temporarily disturb Swainson's hawk habitat in locations where grading, vegetation management, or other physical change to the habitat is required.

In addition to resulting in habitat losses, Covered Activities have the potential to directly affect Swainson's hawk through injury and mortality. Construction-related activities would not be expected to result in direct mortality of adult or fledged Swainson's hawks if they were present in or near Covered Activities, because they would be expected to avoid contact with construction equipment. However, if Swainson's hawks were to nest in or near a construction area, construction-related activities, including equipment operation, noise, and visual disturbances, could affect nests or lead to their abandonment, potentially resulting in mortality of eggs and nestlings.

Swainson's hawk nesting and foraging behavior in the vicinity of proposed construction areas could be directly affected by construction activities. Construction noise above background noise levels (i.e., greater than 50 A-weighted decibels [dBA]) could extend 500–5,250 feet from the edge of construction activities. However, no data are available that identify the extent to which these noise levels could affect Swainson's hawks. Effects associated with construction include noise and visual disturbance caused by grading, contouring, and other ground-disturbing operations outside the project footprint but within 500 feet of it. Construction and subsequent maintenance-related noise and visual disturbances could mask calls and disrupt foraging and nesting behaviors. The use of mechanical equipment during Covered Activities could cause the accidental release of petroleum or other contaminants that could affect Swainson's hawk foraging habitat.

Indirect effects are expected to result from increased vehicular traffic associated with the development of new roadways, causing mortalities; habitat fragmentation as a result of urban and rural development and the construction of new roads and other infrastructure; and the introduction, establishment, and spread of invasive plant species.

Under Alternative 2, the permanent loss of Swainson's hawk nesting habitat would be offset by the protection and management of 1,268 acres and restoration of 720 acres of nesting habitat. The loss of foraging habitat would be offset by the protection and management of up to 17,003 acres and restoration of 3,920 acres of foraging habitat.

The Plan establishes the goal of maintaining habitat to provide for a sustained population of Swainson's hawks in the Plan Area. The protection, restoration, and management of suitable habitat for Swainson's hawk would be supported by the following objectives, conservation measures, and conditions.

- Objective SWHA-1.1**,** Protect Swainson's Hawk Nest Trees
- Objective SWHA-1.2**,** Protect Swainson's Hawk Foraging Habitat
- Objective SWHA-1.3**,** Enhance Foraging Habitat
- Objective SWHA-1.4**,** Protect at least 20 isolated trees with the potential to be used as nesting sites for Swainson's hawk, within the protected grasslands.
- CM1 SWHA-1, Protection of Swainson's Hawk Habitat
- CM2 SWHA-1, Swainson's Hawk Foraging Habitat Enhancement
- General Condition 1, Watershed Hydrology and Water Quality
- General Condition 2, Conservation Lands: Development Interface Design Requirements
- General Condition 4, Temporary Effects
- General Condition 5, Conduct Worker Training
- Community Condition 2.1, Riverine and Riparian Avoidance
- Community Condition 2.2, Minimize Riverine and Riparian Effects
- Community Condition 2.3, Riverine and Riparian Restoration
- Community Condition 3.1, Valley Oak Woodland Avoidance
- Community Condition 3.2, Valley Oak Woodland and Individual Valley Oak Trees

- Regional Public Projects Condition 2, Transportation and Other Infrastructure Projects Construction BMPs
- Regional Public Projects Conditions 3, Operation and Maintenance BMPs
- Species Condition 1, Swainson's Hawk
    - Swainson's Hawk 1—requires preconstruction surveys during the nesting season
    - Swainson's Hawk 2—prohibits activity during the breeding season within a 1,320-foot buffer zone around a nest, monitoring of reduced buffers
    - Swainson's Hawk 3—requires active nest trees to not be removed during the nesting season
    - Swainson's Hawk 4—requires a construction monitor for active nests.

These objectives, conservation measures, and conditions establish performance standards for measuring the effectiveness of proposed conservation actions. The conditions are described in Chapter 6 of the Plan.

NEPA Determination: The permanent loss of 149 acres of nesting habitat and 16,267 acres of foraging habitat and the temporary disturbance of 10 acres of nesting habitat and 602 acres of foraging habitat associated with Alternative 2, in the absence of other conservation actions, would constitute a potentially significant impact; however, with the proposed protection and restoration set forth by the Plan's goals, objectives, conservation measures, and conditions, the overall effects of Alternative 2 on Swainson's hawk in the Plan Area would be less than significant.

CEQA Determination: The permanent loss of 149 acres of nesting habitat and 16,267 acres of foraging habitat and the temporary disturbance of 10 acres of nesting habitat and 602 acres of foraging habitat associated with Alternative 2, in the absence of other conservation actions, would constitute a significant impact through loss of habitat and potential mortality of a special-status species. The natural community restoration and protection together with conservation measures and conditions relevant to the long-term management of habitat for Swainson's hawk in the Plan Area support the conclusion that the impacts on Swainson's hawk under Alternative 2 would be less than significant. No mitigation has been identified.

Impact BIO-22: Effects on California black rail (NEPA: less than significant; CEQA: less than significant)

The CNDDB lists two extant occurrences of California black rail in the Plan Area: one in the Valley portion of Plan Area B and one in the Foothill portion of the RAA in Plan Area A (California Department of Fish and Wildlife 2017). Research conducted by the University of California, Berkeley documented additional occurrences in the Valley portion of Plan Area A (Hall and Beissinger 2017).

Covered Activities under Alternative 2, the proposed action, would result in permanent and temporary impacts on California black rail. Permanent impacts would not exceed 105 acres (9% of suitable habitat Plan Area A). These impacts would result primarily from urban/suburban development, rural residential development, transportation projects, and infrastructure projects. The impacts would be evenly split between the Valley and Foothill portions, with a small amount (5 acres) in Plan Area B.

Temporary impacts on California black rail habitat are estimated at 41 acres. These temporary impacts would be associated with urban/suburban development, rural residential development,

transportation construction, fuels management, vegetation management, infrastructure operations and maintenance, and infrastructure construction. Implementation of Plan conservation actions may also temporarily disturb California black rail habitat in locations where grading, vegetation management, or other physical change to the habitat is required.

In addition to habitat losses, Covered Activities have the potential to directly affect California black rails through injury and mortality. Operation of construction equipment may cause injury to or mortality of individuals. Risk would be greatest to eggs and nestlings susceptible to land-clearing activities through nest abandonment and increased exposure to the elements or to predators. Construction activities could temporarily fragment existing California black rail habitat; grading, filling, contouring, and other ground-disturbing operations could temporarily reduce the extent and functions supported by the affected habitat.

California black rail nesting behavior in the vicinity of proposed construction areas could be directly affected by construction activities. Construction noise above background noise levels (greater than 50 dBA) could extend 500–5,250 feet from the edge of construction activities. However, no data are available that identify the extent to which these noise levels could affect California black rail. Effects associated with construction include noise, dust, and visual disturbance caused by grading, filling, contouring, and other ground-disturbing operations outside the project footprint but within 500 feet of it. Construction and subsequent maintenance-related noise and visual disturbances could mask calls, disrupt foraging and nesting behaviors, and reduce the functions of suitable nesting habitat for this species. The use of mechanical equipment during Covered Activities could cause the accidental release of petroleum or other contaminants that could affect black rails in the surrounding habitat. The inadvertent discharge of sediment or excessive dust adjacent to black rail habitat could also affect the species.

Indirect effects are expected to result from increased vehicular traffic associated with the development of new roadways, causing mortalities; runoff from developed areas that could degrade habitat; habitat fragmentation as a result of urban and rural development and the construction of new roads and other infrastructure; introduction, establishment, and spread of invasive plant and animal species; and increased predation rates, particularly on eggs and young, from domestic pets and invasive wildlife species.

Under Alternative 2, the permanent loss of California black rail habitat would be offset by the protection and management of 256 acres and restoration of 175 acres of California black rail habitat.

The Plan establishes the goal of maintaining habitat to provide for a sustained population of California black rail in the Plan Area. The protection, restoration, and management of suitable habitat for California black rail would be supported by the following objectives, conservation measures, and conditions.

- Objective BLRA-1.1**,** Protect, Restore/Create, and Manage and Enhance California Black Rail Habitat
- CM1 BLRA-1, Siting California Black Rail Habitat Protection and Restoration
- CM2 BLRA-1, Maintenance and Enhancement of the Hydrology of California Black Rail Habitat
- CM2 BLRA-2, Protection of California Black Rail Habitat from Grazing and Other Vegetation Management Activities
- General Condition 1, Watershed Hydrology and Water Quality

- General Condition 2, Conservation Lands: Development Interface Design Requirements
- General Condition 4, Temporary Effects
- General Condition 5, Conduct Worker Training
- Regional Public Projects Condition 2, Transportation and Other Infrastructure Projects Construction BMPs
- Regional Public Projects Conditions 3, Operation and Maintenance BMPs
- Species Condition 2, California Black Rail
    - California Black Rail 1—Requires preconstruction surveys
    - California Black Rail 2—Requires buffers and exclusion fencing around occupied habitat during construction
    - California Black Rail 3—Restricts habitat clearing where take is allowed to a period outside of the breeding season
    - California Black Rail 4—Requires mitigation for occupied or potential rail habitat to be done in-kind
    - California Black Rail 5—Requires monitoring during construction

These objectives, conservation measures, and conditions establish performance standards for measuring the effectiveness of proposed conservation actions. The conditions are described in Chapter 6 of the Plan.

NEPA Determination: The permanent loss of 105 acres and the temporary disturbance of 41 acres of California black rail habitat associated with Alternative 2, in the absence of other conservation actions, would constitute a potentially significant impact; however, with the proposed protection and restoration set forth by the Plan's goals, objectives, conservation measures, and conditions, the overall effects of Alternative 2 on California black rail in the Plan Area would be less than significant.

CEQA Determination: The permanent loss of 105 acres and the temporary disturbance of 41 acres of California black rail habitat associated with Alternative 2, in the absence of other conservation actions, would constitute a significant impact through the loss of habitat and potential mortality of a special-status species. The natural community restoration and protection together with conservation measures and conditions relevant to the long-term management of habitat for California black rail in the Plan Area support the conclusion that the impacts on California black rail under Alternative 2 would be less than significant. No mitigation has been identified.

Impact BIO-23: Effects on burrowing owl (NEPA: less than significant; CEQA: less than significant)

The CNDDB lists four extant occurrences of burrowing owl in the Plan Area, all in the Valley portion (California Department of Fish and Wildlife 2017).

Covered Activities under Alternative 2, the proposed action, would result in permanent and temporary impacts on burrowing owl. Permanent impacts would not exceed 16,444 acres of habitat (30% in of suitable habitat Plan Area A). These impacts would result primarily from urban/suburban development, rural residential development, transportation projects, and

infrastructure projects. The impacts would occur almost entirely with the Valley portion of Plan Area A, with a smaller amount (200 acres) occurring in Plan Area B.

Temporary impacts on burrowing owl habitat would not exceed 609 acres. These temporary impacts would be associated with urban/suburban development, rural residential development, transportation construction, fuels management, vegetation management, infrastructure operations and maintenance, and infrastructure construction. Implementation of Plan conservation actions may also temporarily affect burrowing owl habitat in locations where grading, vegetation management, or other physical change to the habitat is required.

In addition to habitat losses, Covered Activities have the potential to directly affect individual burrowing owls through injury and mortality. Operation of construction equipment may cause injury to or mortality of burrowing owls. Risk would be greatest to eggs and nestlings susceptible to land-clearing activities through nest abandonment and increased exposure to the elements or to predators. Construction activities could temporarily fragment existing burrowing owl habitat: grading, filling, contouring, and other initial ground-disturbing operations could temporarily reduce the extent and functions supported by the affected habitat.

Burrowing owl nesting behavior in the vicinity of proposed construction areas could be directly affected by construction activities. Construction noise above background noise levels (greater than 50 dBA) could extend 500–5,250 feet from the edge of construction activities. However, no data are available that identify the extent to which these noise levels could affect burrowing owl. Effects associated with construction include noise, dust, and visual disturbance caused by grading, filling, contouring, and other ground-disturbing operations outside the project footprint but within 500 feet of it. Construction and subsequent maintenance-related noise and visual disturbances could mask calls, disrupt foraging and nesting behaviors, and reduce the functions of suitable nesting habitat for this species. The use of mechanical equipment during Covered Activities could cause the accidental release of petroleum or other contaminants that could affect burrowing owls in the surrounding habitat. The inadvertent discharge of sediment or excessive dust adjacent to burrowing owl habitat could also affect the species.

Indirect effects are expected to result from increased vehicular traffic associated with the development of new roadways, causing mortalities; runoff from developed areas that could degrade habitat; habitat fragmentation as a result of urban and rural development and the construction of new roads and other infrastructure; introduction, establishment, and spread of invasive plant and animal species; and increased predation rates, particularly on eggs and young, from domestic pets and invasive wildlife species.

Under Alternative 2, the permanent loss of burrowing owl habitat would be offset by the protection and management of 17,129 acres and restoration of 4,126 acres of burrowing owl habitat.

The Plan establishes the goal of maintaining sufficient habitat to maintain or increase the population size of overwintering western burrowing owls in the Reserve System, and to promote the expansion of a breeding population of burrowing owls into the Reserve System. The protection, restoration, and management of suitable habitat for burrowing owl would be supported by the following objectives, conservation measures, and conditions.

- Objective BUOW-1.1, Protect and Manage Ground Squirrel Colonies
- CM1 BUOW-1, Protection of Ground Squirrel Colonies
- CM1 BUOW-2, Prioritization of Occupied Areas

- CM2 BUOW-1, Installation and Maintenance of Artificial Burrows on the Reserve System.
- General Condition 1, Watershed Hydrology and Water Quality
- General Condition 2, Conservation Lands: Development Interface Design Requirements
- General Condition 4, Temporary Effects
- General Condition 5, Conduct Worker Training
- Regional Public Projects Condition 2, Transportation and Other Infrastructure Projects Construction BMPs
- Regional Public Projects Condition 3, Operation and Maintenance BMPs
- Species Condition 3, Western Burrowing Owl
    - Burrowing Owl 1—Requires preconstruction surveys
    - Burrowing Owl 2—Establishes avoidance buffers during the breeding season
    - Burrowing Owl 3—Establishes non-breeding season avoidance buffers
    - Burrowing Owl 4—Allows for passive exclusion during the non-breeding season
    - Burrowing Owl 5—Requires monitoring during construction

These objectives, conservation measures, and conditions establish performance standards for measuring the effectiveness of proposed conservation actions. The conditions are described in Chapter 6 of the Plan.

NEPA Determination: The permanent loss of 16,444 acres and the temporary disturbance of 609 acres of burrowing owl habitat associated with Alternative 2, in the absence of other conservation actions, would constitute a potentially significant impact; however, with the proposed protection and restoration set forth by the Plan's goals, objectives, conservation measures, and conditions, the overall effects of Alternative 2 on burrowing owl in the Plan Area would be less than significant.

CEQA Determination: The permanent loss of 16,444 acres and the temporary disturbance of 609 acres of burrowing owl habitat associated with Alternative 2, in the absence of other conservation actions, would constitute a significant impact through the loss of habitat and potential mortality of a special-status species. The natural community restoration and protection together with conservation measures and conditions relevant to the long-term management of habitat for burrowing owl in the Plan Area support the conclusion that the impacts on burrowing owl under Alternative 2 would be less than significant. No mitigation has been identified.

Impact BIO-24: Effects on tricolored blackbird (NEPA: less than significant; CEQA: less than significant)

The CNDDB lists 14 extant occurrences of tricolored blackbird in the Plan Area, all but one of which occur in the Valley portion of the Plan Area (California Department of Fish and Wildlife 2017). The occurrence in the Foothills portion is at an elevation just above 300 feet. All the occurrences are either in the RAA or on existing reserves.

Covered Activities under Alternative 2, the proposed action, would result in permanent and temporary impacts on tricolored blackbird. Permanent impacts are estimated at 782 acres of nesting habitat (18% of total habitat in Plan Area A) and 22,268 acres of foraging habitat (21% in Plan Area

A). These impacts would result primarily from urban/suburban development, rural residential development, transportation projects, and infrastructure projects. Most of the impacts on nesting and foraging habitat (77% and 81%, respectively) would be in the Valley portion of the Plan Area.

Temporary impacts on tricolored blackbird habitat are estimated at 103 acres of nesting habitat and 836 acres of foraging habitat. These temporary impacts would be associated with urban/suburban development, rural residential development, transportation construction, fuels management, vegetation management, infrastructure operations and maintenance, and infrastructure construction. Plan conservation actions may also temporarily disturb tricolored blackbird habitat in locations where grading, vegetation management, or other physical change to the habitat is required.

In addition to habitat losses, Covered Activities have the potential to directly affect tricolored blackbirds through injury and mortality. Operation of construction equipment may cause injury to or mortality of tricolored blackbirds. Risk would be greatest to eggs and nestlings susceptible to land-clearing activities through nest abandonment or increased exposure to the elements and to predators. Injury to or mortality of adults and fledged juveniles would not be expected because individuals would be expected to avoid contact with construction equipment. Construction activities could temporarily fragment existing tricolored blackbird habitat: grading, filling, contouring, and other initial ground-disturbing operations could temporarily reduce the extent and functions supported by the affected habitat.

Tricolored blackbird nesting behavior in the vicinity of proposed construction areas could be directly affected by construction activities. Construction noise above background noise levels (greater than 50 dBA) could extend 500–5,250 feet from the edge of construction activities. However, no data are available that identify the extent to which these noise levels could affect tricolored blackbird. Effects associated with construction include noise, dust, and visual disturbance caused by grading, filling, contouring, and other ground-disturbing operations outside the project footprint but within 1,300 feet of it. Construction and subsequent maintenance-related noise and visual disturbances could mask calls, disrupt foraging and nesting behaviors, and reduce the functions of suitable nesting habitat for these species. The use of mechanical equipment during Covered Activities could cause the accidental release of petroleum or other contaminants that could affect tricolored blackbirds in the surrounding habitat. The inadvertent discharge of sediment or excessive dust adjacent to tricolored blackbird habitat could also affect the species.

Indirect effects are expected to result from increased vehicular traffic associated with the development of new roadways, causing mortalities; runoff from developed areas that could degrade habitat; habitat fragmentation as a result of urban and rural development and the construction of new roads and other infrastructure; introduction, establishment, and spread of invasive plant and animal species; and increased predation rates, particularly on eggs and young, from domestic pets and invasive wildlife species.

Under Alternative 2, the permanent loss of tricolored blackbird nesting habitat would be offset by the protection and management of an estimated 906 acres and restoration of 196 acres of suitable tricolored blackbird nesting habitats. The loss of tricolored foraging habitat would be offset by the protection and management of up to 27,308 acres and restoration of 4,000 acres of suitable tricolored blackbird foraging habitats.

The Plan establishes the goal of maintaining habitat for a sustained population of tricolored blackbird in the Plan Area. The protection, restoration, and management of grasslands, vernal pool

complex, fresh emergent marsh, and agricultural lands would be supported by the following objectives, conservation measures, and conditions.

- Objective TRBL-1.1, Protect, Manage, and Enhance Tricolored Blackbird Nesting Habitat
- Objective TRBL-1.2, Protect, Restore, Manage, and Enhance Tricolored Blackbird Foraging Habitat
- Objective TRBL-1.3, Protect Tricolored Blackbird Colony Site
- Objective TRBL-1.4, Protect, Restore, Manage, and Enhance Tricolored Blackbird Foraging Habitat near Colony Sites
- Objective TRBL-1.5, Protect and/or Restore/Create Open Water near Tricolored Blackbird Colony Sites
- Objective TRBL-1.6, Restore Tricolored Blackbird Nesting Habitat.
- CM1 TRBL-1, Reserve Design for Tricolored Blackbird
- CM2 TRBL-1, Maintenance and Enhancement of Nesting Habitat for Tricolored Blackbird
- CM2 TRBL-2, Protection of Himalayan Blackberry Supporting Tricolored Blackbird Nest Colonies
- CM2 TRBL-3, Predator Management Plan
- CM3 TRBL-1, Tricolored Blackbird Habitat Restoration.
- General Condition 1, Watershed Hydrology and Water Quality
- General Condition 2, Conservation Lands: Development Interface Design Requirement
- General Condition 4, Temporary Effects
- General Condition 5, Conduct Worker Training
- Regional Public Projects Condition 2, Transportation and Other Infrastructure Projects Construction BMPs
- Regional Public Projects Conditions 3, Operation and Maintenance BMPs
- Species Condition 4, Tricolored Blackbird
    - Tricolored Blackbird 1—requires preconstruction surveys during the nesting season
    - Tricolored Blackbird 2requires preconstruction survey of foraging habitat within 3 miles of known colony site prior to initiation of Covered Activities.
    - Tricolored Blackbird 3—prohibits activity during the breeding season within a 1,300-foot buffer zone around the nest colony. This buffer may be modified to a minimum of 300 feet, with written approval from the Wildlife Agencies.
    - Tricolored Blackbird 4—prohibits activity during the nesting season if the area within 1,300 feet of a project site was found to be actively used as foraging habitat. This buffer may be modified to a minimum of 300 feet, with written approval from the Wildlife Agencies.
    - Tricolored Blackbird 5—requires a biological monitor to be present on-site to ensure that no Covered Activities occur within the buffer zone established around an active tricolored blackbird nest colony.

- Tricolored Blackbird 6—active foraging habitat that occurs within the no-disturbance buffer shall be monitored by the qualified biologist(s) to verify that the Covered Activity is not disrupting tricolored blackbird foraging behavior.

These objectives, conservation measures, and conditions establish performance standards for measuring the effectiveness of proposed conservation actions. The conditions are described in Chapter 6 of the Plan.

NEPA Determination: The permanent loss of 782 acres of nesting habitat and 22,268 acres of foraging habitat and the temporary disturbance of 103 acres of nesting habitat and 836 acres of foraging habitat associated with Alternative 2, in the absence of other conservation actions, would constitute a potentially significant impact; however, with the proposed protection and restoration set forth by the Plan's goals, objectives, conservation measures, and conditions, the overall effects of Alternative 2 on tricolored blackbird in the Plan Area would be less than significant.

CEQA Determination: The permanent loss of 782 acres of nesting habitat and 22,268 acres of foraging habitat and the temporary disturbance of 103 acres of nesting habitat and 836 acres of foraging habitat associated with Alternative 2, in the absence of other conservation actions, would constitute a significant impact through the loss of habitat and potential mortality of a special-status species. The natural community restoration and protection together with conservation measures and conditions relevant to the long-term management of habitat for tricolored blackbird in the Plan Area support the conclusion that the impacts on tricolored blackbird under Alternative 2 would be less than significant. No mitigation has been identified.

Impact BIO-25: Effects on non-covered bats (NEPA: less than significant with mitigation; CEQA: less than significant with mitigation)

The CNDDB lists three occurrences of Townsend's big-eared bat and one occurrence of pallid bat, in the Plan Area (California Department of Fish and Wildlife 2017). At least 11 special-status bats are known to or could occur in the Plan Area (Townsend's big-eared bat, pallid bat, spotted bat, silver-haired bat, western red bat, hoary bat, fringed myotis, Yuma myotis, long-eared myotis, long-legged myotis, and small-footed myotis). These bat species employ varied roost strategies, from solitary roosting in tree foliage to colonial roosting in trees, caves, mines, and artificial structures such as tunnels, buildings, and bridges. Various roost strategies also include night roosts, maternity roosts, migration stopover, and hibernation. The natural community/land cover types considered for the assessment of effects on bat roosting habitat comprise oak woodland and valley oak woodland (all types) and riverine/riparian. Because roosting habitat is by its nature the limiting factor for habitats' ability to support bat populations, impacts on foraging habitat were not considered for the purposes of this analysis, although foraging habitat would benefit from the conservation actions proposed under the conservation strategy.

Covered Activities under Alternative 2, the proposed action, would result in permanent and temporary impacts on roosting habitat for special-status bat species. Permanent impacts would result in the loss of up to 6,725 acres of tree-roosting habitat (12% of suitable habitat in the Plan Area): 375 acres of riparian woodland, 140 acres of valley oak woodland, and 6,210 acres of oak woodland. In addition, bridge replacement and improvements could affect bats that utilize bridge weep holes and crevices for roosting. An unknown number of roost sites in artificial structures, orchards, and urban landscaping could also be affected.

Covered Activities would temporarily affect up to 320 acres of roosting habitat in the Plan Area. These temporary impacts would be associated with urban/suburban development, rural residential development, transportation construction, fuels management, vegetation management, infrastructure operations and maintenance, and infrastructure construction. Plan conservation actions that could temporarily affect special-status bats include grading and contouring to restore, create, and enhance riparian woodland and oak woodlands in reserves.

Permanent development within 500 feet of bat roosting habitat could cause alterations in behavior through visual and noise disturbances associated with both construction and normal ongoing human activities if bats are present. Recurring, periodic maintenance activities may indirectly (through noise and visual disturbance) affect roosting bats; activities such as vegetation management and bridge maintenance could result in harm or mortality to young and adults, as well as reduced reproductive success.

Under Alternative 2, the permanent and temporary loss of bat roosting habitat would be offset by the protection of 11,710 acres and restoration of 1,616 acres of covered species habitat that also support roosting habitat for special-status bats. In addition, the conservation strategy would protect and restore up to 47,300 acres of natural communities that provide foraging habitat (grassland, vernal pool complex, aquatic/wetland complex, riverine/riparian complex, oak woodland, valley oak woodland, agriculture) for special-status bats. The protection, restoration, and management of natural communities that provide roosting habitat for special-status bats would be supported by the following objectives, conservation measures, and conditions.

- CM1, Establish Reserve System
- CM1 L-3, Connectivity and Conservation within the Region
- CM1 L-4, Connectivity within the Plan Area
- CM1 NC-1, Siting restoration
- CM1 VPCG-1, Verna Pool Complex Protection
- CM1 VPCG-2, Reserve Design for Vernal Pool Restoration/Creation
- CM1 VPCG-3, Grassland Protection
- CM1 AW-1, Aquatic/Wetlands Complex Protection
- CM1 RAR-1, Riverine and Riparian Protection
- CM1 OW-1, Oak Woodland Protection
- CM1 OW-2, Siting Oak Woodlands Restoration
- CM1 AO-1, Ag Land and other Open Space Protection
- CM2, Manage and Enhance the Reserve System
- CM2 L-4, Maintenance and Enhancement of Reserve System Permeability
- CM2 RAR-1, Riparian Vegetation Management
- CM2 OW-1, Oak Woodland Vegetation Enhancement and Management
- CM2 AO-1, Provision of Patches of native Vegetation in Rice Lands.
- CM3, Restore and Create Natural Communities and Covered Species' Habitat

- CM3 VPCG-1, Vernal Pool Complex Restoration/Creation
- CM3 VPCG-2, Grasslands Restoration
- CM3 AW-1, Aquatic/Wetlands Complex Restoration/Creation
- CM3 RAR-1, Riparian Natural Community Restoration
- CM3 OW-1, Oak Woodland Restoration,
- General Condition 1, Watershed Hydrology and Water Quality
- General Condition 2, Conservation Lands: Development Interface Design Requirements
- General Condition 4, Temporary Effects
- General Condition 5, Conduct Worker Training
- Community Condition 1, Wetland Avoidance and Minimization (Vernal Pool and Aquatic/Wetland Complex)
- Community Condition 2, Riverine and Riparian Avoidance and Minimization
- Community Condition 3, Valley Oak Woodland
- Stream System Condition 1, Stream System Avoidance
- Stream System Condition 2, Stream System Mitigation: Restoration
- Regional Public Projects Condition 1, Transportation and Other Infrastructure Projects Design Requirements
- Regional Public Projects Condition 2, Transportation and Other Infrastructure Projects Construction BMPs
- Regional Public Projects Condition 3, Operations and Maintenance BMPs

Although they do not apply to non-covered special-status wildlife species, these conservation measures and conditions establish performance standards for measuring the effectiveness of proposed conservation actions. In addition, Covered Activities, which include urban/suburban development, transportation projects, and infrastructure projects, under Alternative 2 that affect occurrences and habitat of non-covered special-status wildlife would be mitigated on a project-by-project basis for discretionary projects. Ancillary benefits are also expected to occur for these wildlife species as a result of the Plan, because it would establish a comprehensive reserve management program that would enhance habitat conditions in a variety of natural communities that may support non-covered special-status wildlife. Any potential effects on these species from fuels management, vegetation management, and infrastructure operations and maintenance, though not likely subject to additional environmental review, would be offset because the entities implementing these projects would be participating in the Plan and contributing funds for the implementation of the conservation strategy. The implementation of conservation measures to create, restore, enhance, and manage riparian woodland, valley oak woodland, and oak woodland habitat, which may affect roosting bats, may not be subject to further approvals or review that may identify effects on roosting bats.

NEPA Determination: The permanent loss of 6,725 acres and temporary disturbance of 320 acres of potential roosting habitat for special-status bats associated with Alternative 2, in the absence of other conservation actions, would constitute a potentially significant impact; however, with the

proposed protection and restoration set forth by the Plan's goals, objectives, conservation measures, and conditions would ensure that habitat loss from Covered Activities, which include urban/suburban development, transportation projects, infrastructure projects, fuels management, vegetation management, and infrastructure operations and maintenance, would be compensated for and preserved habitat would be managed in perpetuity and thus the effects would be reduced to a less-than-significant level.

Conservation measures to create, restore, enhance, and manage riparian, valley oak woodland, and oak woodland habitat could affect roosting bats if these actions result in the trimming, removal, or disturbance of tree roosting habitat and if there are no opportunities to identify and avoid roosting bat habitat through subsequent NEPA review; therefore, these activities could have adverse impacts on special-status bats. Implementation of Mitigation Measure BIO-3 would reduce this effect to a less-than-significant level.

CEQA Determination: The permanent loss of 6,725 acres and temporary disturbance of 320 acres of potential roosting habitat for special-status bats associated with Alternative 2, in the absence of other conservation actions, would constitute a significant impact through habitat modification and potential direct mortality of a special-status species. The natural community restoration and protection activities are expected to be concluded close enough to the timing of construction impacts to constitute mitigation for CEQA purposes. The proposed protection and restoration set forth by the Plan's goals, objectives, conservation measures, and conditions would ensure that habitat loss from Covered Activities, which include urban/suburban development, transportation projects, infrastructure projects, fuels management, vegetation management, and infrastructure operations and maintenance, would be compensated for and preserved habitat would be managed in perpetuity and thus the effects would be reduced to a less-than-significant level.

Conservation measures to create, restore, enhance, and manage riparian, valley oak woodland, and oak woodland habitat could affect roosting bats if these actions result in the trimming, removal, or disturbance of tree roosting habitat and if there are no opportunities to identify and avoid roosting bat habitat through subsequent CEQA review; therefore, these activities could have adverse impacts on special-status bats. Implementation of Mitigation Measure BIO-3 would reduce this effect to a less-than-significant level.

Mitigation Measure BIO-3: Conduct preconstruction surveys for roosting bats and implement protective measures

This measure was designed to avoid and minimize adverse direct and indirect effects on special-status bats. However, baseline data regarding how bats use the Plan Area, individual numbers of bats, and how populations vary seasonally are not available. Consequently, it is difficult to quantify the reduction in species numbers. Bat species with potential to occur in the Plan Area employ varied roost strategies, from solitary roosting in tree foliage to colonial roosting in trees and artificial structures such as buildings and bridges. Daily and seasonal variations in habitat use are common. To achieve the highest likelihood of detection, PCA will assess the potential for bat roosting habitat in restoration or enhancement areas and conduct pre-activity bat surveys for those conservation actions that have a potential to directly affect bat roosting habitat, such as those actions that require the trimming or removal of trees and the removal or modification of bridges and structures. The assessment and surveys will include the components listed below.

- Identification of potential roosting habitat within project footprint.

- Daytime search for bats and bat sign in and around identified habitat.
- Evening emergence surveys at potential day-roost sites, using night-vision goggles and/or active full-spectrum acoustic monitoring where species identification is sought.
- Passive full-spectrum acoustic monitoring and analysis to detect bat use of the area from dusk to dawn over multiple nights.
- Additional onsite night surveys as needed following passive acoustic detection of special-status bats to determine nature of bat use of the structure in question (e.g., use of structure as night roost between foraging bouts).
- Qualified biologists will have knowledge of the natural history of the species that could occur in the study area and experience using full-spectrum acoustic equipment. During surveys, biologists will avoid unnecessary disturbance of occupied roosts.

Preconstruction Surveys of Bridges and Other Structure (if Plan Conservation Actions involve Bridge/Structure Modifications)

For any conservation actions that entail bridge or structure modifications, such as demolition of derelict buildings, before such work begins, qualified biologists will conduct a daytime search for bat sign and evening emergence surveys to determine if the bridge or structure is being used as a roost. Biologists conducting daytime surveys will listen for audible bat calls and use naked eye, binoculars, and a high-powered spotlight to inspect expansion joints, weep holes, and other features that could house bats. Bridge surfaces and the ground around the bridge or structure will be surveyed for bat sign, such as guano, staining, and prey remains.

Evening emergence surveys will consist of at least one biologist stationed on each side of the bridge or structure watching for emerging bats from one-half hour before sunset to 1–2 hours after sunset for a minimum of two nights in the season during which construction would take place. Night-vision goggles and/or full-spectrum acoustic detectors will be used during emergence surveys to assist in species identification. All emergence surveys will be conducted during favorable weather conditions (calm nights with temperatures conducive to bat activity and no predicted precipitation).

Additionally, passive monitoring with full-spectrum bat detectors will be used to assist in identifying species that are present. A minimum of four nights of acoustic monitoring surveys will be conducted in the season during which the construction would take place. If site security allows, detectors should be set to record bat calls for the duration of each night. To the extent possible, all monitoring will be conducted during favorable weather conditions (calm nights with temperatures conducive to bat activity and no predicted precipitation). The biologists will analyze the bat call data using appropriate software and prepare a report with the results of the surveys. If acoustic data suggest that bats may be using the bridge or structure as a night roost, biologists will conduct a night survey from 1–2 hours past sunset up to 6 hours past sunset to determine if the bridge is serving as a colonial night roost.

If suitable roost structures would be removed, additional surveys may be required to determine how the structure is used by bats: i.e., whether for night roosting, maternity roosting, migration stopover, or hibernation.

Preconstruction Tree Surveys

If tree removal or trimming is necessary under conservation actions, qualified biologists will examine trees to be removed or trimmed for suitable bat roosting habitat. High-value habitat features (e.g., large tree cavities, basal hollows, loose or peeling bark, larger snags, palm trees with intact thatch) will be identified and the area around these features searched for bats and bat sign (e.g., guano, culled insect parts, staining). Riparian woodland, orchards, and stands of mature broadleaf trees should be considered potential habitat for solitary foliage-roosting bat species.

If bat sign is detected, biologists will conduct evening visual emergence survey of the source habitat feature, from one-half hour before sunset to 1–2 hours after sunset for a minimum of two nights in the season within which construction would take place. Methodology should follow that described above for the bridge emergence survey.

Additionally, if suitable tree roosting habitat is present, acoustic monitoring with a bat detector will be conducted to assist in identifying species that are present. These surveys will be conducted in coordination with the acoustic monitoring conducted for the bridge or structure surveys.

Protective Measures for Bats using Bridges, Structures, or Trees

Avoidance and minimization measures will be necessary if it is determined that bats are using the bridge, structure, or trees as roost sites or if special-status bat species are detected during acoustic monitoring. PCA will determine appropriate measures in consultation with CDFW; such measures will include, as applicable, those listed below.

- Bats will be protected from noise, vibrations, and light that result from construction activities associated with water conveyance facilities, conservation components, and ongoing habitat enhancement, as well as operations and maintenance of aboveground water conveyance facilities, including the transmission facilities. This protection will be accomplished either by directing noise barriers and lights inward from the disturbance or by ensuring that the disturbances do not extend more than 300 feet from the point source.
- Disturbance of bridges or structures will be avoided between March 1 and October 31 (the maternity period) to avoid impacts on reproductively active females and dependent young.
- Exclusion devices will be installed from March 1 through October 31 to preclude bats from occupying the bridge during construction. Exclusionary devices will only be installed by or under the supervision of an experienced bat biologist.
- Tree removal will be avoided between April 15 and September 15 (the maternity period for bat species that use trees) to avoid impacts on pregnant females and active maternity roosts (colonial or solitary).
- Tree removal will be conducted between September 15 and October 31 to the maximum extent feasible—the period when bats are not likely to have entered winter hibernation and would not be caring for flightless young. If weather conditions remain conducive to regular bat activity beyond October 31, later tree removal may be considered in consultation with CDFW.
- Trees will be removed in pieces, rather than felling the entire tree.

- If a maternity roost is located, whether solitary or colonial, that roost will remain undisturbed with a buffer as determined in consultation with CDFW until September 15 or until a qualified biologist has determined the roost is no longer active.
- If a non-maternity roost is found, that roost will be avoided to the maximum extent feasible and an appropriate buffer established in consultation with CDFW. Every effort will be made to avoid the roost to the maximum extent feasible, as methods to evict bats from trees are largely untested. However, if the roost cannot be avoided, eviction will be attempted and procedures designed in consultation with CDFW to reduce the likelihood of mortality of evicted bats. In all cases, the following restrictions will apply.
    - Eviction will not occur before September 15 and will match the timeframe for tree removal approved by CDFW.
    - Qualified biologists will carry out or oversee the eviction tasks and monitor the tree trimming or removal.
    - Eviction will take place late in the day or in the evening to reduce the likelihood of evicted bats falling prey to diurnal predators.
    - Eviction will take place during weather and temperature conditions conducive to bat activity.
    - Special-status bat roosts will not be disturbed.

    Eviction procedures will include the following characteristics.

    - Pre-eviction surveys will be conducted to obtain data to inform the eviction approach and subsequent mitigation requirements. Relevant data may include the species, sex, reproductive status, and number of bats using the roost, as well as roost conditions such as temperature and dimensions. Surveys may include visual emergence, night vision, acoustic, and capture techniques.
    - Structural changes may be made to the roost if they can be undertaken without harming bats, such that the conditions in the roost are undesirable to roosting bats and the bats leave on their own (e.g., open additional portals to change temperature, wind, light, and precipitation regime in the roost).
    - Noninjurious harassment, such as ultrasound deterrents or other sensory irritants, can be carried out at the roost site to encourage bats to leave on their own.
- Prior to removal or trimming, after other eviction efforts have been attempted, any confirmed roost tree will be shaken, repeatedly struck with a heavy implement such as an axe, and several minutes allowed to elapse before felling the tree or trimming limbs to allow bats time to arouse and leave the tree. The biologists should search downed vegetation for dead and injured bats. The presence of dead or injured bats will be reported to CDFW.

Compensatory mitigation for the loss of non–tree-roosting habitat (e.g., bridge and structure habitat) will be determined through consultation with CDFW and may include the construction and installation of suitable replacement habitat onsite. The conservation measures for riparian and oak woodland in the Plan would sufficiently mitigate any losses of tree-roosting habitat.

Impact BIO-26: Effects on American badger, a non-covered species (NEPA: less than significant with mitigation; CEQA: less than significant with mitigation)

There are no CNDDB records of American badger, in the Plan Area (California Department of Fish and Wildlife 2017).

Covered Activities under Alternative 2, the proposed action, would result in permanent and temporary impacts on American badger habitat. Permanent impacts would result in the loss of up to 6,900 acres of grasslands (20% of this community in Plan Area A) that are potential habitat for American badger. Most potential habitat is located in Plan Area A and would be lost primarily as a result of urban/suburban development, rural residential development, transportation projects, and infrastructure projects. These effects likely overestimate the extent of effects on habitat suitable for American badger because soils in the Valley portion of the Plan Area are less suitable because of the presence of dense clay soils, which are less likely to be used by badgers.

Covered Activities would temporarily affect up to 235 acres of American badger habitat in the Plan Area. These temporary impacts would be associated with urban/suburban development, rural residential development, transportation construction, fuels management, vegetation management, infrastructure operations and maintenance, and infrastructure construction. Plan conservation actions that could temporarily affect American badger habitat include grading and contouring to restore, create, and enhance grasslands in reserves.

Permanent development within 500 feet of American badger habitat could cause alterations in behavior through visual and noise disturbances associated with both construction and normal ongoing activities. Recurring maintenance activities, such as transportation facility maintenance, utility service facilities maintenance, and vegetation management, may periodically affect American badger both directly and indirectly. Additional indirect effects are expected to result from increased vehicular traffic and the development of new roadways, causing mortalities; habitat fragmentation as a result of urban and rural development and the construction of new roads and other infrastructure; and the introduction, establishment, and spread of invasive plant and animal species.

Under Alternative 2, the permanent and temporary loss of American badger habitat would be partially offset by protection of 2,740 acres and restoration of 1,000 acres of grassland that could provide potential habitat for the species.

The protection, restoration, and management of natural communities that provide roosting habitat for special-status bats would be supported by the following objectives, conservation measures, and conditions.

- CM1, Establish Reserve System
- CM1-L-3, Connectivity and Conservation within the Region
- CM1 L-4, Connectivity within the Plan Area
- CM1 NC-1, Siting restoration
- CM1 VPCG-3, Grassland Protection
- CM2, Manage and Enhance the Reserve System
- CM2 L-4, Maintenance and Enhancement of Reserve System Permeability
- CM3, Restore and Create Natural Communities and Covered Species' Habitat

- CM3 VPCG-2, Grasslands Restoration
- General Condition 2, Conservation Lands: Development Interface Design Requirements
- General Condition 4, Temporary Effects
- General Condition 5, Conduct Worker Training
- Regional Public Projects Condition 1, Transportation and Other Infrastructure Projects Design Requirements
- Regional Public Projects Condition 2, Transportation and Other Infrastructure Projects Construction BMPs
- Regional Public Projects Condition 3, Operations and Maintenance BMPs

Although they do not apply to non-covered special-status wildlife species, these objectives, conservation measures, and conditions establish performance standards for measuring the effectiveness of proposed conservation actions. In addition, Covered Activities under Alternative 2 that affect habitat of non-covered special-status wildlife would be mitigated on a project-by-project basis for discretionary projects. Ancillary benefits for these wildlife species are also anticipated to result from Plan implementation, because it would establish a comprehensive reserve management program that would enhance habitat conditions in a variety of natural communities that may support non-covered special-status wildlife. Mitigation for impacts from projects that are not subject to discretionary review, including implementation of conservation measures to create and restore grassland habitat, is unlikely.

NEPA Determination: The permanent loss of 6,900 acres and temporary disturbance of 235 acres of grassland habitat suitable to support American badger associated with Alternative 2, in the absence of other conservation actions, would constitute a potentially significant impact. However, with the protection and restoration guided by the Plan's goals, objectives, conservation measures, and conditions and the implementation of Mitigation Measure BIO-4, the overall effects of Alternative 2 on American badger would be less than significant.

CEQA Determination: The permanent loss of 6,900 acres and temporary disturbance of 235 acres of grassland habitat suitable to support American badger associated with Alternative 2, in the absence of other conservation actions, would constitute a significant impact through habitat modification and potential direct mortality of a special-status species. The natural community restoration and protection activities are expected to be concluded close enough to the timing of construction impacts to constitute mitigation for CEQA purposes. The proposed protection and restoration set forth by the Plan's goals, objectives, conservation measures, and conditions and implementation of Mitigation Measure BIO-4 would reduce permanent and temporary loss of American badger habitat and the potential mortality of the species to a less-than-significant level.

Mitigation Measure BIO-4: Conduct preconstruction survey for American badger

PCA will retain a qualified biologist to conduct surveys for American badger concurrently with the preconstruction survey for burrowing owl where conservation actions are to occur. If badgers are detected, the biologist will passively relocate badgers out of the work area prior to construction, if feasible. If an active den is detected within the work area, PCA will establish a suitable buffer distance and avoid the den until the qualified biologist determines the den is no longer active. Dens that are determined to be inactive by the qualified biologist will be collapsed by hand to prevent occupation of the den between the time of the survey and construction

activities. In addition, ground disturbance in project-related conservation areas within 50 feet of active American badger dens will be prohibited. No dogs will be allowed on conservation areas with active American badger populations. Rodent control will be prohibited in areas with American badger populations to ensure rodent prey availability. Mitigation Measure BIO-4 is applicable to all ground-disturbing activities related to conservation actions.

Other Biological Resources

Impact BIO-27: Effects on protected wetlands and waters (NEPA: less than significant; CEQA: less than significant)

Covered Activities under Alternative 2, the proposed action, would result in permanent and temporary impacts on wetlands and waters protected under state and federal laws and regulations. Alternative 2 would result in approximately 1,330 acres of permanent impacts on constituent habitats (i.e., vernal pool, vernal pool–type wetland, fresh emergent marsh, lacustrine, non–vernal pool seasonal wetland, riparian, and riverine) that could contain or be considered protected wetlands and waters. These wetlands and some of these waters may be considered special aquatic sites, as defined under Section 404, Subpart E of the Clean Water Act. In the Plan Area, these special aquatic sites include wetlands; riffle/pool complexes, which can be found in both intermittent and perennial streams; and vegetated shallows, which may occur on the edge of some of the perennial streams within the Plan Area. Some agricultural lands and water conveyance facilities (e.g., rice lands, canals, ditches) may also be considered protected wetlands and waters that could be affected under Alternative 2. The acreage of wetlands that may occur agricultural lands in the Plan Area is not known at this time due to ongoing irrigation practices. Exact acreages of impacts would be determined based on project-level wetland delineations as necessary. For agricultural areas, determining the acres of wetlands in these areas may include the ceasing of irrigation long enough for its influence on vegetation to subside. These impacts would result primarily from urban/suburban development, rural residential development, transportation projects, infrastructure operations and maintenance, and infrastructure projects. Effects on wetlands and waters would occur primarily in the Valley portion of the Plan Area.

Temporary impacts on protected wetlands and waters mapped as constituent habitats would not exceed 300 acres. These temporary impacts would be associated with urban/suburban development, rural residential development, transportation construction, fuels management, vegetation management, infrastructure operations and maintenance, and infrastructure construction. Implementation of Plan conservation actions under Alternative 4 may also temporarily affect protected wetlands and waters in locations where grading, vegetation management, or other physical change is required.

Permanent impacts on protected wetlands and waters under Alternative 2 would be offset through a watershed-based approach as described in the *Western Placer County Aquatic Resources Program* (CARP; Appendix B). Both the HCP/ NCCP and CARP require compensatory mitigation for impacts on wetlands to be implemented at 1.5:1 and for riverine habitat at 1.52:1 through payment into an in-lieu fee (ILF) program or purchase of mitigation credits at an agency-approved mitigation bank. Most of this mitigation would be achieved through the enhancement (rehabilitation) of wetlands and waters, and creation (establishment)/restoration (reestablishment) of 2,715 acres of constituent habitats that would be considered protected wetlands and waters as described in the Plan, except for a portion of the 1,250 acres of riparian habitat that would be restored, which may not be classified as a wetland. The preservation and establishment/reestablishment of wetlands and

waters would be guided by the same objectives and conservation measures described above for vernal pool complex, aquatic/wetland complex, and riverine/riparian complex. Overall, the proposed wetland mitigation in the CARP would maintain or improve the functions and services of wetlands, including special aquatic sites, within the Plan Area.

Temporarily affected wetlands and waters would be restored through implementation of General Condition 4, Temporary Effects, which requires that temporarily affected areas be restored to pre-project conditions or better based on performance standards such as percent vegetative cover, restored topography, and restored hydrology.

The Plan includes several objectives and conservation measures to ensure that there would be no net loss of functions and services within the Plan Area as listed in Table 4.1 of the CARP. These objectives and measures would ensure that preserved, enhanced, and established/re-established wetlands and waters maintain or improve the physical, chemical, and biological processes of wetlands in these landscapes, including nutrient cycling, vegetation structure, plant and animal diversity, habitat for rare species, and habitat linkages/corridors. The services that these wetlands provide would include such benefits as flood control, groundwater recharge, and maintenance of water quality in receiving waters.

Potential effects on protected wetlands and waters during construction and operations and maintenance will be avoided and minimized through implementation of General Condition 1, Community Conditions 1.3 and 1.5, and Regional Public Project Conditions 2 and 3. These conditions are described in Chapter 6 of the Plan. The CARP provides additional specific avoidance and minimization measures, summarized in Table 4.2 of that document.

These objectives, conservation measures, and conditions establish performance standards for measuring the effectiveness of proposed conservation actions. The acres of protection and restoration and the commitment to ratios established in the CARP satisfy the typical mitigation that would be applied to the project-level effects, as well as mitigating the effects of the other conservation measures. The proposed conditions further demonstrate the intent to avoid and minimize effects and to maintain or improve wetland and water functions and services over the life of the Plan.

NEPA Determination: The permanent loss of approximately 1,330 acres and temporary disturbance of 300 acres of constituent habitats that could contain or be considered protected wetlands and waters associated with Alternative 2, in the absence of other conservation actions, would constitute a potentially significant impact. The effects would be offset by the Plan's commitment to mitigate at 1.5:1 for wetlands and 1.52:1 for riverine. As described in Table 4.1 of the CARP, the proposed mitigation would maintain or improve the functions and services of wetlands, including special aquatic sites, within the Plan Area. These objectives and measures would ensure that preserved, enhanced, and established/re-established wetlands and waters maintain or improve the physical, chemical, and biological processes of wetlands in these landscapes, including nutrient cycling, vegetation structure, plant and animal diversity, habitat for rare species, and habitat linkages/corridors. The services that these wetlands provide would include such benefits as flood control, groundwater recharge, and maintenance of water quality in receiving waters. General Condition 4 would ensure that temporarily affected wetlands and waters are restored to pre-project conditions or better based on performance standards. As described in Chapter 6 of the Plan, potential effects on wetlands and waters during construction would be avoided and minimized through the implementation of General Condition1; Community Conditions 1.3 and 1.5; and

Regional Public Project Conditions 2 and 3. Table 4.2 of the CARP includes additional avoidance and minimization measures for wetlands and waters. Considering these proposed conservation actions set forth by the Plan's goals, objectives, conservation measures, and conditions, the overall effects of Alternative 2 on wetlands and waters in the Plan Area would be less than significant.

CEQA Determination: The permanent loss of approximately 1,330 acres and temporary disturbance of 300 acres of constituent habitats that could contain or be considered protected wetlands and waters associated with Alternative 2, in the absence of other conservation actions, would constitute a significant impact through loss of protected wetlands and waters in the Plan Area. The natural community creation, enhancement, restoration, and protection activities and mitigation commitments under the CARP, which includes a commitment to mitigate at a 1.5:1 for wetlands and 1.52:1 for riverine, are more than sufficient to support the conclusion that the impacts on protected wetlands and waters under Alternative 2 would be less than significant. No mitigation has been identified.

Impact BIO-28: Effects on fish and wildlife corridors (NEPA: less than significant; CEQA: less than significant)

Figure 4.3-1 shows the Potential Future Growth Area (PFG) under the Plan relative to Essential Connectivity Areas (ECAs) mapped as part of the California Essential Habitat Connectivity Project. As seen in this figure, the Valley PFG area overlaps with portions of the Curry Creek–Coon Creek ECA and the Coon Creek–Bear River ECA. Several existing reserves fall within the Curry Creek–Coon Creek ECA, which runs north–south and is dominated by vernal pool complex, annual grassland, and rice lands. The Valley PFG bisects this ECA in two areas: one is north of Nicolaus Road and west of State Route (SR) 65 and if built out entirely would result in a 0.75-mile separation between an existing vernal pool reserve to the north and vernal pool complex to the south. The other area is north of Sunset Boulevard and west of Fiddyment Road and if fully developed would create a 3-mile separation between vernal complex and grasslands north and south of this area. Buildout of this portion of the ECA could isolate natural lands to the south in Roseville and to the southeast in the Plan Area.

A limited amount of additional rural residential development could take place along the southern edge of the Coon Creek–Bear River ECA, in the portion of the PFG around Sheridan, and in the area south of Camp Far West Reservoir; however, large areas of the ECA would be within the RAA and would be available for conservation efforts. Connectivity of similar habitat types within this ECA would remain intact if the PFG were fully developed. This ECA is dominated by vernal pool complex and grasslands in the west and south and oak woodland to the east and north. The ECA would largely support wildlife movement both within and to areas outside the Plan Area.

The southeastern edge of the Foothill PFG overlaps the western edge of the Marble Valley–Sawtooth Ride ECA in an area between Auburn Folsom Road on the west and Folsom Lake and the North Fork American River on the east. Most of the land cover in this area, dominated by oak woodland, is already protected as part of the Folsom Lake State Recreation Area and thus will likely remain suitable for wildlife movement.

The Plan includes several objectives and conservation measures to maintain and improve connectivity for the movement of covered species and other wildlife through the Plan Area. These measures include landscape-level objectives (Objectives L-1.1, L-2.1, L-2.2, L-2.3, and L-2.4) for establishing a large interconnected Reserve System that allows native and covered species to move within and outside of the Plan Area. These objectives would be met by most of the conservation

measures that address natural community protection and restoration but in particular by CM1 L-3, Connectivity and Conservation within the Region; CM1 L-4, Connectivity within the Plan Area; CM2 L-4, Maintenance and Enhancement of Reserve System Permeability; and CM2 RAR-2, Removal and/or Modification of Barriers to Fish Passage. Wildlife dispersal and corridors would also be addressed at the project level through Regional Public Projects Condition 1, which includes conditions for transportation projects to minimize the creation of barriers to wildlife dispersal.

NEPA Determination: Alternative 2 would result in the isolation of some natural habitats that are currently linked with similar habitats in the western half of the Plan Area; such isolation would constitute a potentially adverse effect on wildlife corridors. However, with implementation of the objectives, conservation measures, and conditions established in the Plan and the CARP, the movement of fish and wildlife within and to areas outside the Plan Area would generally be improved over the life of the Plan. Consequently, the impact on wildlife corridors would be less than significant.

CEQA Determination: Alternative 2 would result in the isolation of some natural habitats that are currently linked with similar habitats in the western half of the Plan Area; such isolation would constitute a significant impact. However, with implementation of the objectives, conservation measures, and conditions under the established in the Plan and the CARP, the movement of fish and wildlife within and to areas outside the Plan Area would generally be improved over the life of the Plan. Consequently, the impact on wildlife corridors would be less than significant. No mitigation has been identified.

Impact BIO-29: Effects of invasive plant species (NEPA: less than significant; CEQA: less than significant)

Covered Activities under Alternative 2, the proposed action, could have adverse effects on natural communities, wildlife, and native plants as a result of the introduction and spread of invasive plant species through development, operations, maintenance, and some conservation activities throughout the Plan Area. Invasive plant species threaten the diversity or abundance of native plant species through competition for resources, predation, parasitism, hybridization with native populations, introduction of pathogens, and physical or chemical alteration of the invaded habitat. Unlike the native plants they displace, many invasive plant species do not provide the food, shelter, or other habitat components on which many native fish and wildlife species depend. Invasive species also have the potential to harm human health and the economy by adversely affecting natural ecosystems, water delivery, flood protection systems, recreation, agricultural lands, and developed areas.

The Plan addresses the potential effects of invasive plant species through implementation of CM2 L-1, Vegetation Management and Invasive Plant Control; CM2 VPCG-1, Vernal Pool Complex and Grassland Vegetation Management; CM3 VPCG-2, Grassland Restoration; CM2 AW-1, Aquatic/Wetlands Complex Vegetation Control; CM2 RAR-1, Riparian Vegetation Management; CM2 OW-1, Oak Woodland Vegetation Enhancement and Management, and CM2 OW-2, Control of Invasive Animals that Limit Oak Regeneration, all of which include measures to identify, remove, or manage invasive plant species.

The introduction of invasive plant species would be further avoided and minimized through General Condition 1, which includes specifications for the use of native seed mixtures for erosion control; General Condition 2, which requires the use of non-invasive plants in landscaping adjacent to reserve properties; Community Condition 2.1, which includes a requirement to handle and dispose

of removed invasive plants to prevent further spread; and Regional Public Projects Condition 2, which includes post-construction BMPs to help avoid and minimize the introduction of invasive plants.

NEPA Determination: Alternative 2 has the potential to result in the introduction and spread of invasive plant species; however, implementation of the Plan's objectives, conservation measures, and conditions would ensure that this effect is less than significant.

CEQA Determination: Alternative 2 has the potential to result in the introduction and spread of invasive plant species; however, implementation of the Plan's objectives, conservation measures, and conditions would reduce this impact to a less-than-significant. No mitigation has been identified.

Alternative 3—Reduced Take/Reduced Fill

Alternative 3 would result in reduced take of species and reduced fill of wetlands in the Plan Area. As shown in Table 2-17 in Chapter 2, *Proposed Action and Alternatives*, of the EIS/EIR, land conversion in the valley would be 5% less than that under Alternative 2. The impact acreages for natural communities and covered species were provided to ICF by Placer County. The effects on natural communities, covered species, and streams and salmonid habitat under Alternative 3 are presented in Tables H-6, H-7, and H-8 in Appendix H, respectively. The conservation acreages are presented in Tables H-9 and H-10 in Appendix H.

Natural Communities

Impact BIO-1: Effects on vernal pool complex (NEPA: less than significant; CEQA: less than significant)

Covered Activities under Alternative 3, Reduced Take/Reduced Fill, would result in permanent and temporary impacts on vernal pool complex. Permanent impacts on vernal pool complex totaling 11,300 acres would result primarily from urban/suburban development, rural residential development, transportation projects, and infrastructure projects. These losses would occur primarily in the Valley portion of Plan Area A, with small losses occurring in the Foothill portion (100 acres) and Plan Area B (50 acres).

Existing vernal pool complexes could be permanently altered by the restoration/creation of a portion of the 810 acres of vernal pool–type wetlands in these complexes through implementation of the conservation strategy. As described in CM3 VPCG-1, the Plan would allow vernal pool–type wetlands to be created/restored in up to 6,000 acres of existing vernal pool complex that can accommodate additional wetlands, typically in existing low- and medium-density vernal pool complexes (i.e., with less than 5% density of existing vernal pool-type wetlands), as well as in grasslands without existing vernal pools and agricultural lands (e.g., field crops and rice lands). According to CM1 VPCG-1 and CM2 VPCG-2, some of this restoration and enhancement may also be undertaken in existing vernal pool–type wetlands to improve degraded conditions. If vernal pool restoration/creation is to be implemented in existing vernal pool complexes, these activities could affect upland resources and the hydrologic balance of the existing pools in these complexes.

To address these concerns, the Plan includes the following language in CM1 VPCG-2.

- Any sites identified for restoration/creation will not affect any vernal pools onsite.

- Sufficient land is available for protection to provide the necessary vernal pool complex restoration/creation, including surrounding grasslands, to ensure the local watershed is sustaining vernal pool hydrology.
- Vernal pool density is representative of intact vernal pool complex in the vicinity of the restoration site. Restoration will not result in a density of vernal pools greater than 10% density, unless it can be demonstrated by historical or other data (e.g., aerial photograph) that a higher density is appropriate. The intention is to mimic historic conditions for high value vernal pool complexes.

Furthermore, CM3 VPCG-2 states:

> Creation of vernal pools within a vernal pool complex of existing pools can alter the hydrology of the existing pools and can affect ground-nesting bees and other upland plants and animals (U.S. Fish and Wildlife Service 2005). To minimize effects to existing vernal pool complexes, vernal pools will only be created in areas where they will be isolated hydrologically from existing pools and when adequate amounts of surrounding upland habitat are protected, as demonstrated in site-level restoration plans.

Temporary impacts of Covered Activities on vernal pool complex would not exceed 411 acres, or approximately 1% of this community in Plan Area A. These temporary impacts would be associated with urban/suburban development, rural residential development, transportation construction, fuels management, vegetation management, infrastructure operations and maintenance, infrastructure construction, and conservation activities. Conservation actions that could temporarily affect vernal pool complex include restoration and enhancement actions such as grading and contouring to restore, create, and enhance vernal pool–type wetlands in reserves.

Indirect impacts on vernal pool complex could result from construction activities in the Plan Area, such as grading, trenching, changes to hydrology, and changes to topography. Indirect effects on vernal pools are generally considered to occur when ground-disturbing activities take place within 250 feet of a vernal pool—more specifically, when it can be demonstrated that the hydrology supporting a pool has been altered. Indirect effects on vernal pool complexes were estimated in the Plan at approximately 15% of direct effects (permanent and temporary combined), which would be approximately 1,757 acres under Alternative 3. These indirect effects could adversely affect the functions and services of vernal pool–type wetlands and supporting uplands in vernal pool complexes.

Permanent loss of vernal pool complex under Alternative 3 would be offset by the protection and management of 16,158 acres and the restoration of 3,000 acres of vernal pool complex in reserves within the Plan Area. The protection and restoration of vernal pool complex would be supported by the following objectives and conservation measures.

- Objective VPCG-1.1, Protect Existing Vernal Pool Complexes
- CM1 L-2, Reserve Acquisition Strategy
- CM1 L-4, Connectivity within Plan Area
- CM1 VPCG-1, Vernal Pool Complex Protection
- CM1 VPCG-2, Reserve Design for Vernal Pool Restoration/Creation
- CM2 L-1, Vegetation Management and Invasive Plant Control
- CM2 L-3, Develop and Implement Fire Management Plans
- CM2 VPCG-1, Vernal Pool Complex Enhancement and Hydrologic Conditions

- CM3 VPCG-1, Vernal Pool Complex Restoration/Creation
- CM4 L-1, Low-Impact Development Standards
- CM4 VPCG-1, Conduct Outreach to Private Landowners

Temporarily affected vernal pool complexes would be restored through implementation of General Condition 4, Temporary Effects, which requires that temporarily affected areas be restored to pre-project conditions or better based on performance standards such as percent vegetative cover, restored topography, and restored hydrology.

Potential effects on vernal pool complex during construction and operations and maintenance would be avoided and minimized through the implementation of General Conditions 1, 2, and 4; Community Conditions 1.1, 1.2, 1.3, 1.4, and 1.5; and Regional Public Project Conditions 2 and 3. These conditions are described in Chapter 6 of the Plan.

These objectives, conservation measures, and conditions establish performance standards for measuring the effectiveness of proposed conservation actions. The proposed landscape-level conservation of 20,000 acres of vernal complexes—17,000 acres protected and 3,000 acres restored/created, including enhancement of degraded conditions in existing complexes that would be protected, and long-term management of these resources—would mitigate the effects of the proposed action. The proposed conditions further demonstrate the intent to avoid and minimize effects over the life of the Plan.

NEPA Determination: The permanent loss of 11,300 acres and temporary disturbance of 411 acres of vernal pool complex associated with Alternative 3, in the absence of other conservation actions, would constitute a potentially significant impact. These effects would be offset by the Plan's commitment to conserve 20,000 acres of vernal pool complex. As described in Chapter 5 of the Plan, Objective VPCG-1.1 and Conservation Measures CM1 L-2, CM1 L-4, CM1 VPCG-1, CM1 VPCG-2, CM2 L-1, CM2 L-3, CM2 VPCG-1, CM3 VPCG-1, CM4 L-1, and CM4 VPCG-1 would guide the implementation of vernal pool complex creation, enhancement, restoration, and protection by ensuring that reserve lands are established in large, interconnected blocks that result in no net loss of wetlands and provide sufficient upland habitat to facilitate the conservation and recovery of covered vernal pool branchiopods. These measures would ensure that the reserves are managed in perpetuity for the benefit of covered and native species. As described in Chapter 6 of the Plan, potential effects on vernal pool complexes during construction would be avoided and minimized through the implementation of General Conditions 1, 2, and 4; Community Conditions 1.1, 1.2, 1.3, 1.4, and 1.5; and Regional Public Project Conditions 2 and 3. Considering these proposed conservation actions set forth by the Plan's goals, objectives, conservation measures, and conditions, the overall effects of Alternative 3 on vernal pool complex in the Plan Area would be less than significant.

CEQA Determination: The permanent loss of 11,300 acres and temporary disturbance of 411 acres of vernal pool complex associated with Alternative 3, in the absence of other conservation actions, would constitute a significant impact through loss of a natural community in the Plan Area. The natural community creation, enhancement, restoration, and protection together with conservation measures and conditions pertaining to the long-term management of vernal pool complex in the Plan Area support the conclusion that the impacts of Alternative 3 on vernal pool complex would be less than significant. No mitigation has been identified.

Impact BIO-2: Effects on grassland (NEPA: less than significant; CEQA: less than significant)

Covered Activities under Alternative 3, Reduced Take/Reduced Fill, would result in both permanent and temporary impacts on the grassland natural community. Permanent impacts on grasslands would total 7,040 acres of the grassland in Plan Area A, resulting primarily from urban/suburban development, rural residential development, transportation projects, and infrastructure projects. These losses would be roughly split between the Valley and Foothill portions of Plan Area A (i.e., 3,640 and 3,300 acres, respectively), and approximately 100 acres would be lost in Plan Area B. An unknown amount of grassland may also be permanently converted to wetlands as part of vernal pool complex restoration, riparian restoration, marsh restoration, and oak woodland restoration. Exact amounts of grassland that would be converted to other natural communities is not known at this time, but these could comprise up to 3,000 acres if all the vernal pool complex restoration/creation were to be undertaken in the grassland community.

Temporary impacts on grasslands from Covered Activities would not exceed 244 acres, less than 1% of this community in Plan Area A. These temporary impacts would be associated with urban/suburban development, rural residential development, transportation construction, fuels management, vegetation management, infrastructure operations and maintenance, and infrastructure construction. Conservation actions from Plan implementation could also temporarily disturb grasslands at grading or vegetation management locations.

Permanent loss of grassland under Alternative 3 would be partially offset by the protection and management of 2,796 acres and the restoration of 1,000 acres of grasslands in reserves in the Plan Area. The protection and restoration of grasslands would be supported by the following objectives and conservation measures.

- Objective VPCG-1.3, Protect Grasslands
- Objective VPCG-1.4, Restore Grasslands
- CM2 VPCG-3, Grassland Protection
- CM3 VPCG-2, Grassland Restoration
- CM1 L-2, Reserve Acquisition Strategy
- CM2 L-1, Vegetation Management and Invasive Plant Control
- CM2 L-3, Develop and Implement Fire Management Plans

Because grasslands are a component of vernal pool complexes, the effects on grasslands would also be offset by the protection and restoration of 19,158 acres of vernal pool complex.

Temporarily affected grasslands would be restored with implementation of General Condition 4, Temporary Effects, which requires that temporarily affected areas be restored to pre-project conditions or better based on performance standards such as percent vegetative cover and restored topography.

These objectives, conservation measures, and the general condition establish performance standards for measuring the effectiveness of proposed conservation actions.

NEPA Determination: The permanent loss of 7,040 acres and temporary disturbance of 244 acres of grassland associated with Alternative 3, in the absence of other conservation actions, would constitute a potentially significant impact; however, with the protection and restoration guided by

the Plan's goals, objectives, conservation measures, and conditions, the overall effects of Alternative 3 on grasslands in the Plan Area would be less than significant.

CEQA Determination: The permanent loss of 7,040 acres and temporary disturbance of 244 acres of grassland associated with Alternative 3, in the absence of other conservation actions, would constitute a significant impact through loss a natural community in the Plan Area. The natural community restoration and protection activities would constitute adequate mitigation for CEQA purposes. The conservation measures for grasslands, in addition to those for vernal pool complexes, are more than sufficient to support the conclusion that the impacts of Alternative 3 on grassland would be less than significant. No mitigation has been identified.

Impact BIO-3: Effects on aquatic/wetland complex (NEPA: less than significant; CEQA: less than significant)

Covered Activities under Alternative 3, Reduced Take/Reduced Fill, would result in permanent and temporary impacts on the aquatic/wetland complex natural community. Permanent impacts on aquatic/wetland complex would total 250 acres: 100 acres of fresh emergent marsh, 99 acres of lacustrine, and 50 acres of non–vernal pool seasonal wetlands. These impacts would result primarily from urban/suburban development, rural residential development, transportation projects, and infrastructure projects. These losses would be roughly split between the Valley and Foothill portions of Plan Area A (i.e., 110 and 130 acres, respectively), and approximately 10 acres would be lost in Plan Area B.

Temporary impacts on aquatic/wetland complex from Covered Activities would not exceed 101 acres. These impacts—comprising 48 acres of fresh emergent marsh, 27 acres of lacustrine, and 26 acres of non–vernal pool seasonal wetlands—would be associated with urban/suburban development, rural residential development, transportation construction, fuels management, vegetation management, infrastructure operations and maintenance, and infrastructure construction. Some conservation actions through Plan implementation may also temporarily disturb aquatic/wetland complex when grading, vegetation management, or other physical change to the natural community is required.

Permanent loss of aquatic/wetland complex under Alternative 3 would be offset by the protection and management of 577 acres, improving the overall functions and services of wetlands, and the restoration/creation of 395 acres of aquatic/wetland complex in reserves in the Plan Area. The protection and restoration of aquatic/wetland complex would be supported by the following objectives and conservation measures.

- Objective AW-1.1, Protect Aquatic/Wetlands Complex Natural Community
- CM1 L-2, Reserve Acquisition Strategy
- CM1 AW-1, Aquatic/Wetlands Protection
- CM2 L-1, Vegetation Management and Invasive Plant Control
- CM2 AW-1, Aquatic/Wetlands Complex Vegetation Control
- CM2 AW-2, Fencing Wetlands and Ponds
- CM2 AW-3, Sediment Removal
- CM2 AW-6, Provision of Vegetative Cover

- CM 2 AW-8, Maintenance and Enhancement of Water Quality
- CM3 AW-1, Aquatic/Wetlands Complex Restoration/Creation
- CM4 AW-1, Conduct Public Outreach

Temporarily affected aquatic/wetlands complex would be restored through implementation of General Condition 4, Temporary Effects, which requires that temporarily affected areas be restored to pre-project conditions or better based on performance standards, such as percent vegetative cover, restored topography, and restored hydrology within 1 year.

Potential effects on aquatic/wetlands complex during construction and operations and maintenance would be avoided and minimized through implementation of General Condition 1, Community Conditions 1.3 and 1.5, and Regional Public Project Conditions 2 and 3. These conditions are described in Chapter 6 of the Plan.

These objectives, conservation measures, and conditions establish performance standards for measuring the effectiveness of proposed conservation actions. The acres of protection and restoration satisfy the typical mitigation that would be applied to the project-level effects, as well as mitigating the effects of the other conservation measures. The proposed conditions further demonstrate the intent to avoid and minimize effects over the life of the Plan.

NEPA Determination: The permanent loss of 250 acres and temporary disturbance of 101 acres of aquatic/wetland complex associated with Alternative 3, in the absence of other conservation actions, would constitute a potentially significant impact. These effects would be offset by the Plan's commitment to conserve 1,010 acres of aquatic/wetland complex. As described in Chapter 5 of the Plan, Objective AW-1.1 and Conservation Measures CM1 L-2, CM1 AW-1, CM2 L-1, CM2 AW-1, CM2 AW-2, CM2 AW-3, CM2 AW-6, CM 2 AW-8, CM3 AW-1, and CM4 AW-1 would guide the implementation of aquatic/wetland complex creation, enhancement, restoration, and protection by ensuring that a range of aquatic and wetland types are conserved and will increase the acreage and ecological function of wetland and aquatic communities in the Plan Area. These measures would ensure that the reserves are managed in perpetuity for the benefit of covered and native species. As described in Chapter 6 of the Plan, potential effects on aquatic/wetland complexes during construction would be avoided and minimized through the implementation of General Condition 1; Community Conditions 1.3 and 1.5, and Regional Public Project Conditions 2 and 3. Considering these proposed conservation actions set forth by the Plan's goals, objectives, conservation measures, and conditions, the overall effects of Alternative 3 on aquatic/wetland complex in the Plan Area would be less than significant.

CEQA Determination: The permanent loss of 250 acres and temporary disturbance of 101 acres of aquatic/wetland complex associated with Alternative 3, in the absence of other conservation actions, would constitute a significant impact through loss a natural community in the Plan Area. The natural community creation, enhancement, restoration, and protection activities would constitute adequate mitigation for CEQA purposes. The conservation measures and conditions relevant to aquatic/wetland complex are more than sufficient to support the conclusion that the impacts of Alternative 3 on aquatic/wetland complex would be less than significant. No mitigation has been identified.

Impact BIO-4: Effects on riverine/riparian complex (NEPA: less than significant; CEQA: less than significant)

Covered Activities under Alternative 3 would result in permanent and temporary impacts on the riverine/riparian complex natural community. Permanent impacts on riverine/riparian complex would total 475 acres: 106 acres of riverine and 369 acres of riparian. These impacts would result primarily from urban/suburban development, rural residential development, transportation projects, and infrastructure projects. A total of 135 acres would be lost in the Valley portion of Plan Area A, 330 acres in the Foothill portion, and 10 acres in Plan Area B.

As discussed in Sec*tion 3.4.5, Riverine/Riparian Complex,* of the Plan, because of limitations in mapping, not all the area mapped as riverine habitat consists of the wetted stream width but can include grasslands, valley oak woodland, fresh emergent wetland, off-channel wetlands, and seasonal wetlands. Unlike land conversion where the natural community is converted by the Covered Activity, in-stream activities would leave the stream channel intact and in some cases in an improved condition.

The descriptions of in-stream activities in Chapter 2, *Covered Activities*, and Section 4.4.1.6, *In-Stream Programs Effects*, of the Plan show that the actual activities within riverine habitat would be implemented along short segments, typically on the order of 100 feet, at multiple locations throughout the Plan Area. Covered Activities that would have quantifiable effects on streams consist of road crossings, pipelines not associated with road crossings (i.e., those pipelines going beneath streams and not attached to a bridge), and water supply, flood control, and fish passage enhancement projects. Of these, road crossings would account for the majority of permanent effects on streams.

Temporary impacts on riverine/riparian complex from Covered Activities would not exceed 103 acres. These impacts, comprising 32 acres of riverine and 71 acres of riparian, would be associated with urban/suburban development, rural residential development, transportation construction, fuels management, vegetation management, infrastructure operations and maintenance, infrastructure construction. Conservation actions through Plan implementation may also temporarily disturb riverine/riparian complex when grading, vegetation management, or other physical change to the natural community is required.

Permanent loss of riverine/riparian complex under Alternative 4 would be offset by the protection and management of 1,240 acres, improving the overall functions and services of these waters, and the restoration/creation of 827 acres of riverine/riparian complex in reserves in the Plan Area. The protection and restoration of riverine/riparian complex would be supported by the following objectives and conservation measures.

- Objective RAR-1.1, Protect Riverine/Riparian Complex
- Objective RAR-1.3, Restore Riverine/Riparian Complex
- CM1 L-2, Reserve Acquisition Strategy
- CM1 RAR-1, Riverine and Riparian Protection
- CM1 RAR-2, Reserve Design for Riparian Restoration
- CM2 L-1, Vegetation Management and Invasive Plant Control
- CM2 RAR-1, Riparian Vegetation Management

- CM3 RAR-1, Riparian Natural Community Restoration

Temporarily affected riverine/riparian complex would be restored through implementation of General Condition 4, Temporary Effects, which requires that temporarily affected areas be restored to pre-project conditions or better based on performance standards such as percent vegetative cover, restored topography, and restored hydrology.

Potential effects on riverine/riparian complex during construction and operations and maintenance will be avoided and minimized through the implementation of General Condition 1, Community Conditions 2.1, 2.2, 2.3, and 2.4, Stream Conditions 1 and 2, and Regional Public Project Conditions 2 and 3. These conditions are described in Chapter 6 of the Plan.

These objectives, conservation measures, and conditions establish performance standards for considering the effectiveness of proposed conservation actions. The acres of protection and restoration satisfy the typical mitigation that would be applied to the project-level effects, as well as mitigating the effects of the other conservation measures. The proposed conditions further demonstrate the intent to avoid and minimize effects over the life of the Plan.

NEPA Determination: The permanent loss of 290 acres and temporary disturbance of 103 acres of riverine/riparian complex associated with Alternative 4, in the absence of other conservation actions, would constitute a potentially significant impact. These effects would be offset by the Plan's commitment to conserve 2,067 acres of riverine/riparian complex. As described in Chapter 5 of the Plan, Objectives RAR-1.1 and RAR-1.3, and Conservation Measures CM1 L-2, CM1 RAR-1, CM1 RAR-2, CM2 L-1, CM2 RAR-1, and CM3 RAR-1 would guide the implementation of riverine/riparian complex creation, enhancement, restoration, and protection by ensuring large intact riparian stands are protected, riverine habitat next to preserves are protected, invasive species are managed, in-stream habitat for fish and wildlife is enhanced, and areas are restored with native species. These measures would ensure that the reserves are managed in perpetuity for the benefit of covered and native species. As described in Chapter 6 of the Plan, potential effects on riverine/riparian complexes during construction would be avoided and minimized through the implementation of General Condition 1; Community Conditions 2.1, 2.2, 2.3, and 2.4; Stream Conditions 1 and 2; and Regional Public Project Conditions 2 and 3. Considering these proposed conservation actions set forth by the Plan's goals, objectives, conservation measures, and conditions, the overall effects of Alternative 4 on riverine/riparian complex in the Plan Area would be less than significant.

CEQA Determination: The permanent loss of 290 acres and temporary disturbance of 103 acres of riverine/riparian complex associated with Alternative 4, in the absence of other conservation actions, would constitute a significant impact through loss of a natural community in the Plan Area. The natural community creation, enhancement, restoration, and protection activities would constitute adequate mitigation for CEQA purposes. The conservation measures and conditions relevant to riverine/riparian complex are more than sufficient to support the conclusion that the impacts of Alternative 4 on riverine/riparian complex would be less than significant. No mitigation has been identified.

Impact BIO-5: Effects on oak woodland (NEPA: less than significant; CEQA: less than significant)

Covered Activities under Alternative 4, Reduced Permit Term, would result in permanent and temporary impacts on the oak woodland natural community. Permanent impacts on oak woodland would total 3,680 acres. These impacts would result primarily from urban/suburban development,

rural residential development, transportation projects, and infrastructure projects. A total of 611 acres would be lost in the Valley portion of Plan Area A, 3,060 acres in the Foothill portion, and 10 acres in Plan Area B.

Temporary impacts on oak woodland from Covered Activities would not exceed 108 acres—less than 1% of the community present in Plan Area A. These temporary impacts would be associated with urban/suburban development, rural residential development, transportation construction, fuels management, vegetation management, infrastructure operations and maintenance, and infrastructure construction. Conservation actions through Plan implementation may also temporarily disturb oak woodland where grading, vegetation management, or other physical change to the natural community is required.

Permanent loss of oak woodland under Alternative 4 would be offset by the protection and management of 6,061 acres and the restoration of 58 acres of oak woodland in reserves in the Plan Area. The protection and restoration of oak woodland would be supported by the following objectives and conservation measures.

- Objective RAR-1.3, Restore Riverine/Riparian Complex
- Objective OW-1.1, Protect Oak Woodlands
- CM1 L-2, Reserve Acquisition Strategy
- CM1 OW-1, Oak Woodland Protection
- CM1 OW-2, Reserve Design for Oak Woodland Restoration
- CM2 L-1, Vegetation Management and Invasive Plant Control
- CM2 OW-1, Oak Woodland Vegetation Enhancement and Management
- CM2 OW-2, Control of Invasive Animals that Limit Oak Regeneration
- CM3 OW-1, Oak Woodland Restoration

Temporarily affected riverine/riparian complex would be restored with the implementation of General Condition 4, Temporary Effects, which requires that temporarily affected areas be restored to pre-project conditions or better based on performance standards such as percent vegetative cover and restored topography.

Potential effects on oak woodlands during construction and operations and maintenance would be avoided and minimized through implementation of General Condition 1 and Regional Public Project Conditions 2 and 3. These conditions are described in Chapter 6 of the Plan.

These objectives, conservation measures, and conditions establish performance standards for measuring the effectiveness of proposed conservation actions. The acres of protection and restoration satisfy the typical mitigation that would be applied to the project-level effects, as well as mitigating the effects of the other conservation measures. The proposed conditions further demonstrate the intent to avoid and minimize effects over the life of the Plan.

NEPA Determination: The permanent loss of 3,680 acres and temporary disturbance of 108 acres of oak woodland associated with Alternative 4, in the absence of other conservation actions, would constitute a potentially significant impact; however, with the protection and restoration guided by the Plan's goals, objectives, conservation measures, and conditions, the overall effects of Alternative 4 on oak woodland in the Plan Area would be less than significant.

CEQA Determination: The permanent loss of 3,680 acres and temporary disturbance of 108 acres of oak woodland associated with Alternative 4, in the absence of other conservation actions, would constitute a significant impact through loss of a natural community in the Plan Area. The natural community restoration and protection activities would constitute adequate mitigation for CEQA purposes. The conservation measures and conditions relevant to riverine/riparian complex are more than sufficient to support the conclusion that the impacts of Alternative 4 on oak woodland would be less than significant. No mitigation has been identified.

Impact BIO-6: Effects on valley oak woodland (NEPA: less than significant; CEQA: less than significant)

Covered Activities under Alternative 4, Reduced Permit Term, would result in permanent and temporary impacts on the valley oak woodland natural community. Permanent impacts on valley oak woodland would total 86 acres. These impacts would result primarily from urban/suburban development, rural residential development, transportation projects, and infrastructure projects. A total of 17 acres would be lost in the Valley portion of Plan Area A, 60 acres in the Foothill portion, and 10 acres in Plan Area B.

Temporary impacts on valley oak woodland from Covered Activities would not exceed 16 acres. These temporary impacts would be associated with urban/suburban development, rural residential development, transportation construction, fuels management, vegetation management, infrastructure operations and maintenance, and infrastructure construction. Conservation actions through Plan implementation may also temporarily disturb valley oak woodland when grading, vegetation management, or other physical change to the natural community is required.

Permanent loss of valley oak woodland under Alternative 4 would be offset by the protection and management of 110 acres and the restoration of 157 acres of valley oak woodland in reserves in the Plan Area. The protection and restoration of oak woodland would be supported by the following objectives and conservation measures.

- Objective RAR-1.3, Restore Riverine/Riparian Complex
- Objective OW-1.1, Protect Oak Woodlands
- CM1 L-2, Reserve Acquisition Strategy
- CM1 OW-1, Oak Woodland Protection
- CM1 OW-2, Reserve Design for Oak Woodland Restoration
- CM2 L-1, Vegetation Management and Invasive Plant Control
- CM2 OW-1, Oak Woodland Vegetation Enhancement and Management
- CM2 OW-2, Control of Invasive Animals that Limit Oak Regeneration
- CM3 OW-1, Oak Woodland Restoration

Temporarily affected riverine/riparian complex would be restored through implementation of General Condition 4, Temporary Effects, which requires that temporarily affected areas be restored to pre-project conditions or better based on performance standards such as percent vegetative cover and restored topography.

Potential effects on valley oak woodlands during construction and operations and maintenance would be avoided and minimized through the implementation of General Condition 1 and Regional Public Project Conditions 2 and 3. These conditions are described in Chapter 6 of the Plan.

These objectives, conservation measures, and conditions establish performance standards for measuring the effectiveness of proposed conservation actions. The acres of protection and restoration satisfy the typical mitigation that would be applied to the project-level effects, as well as mitigating the effects of the other conservation measures. The proposed conditions further demonstrate the intent to avoid and minimize effects over the life of the Plan.

NEPA Determination: The permanent loss of 86 acres and temporary disturbance of 16 acres of valley oak woodland associated with Alternative 4, in the absence of other conservation actions, would constitute a potentially significant impact; however, with the protection and restoration guided by the Plan's goals, objectives, conservation measures, and conditions, the overall effects of Alternative 4 on valley oak woodland in the Plan Area would be less than significant.

CEQA Determination: The permanent loss of 86 acres and temporary disturbance of 16 acres of valley oak woodland associated with Alternative 4, in the absence of other conservation actions, would constitute a significant impact through loss of a natural community in the Plan Area. The natural community restoration and protection activities would constitute adequate mitigation for CEQA purposes. The conservation measures and conditions relevant to valley oak woodland are more than sufficient to support the conclusion that the impacts under Alternative 4 on valley oak woodland would be less than significant. No mitigation has been identified.

Special-Status Plants

Impact BIO-7: Effects on special-status plants in vernal pool habitats (NEPA: less than significant with mitigation; CEQA: less than significant with mitigation)

Special-status plant species that grow in vernal pools and are known to occur in the Plan Area region include dwarf downingia, Boggs Lake hedge-hyssop, hogwallow starfish, Ahart's dwarf rush, Red Bluff dwarf rush, legenere, pincushion navarretia, and adobe navarretia. There are known occurrences in the Plan Area for all these species. Table 4.3-1 shows the numbers of these recorded occurrences in each Plan Area component (California Department of Fish and Wildlife 2017; Consortium of California Herbaria 2017a; Preston pers. comm.).

Covered Activities under Alternative 4, Reduced Permit Term, would result in permanent and temporary impacts on vernal pool habitat for special-status plants. Plan Area A includes 45,065 acres of vernal pool complex that are potential habitat for these species. In the Valley portion of the Plan Area, permanent impacts would total 314 acres of vernal pool–type wetland habitat within 6,820 acres of vernal pool complex (approximately 15% of the vernal pool complex community in Plan Area A). These impacts would result primarily from urban/suburban development, transportation projects, and infrastructure projects. Known occurrences of dwarf downingia (three), and pincushion navarretia (one) could be removed as a result of such projects. In Plan Area B, permanent impacts on vernal pool–type wetlands from Covered Activities in non-participating cities would total 10 acres. Known occurrences of dwarf downingia (nine), Boggs Lake hedge-hyssop (two), and legenere (one) could be removed as a result of these Covered Activities. One occurrence of Red Bluff dwarf rush could also be affected; however, this record of the species is questionable and may be due to a misidentification of another species as Red Bluff dwarf rush. Additional

undiscovered occurrences of special-status vernal pool plants could be removed in the Plan Area as a result of project construction in Plan Areas A and B.

No vernal pool complex would be permanently affected in the Foothills portion of the Plan Area, and there are no recorded occurrences of special-status vernal pool plant species in this area.

An unknown amount of vernal pool complex wetland habitat may be permanently altered by the restoration/creation of a portion of the 495 acres of vernal pool, seasonal wetland, and seasonal swale wetlands included in implementation of the Plan's conservation strategy. If vernal pool restoration/creation is to take place in existing vernal pool complexes, these activities could affect existing wetland habitat, as well as upland resources and the hydrologic balance of the existing pools in these complexes. However, implementation of CM1 VPCG-2, Vernal Pool Complex Enhancement and Hydrologic Conditions, and CM3 VPCG-2, Grassland Restoration, would prevent restoration/creation from affecting existing vernal pools by ensuring that the local watershed is sufficient to support additional pools and that adequate upland habitat around existing pools is protected.

Temporary impacts of Covered Activities on vernal pool wetland habitat for special-status plants would not exceed 14 acres in the Valley portion of the Plan Area and 5 acres in Plan Area B. These temporary impacts would be associated with urban/suburban development, rural residential development, transportation construction, fuels management, vegetation management, infrastructure operations and maintenance, and infrastructure construction. Temporary effects associated with fuels management, vegetation management, and infrastructure operations and maintenance would occur in areas previously disturbed by similar activities (e.g., existing fire breaks, areas previously disturbed by infrastructure construction), and therefore the likelihood of rare plants occurring in these areas is low. Some conservation actions through Plan implementation under Alternative 4 may also temporarily disturb vernal pool wetland habitat for special-status plants where grading or vegetation management, or other physical change is required.

Indirect impacts on vernal pool communities and wetland habitat in the Plan Area that support special-status plants could result from construction activities such as grading and removal of vegetation. These activities could adversely affect habitat function for special-status plants by altering the topography and hydrology that support vernal pools and wetland habitat.

Permanent loss of vernal pool habitat for special-status plants resulting from Covered Activities under Alternative 4 would be offset by the protection and management of 9,350 acres and restoration of 1,650 acres of vernal pool complex in reserves in the Plan Area. Within these areas, 435 acres of vernal pool–type wetlands would be protected and up to 495 acres restored. Known occurrences of dwarf downingia (four) and legenere (one) are within the RAA. Known occurrences of dwarf downingia (two), Boggs Lake hedge-hyssop (one), Ahart's dwarf rush (one), and adobe navarretia (two) are already protected on existing reserves in the Plan Area. The protection and restoration of vernal pool habitat for special-status plants would be supported by the following conservation measures.

- CM1 L-2, Reserve Acquisition Strategy
- CM1 VPCG-1, Vernal Pool Complex Protection
- CM1 VPCG-2, Reserve Design for Vernal Pool Restoration/Creation
- CM1 AW-1, Aquatic/Wetlands Complex Protection

- CM2 L-1, Vegetation Management and Invasive Plant Control
- CM2 L-3, Develop and Implement Fire Management Plans
- CM2 VPCG-1, Vernal Pool complex and Grassland Vegetation Management
- CM2 AW-1, Aquatic/Wetlands Complex Vegetation Control
- CM2 AW-3, Sediment Removal
- CM3 VPCG-1, Vernal Pool Complex Restoration/Creation

Temporarily affected vernal pool habitat for special-status plants would be restored through implementation of General Condition 4, Temporary Effects, which requires that temporarily affected areas be restored to pre-project conditions or better, based on performance standards such as percent vegetative cover, restored hydrology, and restored topography.

Implementation of Community Condition 1, Wetland Avoidance and Minimization (Vernal Pool and Aquatic/Wetland Complex), and the specific measures contained in the condition would protect the hydrology and habitat quality of vernal pool habitat for special-status plants. Community Condition 1.4 would potentially offset loss of special-status plants through the salvaging of seed from affected pools for creation and restoration elsewhere.

Although they do not apply to non-covered special-status plant species, these conservation measures and conditions establish performance standards for considering the effectiveness of proposed conservation actions. In addition, the impacts of Covered Activities, which include urban/suburban development, transportation projects, and infrastructure projects, under Alternative 4 on occurrences of and habitat for non-covered special-status plants would be mitigated on a project-by-project basis through the local land use approval process, including CEQA review, for discretionary projects. Substantial ancillary benefits for these plant species are also expected to result from Plan implementation, because it would establish a comprehensive reserve management program that would enhance habitat conditions in a variety of natural communities that may support non-covered special-status plants. Any potential effects on these plants from fuels management, vegetation management, and infrastructure operations and maintenance, though not likely subject to additional environmental review, would be offset because the entities implementing these projects would be participating in the Plan and contributing funds for the implementation of the conservation strategy; furthermore the likelihood of rare plants occurring in these areas is low because these areas were likely previously disturbed by similar activities (e.g., existing fire breaks, areas previously disturbed by infrastructure construction). The implementation of conservation measures to create and restore vernal pool habitat which may affect these plant populations, may not be subject to further approvals or review that may identify effects on these plants.

NEPA Determination: Implementation of Alternative 4 could result in the loss of extant occurrences of special-status plants, including up to 12 occurrences of dwarf downingia, 2 occurrences of Boggs Lake hedge-hyssop, 1 potential occurrence of Red Bluff dwarf rush, 1 occurrence of legenere, and 1 occurrence of pincushion navarretia. Alternative 4 would also permanently remove up to 323 acres of vernal pool–type wetland habitat for special status-plants in the Plan Area. However, the protection and restoration guided by the Plan's goals, objectives, conservation measures, and conditions would ensure that habitat loss from Covered Activities, which include urban/suburban development, transportation projects, infrastructure projects, fuels management, vegetation management, and infrastructure operations and maintenance, would be

compensated for and preserved habitat would be managed in perpetuity and thus the effects would be reduced to a less-than-significant level.

Conservation measures to create, restore, enhance, and manage vernal pool habitat could remove existing populations of special-status plants if these actions take place in previously undisturbed vernal pool complexes and if there are no opportunities to identify and avoid these populations through subsequent NEPA review; therefore these activities could have significant impacts on special-status plants. Implementation of Mitigation Measure BIO-1 would reduce this effect to a less-than-significant level.

CEQA Determination: Implementation of Alternative 4 could result in the loss of extant occurrences of special-status plants, including up to 12 extant occurrences of dwarf downingia, 2 extant occurrences of Boggs Lake hedge-hyssop, 1 potential occurrence of Red Bluff dwarf rush, 1 extant occurrence of legenere, and 1 occurrence of pincushion navarretia. Alternative 4 would also permanently remove up to 323 acres of vernal pool–type wetland habitat for special-status plants in the Plan Area. However, the protection and restoration guided by the Plan's goals, objectives, conservation measures, and conditions would ensure that habitat loss from Covered Activities, which include urban/suburban development, transportation projects, infrastructure projects, fuels management, vegetation management, and infrastructure operations and maintenance, would be compensated for, and preserved habitat would be managed in perpetuity and thus would reduce these effects to a less-than-significant level.

Conservation measures to create, restore, enhance, and manage vernal pool habitat, which could remove existing populations of special-status plants if these actions take place in previously undisturbed vernal pool complexes and if there are no opportunities to identify and avoid these populations through subsequent CEQA review; therefore, restoration, enhancement, and management activities could have significant impacts on special-status plants. Implementation of Mitigation Measure BIO-1 would reduce this potential impact to a less-than-significant level.

Mitigation Measure BIO-1: Conduct surveys for and avoid special-status plants in proposed restoration and enhancement areas

Impact BIO-8: Effects on special-status plants in oak woodland habitats (NEPA: less than significant with mitigation; CEQA: less than significant with mitigation)

Oak woodland habitats, as discussed here, include the oak–foothill pine and chaparral land cover types included in the oak woodland natural community, as well as valley oak woodland. Several special-status plant species grow in oak woodland habitats and are known to occur in the Plan Area region: big-scale balsamroot, Brandegee's clarkia, stinkbells, Butte County fritillary, Red Bluff dwarf rush, dubious pea, hoary navarretia, streambank spring beauty, and sylvan microseris. There are recorded occurrences in the Plan Area for all these species except streambank spring beauty and sylvan microseris. Occurrences of streambank spring beauty occur near but outside of the PCWA operations and maintenance component of the Plan Area. Table 4.3-2 shows the numbers of these recorded occurrences in each Plan Area component (California Department of Fish and Wildlife 2017; Consortium of California Herbaria 2017b, 2017c, 2017d).

Covered Activities under Alternative 4, Reduced Permit Term, would result in permanent and temporary impacts on oak woodland habitat for special-status plants. Plan Area A includes 52,234 acres of oak woodland habitats that are potential habitat for these species. In the Valley portion of the Plan Area, permanent impacts would total 628 acres of oak woodland habitats (approximately

1% of total oak woodland in Plan Area A). Known occurrences of big-scale balsamroot (one) and Brandegee's clarkia (four) in the Valley portion could be removed as a result of individual projects. In the Foothill portion, permanent impacts would total 3,120 acres of oak woodland habitats (approximately 6% of total oak woodland in Plan Area A); however, no extant occurrences of special-status plants are recorded in the Foothill portion. Impacts in Plan Area A would result primarily from urban/suburban development, transportation projects, and infrastructure projects. In Plan Area B, Covered Activities in non-participating cities would result in impacts on a total of 20 acres of oak woodland habitats. Known occurrences of big-scale balsamroot, Brandegee's clarkia, and dubious pea (one occurrence each) could be removed as a result of these Covered Activities. One occurrence of Red Bluff dwarf rush could also be affected; however, this record of the species is questionable and may be due to a misidentification of another species as Red Bluff dwarf rush. Additional undiscovered occurrences of special-status plants could be removed in the Plan Area as a result of project construction in Plan Areas A and B.

Temporary impacts of Covered Activities on oak woodland habitats for special-status plants would not exceed 31 acres in the Valley portion of the Plan Area, 84 acres in the Foothill portion, and 10 acres in Plan Area B. These temporary impacts would be associated with urban/suburban development, rural residential development, transportation construction, fuels management, vegetation management, infrastructure operations and maintenance, and infrastructure construction. Temporary effects associated with fuels management, vegetation management, and infrastructure operations and maintenance would occur in areas previously disturbed by similar activities (e.g., existing fire breaks, areas previously disturbed by infrastructure construction) and therefore the likelihood of rare plants occurring in these areas is low. Some conservation actions through Plan implementation may also temporarily affect oak woodland habitats for special-status plants where grading, vegetation management, or other physical change to the habitat is required.

Indirect impacts on oak woodland habitats that support special-status plants could result from construction activities in the Plan Area, such as grading and removal of vegetation. These activities could adversely affect habitat function for special-status plants by altering the topography and hydrology in these habitats.

Permanent loss of oak woodland habitats for special-status plants from Covered Activities under Alternative 4 would be offset by the protection and management of 6,061 acres of oak woodland and 110 acres of valley oak woodland, as well as restoration of 58 acres of oak woodland and 157 acres of valley oak woodland in reserves in the Plan Area. One known occurrence of Brandegee's clarkia is already protected in an existing reserve in the Foothill RAA. The protection and restoration of oak woodland habitats for special-status plants would be supported by the following conservation measures.

- CM1 L-2, Reserve Acquisition Strategy
- CM1 OW-1, Oak Woodland Protection
- CM1 OW-2, Reserve Design for Oak Woodland Restoration
- CM2 L-1, Vegetation Management and Invasive Plant Control
- CM2 L-3, Develop and Implement Fire Management Plans
- CM2 OW-1, Oak Woodland Vegetation Enhancement and Management
- CM2 OW-2, Control of Invasive Animals that Limit Oak Regeneration

- CM3 OW-1, Oak Woodland Restoration

Temporarily affected oak woodland habitats for special-status plants would be restored through implementation of General Condition 4, Temporary Effects, which requires that temporarily affected areas be restored to pre-project conditions or better, based on performance standards such as percent vegetative cover, restored hydrology, and restored topography.

Implementation of Community Conditions 3.1, Valley Oak Woodland Alliance, and 3.2, Valley oak Woodland and Individual Valley Oak Trees, would protect valley oak woodlands larger than 1 acre and the hydrology of the woodlands, as well as valley oak woodlands smaller than 1 acre and individual valley oak trees.

Although they do not apply to non-covered special-status plant species, these conservation measures and conditions establish performance standards for measuring the effectiveness of proposed conservation actions. In addition, the impacts of Covered Activities, which include urban/suburban development, transportation projects, and infrastructure projects, under Alternative 4 on occurrences of and habitat for non-covered special-status plants would be mitigated on a project-by-project basis for discretionary projects. Substantial ancillary benefits for these plant species are expected to result from Plan implementation, because it would establish a comprehensive reserve management program that would enhance habitat conditions in a variety of natural communities that may support special-status plants. Any potential effects on these plants from fuels management, vegetation management, and infrastructure operations and maintenance, though not likely subject to additional environmental review, would be offset because the entities implementing these projects would be participating in the Plan and contributing funds for the implementation of the conservation strategy; furthermore the likelihood of rare plants occurring in these areas is low because these areas were likely previously disturbed by similar activities (e.g., existing fire breaks, areas previously disturbed by infrastructure construction). The implementation of conservation measures to create and restore oak woodland habitat, which may affect these plant populations, may not be subject to further approvals or review that may identify effects on these plants.

NEPA Determination: Implementation of Alternative 4 could result in the loss of up to two occurrences of big-scale balsamroot, five occurrences of Brandegee's clarkia, one potential occurrence of Red Bluff dwarf rush, and one occurrence of dubious pea. Alternative 4 would also result in the permanent removal of up to 3,766 acres of oak woodland habitats for special-status plants in the Plan Area. However, the protection and restoration guided by the Plan's goals, objectives, conservation measures, and conditions would ensure that habitat loss from Covered Activities, which include urban/suburban development, transportation projects, infrastructure projects, fuels management, vegetation management, and infrastructure operations and maintenance would be compensated for and preserved habitat would be managed in perpetuity and thus the effects would be reduced to a less-than-significant level.

Conservation measures to create, restore, enhance, and manage oak woodland habitat could remove existing populations of special-status plants if these actions take place in previously undisturbed oak woodlands and if there are no opportunities to identify and avoid these populations through subsequent NEPA review; therefore, these activities could have significant impacts on special-status plants. Implementation of Mitigation Measure BIO-1 would reduce this impact to a less-than-significant level.

CEQA Determination: Implementation of Alternative 4 could result in the loss of up to two occurrences of big-scale balsamroot, five occurrences of Brandegee's clarkia, one potential occurrence of Red Bluff dwarf rush, and one occurrence of dubious pea. Alternative 4 would also permanently remove up to 3,766 acres of oak woodland habitats for special-status plants in the Plan Area. However, the protection and restoration guided by the Plan's goals, objectives, conservation measures, and conditions would ensure that habitat loss from Covered Activities, which include urban/suburban development, transportation projects, infrastructure projects, fuels management, vegetation management, and infrastructure operations and maintenance, would be compensated for and preserved habitat would be managed in perpetuity and thus the effects would be reduced to a less-than-significant level.

Conservation measures to create, restore, enhance, and manage oak woodland habitat could remove existing populations of special-status plants if these actions take place in previously undisturbed oak woodlands and if there are no opportunities to identify and avoid these populations through subsequent CEQA review; therefore, restoration and enhancement activities could have significant impacts on special-status plants. Implementation of Mitigation Measure BIO-1 would reduce this potential impact to a less-than-significant level.

Mitigation Measure BIO-1: Conduct surveys for and avoid special-status plants in proposed restoration and enhancement areas

Impact BIO-9: Effects on special-status plants in grassland habitats (NEPA: less than significant with mitigation; CEQA: less than significant with mitigation)

Several special-status plant species that occur in annual grasslands and vernal pool complex uplands are known to occur in the Plan Area region: big-scale balsamroot, hispid bird's-beak, stinkbells, Red Bluff dwarf rush, sylvan microseris, and hoary navarretia. With the exception of hispid bird's-beak, which would only occur in grassland or vernal pool upland habitat in the Plan Area, all these species also occur in oak woodland and chaparral habitats, as discussed in Impact BIO-8. There are recorded CNDDB occurrences or herbarium records in the Plan Area for all of these species. Table 4.3-2 shows the numbers of these recorded occurrences in each Plan Area component; a single occurrence of hispid bird's-beak is recorded in an existing preserve in Plan Area B (California Department of Fish and Wildlife 2017; Consortium of California Herbaria 2017c, 2017d).

Covered Activities under Alternative 4, Reduced Permit Term, would result in permanent and temporary impacts on grassland habitats for special-status plants. Plan Area A includes 21,887 acres mapped as grassland, as well as the upland portion of 45,065 acres mapped as vernal pool complex. Pasture is not included in this analysis as potential special-status plant habitat, because it is a managed habitat with almost no native plant species. Permanent impacts in the Valley portion of the Plan Area would total 1,870 acres of grassland habitat (approximately 8% of this community in Plan Area A) and 6,506 acres of vernal pool complex upland (approximately 14% of total vernal pool complex in Plan Area A). A known occurrence of big-scale balsamroot in the Valley portion of the Plan Area could be removed by anticipated projects. Permanent impacts in the Foothill portion would total 1,980 acres of grassland habitat (approximately 9% of the community in Plan Area A) and 60 acres of vernal pool complex upland (approximately 0.2% of total vernal pool complex in Plan Area A); however, no extant occurrences of special-status plants are recorded in the Foothill portion. Impacts in Plan Area A would result primarily from urban/suburban development, transportation projects, and infrastructure projects. In Plan Area B, permanent impacts from Covered Activities in non-participating cities would affect 95 acres of grassland habitat and 38 acres

of vernal pool complex upland. One known occurrence of big-scale balsamroot could be removed as a result of these Covered Activities. One occurrence of Red Bluff dwarf rush could also be affected; however, this record of the species is questionable and may be due to a misidentification of another species as Red Bluff dwarf rush. Additional undiscovered occurrences of special-status plants could be removed in the Plan Area as a result of project construction in Plan Areas A and B.

An unknown amount of vernal pool complex wetland habitat may be permanently altered by the restoration/creation of a portion of the 495 acres of vernal pool, seasonal wetland, and seasonal swale wetlands included in implementation of the Plan's conservation strategy. If vernal pool restoration/creation is to take place in existing vernal pool complexes, these activities could affect upland resources and the hydrologic balance of the existing pools in these complexes. However, implementation of CMI VPCG-2, Vernal Pool Complex Enhancement and Hydrologic Conditions, and CM3 VPCG-2, Grassland Restoration, would ensure that restoration/creation activities retain sufficient local watershed uplands to support additional pools and to protect adequate upland habitat around existing pools.

Temporary impacts of Covered Activities on grassland habitat for special-status plants would not exceed 69 acres in the Valley portion of the Plan Area, 54 acres in the Foothill portion, and 19 acres in Plan Area B. Temporary impacts of Covered Activities on vernal pool complex upland would not exceed 225 acres in the Valley Portion of the Plan Area, 6 acres in the Foothill portion, and 5 acres in Plan Area B. These temporary impacts would be associated with urban/suburban development, rural residential development, transportation construction, fuels management, vegetation management, infrastructure operations and maintenance, and infrastructure construction. Temporary effects associated with fuels management, vegetation management, and infrastructure operations and maintenance would occur in areas previously disturbed by similar activities (e.g., existing fire breaks, areas previously disturbed by infrastructure construction), and therefore the likelihood of rare plants occurring in these areas is low. Some conservation actions through Plan implementation may also temporarily affect grassland habitat for special-status plants in locations where grading, vegetation management, or other physical change to grassland habitat is required.

Indirect impacts on grassland and vernal pool complex upland habitats that support special-status plants could result from construction activities such as grading and removal of vegetation. These activities could adversely affect habitat function for special-status plants by altering the topography and hydrology in grasslands and uplands surrounding vernal pools.

Permanent loss of grassland habitat for special-status plants from Covered Activities under Alternative 4 would be offset by the protection and management of 1,627 acres of grassland and up to 8,916 acres of vernal pool complex uplands (estimated flexible conservation acreage), as well as restoration of 550 acres of grassland and up to 1,155 acres of vernal pool complex uplands in Plan Area reserves. The protection and restoration of grassland and vernal pool complex upland habitat for special-status plants would be would be supported by the following conservation measures.

- CM1 L-2, Reserve Acquisition Strategy
- CM2 L-1, Vegetation Management and Invasive Plant Control
- CM2 L-3, Develop and Implement Fire Management Plans
- CM3, VPCG-1, Vernal Pool Complex Restoration/Creation
- CM3 VPCG-2, Grassland Restoration

Temporarily affected grassland and vernal pool complex upland habitats for special-status plants would be restored through implementation of General Condition 4, Temporary Effects, which requires that temporarily affected areas be restored to pre-project conditions or better, based on performance standards such as percent vegetative cover, restored hydrology, and restored topography.

Although they do not apply to special-status plant species, these conservation measures and conditions establish performance standards for considering the effectiveness of proposed conservation actions. In addition, the impacts of Covered Activities, which includes urban/suburban development, transportation projects, and infrastructure projects, under Alternative 4 on occurrences of and habitat for non-covered special-status plants would be mitigated on a project-by-project basis for discretionary projects. Ancillary benefits for these plant species are also expected to result from Plan implementation, because it would establish a comprehensive reserve management program that would enhance habitat conditions in a variety of natural communities that may support non-covered special-status plants. Any potential effects on these plants from fuels management, vegetation management, infrastructure operations and maintenance, though not likely subject to additional environmental review, would be offset because the entities implementing these projects would be participating in the Plan and contributing funds for the implementation of the conservation strategy; furthermore the likelihood of rare plants occurring in these areas is low because these areas were likely previously disturbed by similar activities (e.g., existing fire breaks, areas previously disturbed by infrastructure construction). The implementation of conservation measures to create, restore, enhance, and manage grassland and upland vernal pool complex habitat, which may affect these plant populations, may not be subject to further approvals or review that may identify effects on these plants.

NEPA Determination: Implementation of the Plan under Alternative 4 could result in the loss of up to two occurrences of big-scale balsamroot and one potential occurrence of Red Bluff dwarf rush. Covered Activities under Alternative 4 would also result in the permanent removal of up to 3,945 acres of grassland and the upland portion of the 6,928 acres of vernal pool complex that supports habitat for special-status plants in the Plan Area. However, the protection and restoration guided by the Plan's goals, objectives, conservation measures, and conditions would ensure that habitat loss from Covered Activities, which include urban/suburban development, transportation projects, infrastructure projects, fuels management, vegetation management, infrastructure operations and maintenance, would be compensated for, and preserved habitat would be managed in perpetuity and thus the effects would be reduced to a less-than-significant level.

Conservation measures to create, restore, enhance, and manage grassland habitat could remove existing populations of special-status plants if these actions take place in previously undisturbed grassland and if there are no opportunities to identify and avoid these populations through subsequent NEPA review; therefore, these activities could have significant impacts on special-status plants. Implementation of Mitigation Measure BIO-1 would reduce this effect to a less-than-significant level.

CEQA Determination: Implementation of the Plan under Alternative 4 could result in the loss of up to two occurrences of big-scale balsamroot and one potential occurrence of Red Bluff dwarf rush. Covered Activities under Alternative 4 would also permanently remove up to 3,945 acres of grassland and the upland portion of the 6,928 acres of vernal pool complex that supports habitat for special-status plants in the Plan Area. However, the protection and restoration guided by the Plan's goals, objectives, conservation measures, and conditions would ensure that habitat loss from

Covered Activities, which include urban/suburban development, transportation projects, infrastructure projects, fuels management, vegetation management, and infrastructure operations and maintenance, would be compensated for, and preserved habitat would be managed in perpetuity and thus the effects would be reduced to a less-than-significant level

Conservation measures to create, restore, enhance, and manage grassland habitat could remove existing populations of special-status plants if these actions take place in previously undisturbed grassland and if there are no opportunities to identify and avoid these populations through subsequent CEQA review; therefore, these activities could have significant impacts on special-status plants. Implementation of Mitigation Measure BIO-1 would reduce this potential impact to a less-than-significant level.

Mitigation Measure BIO-1: Conduct surveys for and avoid special-status plants in proposed restoration and enhancement areas

Impact BIO-10: Effects on special-status plants in fresh emergent marsh and riverine habitats (NEPA: less than significant with mitigation; CEQA: less than significant with mitigation)

One special-status plant species that grows in fresh emergent marsh and slow-moving riverine habitats (Sanford's sagittaria) has potential to occur in the Plan Area region. The Plan Area is within the range of Sanford's sagittaria and supports suitable habitat for the species. There are no CNDDB-documented occurrences in the Plan Area, although one CNDDB occurrence is in Sacramento County adjacent to the Plan Area (California Department of Fish and Wildlife 2017). There are a total of 93 occurrences in California, 8 of which are extirpated or possibly extirpated. In addition, there is inoculation of this species in the Silvergate Mitigation Bank that is not included in the CNDDB (Wildlands 2003). No impacts on the mitigation bank would result from implementation of the Plan.

Covered Activities under Alternative 4, Reduced Permit Term, would result in permanent and temporary impacts on marsh and riverine habitat for special-status plants. Potential habitats for these species in Plan Area A include 1,112 acres of marsh and 868 acres of riverine, a portion of which would be suitable habitat for Sanford's sagittaria. Permanent impacts in the Valley portion of the Plan Area would total 28 acres of fresh emergent marsh habitat (approximately 2% of this community in Plan Area A) and 44 acres of riverine habitat (approximately 5% of this community in Plan Area A). Permanent impacts in the Foothill portion would total 30 acres of fresh emergent marsh habitat (approximately 3% of this community in Plan Area A) and 18 acres of riverine habitat (approximately 2% of this community in Plan Area A). Impacts in Plan Area A would result primarily from urban/suburban development, transportation projects, and infrastructure projects. In Plan Area B, permanent impacts of Covered Activities in non-participating cities would total 5 acres of fresh emergent marsh habitat and 5 acres of riverine habitat. No known occurrences of special-status plants associated with marsh or riverine habitats would be removed as a result of the projects; however, currently undiscovered occurrences of special-status plants could be removed in the Plan Area as a result of project construction in Plan Areas A and B.

Temporary impacts of Covered Activities on fresh emergent marsh habitat for special-status plants would not exceed 14 acres in the Valley portion of the Plan Area, 9 acres in the Foothill portion, and 10 acres in Plan Area B. Temporary impacts on riverine habitat for special-status plants would not exceed 28 acres in the Valley portion of the Plan Area, 10 acres in the Foothill portion, and 10 acres in Plan Area B. These temporary impacts would be associated with urban/suburban development, rural residential development, transportation construction, fuels management, vegetation

management, infrastructure operations and maintenance, and infrastructure construction. Temporary effects associated with fuels management, vegetation management, and infrastructure operations and maintenance would occur in areas previously disturbed by similar activities (e.g., existing fire breaks, areas previously disturbed by infrastructure construction), and therefore the likelihood of rare plants occurring in these areas is low. Some conservation actions through Plan implementation may also temporarily affect fresh emergent marsh habitat for special-status plants in locations where grading, vegetation management, or other physical change is required.

Indirect impacts on fresh emergent marsh and riverine habitats that are suitable for special-status plants could result from construction activities such as grading and removal of vegetation. These activities could adversely affect habitat function for special-status plants by altering the topography and hydrology that support these habitats.

Permanent loss of fresh emergent marsh and riverine habitats for special-status plants from Covered Activities under Alternative 4 would be offset by the protection and management of 144 acres of fresh emergent marsh and up to 172 acres of riverine in Plan Area reserves. In addition, there would be restoration of up to 114 acres of fresh emergent marsh and up to 100 acres of riverine in Plan Area reserves. The protection of fresh emergent marsh and riverine habitats for special-status plants would be supported by the following conservation measures.

- CM1 L-2, Reserve Acquisition Strategy
- CM1 AW-1, Aquatic/Wetlands Complex Protection
- CM2 L-1, Vegetation Management and Invasive Plant Control
- CM2 L-3, Develop and Implement Fire Management Plans
- CM2 RAR-1, Riparian Vegetation Management
- CM2 AW-1, Aquatic/Wetlands Complex Vegetation Control
- CM2 AW-2, Fencing Wetlands and Ponds
- CM2 AW-3, Sediment Removal
- CM2 AW-7, Maintenance of Water Depths and Hydrological Cycles
- CM2 AW-9, Maintenance and Enhancement of Water Quality
- CM3 AW-1, Aquatic/Wetlands Complex Restoration/Creation

Temporarily affected fresh emergent marsh and riverine habitats for special-status plants would be restored through implementation of General Condition 4, Temporary Effects, which requires that temporarily affected areas be restored to pre-project conditions or better, based on performance standards such as percent vegetative cover, restored hydrology, and restored topography.

Implementation of Community Condition 2, Riverine and Riparian Avoidance and Minimization, and the specific measures contained in the condition would protect the hydrology and habitat quality of riverine habitat for special-status plants. Community Condition 1.2, Avoidance of Aquatic/Wetland Complex Constituent Habitat, would encourage avoidance of impacts on fresh emergent marsh habitat.

Although they do not apply to special-status plant species, these conservation measures and conditions establish performance standards for considering the effectiveness of proposed conservation actions. In addition, the impacts of Covered Activities, which include urban/suburban

development, transportation projects, and infrastructure projects, under Alternative 4 on occurrences of and habitat for non-covered special-status plants would be mitigated on a project-by-project basis for discretionary projects. Ancillary benefits for these plant species are also expected to result from Plan implementation, because it would establish a comprehensive reserve management program that would enhance habitat conditions in a variety of natural communities that may support non-covered special-status plants. Any potential effects on these plants from fuels management, vegetation management, and infrastructure operations and maintenance, though not likely subject to additional environmental review, would be offset because the entities implementing these projects would be participating in the Plan and contributing funds for the implementation of the conservation strategy; furthermore the likelihood of rare plants occurring in these areas is low because these areas were likely previously disturbed by similar activities (e.g., existing fire breaks, areas previously disturbed by infrastructure construction). The implementation of conservation measures to create, restore, enhance, and manage fresh emergent marsh and riverine habitats, which may affect these plant populations, may not be subject to further approvals or review that may identify effects on these plants.

NEPA Determination: Implementation of Alternative 4 could affect currently undiscovered occurrences of special-status plants in freshwater emergent marsh and riverine habitats. Alternative 4 would also permanently remove up to 62 acres of fresh emergent marsh and 67 acres of riverine habitats for special-status plants in the Plan Area. However, habitat loss from Covered Activities, which include urban/suburban development, transportation projects, infrastructure projects, fuels management, vegetation management, and infrastructure operations and maintenance, would be compensated for, and preserved habitat would be managed in perpetuity and thus the effects would be reduced to a less-than-significant level.

Conservation measures to create, restore, enhance, and manage emergent marsh and riverine habitat could remove existing populations of special-status plants if these actions take place in previously undisturbed habitat and if there are no opportunities to identify and avoid these populations through subsequent NEPA review; therefore, these activities could have adverse impacts on special-status plants. Implementation of Mitigation Measure BIO-1 would reduce this affect such that it would not be adverse.

CEQA Determination: Implementation of Alternative 4 could affect currently undiscovered occurrences of special-status plants in freshwater emergent marsh and riverine habitats. Alternative 4 would also permanently remove up to 62 acres of fresh emergent marsh and 67 acres of riverine habitats for special-status plants in the Plan Area. However, habitat loss from Covered Activities, which include urban/suburban development, transportation projects, infrastructure projects, fuels management, vegetation management, and infrastructure operations and maintenance, would be compensated for, and preserved habitat would be managed in perpetuity and thus would reduce these effects to a less-than-significant level.

Conservation measures to create, restore, enhance, and manage emergent marsh and riverine habitats could remove existing populations of special-status plants if these actions take place in previously undisturbed habitat and if there are no opportunities to identify and avoid these populations through subsequent CEQA review; therefore, restoration could have significant impacts on special-status plants. Implementation of Mitigation Measure BIO-1 would reduce this potential impact to a less-than-significant level.

Mitigation Measure BIO-1: Conduct surveys for and avoid special-status plants in proposed restoration and enhancement areas

Special-Status Fish and Wildlife

Impact BIO-11: Potential for construction and operation effects on Chinook salmon (fall-/late fall–run) and Central Valley steelhead (NEPA: less than significant; CEQA: less than significant)

Implementation of the Plan Covered Activities under Alternative 4, Reduced Permit Term, would result in permanent and temporary direct effects on Central Valley steelhead and Chinook salmon habitat. Permanent direct effects on riparian woodland/riverine habitat would total 290 acres: 281 acres in Plan Area A and 9 acres in Plan Area B. Implementation of the Plan and Covered Activities under Alternative 4 would result in temporary direct effects on 103 acres: 84 acres in Plan Area A and 19 acres in Plan Area B. These direct impacts would result from road crossings (i.e., bridge work and culverts); water supply, flood control, and stormwater management activities; and activities of individual landowners typically in rural residential settings. In addition, implementation of Plan riparian/riverine protection, conservation, and enhancement activities under Alternative 4 could affect Central Valley steelhead and Chinook salmon habitat.

These activities could cause a permanent change in substrate composition and channel morphology in aquatic habitat; create a permanent loss of shallow-water habitat, riparian vegetation, and instream woody material; and change instream flows if water is diverted from streams and if woody material, including beaver dams, is removed from creeks that could benefit habitat for fish. Implementation of the Plan and Covered Activities could also have direct effects on fish during construction; heavy equipment use in the active channel and impact pile driving could kill or injure fish. Finally, these activities could result in localized alterations in channel form and patterns of erosion and sedimentation that over time could alter aquatic habitat structure and function from existing conditions.

Implementation of conservation measures addressing riverine and riparian communities and covered salmonids would have a beneficial permanent direct effect on steelhead and Chinook salmon. Aquatic habitat improvement activities include floodplain restoration/reconnection projects in the Dry Creek, Auburn Ravine, and Coon Creek watersheds; bridge and culvert improvement projects; channel improvements to natural channels; fish passage enhancements including removal of fish barriers, low-flow crossings, and development of fish screens; and placement of spawning gravels. These activities would benefit steelhead and Chinook salmon spawning, migratory, and rearing habitat, contributing to higher survival of these covered species in the Plan Area.

Temporary effects on salmonid streams are expected to result from road crossings, water supply projects, flood control projects, and instream restoration activities. Impact mechanisms associated with these activities include accidental introduction of contaminants and sediment into flowing water and noise at individual project construction sites. Removing or altering existing riparian habitat for habitat improvement activities under the Plan could temporarily affect water temperature and habitat complexity. Recurring maintenance activities within and outside the Plan Area, such as transportation facility maintenance, flood control and stormwater facility maintenance, and vegetation management, may have temporary direct effects on Chinook salmon

and steelhead through the release of sediment and contaminants and the removal of in-channel woody material.

Permanent indirect effects resulting from transportation projects and urban and rural residential development include noise, visual disturbance, and ground vibrations that could cause Chinook salmon and steelhead to avoid suitable aquatic habitat. Vehicles on bridges can increase noise levels and the release of petroleum-based chemicals into waterways, in turn causing decreased spawning, migratory, and rearing success. An increase in the input of contaminants (e.g., petroleum-based chemicals, pesticides, heavy metals) to waterways could result from residential development, presence of new impervious surfaces associated with residential development, transportation projects, and other facilities if runoff enters waterways. Contaminants can adversely affect fish directly through exposure or indirectly through adverse effects on food organisms (e.g., macroinvertebrates), including the bioaccumulation of toxic compounds in these organisms.

Designated critical habitat for Central Valley steelhead is present in the Plan Area. Critical habitat for steelhead occurs in Coon Creek, Doty Creek, Auburn Ravine, Secret Ravine, Miner's Ravine, and Dry Creek. Approximately 0.71 mile (0.8% of total designated critical habitat in the Plan Area: 0.58 mile spawning/rearing habitat and 0.13 mile migration/rearing habitat) could be permanently affected by bridge construction, flood control and stormwater management activities, natural resource protection activities, and the conservation strategy. The conservation strategy and the conditions listed below are expected to have a beneficial effect on critical habitat for Central Valley steelhead.

EFH for Chinook salmon also occurs in the Plan Area. Construction and operation of the activities listed above and the conservation strategy (restoration, enhancement, and management actions) would result in permanent effects on EFH. The conservation activities and Conditions discussed below will increase EFH value for Pacific salmonids and have a beneficial impact on EFH.

The Plan seeks to conserve and protect the stream systems throughout western Placer County and to increase spawning, rearing, and migratory success of covered salmonids in the Auburn Ravine, Coon Creek, and Dry Creek watersheds. The following landscape-, natural community–, and species-level objectives and conservation measures would provide fish movement, protect watershed health, and protect habitat for covered salmonids in support of goal FISH-1.

- Objective L-1.1, Establish a Large, Interconnected Reserve System
- Objective L-2.1, Protect Habitat Linkages
- Objective L-2.3, Establish East–West Corridors
- Objective L-3.1, Implement Low Impact Development Standards
- Objective L-3.2, Reduce Invasive Non-native Species and Increase Native Species
- Objective VPCG-1.1, Protect Existing Vernal Pool Complexes
- Objective VPCG-1.2, Restore/Create Vernal Pool Complexes
- Objective VPCG-1.3, Protect Grasslands
- Objective VPCG-1.4, Restore/Create Vernal Pool Complexes
- Objective RAR-1.1, Protect Riverine/Riparian Complex
- Objective RAR-1.2, Protect Riverine Habitat Constituent
- Objective RAR-1.3, Restore Riverine/Riparian Complex

- Objective RAR-1.5, Remove or Modify Fish Barriers;
- Objective RAR-1.7, Enhance Streams.
- Objective OW-1.1, Protect Oak Woodlands
- Objective OW-1.2, Restore Oak Woodlands
- Objective FISH-1.1, Protect Salmonid Spawning and Migrating Habitat
- Objective FISH-1.2, Protect Riparian Habitat for Fish
- Objective FISH-1.3, Protect Oak Woodlands for Fish
- CM1 RAR-1, Riverine and Riparian Protection
- CM1 RAR-2, Reserve Design for Riparian Restoration
- CM2 RAR-1, Riparian Vegetation Management
- CM2 RAR-2, Removal and/or Modification of Barriers to Fish Passage
- CM2 RAR-3, Modify Unscreened Water Diversion
- CM2 RAR-4, Improvement of In-channel Features
- CM2 RAR-7, Non-native Animals Species Control
- CM3 RAR-1, Riparian Natural Community Restoration

These objectives and conservation measures are intended to protect 48 stream miles in the Reserve System, including 14 stream miles of salmonid spawning habitat and 6 miles of salmonid migrating habitat, primarily on stream reaches along Coon Creek, Doty Ravine (a major tributary of Coon Creek), and Auburn Ravine, in keeping with the *Central Valley Chinook and Steelhead Recovery Plan* (National Marine Fisheries Service 2014). In addition, 307 acres of riparian habitat along salmonid spawning stream reaches and 188 acres of riparian habitat along salmonid migrating reaches—primarily along Coon Creek, Doty Ravine, and Auburn Ravine—would also be protected.

In addition to the biological objectives listed above, the following general, community, and stream system conditions would benefit covered salmonids.

- General Condition 1, Watershed Hydrology and Water Quality
- General Condition 2, Conservation Lands: Development Interface Design Requirements
- General Condition 3, Land Conversion
- General Condition 4, Temporary Effects
- General Condition 5, Conduct Worker Training
- Community Condition 2, Riverine and Riparian Avoidance and Minimization
- Community Condition 2.1, Riverine and Riparian Avoidance
- Community Condition 2.2, Minimize Riverine and Riparian Effects, Community Condition 2.3, Riverine and Riparian Restoration
- Community Condition 2.4, Placer County Water Agency Operations and Maintenance Best Management Practice
- Stream System Condition 1, Stream System Avoidance

- Species Condition 7, Central Valley Steelhead and Central Valley Fall-/Late Fall-Run Chinook Salmon (Salmonids)
- In-Stream and Stream System BMPs

The application of Low-Impact Development Standards would improve water quality for covered fish species. The restoration of riparian natural community would further benefit these species by providing cover and shade for thermoregulation and by providing vegetation that is a source of invertebrates upon which covered salmonids feed.

These goals, objectives, general conditions, and conservation measures establish performance standards for measuring the effectiveness of restoration actions. The acres of protection and restoration satisfy the typical mitigation that would be applied to the project-level effects, as well as mitigating the effects of the other conservation measures.

NEPA Determination: The permanent loss of 290 acres and temporary disturbance of 103 acres of riparian woodland/riverine habitat associated with Alternative 4, in the absence of other conservation actions, would constitute a potentially significant impact through habitat modification and potential direct mortality of a special-status species. However, with habitat protection and restoration associated with the conservation components, guided by landscape-scale goals and objectives, the overall effects of Alternative 4 on covered salmonids would be less than significant.

CEQA Determination: The permanent loss of 290 acres and temporary disturbance of 103 acres of riparian woodland/riverine habitat associated with Alternative 4, in the absence of other conservation actions, would constitute a significant impact through habitat modification and potential direct mortality of a special-status species. The natural community restoration and protection activities would constitute adequate mitigation for CEQA purposes. The biological goals and conservation measures relevant to covered salmonids are more than sufficient to support the conclusion that the impacts of Alternative 4 on covered salmonids would be less than significant. No mitigation has been identified.

Impact BIO-12: Potential for construction and operation effects on non-covered species (hardhead and Pacific lamprey) (NEPA: less than significant; CEQA: less than significant)

Implementation of the Plan and Covered Activities under Alternative 4, Reduced Permit Term, would result in permanent and temporary direct effects on hardhead and Pacific lamprey habitat. Permanent direct effects on riparian woodland/riverine habitat would total 290 acres: 281 acres in Plan Area A and 9 acres in Plan Area B. Implementation of the Plan and Covered Activities under Alternative 4 would result in temporary direct effects on 103 acres: 84 acres in Plan Area A and 19 acres in Plan Area B. These direct impacts would result from road crossings (i.e., bridge work and culverts) and water supply, flood control, and stormwater management activities. In addition, implementation of Plan riparian/riverine protection, conservation, and enhancement activities under Alternative 4 could affect hardhead and Pacific lamprey habitat.

These activities could cause a permanent change in substrate composition and channel morphology in aquatic habitat; create a permanent loss of shallow-water habitat, riparian vegetation, and instream woody material; and change instream flows if water is diverted from streams and if woody material, including beaver dams, is removed from creeks that could benefit habitat for fish. Implementation of the Plan and Covered Activities could also have direct effects on fish during construction; heavy equipment use in the active channel could kill or injure fish. Finally, these activities could result in localized alterations in channel form and patterns of erosion and

sedimentation that over time could alter aquatic habitat structure and function from existing conditions.

Temporary effects on streams are expected to result from road crossings, water supply projects, flood control projects, and instream restoration activities. Impact mechanisms associated with these activities include accidental introduction of contaminants and sediment into flowing water and noise at project construction sites. Removing or altering existing riparian habitat in order to initiate habitat improvement activities under the Plan could temporarily affect water temperature and habitat complexity. Recurring maintenance activities within and outside the Plan Area, such as transportation facility maintenance, utility service facilities maintenance, flood control and stormwater facility maintenance, and vegetation management, may have temporary direct effects on hardhead and Pacific lamprey through the release of sediment and contaminants and the removal of in-channel woody material.

Permanent indirect effects resulting from transportation projects and urban and rural residential development include noise, visual disturbance, and ground vibrations that could cause hardhead and Pacific Lamprey to avoid suitable aquatic habitat. Vehicles on bridges can increase noise levels and the release of petroleum-based chemicals into waterways, in turn causing decreased spawning, migratory, and rearing success. An increase in the input of contaminants (e.g., petroleum-based chemicals) to waterways could result from the presence of new impervious surfaces associated with residential development, transportation projects, and other facilities if runoff enters waterways. Contaminants can adversely affect fish directly through exposure or indirectly through adverse effects on food organisms (e.g., macroinvertebrates), including the bioaccumulation of toxic compounds in these organisms.

Implementation of conservation measures addressing riverine and riparian communities and covered salmonids would have a beneficial permanent direct effect on hardhead and Pacific lamprey through the protection and restoration of up to 1,784 acres of riverine/riparian habitat and 48 linear miles of open water habitat. Aquatic habitat improvement activities include floodplain restoration/reconnection projects in the Auburn Ravine, Coon Creek, and Dry Creek watersheds; bridge and culvert improvement projects; channel improvements to natural channels; fish passage enhancements including removal of fish barriers, low-flow crossings, and development of fish screens; and placement of spawning gravels (lamprey would benefit from spawning gravel placement). These activities would benefit hardhead and lamprey spawning, migratory, and rearing habitat, contributing to higher survival of non-covered species in the Plan Area.

As disclosed in the discussion of Impact BIO-11, the goals, objectives, general conditions, and conservation measures establish performance standards for measuring the effectiveness of restoration actions. The acres of protection and restoration satisfy the typical mitigation that would be applied to the project-level effects, as well as mitigating the effects of the other conservation measures.

NEPA Determination: The permanent loss of 290 acres and temporary disturbance of 103 acres of riparian woodland/riverine habitat associated with Alternative 4, in the absence of other conservation actions, would constitute a potentially significant impact through habitat modification and potential direct mortality of a special-status species. However, with habitat protection and restoration associated with the conservation components, guided by landscape-scale goals and objectives, the overall effects of Alternative 4 on hardhead and Pacific lamprey would be less than significant.

CEQA Determination: The permanent loss of 290 acres and temporary disturbance of 103 acres of riparian woodland/riverine habitat associated with Alternative 4, in the absence of other conservation actions, would constitute a significant impact through habitat modification and potential direct mortality of a special-status species. The natural community restoration and protection activities would constitute adequate mitigation for CEQA purposes. The biological goals and conservation measures relevant to covered salmonids are more than sufficient to support the conclusion that the impacts of Alternative 4 on hardhead and Pacific lamprey would be less than significant. No mitigation has been identified.

Impact BIO-13: Effects on valley elderberry longhorn beetle (NEPA: less than significant; CEQA: less than significant)

The CNDDB lists 12 occurrences of valley elderberry longhorn beetle in the Plan Area (California Department of Fish and Wildlife 2017). Appendix D, *Species Accounts*, of the Plan provides more detail on the status and distribution of the species throughout its range.

Covered Activities under Alternative 4, Reduced Permit Term, would result in permanent and temporary impacts on valley elderberry longhorn beetle habitat. Permanent impacts would result in the loss of up to 376 acres of habitat (5% of 8,153 acres of habitat in the Plan Area), primarily from urban/suburban development, rural residential development, transportation projects, and infrastructure projects. These losses would almost entirely occur within the Valley portion of Plan Area A, with small losses (19 acres) in Plan Area B.

Temporary impacts of Covered Activities on valley elderberry longhorn beetle habitat would not exceed 103 acres (1%) of habitat in the Plan Area. These temporary impacts would be associated with urban/suburban development, rural residential development, transportation construction, fuels management, vegetation management, infrastructure operations and maintenance, and infrastructure construction. Plan restoration and enhancement activities under Alternative 4 that could temporarily affect valley elderberry longhorn beetle habitat include grading and contouring to restore, create, and enhance wetlands in reserves.

Indirect effects on valley elderberry longhorn beetle habitat include accumulation of dust on shrubs resulting from up-wind disturbances, flood control practices that could fragment habitat used by valley elderberry longhorn beetle, increased risk of wildfire, and the spread of invasive plants and animals that could affect the species.

The permanent and temporary loss of valley elderberry longhorn habitat would be offset by the protection and management of 1,386 acres and restoration of 957 acres of valley elderberry longhorn beetle habitat. The protection and restoration of valley elderberry longhorn beetle habitat would be supported by the following goals, objectives, conservation measures, and conditions.

- GOAL VELB-1, Habitat to support a sustained population of valley elderberry longhorn beetle within the Reserve System
- Objective RAR-1.1, Protect Riverine/Riparian Complex
- Objective RAR-1.3, Restore Riverine/Riparian Complex
- Objective RAR-1.4, Enhance Riparian Vegetation
- Objective OW-1.4, Protect Oak Woodlands
- Objective VELB-1.1, Restore Valley Elderberry Longhorn Beetle Habitat

- CM1, Establish Reserve System
- CM2, Manage and Enhance the Reserve System
- CM3, Restore and Create Natural Communities and Covered Species' Habitat.
- CM3 VELB-1, Valley Elderberry Longhorn Habitat Restoration
- CM1 RAR-1, Riverine and Riparian Protection
- CM2 RAR-1 Riparian Vegetation Management
- CM3 RAR-1, Riparian Natural Community Restoration
- CM1 OW-1, Oak Woodland Protection
- General Condition 2, Conservation Lands: Development Interface Design Requirements
- General Condition 4, Temporary Effects
- General Condition 5, Conduct Worker Training
- Community Condition 2, Riverine and Riparian Avoidance and Minimization
- Stream System Condition 1, Stream System Avoidance
- Stream System Condition 2, Stream System Mitigation: Restoration
- Regional Public Projects Condition 1, Transportation and Other Infrastructure Projects Design Requirements
- Regional Public Projects Condition 2, Transportation and Other Infrastructure Projects Construction BMPs
- Regional Public Projects Condition 3, Operations and Maintenance BMPs
- Species Condition 8, Valley Elderberry Longhorn Beetle

The Plan's model for valley elderberry longhorn beetle only considers modeled habitat up to an elevation of 650 feet; accordingly Species Condition 8 only requires surveys up to this elevation. As noted in Section 3.3, *Affected Environment*, the species is known to occur up to 1,875 feet in Placer County and is considered to occur up to 3,000 feet across the species' range. There is a chance that elderberry shrubs, including occupied shrubs, could be missed if surveys are not conducted above 650 feet. Despite this limitation, the Plan's protection, management, and restoration (which includes planting elderberry shrubs) of 4,040 acres of riparian habitat and valley oak woodland contrasted with 630 acres of impact (a ratio greater than 6:1) would more than compensate for the potential effects on the species.

These goals, objectives, conservation measures, and conditions establish performance standards for measuring the effectiveness of proposed conservation actions. The acres of protection and restoration satisfy the typical mitigation that would be applied to the project-level effects, as well as mitigating the effects of the other conservation measures. The proposed conditions further demonstrate the intent to avoid and minimize effects over the life of the Plan.

NEPA Determination: The permanent loss of 376 acres and temporary disturbance of 103 acres of valley elderberry longhorn beetle habitat associated with Alternative 4, in the absence of other conservation actions, would constitute a potentially significant impact through habitat modification and potential direct mortality of a special-status species. However, with the protection and

restoration guided by the Plan's goals, objectives, conservation measures, and conditions, the overall effects of Alternative 4 on valley elderberry longhorn beetle would be less than significant.

CEQA Determination: The permanent loss of 376 acres and temporary disturbance to 103 acres of valley elderberry longhorn beetle habitat associated with Alternative 4, in the absence of other conservation actions, would constitute a significant impact through habitat modification and potential direct mortality of a special-status species. The natural community restoration and protection activities would constitute adequate mitigation for CEQA purposes. The biological goals and conservation measures for valley elderberry longhorn beetle are more than sufficient to support the conclusion that the impacts of Alternative 4 on valley elderberry longhorn beetle would be less than significant. No mitigation has been identified.

Impact BIO-14: Effects on vernal pool branchiopods (NEPA: less than significant; CEQA: less than significant)

The CNDDB lists 1 occurrence of Conservancy fairy shrimp, 63 occurrences of vernal pool fairy shrimp, and 3 occurrences of vernal pool tadpole shrimp in the Plan Area (California Department of Fish and Wildlife 2017).

Covered Activities under Alternative 4, Reduced Permit Term, would result in permanent and temporary impacts on vernal pool complex and wetland habitat for vernal pool branchiopods. Permanent impacts would result in the loss of up to 6,928 acres of vernal pool complex supporting 328 acres of vernal pool–type wetlands (16% and 15% of these habitats in the Plan Area, respectively). These impacts would result primarily from urban/suburban development, rural residential development, transportation projects, and infrastructure projects. These losses would be primarily in the Valley portion of Plan Area A, with small losses occurring in Plan Area B (15 acres).

Temporary impacts of Covered Activities on vernal pool branchiopod habitat would not exceed 16 acres of vernal pool–type wetlands (less than 1% of this habitat type in the Plan Area) and 251 acres of vernal pool complex (less than 1%). These temporary impacts would be associated with urban/suburban development, rural residential development, transportation construction, fuels management, vegetation management, infrastructure operations and maintenance, and infrastructure construction. Conservation actions of Plan implementation under Alternative 4 that could temporarily affect vernal pool complex include restoration and enhancement actions such as grading and contouring to restore, create, and enhance vernal pool–type wetlands in reserves.

Indirect impacts on vernal pool complex could result from construction activities in the Plan Area, such as grading, trenching, changes to hydrology, and changes to topography. Indirect effects on vernal pools are generally considered to occur when ground-disturbing activities take place within 250 feet of a vernal pool—more specifically, when it can be demonstrated that the hydrology supporting a pool has been altered. Indirect effects on vernal pool complexes were estimated in the Plan at 1,979 acres, which is approximately 15% of direct effects (permanent and temporary combined). Under Alternative 4, assuming the indirect effects would also be 15% of direct, the indirect effects would be approximately 1,077 acres. These indirect effects could adversely affect the functions and services of vernal pool–type wetlands and supporting uplands in vernal pool complexes. These effects could result from construction and maintenance of infrastructure associated with urban and rural development, installation and maintenance of utility lines, road improvements, drainage facility improvements, and flood control projects.

Goal VPB-1 as set forth in the Plan seeks to sustain populations of vernal pool branchiopods within the Reserve System. Permanent loss of vernal pool complex under Alternative 4 would be offset by the protection and management of 9,785 acres and the restoration of 2,145 acres of vernal pool complex in reserves within the Plan Area. The protection and restoration of vernal pool complex would be supported by the following biological objectives, conservation measures, and conditions.

- Objective VPCG-1.1, Protect Existing Vernal Pool Complexes
- Objective VPB-1.1, Maintain Vernal Pool Fairy Shrimp Occupancy in the Reserve System
- Objective VPB-1.2, Maintain Vernal Pool Tadpole Shrimp Occupancy in the Reserve System
- Objective VPB-2.1, Protect Conservancy Fairy Shrimp Occurrences
- CM1, Establish Reserve System
- CM1 L-2, Reserve Acquisition Strategy
- CM1 L-4, Connectivity within Plan Area
- CM1 VPCG-1, Vernal Pool Complex Protection
- CM1 VPCG-2, Reserve Design for Vernal Pool Restoration/Creation
- CM1 VPB-1, Protection and Restoration of Occupied Vernal Pool Fairy Shrimp and Vernal Pool Tadpole Shrimp Habitat
- CM2, Manage and Enhance the Reserve System
- CM2 L-1, Vegetation Management and Invasive Plant Control
- CM2 L-3, Develop and Implement Fire Management Plans
- CM2 VPCG-1, Vernal Pool Complex Enhancement and Hydrologic Conditions
- CM3, Restore and Create Natural Communities and Covered Species' Habitat
- CM3 VPCG-1, Vernal Pool Complex Restoration/Creation
- CM3 VPB-1, Translocation of Vernal Pool Branchiopod Cysts
- CM4 L-1, Low-Impact Development Standards
- CM4 VPCG-1, Conduct Outreach to Private Landowners
- General Condition 1, Watershed Hydrology and Water Quality
- General Condition 2, Conservation Lands: Development Interface Design Requirements
- General Condition 4, Temporary Effects
- General Condition 5, Conduct Worker Training
- Community Condition 1, Wetland Avoidance and Minimization (Vernal Pool and Aquatic/Wetland Complex)
- Regional Public Projects Condition 1, Transportation and Other Infrastructure Projects Design Requirements
- Regional Public Projects Condition 2, Transportation and Other Infrastructure Projects Construction BMPs

- Regional Public Projects Condition 3, Operations and Maintenance BMPs
- Species Condition 9, Conservancy Fairy Shrimp
- Species Condition 10, Vernal Pool Fairy Shrimp and Vernal Pool Tadpole Shrimp

Objectives VPB-1.1 and VPB-1.2 would seek to maintain an occupancy rate equal to or greater than the rate lost as a result of Covered Activities within the 11,930 acres of protected, restored, and created vernal pool habitat described above. Objective VPB-2.1 would protect two occurrences of Conservancy fairy shrimp for the first occurrence lost and three occurrences for each additional occurrence lost. CM1 VPB-1 would ensure an occupancy rate that is equal to or greater than the occupancy rate of vernal pools lost as a result of Covered Activities. CM3 VPB-1 would be implemented primarily in sites that do not support populations of branchiopods and in restored or created wetlands.

These goals, objectives, conservation measures, and conditions establish performance standards for measuring the effectiveness of restoration actions. The acres of protection and restoration satisfy the typical mitigation that would be applied to the project-level effects, as well as mitigating the effects of the other conservation measures. The proposed conditions further demonstrate the intent to avoid and minimize effects over the life of the Plan.

NEPA Determination: The permanent loss of up to 6,928 acres of vernal pool complex supporting 328 acres of vernal pool–type wetlands and temporary disturbance of 251 acres of vernal pool complex supporting 16 acres of vernal pool–type wetlands associated with Alternative 4, in the absence of other conservation actions, would constitute a potentially significant impact through habitat modification and potential direct mortality of a special-status species. However, with the protection and restoration guided by the Plan's goals, objectives, conservation measures, and conditions, the overall effects of Alternative 4 on aquatic/wetland complex in the Plan Area would be less than significant.

CEQA Determination: The permanent loss of up to 6,928 acres of vernal pool complex supporting 328 acres of vernal pool–type wetlands and temporary disturbance of 251 acres of vernal pool complex supporting 16 acres of vernal pool–type wetlands associated with Alternative 4, in the absence of other conservation actions, would constitute a significant impact through habitat modification and potential direct mortality of a special-status species. The natural community restoration and protection activities would constitute adequate mitigation for CEQA purposes. The biological objectives, conservation measures, and conditions for vernal pool branchiopods are more than sufficient to support the conclusion that the impacts of habitat loss and direct mortality on vernal pool branchiopods under Alternative 4 would be less than significant. No mitigation has been identified.

Impact BIO-15: Effects on California red-legged frog (NEPA: less than significant; CEQA: less than significant)

The CNDDB lists three occurrences of California red-legged frog in one population in the Plan Area, near the town site of Michigan Bluff near Foresthill (California Department of Fish and Wildlife 2017). All these occurrences are limited to a conservation bank site (Big Gun Conservation Bank) that is being managed for California red-legged frog (Plan Area B5). There are no known occurrences in Plan Area A, B1, B2, B3, nor B4.

Covered Activities under Alternative 4, Reduced Permit Term, would result in permanent and temporary impacts on habitat that is presumed to be currently unoccupied by California red-legged frog. Permanent development projects would result in the loss of up to 672 acres of currently unoccupied aquatic breeding and foraging habitat (8% of a total 8,532 acres of aquatic habitat) and up to 8,551 acres of currently unoccupied upland movement and refugia habitat (7% of 75,306 acres of modeled upland habitat) in the Foothill portion of Plan Area A. These impacts would result primarily from urban/suburban development, rural residential development, transportation projects, and infrastructure projects. Moreover, restoration, enhancement, and management actions of Plan implementation under Alternative 4 could result in inadvertent mortality; result in the release of contaminants (e.g., fuels, lubricants) into habitat, potentially affecting survival; and cause erosion that could affect habitat.

Covered Activities would temporarily affect up to 101 acres of currently unoccupied aquatic habitat and 214 acres of currently unoccupied upland habitat in the Foothill portion of Plan Area A. These temporary impacts would be associated with urban/suburban development, rural residential development, transportation construction, fuels management, vegetation management, infrastructure operations and maintenance, and infrastructure construction. Conservation actions of Plan implementation under Alternative 4 that could temporarily affect California red-legged frog include grading and contouring to restore, create, and enhance wetlands and riparian habitat in reserves.

Short-term construction-related effects on California red-legged frog if individuals were to become established in portions of Plan Areas A, B1, B2, B3, and B4 include the generation of dust, which has the potential to interfere with the oxygen diffusion process and can transport toxic compounds that may affect frogs. Runoff from urban development and other Covered Activities could degrade the aquatic habitats that support this species. Additional indirect effects are expected to result from in-stream activities that could degrade aquatic habitat; habitat fragmentation as a result of urban and rural development and the construction of new roads and other infrastructure; and the introduction, establishment, and spread of invasive plants and predators (e.g., domestic pets, raccoons, coyotes, skunks, bullfrogs) that thrive in human-dominated environments. Because California red-legged frogs are not expected to occur in Plan Areas A, B1, B2, B3, or B4, indirect effects on the species are expected to be negligible, if any.

Under Alternative 4, the permanent and temporary loss of California red-legged frog aquatic and upland habitat would be offset by the protection of 701 acres and restoration of 745 acres of aquatic habitat and the protection of 7,490 acres and restoration of 96 acres of upland habitat. The protection of streams and riparian habitat in the Plan Area would facilitate dispersal for this species.

The protection and restoration of occupied and suitable habitat for California red-legged frog would be supported by the following objectives, conservation measures, and conditions.

- Objective AW-1.1, Protect Aquatic/Wetland Complex Natural Community
- Objective AW-1.2, Restore/Create Aquatic/Wetland Complex Natural Community
- Objective RAR-1.1, Protect Riverine/Riparian Complex
- Objective RAR-1.3, Restore Riverine/Riparian Complex
- Objective CRLF-1.1, Protect Occupied California Red-legged Frog Habitat
- Objective CRLF-2.1, Protect Suitable California Red-Legged Frog Habitat in the Plan Area

- Objective CRLF-2.2, Restore Suitable California Red-Legged Frog Habitat
- CM1, Establish Reserve System
- CM1 L-4, Connectivity within Plan Area
- CM1 NC-1, Siting Restoration
- CM1 CRLF-1, Purchase of California Red-legged Frog Conservation Credits at the Big Gun Conservation Bank
- CM1 CRLF-2, California Red-legged Frog Habitat Protection
- CM2, Manage and Enhance the Reserve System
- CM2 L-4, Maintenance and Enhancement of Reserve System Permeability
- CM2 AW-5, Basking Habitat Enhancement
- CM2 RAR-1, Riparian Vegetation Management
- CM2 RAR-4, Improvement of In-channel Features
- CM2 RAR-7, Non-native Animal Species Control
- CM3, Restore and Create Natural Communities and Covered Species' Habitat
- CM3 AW-1, Aquatic/Wetlands Complex Restoration and Creation
- CM3 RAR-1, Riparian Natural Community Natural Community Restoration
- General Condition 1, Watershed Hydrology and Water Quality
- General Condition 2, Conservation Lands: Development Interface Design Requirements
- General Condition 4, Temporary Effects
- General Condition 5, Conduct Worker Training
- Community Condition 2, Riverine and Riparian Avoidance and Minimization
- Stream System Condition 1, Stream System Avoidance
- Stream System Condition 2, Stream System Mitigation: Restoration
- Regional Public Projects Condition 1, Transportation and Other Infrastructure Projects Design Requirements
- Regional Public Projects Condition 2, Transportation and Other Infrastructure Projects Construction BMPs
- Regional Public Projects Condition 3, Operations and Maintenance BMPs

Achievement of Objective CRLF-1.1 would protect at least 2 acres of occupied California red-legged frog habitat in Plan Area B5 by Year 2 and an additional 2 acres by Year 5. Implementation of CM1 NC-1, CM1 CRLF-1, CM1 CRLF-2, CM2 AW-5, and CM3 AW-1 would result in a large interconnected Reserve System that provides aquatic and upland habitat for California red-legged frog, minimizes edge effects of development, and potentially facilitates movement and genetic exchange between populations if California red-legged frogs expand into the Plan Area. Implementation of CM1 L-4 and CM2 L-4 would facilitate California red-legged frog movement through the Reserve System. Implementation of CM2 RAR-1, CM2 RAR-4, CM2 RAR-7, and CM3 RAR-1 would reduce the spread of

invasive non-native plant species, minimizing the degradation of California red-legged frog habitat (e.g., controlling plants that invade stream channels) and increasing habitat for the species within the stream system. These measures would also aim to control non-native invasive animal species, minimizing predation of California red-legged frogs by invasive predators.

These goals, objectives, conservation measures, and conditions establish performance standards for measuring the effectiveness of restoration actions. The acres of protection and restoration satisfy the typical mitigation that would be applied to the project-level effects, as well as mitigating the effects of the other conservation measures.

NEPA Determination: The permanent loss of 403 acres of aquatic habitat and 5,131 acres of upland habitat and the temporary loss of 101 acres of aquatic habitat and 128 acres of upland for California red-legged frog associated with Alternative 4, in the absence of other conservation actions, would constitute a potentially significant impact through habitat modification and potential direct mortality of a special-status species. However, with the protection and restoration guided by the Plan's goals, objectives, conservation measures, and conditions, the overall effects of Alternative 4 on California red-legged frog would be less than significant.

CEQA Determination: The permanent loss of 403 acres of aquatic habitat and 5,131 acres of upland habitat and the temporary loss of 101 acres of aquatic habitat and 128 acres of upland for California red-legged frog associated with Alternative 4, in the absence of other conservation actions, would constitute a significant impact through habitat modification and potential direct mortality of a special-status species. The natural community restoration and protection activities would constitute adequate mitigation for CEQA purposes. The biological objectives, conservation measures, and conditions relevant to California red-legged frog are more than sufficient to support the conclusion that the impacts of habitat loss and direct mortality on California red-legged frog under Alternative 4 would be less than significant. No mitigation has been identified.

Impact BIO-16: Effects on foothill yellow-legged frog (NEPA: less than significant; CEQA: less than significant)

Although foothill yellow-legged frog is widely scattered in suitable riverine and riparian habitat throughout the foothills of Placer County, the CNDDB lists no occurrences of this species in the Plan Area (California Department of Fish and Wildlife 2017). The nearest record slightly more than 3 miles from the eastern border of the Plan Area. Appendix D, *Species Accounts*, of the Plan provides more detail on the status and distribution of yellow-legged frog throughout its range and in Placer County.

Covered Activities under Alternative 4, Reduced Permit Term, would result in permanent and temporary impacts on foothill yellow-legged frog habitat. Permanent impacts would result in the loss of up to 93 acres of foothill yellow-legged frog year-round habitat (8% of a total 1,837 acres of suitable habitat) in in the Foothill portion of the Plan Area (i.e., streams above 500 feet). These impacts would result primarily from urban/suburban development, rural residential development, transportation projects, and infrastructure projects. Other Covered Activities that could also affect habitat include in-stream activities, which include flood control and stormwater management projects, fish passage projects, and bank stabilization activities. Moreover, implementation of Plan restoration, enhancement, and management actions could result in inadvertent mortality; result in the release of contaminants (e.g., fuels, lubricants) into habitat, potentially affecting survival; and cause erosion that could affect habitat.

Covered Activities would temporarily affect up to 23 acres of year-round foothill yellow-legged frog habitat in the Plan Area (2% of a total 1,837 acres). These temporary impacts would be associated with urban/suburban development, rural residential development, transportation construction, fuels management, vegetation management, infrastructure operations and maintenance, and infrastructure construction. Conservation actions of Plan implementation under Alternative 4 that could temporarily affect foothill yellow-legged frog include grading and contouring to restore, create, and enhance wetlands and riparian habitat in reserves.

Short-term construction-related effects on foothill yellow-legged frog include the generation of dust, which has the potential to interfere with the oxygen diffusion process and can transport toxic compounds that may affect frogs. Runoff from urban development and other Covered Activities could degrade the aquatic habitats that support this species. Additional indirect effects are expected to result from in-stream activities that could degrade aquatic habitat; habitat fragmentation as a result of urban and rural development and the construction of new roads and other infrastructure; and the introduction, establishment, and spread of invasive plants and predators (e.g., domestic pets, raccoons, coyotes, skunks, bullfrogs) that thrive in human-dominated environments.

Under Alternative 4, the permanent and temporary loss of foothill yellow-legged frog habitat would be offset by the protection of 50 acres and restoration of 50 acres of foothill yellow-legged frog habitat in the Plan Area.

The protection and restoration of suitable habitat for foothill yellow-legged frog would be supported by the following objectives, conservation measures, and conditions.

- Objective RAR 1.1, Protect Riverine/Riparian Complex
- Objective RAR-1.2, Protect Riverine Habitat Constituent
- Objective RAR-1.3, Restore Riverine/Riparian Complex
- Objective FYLF-1.1, Protect Foothill Yellow-legged Frog Riverine Habitat
- Objective FYLF-1.2, Protect Foothill Yellow-legged Frog Riparian Habitat
- Objective FYLF-1.3, Restore Riparian Habitat for Foothill Yellow-legged Frog
- CM1, Establish Reserve System
- CM1 L-4, Connectivity within Plan Area
- CM1 FYLF-1, Foothill Yellow-legged Frog Habitat Protection
- CM1 NC-1, Siting Restoration
- CM2, Manage and Enhance the Reserve System
- CM2 L-4, Maintenance and Enhancement of Reserve System Permeability
- CM2 RAR-1, Riparian Vegetation Management
- CM2 RAR-4, Improvement of In-channel Features
- CM2 RAR-5, Non-native Animal Species Control
- CM3, Restore and Create Natural Communities and Covered Species' Habitat
- CM3 RAR-1, Riparian Natural Community Restoration
- General Condition 1, Watershed Hydrology and Water Quality

- General Condition 2, Conservation Lands: Development Interface Design Requirements
- General Condition 4, Temporary Effects
- General Condition 5, Conduct Worker Training
- Community Condition 2, Riverine and Riparian Avoidance and Minimization
- Stream System Condition 1, Stream System Avoidance
- Stream System Condition 2, Stream System Mitigation: Restoration
- Regional Public Projects Condition 1, Transportation and Other Infrastructure Projects Design Requirements
- Regional Public Projects Condition 2, Transportation and Other Infrastructure Projects Construction BMPs
- Regional Public Projects Condition 3, Operations and Maintenance BMPs

Implementation of CM1 FYLF-1, CM1 NC-1, and CM3 RAR-1 would result in a large interconnected Reserve System that provides riverine and riparian habitat for foothill yellow-legged frog, minimizes edge effects of development, and potentially facilitates movement and genetic exchange between populations if foothill yellow-legged frogs expand into the Plan Area. Implementation of CM2 RAR-1, CM2 RAR-4, CM2 RAR-5, and CM3 RAR-1 would reduce the spread of invasive non-native plant species, minimizing the degradation of foothill yellow-legged frog habitat (e.g., controlling plants that invade stream channels) and increasing habitat for the species within the stream system. These measures would also aim to control non-native invasive animal species, minimizing predation of California red-legged frogs by invasive predators.

These goals, objectives, conservation measures, and conditions establish performance standards for measuring the effectiveness of restoration actions. The acres of protection and restoration satisfy the typical mitigation that would be applied to the project-level effects, as well as mitigating the effects of the other conservation measures.

NEPA Determination: The permanent loss of up to 93 acres and temporary loss of up to 23 acres of habitat for foothill yellow-legged frogs associated with Alternative 4, in the absence of other conservation actions, would constitute a potentially significant impact through habitat modification and potential direct mortality of a special-status species. However, with the protection and restoration guided by the Plan's goals, objectives, conservation measures, and conditions, the overall effects of Alternative 4 on foothill yellow-legged frog would be less than significant.

CEQA Determination: The permanent loss of up to 93 acres and temporary loss of up to 23 acres of habitat for foothill yellow-legged frogs associated with Alternative 4, in the absence of other conservation actions, would constitute a potentially adverse effect through habitat modification and potential direct mortality of a special-status species. The natural community restoration and protection activities would constitute adequate mitigation for CEQA purposes. The biological objectives, conservation measures, and conditions relevant to foothill yellow-legged frog are more than sufficient to support the conclusion that the impacts of habitat loss and direct mortality on foothill yellow-legged frog under Alternative 4 would be less than significant. No mitigation has been identified.

Impact BIO-17: Effects on western spadefoot, a non-covered species (NEPA: less than significant; CEQA: less than significant)

The CNDDB lists five occurrences of western spadefoot in western Placer County but within the incorporated boundaries of Roseville, a non-participating city (California Department of Fish and Wildlife 2017).

Covered Activities under Alternative 4, Reduced Permit Term, including infrastructure and other Permittee Covered Activities within Roseville, could result in permanent and temporary impacts on western spadefoot habitat. Permanent impacts would result in the loss of up to 11,317 acres of potential western spadefoot habitat in the Plan Area; this amount includes 323 acres of vernal pool–type wetlands within 6,928 acres of vernal pool complex, 3,945 acres of grassland, 154 acres of aquatic/wetland, and 290 acres of riverine/riparian. The majority of potential habitat is located in Plan Area A, and losses would result primarily from urban/suburban development, rural residential development, transportation projects, and infrastructure projects. This analysis may overestimate effects on spadefoot because the analysis is based on habitat types that may not be suitable in their entirety for spadefoot.

Covered Activities would temporarily affect up to 568 acres of potential western spadefoot habitat, including 19 acres of vernal pool type wetlands within 255 acres of vernal pool complex, 142 acres of grassland, 68 acres of aquatic/wetland, and 103 acres of riverine/riparian. These temporary impacts would be associated with urban/suburban development, rural residential development, transportation construction, fuels management, vegetation management, infrastructure operations and maintenance, and infrastructure construction. Conservation actions of Plan implementation under Alternative 4 that could temporarily affect foothill yellow-legged frog include grading and contouring to restore, create, and enhance wetlands in reserves.

Recurring maintenance activities in the Plan Area may directly (through inadvertent mortality) and indirectly (through noise, visual disturbance, and ground vibrations) affect western spadefoot. Outside the wet season, western spadefoots spend much of their time in underground burrows and crevices, making them vulnerable to ground-disturbing activities in upland areas they occupy. Moreover, restoration, enhancement, and management actions could result in inadvertent mortality; result in the release of contaminants (e.g., fuels, lubricants) into habitat, potentially affecting survival; and cause erosion that could affect habitat.

Permanent development within 500 feet of western spadefoot habitat could indirectly affect the species through increased vehicular traffic and the development of new roadways, causing mortalities; in-stream activities and runoff from developed areas that could degrade aquatic habitat; habitat fragmentation as a result of urban and rural development and the construction of new roads and other infrastructure; introduction, establishment, and spread of invasive plant and animal species; and increased predation rates from domestic pets, use of mosquitofish for mosquito abatement, and invasive wildlife species (e.g., bullfrogs).

Under Alternative 4, the permanent and temporary loss of western spadefoot habitat would be offset by implementation of the conservation strategy for vernal pool branchiopods, resulting in the protection and management of 9,350 acres and the restoration of 1,650 acres of wetland habitat and vernal pool complex. In addition, the protection of 1,627 acres and restoration of 550 acres of grassland; the protection of 340 acres and restoration of 238 acres of aquatic/wetlands; and the protection of 1,240 acres and restoration of 809 acres of riverine/riparian could provide potential habitat for western spadefoot.

The protection, restoration, and management of suitable habitat for western spadefoot would be supported by the following objectives, conservation measures, and conditions.

- Objective VPCG-1.1, Protect Existing Vernal Pool Complexes
- Objective VPCG 1.2, Restore/Create Vernal Pool Complexes
- Objective VPCG-1.3, Protect Grasslands
- Objective VPCG-1.4, Restore Grasslands
- Objective AW-1.1, Protect Aquatic/Wetland Complex Natural Community
- Objective AW-1.2, Restore/Create Aquatic/Wetland Complex Natural Community
- Objective AW-1.3, Maintain and Enhance Wetlands and Ponds
- Objective RAR-1.1, Protect Riverine/Riparian Complex
- Objective RAR-1-2, Protect Riverine Constituent Habitat
- Objective RAR-1.3, Restore Riverine/Riparian Complex
- Objective RAR-1.4, Enhance Riparian Vegetation
- CM1, Establish Reserve System
- CM1 L-2, Reserve Acquisition Strategy
- CM1-L-3, Connectivity and Conservation within the Region
- CM1 L-4 Connectivity within the Plan Area
- CM1 VPCG-1, Vernal Pool Complex Protection
- CM1 VPCG-2, Reserve Design for Vernal Pool Restoration/Creation
- CM1 VPCG-3, Grassland Protection
- CM1 AW-1, Aquatic/Wetlands Complex Protection
- CM1 RAR-1, Riverine and Riparian Protection
- CM1 RAR-2, Siting Riparian Restoration
- CM2, Manage and Enhance the Reserve System
- CM2 L-1, Vegetation Management and Invasive Plant Control
- CM2 L-3, Develop and Implement Fire Management Plans
- CM2 L-4, Maintenance and Enhancement of Reserve System Permeability
- CM2 VPCG-1, Vernal Pool Complex Enhancement and Hydrologic Conditions
- CM2 AW-1, Aquatic/Wetlands Complex Vegetation Control
- CM2 AW-2, Fencing Wetlands and Ponds
- CM2 AW-4, Non-native Predator Control
- CM2 AW-7, Maintenance of Water Depths and Hydrological Cycles
- CM2 AW-8, Maintenance and Enhancement of Water Quality

- CM2 RAR-1, Riparian Vegetation Management
- CM2 RAR-4, Improvement of In-channel Features
- CM2 RAR-5, Non-native Animal Species Control
- CM3, Restore and Create Natural Communities and Covered Species' Habitat
- CM3 AW-1, Aquatic/Wetlands Complex Restoration/Creation
- CM3 VPCG-1, Vernal Pool Complex Restoration/Creation
- CM3 VPCG-2 Grasslands Restoration
- CM3 RAR-1, Riparian Natural Community Restoration
- CM4 L-1, Low-Impact Development Standards
- CM4 VPCG-1, Conduct Outreach to Private Landowners.
- General Condition 1, Watershed Hydrology and Water Quality
- General Condition 2, Conservation Lands: Development Interface Design Requirements
- General Condition 4, Temporary Effects
- General Condition 5, Conduct Worker Training
- Community Condition 1, Wetland Avoidance and Minimization (Vernal Pool and Aquatic/Wetland Complex)
- Regional Public Projects Condition 1, Transportation and Other Infrastructure Projects Design Requirements
- Regional Public Projects Condition 2, Transportation and Other Infrastructure Projects Construction BMPs
- Regional Public Projects Condition 3, Operations and Maintenance BMPs
- Species Condition 8, Conservancy Fairy Shrimp

Implementation of CM1-L-3, CM1 L-4, CM1 VPCG-3, CM3 VPCG-2, CM1 RAR-1, CM1 RAR-2, CM2 L-4, CM2 RAR-1, CM3 RAR-1, CM1 AW-1, and CM3 AW-1 would result in a large, interconnected Reserve System supporting upland and aquatic habitat for western spadefoot, enabling the species to disperse between primary habitat areas, and facilitating genetic exchange. Implementation of CM2 AW-2, CM2 RAR-4, and CM2 AW-7 would increase aquatic habitat for western spadefoot in the stream system.

Although they do not apply to non-covered special-status wildlife species, these objectives, conservation measures, and conditions establish performance standards for measuring the effectiveness of proposed conservation actions. In addition, Covered Activities under Alternative 4 that affect habitat of non-covered special-status wildlife would be mitigated on a project-by-project basis for discretionary projects. Ancillary benefits for these wildlife species are also anticipated to result from Plan implementation, because it would establish a comprehensive reserve management program that would enhance habitat conditions in a variety of natural communities that may support non-covered special-status wildlife. Mitigation for impacts from projects that are not subject to discretionary review, including implementation of conservation measures to create and restore

vernal pool complex, vernal pool–type wetlands, grassland, aquatic/wetland, and riverine/riparian habitat, is unlikely.

NEPA Determination: The permanent loss of up to 11,317 acres and temporary disturbance of up to 568 acres of potential western spadefoot habitat associated with Alternative 4, although likely an overestimate of effects, in the absence of other conservation actions, would constitute a potentially significant impact through habitat modification and potential direct mortality of a special-status species. However, with the protection and restoration guided by the Plan's goals, objectives, conservation measures, and conditions, the overall effects of Alternative 4 on western spadefoot would be less than significant.

CEQA Determination: The permanent loss of up to 11,317 acres and temporary disturbance of up to 568 acres of potential western spadefoot habitat associated with Alternative 4, although likely an overestimate of effects, in the absence of other conservation actions, would constitute a potentially significant impact through habitat modification and potential direct mortality of a special-status species. The natural community restoration and protection activities would constitute adequate mitigation for CEQA purposes. The biological goals and conservation measures relevant to western spadefoot are more than sufficient to support the conclusion that the impacts of Alternative 4 on western spadefoot would be less than significant. No mitigation has been identified.

Impact BIO-18: Effects on giant garter snake (NEPA: less than significant; CEQA: less than significant)

A population of giant garter snake has been documented approximately 1.5–5 miles west and south of the Placer County line in the Sutter and Natomas Basins of Sutter and Sacramento Counties; the closest occurrence is recorded in the Natomas Basin of Sacramento County, approximately 1.5 miles southwest of the Placer County line in Plan Area A (Figure 5-3 in the Plan). There are also multiple giant garter snake CNDDB records immediately north and south of Cross Canal. These records do not mention snakes occurring in the canal itself (California Department of Fish and Wildlife 2017). Cross Canal is part of Plan Area B4, which is slated for fish passage improvements. Appendix D, *Species Accounts*, of the Plan provides more detail on the status and distribution of the species throughout its range. The far western portion of the Plan Area adjacent to Sutter and Sacramento Counties is within the American Basin Recovery Unit identified in the *Recovery Plan for Giant Garter Snake (*Thamnophis gigas*)* (U.S. Fish and Wildlife Service 2017).

Covered Activities under Alternative 4, Reduced Permit Term, would result in permanent and temporary impacts on aquatic and upland habitat for giant garter snake. Permanent impacts would result in the loss of up to 809 acres of aquatic habitat (4% of a total 19,511 acres of habitat in the Plan Area) and 268 acres of upland habitat (8% of a total 3,537 acres). These losses would result primarily from urban/suburban development, rural residential development, transportation projects, and infrastructure projects, almost entirely in the Valley portion of Plan Area A, with small losses (47 acres) in Plan Area B.

Temporary impacts of Covered Activities on giant garter snake habitat would not exceed 126 acres of aquatic habitat in the Plan Area (less than 1% of total aquatic habitat) and 14 acres of upland habitat (less than 1% of total upland habitat). These temporary impacts would be associated with urban/suburban development, rural residential development, transportation construction, vegetation management, infrastructure operations and maintenance, and infrastructure construction. Conservation actions of Plan implementation under Alternative 4 that could

temporarily affect giant garter snake habitat include restoration and enhancement actions such as grading and contouring to restore, create, and enhance wetlands in reserves.

Indirect effects could result from construction and maintenance of infrastructure associated with urban and rural development and from changes in hydrology caused by land conversion. Additionally, in-stream activities such as installation and maintenance of utility lines, road improvements, drainage facility improvements, and flood control projects may indirectly affect giant garter snake. Restoration, enhancement, and management actions could result in inadvertent mortality; result in the release of contaminants (e.g., fuels, lubricants) into habitat, potentially affecting survival; and cause erosion that could affect habitat.

Under Alternative 4, the permanent and temporary loss of giant garter snake aquatic and upland habitat would be offset by the protection of 1,100 acres of rice lands and additional protection and restoration of aquatic and wetland natural communities, for a total protection of 1,486 acres and restoration of 291 acres of aquatic habitat and the protection of 970 acres and restoration of 247 acres of upland habitat for giant garter snake.

The Plan establishes a goal of protecting suitable giant garter snake habitat to facilitate the expansion of giant garter snake into the Reserve System. Conservation activities would include measures to result in a large, interconnected Reserve System supporting upland and aquatic habitat enabling the species to disperse between primary habitat areas, and facilitating genetic exchange. Creation of basking sites, control of non-native invasive plants to maintain habitat integrity, and control of non-native predators to reduce mortality of individual snakes would all contribute to survival and restoration of the species. The protection, restoration, and management of suitable habitat for giant garter snake would be supported by the following objectives, conservation measures, and conditions.

- Objective GGS-1.1, Protect and Manage Giant Garter Snake Habitat
- CM1, Establish Reserve System
- CM1 L-4, Connectivity within the Plan Area
- CM1 NC-1, Siting Restoration
- CM1 AW-1, Aquatic/Wetlands Complex Protection
- CM1 GGS-1, Giant Garter Snake Habitat Protection
- CM2, Manage and Enhance the Reserve System
- CM2 L-4, Maintenance and Enhancement of Reserve System Permeability
- CM2 VPCG-3, Ground Squirrel Population Enhancement
- CM2 AW-1, Aquatic/Wetlands Complex Vegetation Control
- CM2 AW-2, Fencing Wetlands and Ponds
- CM2 AW-4, Non-native Predator Control
- CM2 AW-5, Basking Habitat Enhancement
- CM2 AW-7, Maintenance of Water Depths and Hydrological Cycles
- CM2 AW-8, Maintenance and Enhancement of Water Quality
- CM2 RAR-1, Riparian Vegetation Management

- CM2 RAR-4, Improvement of In-channel Features
- CM2 RAR-5, Non-native Animal Species Control
- CM2 AO-1, Provision of Patches of Native Vegetation in Rice Lands
- CM2 AO-2 Development and Water Implementation of a Water Management Plan
- CM3, Restore and Create Natural Communities and Covered Species' Habitat.
- CM3 AW-1, Aquatic/Wetlands Complex Restoration/Creation
- General Condition 1, Watershed Hydrology and Water Quality
- General Condition 2, Conservation Lands: Development Interface Design Requirements
- General Condition 4, Temporary Effects
- General Condition 5, Conduct Worker Training
- Community Condition 2, Riverine and Riparian Avoidance and Minimization
- Stream System Condition 1, Stream System Avoidance
- Stream System Condition 2, Stream System Mitigation: Restoration
- Regional Public Projects Condition 1, Transportation and Other Infrastructure Projects Design Requirements
- Regional Public Projects Condition 2, Transportation and Other Infrastructure Projects Construction BMPs
- Regional Public Projects Condition 3, Operations and Maintenance BMPs
- Species Condition 5, Giant Garter Snake

These goals, objectives, conservation measures, and conditions establish performance standards for measuring the effectiveness of restoration actions. The acres of protection and restoration satisfy the typical mitigation that would be applied to the project-level effects, as well as mitigating the effects of the other conservation measures.

NEPA Determination: The permanent loss of 809 acres of aquatic habitat and 268 acres of upland habitat and the temporary disturbance of 126 acres of aquatic habitat and 14 acres of upland habitat associated with Alternative 4, in the absence of other conservation actions, would constitute a potentially significant impact through habitat modification and potential direct mortality of a special-status species. However, with the protection and restoration guided by the Plan's goals, objectives, conservation measures, and conditions, the overall effects of Alternative 4 on giant garter snake would be less than significant.

CEQA Determination: The permanent loss of 809 acres of aquatic and 268 acres of upland habitat and the temporary disturbance of 126 acres of aquatic and 14 acres of upland habitat associated with Alternative 4, in the absence of other conservation actions, would constitute a significant impact through habitat modification and potential direct mortality of a special-status species. The natural community restoration and protection activities would constitute adequate mitigation for CEQA purposes. The biological objectives, conservation measures, and conditions relevant to giant garter snake are more than sufficient to support the conclusion that the impacts of habitat loss and direct mortality on giant garter snake under Alternative 4 would be less than significant. No mitigation has been identified.

Impact BIO-19: Effects on western pond turtle (NEPA: less than significant; CEQA: less than significant)

The CNDDB lists four occurrences of western pond turtle in the Plan Area (California Department of Fish and Wildlife 2017).

Covered Activities under Alternative 4, Reduced Permit Term, would result in permanent and temporary impacts on aquatic and upland habitat for western pond turtle. Permanent impacts would result in the loss of 444 acres of aquatic habitat (4% of a total 10,244 acres of aquatic habitat) and up to 818 acres of upland habitat for western pond turtle (6% of a total 14,263 acres of upland habitat) in the Plan Area. These impacts would result primarily from urban/suburban development, rural residential development, transportation projects, and infrastructure projects, primarily in the Valley and Foothill portions of Plan Area A; small losses (19 acres) would occur in Plan Area B.

Temporary impacts of Covered Activities on western pond turtle would not exceed 159 acres of aquatic habitat (2% of total aquatic habitat) and 24 acres of upland habitat (less than 1% of total upland habitat). These temporary impacts would be associated with urban/suburban development, rural residential development, transportation construction, fuels management, vegetation management, infrastructure operations and maintenance, and infrastructure construction. Conservation actions of Plan implementation under Alternative 4 that could temporarily affect western pond turtle include grading and contouring to restore, create, and enhance wetlands in reserves.

Indirect effects are expected to result from increased vehicular traffic and the development of new roadways, causing mortalities; in-stream activities and runoff from developed areas that could degrade aquatic habitat; habitat fragmentation as a result of urban and rural development and the construction of new roads and other infrastructure; introduction, establishment, and spread of invasive plant and animal species; and increased predation rates, particularly on eggs and young, by domestic pets and invasive wildlife species. Moreover, restoration, enhancement, and management actions could result in inadvertent mortality; result in the release of contaminants (e.g., fuels, lubricants) into habitat, potentially affecting survival; and cause erosion that could affect habitat.

Under Alternative 4, the permanent and temporary loss of western pond turtle aquatic and upland habitat would be offset by the protection of 1,624 acres and restoration of 1,073 acres of aquatic habitat for western pond turtle and the protection of 2,238 acres and restoration of 1,119 acres of upland habitat.

The Plan establishes a goal of providing habitat for a sustained population of western pond turtles in the Reserve System. Conservation activities would include measures to result in a large, interconnected Reserve System supporting upland and aquatic habitat enabling the species to disperse between primary habitat areas, and facilitating genetic exchange. Increasing basking sites and cover, control of non-native invasive plants to maintain habitat integrity and access to basking sites, and control of non-native predators to reduce mortality of young turtles and eggs would all contribute to survival of the species. The protection, restoration, and management of suitable habitat for western pond turtle would be supported by the following objectives, conservation measures, and conditions.

- Objective WPT-1.1, Protect and Enhance Western Pond Turtle Habitat
- Objective WPT-1.2, Restore Western Pond Turtle Habitat
- CM1, Establish Reserve System

- CM1 L-4, Connectivity within the Plan Area
- CM1 NC-1, Siting Restoration
- CM1 WPT-1, Western Pond Turtle Habitat Protection
- CM2, Manage and Enhance the Reserve System
- CM2 L-4, Maintenance and Enhancement of Reserve System Permeability
- CM2 AW-1, Aquatic/Wetlands Complex Vegetation Control
- CM2 AW-2, Fencing Wetlands and Ponds, CM2 AW-3 Sediment Removal
- CM2 AW-4, Non-native Predator Control
- CM2 AW-5, Basking Habitat Enhancement, CM2 RAR-4 Improvement of In-channel Features
- CM2 AW-7, Maintenance of Water Depths and Hydrological Cycles
- CM2 AW-8, Maintenance and Enhancement of Water Quality
- CM2 RAR-1, Riparian Vegetation Management
- CM2 RAR-5, Non-native Animal Species Control
- CM2 WPT-1, Western Pond Turtle Habitat Enhancement
- CM3, Restore and Create Natural Communities and Covered Species' Habitat
- CM3, AW-1 Aquatic/Wetlands Complex Restoration/Creation
- General Condition 1, Watershed Hydrology and Water Quality
- General Condition 2, Conservation Lands: Development Interface Design Requirements
- Community Condition 2, Riverine and Riparian Avoidance and Minimization
- Stream System Condition 1, Stream System Avoidance
- Stream System Condition 2, Stream System Mitigation: Restoration
- Regional Public Projects Condition 1, Transportation and Other Infrastructure Projects Design Requirements
- Regional Public Projects Condition 2, Transportation and Other Infrastructure Projects Construction BMPs
- Regional Public Projects Condition 3, Operations and Maintenance BMPs

These goals, objectives, conservation measures, and conditions establish performance standards for measuring the effectiveness of restoration actions. The acres of protection and restoration satisfy the typical mitigation that would be applied to the project-level effects, as well as mitigating the effects of the other conservation measures.

NEPA Determination: The permanent loss of 444 acres of aquatic habitat and 818 acres of upland habitat and the temporary disturbance of 159 acres of aquatic habitat and 24 acres of upland habitat associated with Alternative 4, in the absence of other conservation actions, would constitute a potentially significant impact through habitat modification and potential direct mortality of a special-status species. However, with habitat protection and restoration associated with the

conservation components, guided by landscape-scale goals and objectives, the effects of Alternative 4 as a whole on western pond turtle would be less than significant.

CEQA Determination: The permanent loss of 444 acres of aquatic habitat and 818 acres of upland habitat and the temporary disturbance of 159 acres of aquatic habitat and 24 acres of upland habitat associated with Alternative 4, in the absence of other conservation actions, would constitute a significant impact through habitat modification and potential direct mortality of a special-status species. The natural community restoration and protection activities would constitute adequate mitigation for CEQA purposes. The biological objectives, conservation measures, and conditions relevant to western pond turtle are more than sufficient to support the conclusion that the impacts of habitat loss and direct mortality on western pond under Alternative 4 would be less than significant. No mitigation has been identified.

Impact BIO-20: Effects on coast horned lizard, a non-covered species (NEPA: less than significant with mitigation; CEQA: less than significant with mitigation)

The CNDDB lists no occurrences of coast horned lizard in the Plan Area (California Department of Fish and Wildlife 2017).

Covered Activities under Alternative 4 would result in permanent and temporary impacts on coast horned lizard habitat. Permanent impacts would result in loss of 7,925 acres of natural communities that contain suitable habitat elements for coast horned lizard (e.g., open areas with sandy substrates): 3,945 acres of grasslands (18% of this community in the Plan Area), 3,766 acres of oak and valley oak woodland (7%), and 223 acres of riparian woodland (3%). These losses would result primarily from urban/suburban development, rural residential development, transportation projects, and infrastructure projects. The suitable habitat elements for this species are open areas with sandy substrates; consequently, the impact acreage reported here, which is based on impacts on natural communities that may contain these elements, is likely a large overestimate.

Covered Activities would temporarily affect up to 337 acres of habitat for coast horned lizard: 142 acres of grassland (less than 1% of this community), 124 acres of valley oak and oak woodland (less than 1%), and 71 acres of riparian woodland (1%) in the Plan Area. These temporary impacts would be associated with urban/suburban development, rural residential development, transportation construction, fuels management, vegetation management, infrastructure operations and maintenance, and infrastructure construction. Conservation actions of Plan implementation under Alternative 4 that could temporarily affect coast horned lizard habitat include restoration and enhancement actions such as grading and contouring to restore, create, and enhance grasslands, oak woodlands and riparian habitat in reserves.

Indirect effects are expected to result from increased vehicular traffic and the development of new roadways, causing mortalities; habitat fragmentation as a result of urban and rural development and the construction of new roads and other infrastructure; introduction, establishment, and spread of invasive plant and animal species; and increased predation rates from domestic pets and invasive wildlife species. Recurring maintenance activities within the Plan Area, such as transportation facility maintenance, utility service facilities maintenance, and vegetation management, may periodically directly and indirectly affect coast horned lizard. Moreover, restoration, enhancement, and management actions could result in inadvertent mortality; result in the release of contaminants (e.g., fuels, lubricants) into habitat, potentially affecting survival; and cause erosion that could affect habitat.

Under Alternative 4, the permanent loss of coast horned lizard habitat would be offset by the protection of 8,867 acres and restoration of 1,492 acres of grassland, oak woodland, valley oak woodland, and riparian woodland communities in the Plan Area.

The protection, restoration, and management of suitable habitat for coast horned lizard would be supported by the following objectives, conservation measures, and conditions.

- CM1, Establish Reserve System
- CM1-L-3, Connectivity and Conservation within the Region
- CM1 L-4, Connectivity within the Plan Area
- CM1 NC-1, Siting Restoration
- CM1 VPCG-3, Grassland Protection
- CM1 RAR-1, Riverine and Riparian Protection
- CM1 RAR-2, Siting Riparian Restoration
- CM1 OW-1, Oak Woodlands Protection
- CM1 OW-2, Siting Oak Woodlands Restoration
- CM2, Manage and Enhance the Reserve System
- CM2 L-4, Maintenance and Enhancement of Reserve System Permeability
- CM2 RAR-1, Riparian Vegetation Management
- CM2 RAR-5, Non-native Animal Species Control
- CM2 OW-1, Oak Woodland Vegetation Enhancement and Management
- CM3, Restore and Create Natural Communities and Covered Species' Habitat
- CM3, VPCG-2 Grasslands Restoration
- CM3 RAR-1, Riparian Natural Community Restoration
- General Condition 2, Conservation Lands: Development Interface Design Requirements
- General Condition 4, Temporary Effects
- General Condition 5, Conduct Worker Training
- Community Condition 2, Riverine and Riparian Avoidance and Minimization
- Community Condition 3, Valley Oak Woodland
- Regional Public Projects Condition 1, Transportation and Other Infrastructure Projects Design Requirements
- Regional Public Projects Condition 2, Transportation and Other Infrastructure Projects Construction BMPs
- Regional Public Projects Condition 3, Operations and Maintenance BMPs

Although they do not apply to non-covered special-status wildlife species, these objectives, conservation measures, and conditions establish performance standards for measuring the effectiveness of proposed conservation actions. In addition, Covered Activities under Alternative 4

that affect habitat of non-covered special-status wildlife would be mitigated on a project-by-project basis for discretionary projects. Ancillary benefits for these wildlife species are also anticipated to result from Plan implementation, because it would establish a comprehensive reserve management program that would enhance habitat conditions in a variety of natural communities that may support non-covered special-status wildlife. Mitigation for impacts from projects that are not subject to discretionary review, including implementation of conservation measures to create and restore grassland, valley oak woodland, oak woodland, and riparian woodland habitat, is unlikely.

NEPA Determination: The permanent loss of 7,925 acres and temporary disturbance of 337 acres of potential coast horned lizard habitat associated with Alternative 4, in the absence of other conservation actions, would constitute a potentially significant impact through habitat modification and potential direct mortality of a special-status species. However, with the protection and restoration guided by the Plan's goals, objectives, conservation measures, and conditions and the implementation of Mitigation Measure BIO-2, the overall effects of Alternative 4 on coast horned lizard would be less than significant.

CEQA Determination: The permanent loss of 7,925 acres and temporary disturbance of 337 acres of potential coast horned lizard habitat associated with Alternative 4 in the absence of other conservation actions, would constitute a significant impact through habitat modification and potential direct mortality of a special-status species. The natural community restoration and protection activities would constitute adequate mitigation for CEQA purposes. The biological goals and conservation measures relevant to coast horned lizard and implementation of Mitigation Measure BIO-2 would reduce this impact to a less-than-significant level.

Mitigation Measure BIO-2: Conduct preconstruction surveys for coast horned lizard

Impact BIO-21: Effects on Swainson's hawk (NEPA: less than significant; CEQA: less than significant)

The CNDDB lists 17 extant occurrences of Swainson's hawks nesting in the Plan Area, all in the Valley portion (California Department of Fish and Wildlife 2017).

Covered Activities under Alternative 4, Reduced Permit Term, would result in permanent and temporary impacts on Swainson's hawk. Permanent impacts would not exceed 86 acres of nesting habitat (4% of nesting habitat in Plan Area A) and 9,027 acres of foraging habitat (17% of suitable habitat). These impacts would result primarily from urban/suburban development, rural residential development, transportation projects, and infrastructure projects.

Temporary impacts on Swainson's hawk habitat would not exceed 8 acres of nesting habitat and 347 acres of foraging habitat. These temporary impacts would be associated with urban/suburban development, rural residential development, transportation construction, fuels management, vegetation management, infrastructure operations and maintenance, and infrastructure construction. Implementation of Plan conservation actions under Alternative 4 may also temporarily disturb Swainson's hawk habitat in locations where grading, vegetation management, or other physical change to the habitat is required.

In addition to resulting in habitat losses, Covered Activities have the potential to directly affect Swainson's hawk through injury and mortality. Construction-related activities would not be expected to result in direct mortality of adult or fledged Swainson's hawks if they were present in or near Covered Activities, because they would be expected to avoid contact with construction

equipment. However, if Swainson's hawks were to nest in or near a construction area, construction-related activities, including equipment operation, noise, and visual disturbances, could affect nests or lead to their abandonment, potentially resulting in mortality of eggs and nestlings.

Swainson's hawk nesting and foraging behavior in the vicinity of proposed construction areas could be directly affected by construction activities. Construction noise above background noise levels (i.e., greater than 50 dBA) could extend 500–5,250 feet from the edge of construction activities. However, no data are available that identify the extent to which these noise levels could affect Swainson's hawks. Effects associated with construction include noise and visual disturbance caused by grading, contouring, and other ground-disturbing operations outside the project footprint but within 500 feet of it. Construction and subsequent maintenance-related noise and visual disturbances could mask calls and disrupt foraging and nesting behaviors. The use of mechanical equipment during Covered Activities could cause the accidental release of petroleum or other contaminants that could affect Swainson's hawk foraging habitat.

Indirect effects are expected to result from increased vehicular traffic associated with the development of new roadways, causing mortalities; habitat fragmentation as a result of urban and rural development and the construction of new roads and other infrastructure; and the introduction, establishment, and spread of invasive plant species.

Under Alternative 4, the permanent loss of Swainson's hawk nesting habitat would be offset by the protection and management of 697 acres and restoration of 396 acres of nesting habitat. The loss of foraging habitat would be offset by the protection and management of up to 9,352 acres and restoration of 2,156 acres of foraging habitat.

The Plan establishes the goal of maintaining habitat to provide for a sustained population of Swainson's hawks in the Plan Area. The protection, restoration, and management of suitable habitat for Swainson's hawk would be supported by the following objectives, conservation measures, and conditions.

- Objective SWHA-1.1**,** Protect Swainson's Hawk Nest Trees
- Objective SWHA-1.2**,** Protect Swainson's Hawk Foraging Habitat
- Objective SWHA-1.3**,** Enhance Foraging Habitat
- Objective SWHA-1.4**,** Protect at least 20 isolated trees with the potential to be used as nesting sites for Swainson's hawk, within the protected grasslands.
- CM1 SWHA-1, Protection of Swainson's Hawk Habitat
- CM2 SWHA-1, Swainson's Hawk Foraging Habitat Enhancement
- General Condition 1, Watershed Hydrology and Water Quality
- General Condition 2, Conservation Lands: Development Interface Design Requirements
- General Condition 4, Temporary Effects
- General Condition 5, Conduct Worker Training
- Community Condition 2.1, Riverine and Riparian Avoidance
- Community Condition 2.2, Minimize Riverine and Riparian Effects
- Community Condition 2.3, Riverine and Riparian Restoration

- Community Condition 3.1, Valley Oak Woodland Avoidance
- Community Condition 3.2, Valley Oak Woodland and Individual Valley Oak Trees
- Regional Public Projects Condition 2, Transportation and Other Infrastructure Projects Construction BMPs
- Regional Public Projects Conditions 3, Operation and Maintenance BMPs
- Species Condition 1, Swainson's Hawk
    - Swainson's Hawk 1—requires preconstruction surveys during the nesting season
    - Swainson's Hawk 2—prohibits activity during the breeding season within a 1,320-foot buffer zone around a nest, monitoring of reduced buffers
    - Swainson's Hawk 3—requires active nest trees to not be removed during the nesting season
    - Swainson's Hawk 4—requires a construction monitor for active nests.

These objectives, conservation measures, and conditions establish performance standards for measuring the effectiveness of proposed conservation actions. The conditions are described in Chapter 6 of the Plan.

NEPA Determination: The permanent loss of 86 acres of nesting habitat and 9,027 acres of foraging habitat and the temporary disturbance of 8 acres of nesting habitat and 347 acres of foraging habitat associated with Alternative 4, in the absence of other conservation actions, would constitute a potentially significant impact; however, with the proposed protection and restoration set forth by the Plan's goals, objectives, conservation measures, and conditions, the overall effects of Alternative 4 on Swainson's hawk in the Plan Area would be less than significant.

CEQA Determination: The permanent loss of 86 acres of nesting habitat and 9,027 acres of foraging habitat and the temporary disturbance of 8 acres of nesting habitat and 347 acres of foraging habitat associated with Alternative 4, in the absence of other conservation actions, would constitute a significant impact through loss of habitat and potential mortality of a special-status species. The natural community restoration and protection together with conservation measures and conditions relevant to the long-term management of habitat for Swainson's hawk in the Plan Area support the conclusion that the impacts on Swainson's hawk under Alternative 4 would be less than significant. No mitigation has been identified.

Impact BIO-22: Effects on California black rail (NEPA: less than significant; CEQA: less than significant)

The CNDDB lists two extant occurrences of California black rail in the Plan Area: one in the Valley portion of Plan Area B and one in the Foothill portion of the RAA in Plan Area A (California Department of Fish and Wildlife 2017). Research conducted by the University of California, Berkeley documented additional occurrences in the Valley portion of Plan Area A (Hall and Beissinger 2017).

Covered Activities under Alternative 4, Reduced Permit Term, would result in permanent and temporary impacts on California black rail. Permanent impacts would not exceed 62 acres (6% of suitable habitat in Plan Area A). These impacts would result primarily from urban/suburban development, rural residential development, transportation projects, and infrastructure projects. The impacts would total 28 acres in the Valley portion of the Plan Area, 30 acres in the Foothill portion, and 5 acres in Plan Area B.

Temporary impacts on California black rail habitat are estimated at 27 acres. These temporary impacts would be associated with urban/suburban development, rural residential development, transportation construction, fuels management, vegetation management, infrastructure operations and maintenance, and infrastructure construction. Implementation of Plan conservation actions under Alternative 4 may also temporarily affect California black rail habitat in locations where grading, vegetation management, or other physical change to the habitat is required.

In addition to habitat losses, Covered Activities have the potential to directly affect California black rails through injury and mortality. Operation of construction equipment may cause injury to or mortality of individuals. Risk would be greatest to eggs and nestlings susceptible to land-clearing activities through nest abandonment and increased exposure to the elements or to predators. Construction activities could temporarily fragment existing California black rail habitat; grading, filling, contouring, and other ground-disturbing operations could temporarily reduce the extent and functions supported by the affected habitat.

California black rail nesting behavior in the vicinity of proposed construction areas could be directly affected by construction activities. Construction noise above background noise levels (greater than 50 dBA) could extend 500–5,250 feet from the edge of construction activities. However, no data are available that identify the extent to which these noise levels could affect California black rail. Effects associated with construction include noise, dust, and visual disturbance caused by grading, filling, contouring, and other ground-disturbing operations outside the project footprint but within 500 feet of it. Construction and subsequent maintenance-related noise and visual disturbances could mask calls, disrupt foraging and nesting behaviors, and reduce the functions of suitable nesting habitat for this species. The use of mechanical equipment during Covered Activities could cause the accidental release of petroleum or other contaminants that could affect black rails in the surrounding habitat. The inadvertent discharge of sediment or excessive dust adjacent to black rail habitat could also affect the species.

Indirect effects are expected to result from increased vehicular traffic associated with the development of new roadways, causing mortalities; runoff from developed areas that could degrade habitat; habitat fragmentation as a result of urban and rural development and the construction of new roads and other infrastructure; introduction, establishment, and spread of invasive plant and animal species; and increased predation rates, particularly on eggs and young, from domestic pets and invasive wildlife species.

Under Alternative 4, the permanent loss of California black rail habitat would be offset by the protection and management of 154 acres and restoration of 105 acres of California black rail habitat.

The Plan establishes the goal of maintaining habitat to provide for a sustained population of California black rail in the Plan Area. The protection, restoration, and management of suitable habitat for California black rail would be supported by the following objectives, conservation measures, and conditions.

- Objective BLRA-1.1**,** Protect, Restore/Create, and Manage and Enhance California Black Rail Habitat
- CM1 BLRA-1, Siting California Black Rail Habitat Protection and Restoration
- CM2 BLRA-1, Maintenance and Enhancement of the Hydrology of California Black Rail Habitat
- CM2 BLRA-2, Protection of California Black Rail Habitat from Grazing and Other Vegetation Management Activities

- General Condition 1, Watershed Hydrology and Water Quality
- General Condition 2, Conservation Lands: Development Interface Design Requirements
- General Condition 4, Temporary Effects
- General Condition 5, Conduct Worker Training
- Regional Public Projects Condition 2, Transportation and Other Infrastructure Projects Construction BMPs
- Regional Public Projects Conditions 3, Operation and Maintenance BMPs
- Species Condition 2, California Black Rail
    - California Black Rail 1—Requires preconstruction surveys
    - California Black Rail 2—Requires buffers and exclusion fencing around occupied habitat during construction
    - California Black Rail 3—Restricts habitat clearing where take is allowed to a period outside of the breeding season
    - California Black Rail 4—Requires mitigation for occupied or potential rail habitat to be done in-kind
    - California Black Rail 5—Requires monitoring during construction

These objectives, conservation measures, and conditions establish performance standards for measuring the effectiveness of proposed conservation actions. The conditions are described in Chapter 6 of the Plan.

NEPA Determination: The permanent loss of 62 acres and the temporary disturbance of 27 acres of California black rail habitat associated with Alternative 4, in the absence of other conservation actions, would constitute a potentially significant impact; however, with the proposed protection and restoration set forth by the Plan's goals, objectives, conservation measures, and conditions, the overall effects of Alternative 4 on California black rail in the Plan Area would be less than significant.

CEQA Determination: The permanent loss of 62 acres and the temporary disturbance of 27 acres of California black rail habitat associated with Alternative 4, in the absence of other conservation actions, would constitute a significant impact through the loss of habitat and potential mortality of a special-status species. The natural community restoration and protection together with conservation measures and conditions relevant to the long-term management of habitat for California black rail in the Plan Area support the conclusion that the impacts on California black rail under Alternative 4 would be less than significant. No mitigation has been identified.

Impact BIO-23: Effects on burrowing owl (NEPA: less than significant; CEQA: less than significant)

The CNDDB lists four extant occurrences of burrowing owl in the Plan Area, all in the Valley portion (California Department of Fish and Wildlife 2017).

Covered Activities under Alternative 4, Reduced Permit Term, would result in permanent and temporary impacts on burrowing owl. Permanent impacts would not exceed 9,124 acres of habitat (16% in of suitable habitat Plan Area A). These impacts would result primarily from urban/suburban development, rural residential development, transportation projects, and

infrastructure projects. The impacts would occur almost entirely in the Valley portion of Plan Area A, with a smaller amount (190 acres) occurring in Plan Area B.

Temporary impacts on burrowing owl habitat would not exceed 351 acres. These temporary impacts would be associated with urban/suburban development, rural residential development, transportation construction, fuels management, vegetation management, infrastructure operations and maintenance, and infrastructure construction. Implementation of Plan conservation actions under Alternative 4 may also temporarily affect burrowing owl habitat in locations where grading, vegetation management, or other physical change to the habitat is required.

In addition to habitat losses, Covered Activities have the potential to directly affect individual burrowing owls through injury and mortality. Operation of construction equipment may cause injury to or mortality of burrowing owls. Risk would be greatest to eggs and nestlings susceptible to land-clearing activities through nest abandonment and increased exposure to the elements or to predators. Construction activities could temporarily fragment existing burrowing owl habitat: grading, filling, contouring, and other initial ground-disturbing operations could temporarily reduce the extent and functions supported by the affected habitat.

Burrowing owl nesting behavior in the vicinity of proposed construction areas could be directly affected by construction activities. Construction noise above background noise levels (greater than 50 dBA) could extend 500–5,250 feet from the edge of construction activities. However, no data are available that identify the extent to which these noise levels could affect burrowing owl. Effects associated with construction include noise, dust, and visual disturbance caused by grading, filling, contouring, and other ground-disturbing operations outside the project footprint but within 500 feet of it. Construction and subsequent maintenance-related noise and visual disturbances could mask calls, disrupt foraging and nesting behaviors, and reduce the functions of suitable nesting habitat for this species. The use of mechanical equipment during Covered Activities could cause the accidental release of petroleum or other contaminants that could affect burrowing owls in the surrounding habitat. The inadvertent discharge of sediment or excessive dust adjacent to burrowing owl habitat could also affect the species.

Indirect effects are expected to result from increased vehicular traffic associated with the development of new roadways, causing mortalities; runoff from developed areas that could degrade habitat; habitat fragmentation as a result of urban and rural development and the construction of new roads and other infrastructure; introduction, establishment, and spread of invasive plant and animal species; and increased predation rates, particularly on eggs and young, from domestic pets and invasive wildlife species.

Under Alternative 4, the permanent loss of burrowing owl habitat would be offset by the protection and management of 9,421 acres and restoration of 2,269 acres of burrowing owl habitat.

The Plan establishes the goal of maintaining sufficient habitat to maintain or increase the population size of overwintering western burrowing owls in the Reserve System, and to promote the expansion of a breeding population of burrowing owls into the Reserve System. The protection, restoration, and management of suitable habitat for burrowing owl would be supported by the following objectives, conservation measures, and conditions.

- Objective BUOW-1.1, Protect and Manage Ground Squirrel Colonies
- CM1 BUOW-1, Protection of Ground Squirrel Colonies
- CM1 BUOW-2, Prioritization of Occupied Areas

- CM2 BUOW-1, Installation and Maintenance of Artificial Burrows on the Reserve System.
- General Condition 1, Watershed Hydrology and Water Quality
- General Condition 2, Conservation Lands: Development Interface Design Requirements
- General Condition 4, Temporary Effects
- General Condition 5, Conduct Worker Training
- Regional Public Projects Condition 2, Transportation and Other Infrastructure Projects Construction BMPs
- Regional Public Projects Condition 3, Operation and Maintenance BMPs
- Species Condition 3, Western Burrowing Owl
    - Burrowing Owl 1—Requires preconstruction surveys
    - Burrowing Owl 2—Establishes avoidance buffers during the breeding season
    - Burrowing Owl 3—Establishes non-breeding season avoidance buffers
    - Burrowing Owl 4—Allows for passive exclusion during the non-breeding season
    - Burrowing Owl 5—Requires monitoring during construction

These objectives, conservation measures, and conditions establish performance standards for measuring the effectiveness of proposed conservation actions. The conditions are described in Chapter 6 of the Plan.

NEPA Determination: The permanent loss of 9,124 acres and the temporary disturbance of 351 acres of burrowing owl habitat associated with Alternative 4, in the absence of other conservation actions, would constitute a potentially significant impact; however, with the proposed protection and restoration set forth by the Plan's goals, objectives, conservation measures, and conditions, the overall effects of Alternative 4 on burrowing owl in the Plan Area would be less than significant.

CEQA Determination: The permanent loss of 9,124 acres and the temporary disturbance of 351 acres of burrowing owl habitat associated with Alternative 4, in the absence of other conservation actions, would constitute a significant impact through the loss of habitat and potential mortality of a special-status species. The natural community restoration and protection together with conservation measures and conditions relevant to the long-term management of habitat for burrowing owl in the Plan Area support the conclusion that the impacts on burrowing owl under Alternative 4 would be less than significant. No mitigation has been identified.

Impact BIO-24: Effects on tricolored blackbird (NEPA: less than significant; CEQA: less than significant)

The CNDDB lists 14 extant occurrences of tricolored blackbird in the Plan Area, all but one of which occur in the Valley portion of the Plan Area (California Department of Fish and Wildlife 2017). The occurrence in the Foothills portion is at an elevation just above 300 feet. All the occurrences are either in the RAA or on existing reserves.

Covered Activities under Alternative 4, Reduced Permit Term, would result in permanent and temporary impacts on tricolored blackbird. Permanent impacts are estimated at 442 acres of nesting habitat (10% of total habitat in Plan Area A) and 12,470 acres of foraging habitat (12% in Plan Area

A). These impacts would result primarily from urban/suburban development, rural residential development, transportation projects, and infrastructure projects. Most of the impacts on nesting and foraging habitat (75% and 80%, respectively) would be in the Valley portion of the Plan Area.

Temporary impacts on tricolored blackbird habitat are estimated at 62 acres of nesting habitat and 484 acres of foraging habitat. These temporary impacts would be associated with urban/suburban development, rural residential development, transportation construction, fuels management, vegetation management, infrastructure operations and maintenance, and infrastructure construction. Implementation of Plan conservation actions under Alternative 4 may also temporarily affect tricolored blackbird habitat in locations where grading, vegetation management, or other physical change to the habitat is required.

In addition to habitat losses, Covered Activities have the potential to directly affect tricolored blackbirds through injury and mortality. Operation of construction equipment may cause injury to or mortality of tricolored blackbirds. Risk would be greatest to eggs and nestlings susceptible to land-clearing activities through nest abandonment or increased exposure to the elements and to predators. Injury to or mortality of adults and fledged juveniles would not be expected because individuals would be expected to avoid contact with construction equipment. Construction activities could temporarily fragment existing tricolored blackbird habitat: grading, filling, contouring, and other initial ground-disturbing operations could temporarily reduce the extent and functions supported by the affected habitat.

Tricolored blackbird nesting behavior in the vicinity of proposed construction areas could be directly affected by construction activities. Construction noise above background noise levels (greater than 50 dBA) could extend 500–5,250 feet from the edge of construction activities. However, no data are available that identify the extent to which these noise levels could affect tricolored blackbird. Effects associated with construction include noise, dust, and visual disturbance caused by grading, filling, contouring, and other ground-disturbing operations outside the project footprint but within 1,300 feet of it. Construction and subsequent maintenance-related noise and visual disturbances could mask calls, disrupt foraging and nesting behaviors, and reduce the functions of suitable nesting habitat for these species. The use of mechanical equipment during Covered Activities could cause the accidental release of petroleum or other contaminants that could affect tricolored blackbirds in the surrounding habitat. The inadvertent discharge of sediment or excessive dust adjacent to tricolored blackbird habitat could also affect the species.

Indirect effects are expected to result from increased vehicular traffic associated with the development of new roadways, causing mortalities; runoff from developed areas that could degrade habitat; habitat fragmentation as a result of urban and rural development and the construction of new roads and other infrastructure; introduction, establishment, and spread of invasive plant and animal species; and increased predation rates, particularly on eggs and young, from domestic pets and invasive wildlife species.

Under Alternative 4, the permanent loss of tricolored blackbird nesting habitat would be offset by the protection and management of an estimated 525 acres and restoration of 114 acres of suitable tricolored blackbird nesting habitats. The loss of tricolored foraging habitat would be offset by the protection and management of up to 15,839 acres and restoration of 2,320 acres of suitable tricolored blackbird foraging habitats.

The Plan establishes the goal of maintaining habitat for a sustained population of tricolored blackbird in the Plan Area. The protection, restoration, and management of grasslands, vernal pool

complex, fresh emergent marsh, and agricultural lands would be supported by the following objectives, conservation measures, and conditions.

- Objective TRBL-1.1, Protect, Manage, and Enhance Tricolored Blackbird Nesting Habitat
- Objective TRBL-1.2, Protect, Restore, Manage, and Enhance Tricolored Blackbird Foraging Habitat
- Objective TRBL-1.3, Protect Tricolored Blackbird Colony Site
- Objective TRBL-1.4, Protect, Restore, Manage, and Enhance Tricolored Blackbird Foraging Habitat near Colony Sites
- Objective TRBL-1.5, Protect and/or Restore/Create Open Water near Tricolored Blackbird Colony Sites
- Objective TRBL-1.6, Restore Tricolored Blackbird Nesting Habitat.
- CM1 TRBL-1, Reserve Design for Tricolored Blackbird
- CM2 TRBL-1, Maintenance and Enhancement of Nesting Habitat for Tricolored Blackbird
- CM2 TRBL-2, Protection of Himalayan Blackberry Supporting Tricolored Blackbird Nest Colonies
- CM2 TRBL-3, Predator Management Plan
- CM3 TRBL-1, Tricolored Blackbird Habitat Restoration.
- General Condition 1, Watershed Hydrology and Water Quality
- General Condition 2, Conservation Lands: Development Interface Design Requirement
- General Condition 4, Temporary Effects
- General Condition 5, Conduct Worker Training
- Regional Public Projects Condition 2, Transportation and Other Infrastructure Projects Construction BMPs
- Regional Public Projects Conditions 3, Operation and Maintenance BMPs
- Species Condition 4, Tricolored Blackbird
    - Tricolored Blackbird 1—requires preconstruction surveys during the nesting season
    - Tricolored Blackbird 2—requires preconstruction survey of foraging habitat within 3 miles of known colony site prior to initiation of Covered Activities
    - Tricolored Blackbird 3—prohibits activity during the breeding season within a 1,300-foot buffer zone around the nest colony. This buffer may be modified to a minimum of 300 feet, with written approval from the Wildlife Agencies
    - Tricolored Blackbird 4— prohibits activity during the nesting season if the area within 1,300 feet of a project site was found to be actively used as foraging habitat. This buffer may be modified to a minimum of 300 feet, with written approval from the Wildlife Agencies
    - Tricolored Blackbird 5—requires a biological monitor to be present on-site to ensure that no Covered Activities occur within the buffer zone established around an active tricolored blackbird nest colony.

- Tricolored Blackbird 6—active foraging habitat that occurs within the no-disturbance buffer shall be monitored by the qualified biologist(s) to verify that the Covered Activity is not disrupting tricolored blackbird foraging behavior.

These objectives, conservation measures, and conditions establish performance standards for measuring the effectiveness of proposed conservation actions. The conditions are described in Chapter 6 of the Plan.

NEPA Determination: The permanent loss of 442 acres of nesting habitat and 12,470 acres of foraging habitat and the temporary disturbance of 62 acres of nesting habitat and 484 acres of foraging habitat associated with Alternative 4, in the absence of other conservation actions, would constitute a potentially significant impact; however, with the proposed protection and restoration set forth by the Plan's goals, objectives, conservation measures, and conditions, the overall effects of Alternative 4 on tricolored blackbird in the Plan Area would be less than significant.

CEQA Determination: The permanent loss of 442 acres of nesting habitat and 12,470 acres of foraging habitat and the temporary disturbance of 62 acres of nesting habitat and 484 acres of foraging habitat associated with Alternative 4, in the absence of other conservation actions, would constitute a significant impact through the loss of habitat and potential mortality of a special-status species. The natural community restoration and protection together with conservation measures and conditions relevant to the long-term management of habitat for tricolored blackbird in the Plan Area support the conclusion that the impacts on tricolored blackbird under Alternative 4 would be less than significant. No mitigation has been identified.

Impact BIO-25: Effects on non-covered bats (NEPA: less than significant with mitigation; CEQA: less than significant with mitigation)

The CNDDB lists three occurrences of Townsend's big-eared bat and one occurrence of pallid bat in the Plan Area (California Department of Fish and Wildlife 2017). At least 11 special-status bats are known to or could occur in the Plan Area (Townsend's big-eared bat, pallid bat, spotted bat, silver-haired bat, western red bat, hoary bat, fringed myotis, Yuma myotis, long-eared myotis, long-legged myotis, and small-footed myotis). These bat species employ varied roost strategies, from solitary roosting in tree foliage to colonial roosting in trees, caves, mines, and artificial structures such as tunnels, buildings, and bridges. Various roost strategies also include night roosts, maternity roosts, migration stopover, and hibernation. The natural community/land cover types considered for the assessment of effects on bat roosting habitat comprise oak woodland and valley oak woodland (all types) and riverine/riparian. Because roosting habitat is by its nature the limiting factor for habitats' ability to support bat populations, impacts on foraging habitat were not considered for the purposes of this analysis, although foraging habitat would benefit from the conservation actions proposed under the conservation strategy.

Covered Activities under Alternative 4, Reduced Permit Term, would result in permanent and temporary impacts on roosting habitat for special-status bat species. Permanent impacts would result in the loss of up to 3,989 acres of tree-roosting habitat for bats (7% of suitable habitat in the Plan Area): 223 acres of riparian woodland, 86 acres of valley oak woodland, and 3,680 acres of oak woodland. In addition, bridge replacement and improvements could affect bats that utilize bridge weep holes and crevices for roosting. An unknown number of roost sites in artificial structures, orchards, and urban landscaping could also be affected.

Covered Activities would temporarily affect up to 195 acres of roosting habitat in the Plan Area. These temporary impacts would be associated with urban/suburban development, rural residential development, transportation construction, fuels management, vegetation management, infrastructure operations and maintenance, and infrastructure construction. Plan conservation actions under Alternative 4 that could temporarily affect special-status bats include grading and contouring to restore, create, and enhance riparian woodland and oak woodlands in reserves.

Permanent development within 500 feet of bat roosting habitat could cause alterations in behavior through visual and noise disturbances associated with both construction and normal ongoing human activities if bats are present. Recurring, periodic maintenance activities may indirectly (through noise and visual disturbance) affect roosting bats; activities such as vegetation management and bridge maintenance could result in harm or mortality to young and adults, as well as reduced reproductive success.

Under Alternative 4, the permanent and temporary loss of bat roosting habitat would be offset by the protection of 6,970 acres and restoration of 929 acres of covered species habitat that also support roosting habitat for special-status bats. In addition, the conservation strategy would protect and restore up to 26,739 acres of natural communities that provide foraging habitat (grassland, vernal pool complex, aquatic/wetland complex, riverine/riparian complex, oak woodland, valley oak woodland, agriculture) for special-status bats. The protection, restoration, and management of natural communities that provide roosting habitat for special-status bats would be supported by the following objectives, conservation measures, and conditions.

- CM1, Establish Reserve System
- CM1-L-3, Connectivity and Conservation within the Region
- CM1 L-4, Connectivity within the Plan Area
- CM1 NC-1, Siting restoration
- CM1 VPCG-1, Verna Pool Complex Protection
- CM1 VPCG-2, Reserve Design for Vernal Pool Restoration/Creation
- CM1 VPCG-3, Grassland Protection
- CM1 AW-1, Aquatic/Wetlands Complex Protection
- CM1 RAR-1, Riverine and Riparian Protection
- CM1 OW-1, Oak Woodland Protection
- CM1 OW-2, Siting Oak Woodlands Restoration
- CM1 AO-1, Ag Land and other Open Space Protection
- CM2, Manage and Enhance the Reserve System
- CM2 L-4, Maintenance and Enhancement of Reserve System Permeability
- CM2 RAR-1, Riparian Vegetation Management
- CM2 OW-1, Oak Woodland Vegetation Enhancement and Management
- CM2 AO-1, Provision of Patches of native Vegetation in Rice Lands.
- CM3, Restore and Create Natural Communities and Covered Species' Habitat

- CM3 VPCG-1, Vernal Pool Complex Restoration/Creation
- CM3 VPCG-2, Grasslands Restoration
- CM3 AW-1, Aquatic/Wetlands Complex Restoration/Creation
- CM3 RAR-1, Riparian Natural Community Restoration
- CM3 OW-1, Oak Woodland Restoration,
- General Condition 1, Watershed Hydrology and Water Quality
- General Condition 2, Conservation Lands: Development Interface Design Requirements
- General Condition 4, Temporary Effects
- General Condition 5, Conduct Worker Training
- Community Condition 1, Wetland Avoidance and Minimization (Vernal Pool and Aquatic/Wetland Complex)
- Community Condition 2, Riverine and Riparian Avoidance and Minimization
- Community Condition 3, Valley Oak Woodland
- Stream System Condition 1, Stream System Avoidance
- Stream System Condition 2, Stream System Mitigation: Restoration
- Regional Public Projects Condition 1, Transportation and Other Infrastructure Projects Design Requirements
- Regional Public Projects Condition 2, Transportation and Other Infrastructure Projects Construction BMPs
- Regional Public Projects Condition 3, Operations and Maintenance BMPs

Although they do not apply to non-covered special-status wildlife species, these conservation measures and conditions establish performance standards for measuring the effectiveness of proposed conservation actions. In addition, Covered Activities, which include urban/suburban development, transportation projects, and infrastructure projects, under Alternative 4 that affect occurrences and habitat of non-covered special-status wildlife would be mitigated on a project-by-project basis for discretionary projects. Ancillary benefits are also expected to occur for these wildlife species as a result of the Plan, because it would establish a comprehensive reserve management program that would enhance habitat conditions in a variety of natural communities that may support non-covered special-status wildlife. Any potential effects on these species from fuels management, vegetation management, and infrastructure operations and maintenance, though not likely subject to additional environmental review, would be offset because the entities implementing these projects would be participating in the Plan and contributing funds for the implementation of the conservation strategy. The implementation of conservation measures to create, restore, enhance, and manage riparian woodland, valley oak woodland, and oak woodland habitat, which may affect roosting bats, may not be subject to further approvals or review that may identify effects on roosting bats.

NEPA Determination: The permanent loss of 3,989 acres and temporary disturbance of 195 acres of potential roosting habitat for special-status bats associated with Alternative 4, in the absence of other conservation actions, would constitute a potentially significant impact; however, with the

proposed protection and restoration set forth by the Plan's goals, objectives, conservation measures, and conditions would ensure that habitat loss from Covered Activities, which include urban/suburban development, transportation projects, infrastructure projects, fuels management, vegetation management, and infrastructure operations and maintenance, would be compensated for and preserved habitat would be managed in perpetuity and thus the effects would be reduced to a less-than-significant level.

Conservation measures to create, restore, enhance, and manage riparian, valley oak woodland, and oak woodland habitat could affect roosting bats if these actions result in the trimming, removal, or disturbance of tree roosting habitat and if there are no opportunities to identify and avoid roosting bat habitat through subsequent NEPA review; therefore, these activities could have adverse impacts on special-status bats. Implementation of Mitigation Measure BIO-3 would reduce this effect to a less-than-significant level.

CEQA Determination: The permanent loss of 3,989 acres and temporary disturbance of 195 acres of potential roosting habitat for special-status bats associated with Alternative 4, in the absence of other conservation actions, would constitute a significant impact through habitat modification and potential direct mortality of a special-status species. The natural community restoration and protection activities are expected to be concluded close enough to the timing of construction impacts to constitute mitigation for CEQA purposes. The proposed protection and restoration set forth by the Plan's goals, objectives, conservation measures, and conditions would ensure that habitat loss from Covered Activities, which include urban/suburban development, transportation projects, infrastructure projects, fuels management, vegetation management, and infrastructure operations and maintenance, would be compensated for and preserved habitat would be managed in perpetuity and thus the effects would be reduced to a less-than-significant level.

Conservation measures to create, restore, enhance, and manage riparian, valley oak woodland, and oak woodland habitat could affect roosting bats if these actions result in the trimming, removal, or disturbance of tree roosting habitat and if there are no opportunities to identify and avoid roosting bat habitat through subsequent CEQA review; therefore, these activities could have adverse impacts on special-status bats. Implementation of Mitigation Measure BIO-3 would reduce this effect to a less-than-significant level.

Mitigation Measure BIO-3: Conduct preconstruction surveys for roosting bats and implement protective measures

Impact BIO-26: Effects on American badger, a non-covered species (NEPA: less than significant with mitigation; CEQA: less than significant with mitigation)

There are no CNDDB records of American badger in the Plan Area (California Department of Fish and Wildlife 2017).

Covered Activities under Alternative 4, Reduced Permit Term, would result in permanent and temporary impacts on American badger habitat. Permanent impacts would result in the loss of up to 3,945 acres of grasslands (11% of this community in Plan Area A) that are potential habitat for American badger. The majority of potential habitat is located in Plan Area A and would be lost primarily as a result of urban/suburban development, rural residential development, transportation projects, and infrastructure projects. These effects likely overestimate the extent of effects on habitat suitable for American badger because soils in the valley portion of the Plan Area are less suitable because of the presence of dense clay soils, which are less likely to be used by badgers.

Covered Activities would temporarily affect up to 142 acres of American badger habitat (less than 1% of grasslands) in the Plan Area. These temporary impacts would be associated with urban/suburban development, rural residential development, transportation construction, fuels management, vegetation management, infrastructure operations and maintenance, and infrastructure construction. Plan conservation actions under Alternative 4 that could temporarily affect American badger habitat include grading and contouring to restore, create, and enhance grasslands in reserves.

Permanent development within 500 feet of American badger habitat could cause alterations in behavior through visual and noise disturbances associated with both construction and normal ongoing activities. Recurring maintenance activities, such as transportation facility maintenance, utility service facilities maintenance, and vegetation management, may periodically affect American badger both directly and indirectly. Additional indirect effects are expected to result from increased vehicular traffic and the development of new roadways, causing mortalities; habitat fragmentation as a result of urban and rural development and the construction of new roads and other infrastructure; and the introduction, establishment, and spread of invasive plant and animal species.

Under Alternative 4, the permanent and temporary loss of American badger habitat would be partially offset by protection of 1,627 acres and restoration of 550 acres of grassland that could provide potential habitat for the species.

The protection, restoration, and management of natural communities that provide roosting habitat for special-status bats would be supported by the following objectives, conservation measures, and conditions.

- CM1, Establish Reserve System
- CM1-L-3, Connectivity and Conservation within the Region
- CM1 L-4, Connectivity within the Plan Area
- CM1 NC-1, Siting restoration
- CM1 VPCG-3, Grassland Protection
- CM2, Manage and Enhance the Reserve System
- CM2 L-4, Maintenance and Enhancement of Reserve System Permeability
- CM3, Restore and Create Natural Communities and Covered Species' Habitat
- CM3 VPCG-2, Grasslands Restoration
- General Condition 2, Conservation Lands: Development Interface Design Requirements
- General Condition 4, Temporary Effects
- General Condition 5, Conduct Worker Training
- Regional Public Projects Condition 1, Transportation and Other Infrastructure Projects Design Requirements
- Regional Public Projects Condition 2, Transportation and Other Infrastructure Projects Construction BMPs
- Regional Public Projects Condition 3, Operations and Maintenance BMPs

Although they do not apply to non-covered special-status wildlife species, these objectives, conservation measures, and conditions establish performance standards for measuring the effectiveness of proposed conservation actions. In addition, Covered Activities under Alternative 4 that affect habitat of non-covered special-status wildlife would be mitigated on a project-by-project basis for discretionary projects. Ancillary benefits for these wildlife species are also anticipated to result from Plan implementation, because it would establish a comprehensive reserve management program that would enhance habitat conditions in a variety of natural communities that may support non-covered special-status wildlife. Mitigation for impacts from projects that are not subject to discretionary review, including implementation of conservation measures to create and restore grassland habitat, is unlikely.

NEPA Determination: The permanent loss of 3,945 acres and temporary disturbance of 142 acres of grassland habitat suitable to support American badger associated with Alternative 4, in the absence of other conservation actions, would constitute a potentially significant impact. However, with the protection and restoration guided by the Plan's goals, objectives, conservation measures, and conditions and the implementation of Mitigation Measure BIO-4, the overall effects of Alternative 4 on American badger would be less than significant.

CEQA Determination: The permanent loss of 3,945 acres and temporary disturbance of 142 acres of grassland habitat suitable to support American badger associated with Alternative 4, in the absence of other conservation actions, would constitute a significant impact through habitat modification and potential direct mortality of a special-status species. The natural community restoration and protection activities are expected to be concluded close enough to the timing of construction impacts to constitute mitigation for CEQA purposes. The proposed protection and restoration set forth by the Plan's goals, objectives, conservation measures, and conditions and implementation of Mitigation Measure BIO-4 would reduce permanent and temporary loss of American badger habitat and the potential mortality of the species to a less-than-significant level.

Mitigation Measure BIO-4: Conduct preconstruction survey for American badger

Other Biological Resources

Impact BIO-27: Effects on protected wetlands and waters (NEPA: less than significant; CEQA: less than significant)

Covered Activities under Alternative 4, Reduced Permit Term, would result in permanent and temporary impacts on wetlands and waters protected under state and federal laws and regulations. Alternative 4 would result in approximately 767 acres of permanent impacts on constituent habitats (i.e., vernal pool, vernal pool–type wetland, fresh emergent marsh, lacustrine, non–vernal pool seasonal wetland, riparian, and riverine) that could contain or be considered protected wetlands and waters. These wetlands and many of these waters are considered special aquatic sites, as defined under Section 404, Subpart E of the Clean Water Act. In the Plan Area, these special aquatic sites include wetlands; riffle/pool complexes, which can be found in both intermittent and perennial streams; and vegetated shallows, which may occur on the edge of some of the perennial streams within the Plan Area. Some agricultural lands and water conveyance facilities (e.g., rice lands, canals, ditches) may also be considered protected wetlands and waters that could be affected under Alternative 4. The acreage of wetlands that may occur agricultural lands in the Plan Area is not known at this time due to ongoing irrigation practices. Exact acreages of impacts would be determined based on project-level wetland delineations. For agricultural areas, determining the

acres of wetlands in these areas will require the ceasing of irrigation long enough for its influence on vegetation to subside. These impacts would result primarily from urban/suburban development, rural residential development, transportation projects, and infrastructure projects. Effects on wetlands and waters would occur primarily in the Valley portion of the Plan Area.

Temporary impacts on protected wetlands and waters mapped as constituent habitats would not exceed 290 acres. These temporary impacts would be associated with urban/suburban development, rural residential development, transportation construction, fuels management, vegetation management, infrastructure operations and maintenance, and infrastructure construction. Implementation of Plan conservation actions under Alternative 4 may also temporarily affect protected wetlands and waters in locations where grading, vegetation management, or other physical change is required.

Permanent impacts on protected wetlands and waters under Alternative 4 would be offset through a watershed-based approach as described in the CARP. The CARP requires compensatory mitigation for impacts on wetlands to be implemented at 1.5:1 and riverine habitat at 1.52:1 through payment into an ILF program or purchase of mitigation credits at an agency-approved mitigation bank. Most of this mitigation would be achieved through the enhancement (rehabilitation) of wetlands and waters, and creation (establishment)/restoration (reestablishment) of 1,548 acres of constituent habitats that would contain or be considered protected wetlands and waters as described in the Plan, except for a portion of the 714 acres of riparian habitat that would be restored, which may not be classified as a wetland. The preservation and establishment/reestablishment of wetlands and waters would be guided by the same objectives and conservation measures described above for vernal pool complex, aquatic/wetland complex, and riverine/riparian complex. Overall, the proposed wetland mitigation in the CARP would maintain or improve the functions and services of wetlands, including special aquatic sites, within the Plan Area.

Temporarily affected wetlands and waters would be restored through implementation of General Condition 4, Temporary Effects, which requires that temporarily affected areas be restored to pre-project conditions or better based on performance standards such as percent vegetative cover, restored topography, and restored hydrology.

The Plan includes several objectives and conservation measures to ensure that there would be no net loss of functions and services within the Plan Area, as listed in Table 4.1 of the CARP. These objectives and measures would ensure that preserved, enhanced, and established/re-established wetlands and waters maintain or improve the physical, chemical, and biological processes of wetlands in these landscapes, including nutrient cycling, vegetation structure, plant and animal diversity, habitat for rare species, and habitat linkages/corridors. The services that these wetlands provide would include such benefits as flood control, groundwater recharge, and maintenance of water quality in receiving waters.

Potential effects on protected wetlands and waters during construction and operations and maintenance will be avoided and minimized through implementation of General Condition 1, Community Conditions 1.3 and 1.5, and Regional Public Project Conditions 2 and 3. These conditions are described in Chapter 6 of the Plan. The CARP provides additional specific avoidance and minimization measures, summarized in Table 4.2 of that document.

These objectives, conservation measures, and conditions establish performance standards for measuring the effectiveness of proposed conservation actions. The acres of protection and restoration and the commitment to ratios established in the CARP satisfy the typical mitigation that

would be applied to the project-level effects, as well as mitigating the effects of the other conservation measures. The proposed conditions further demonstrate the intent to avoid and minimize effects and to maintain or improve wetland and water functions and services over the life of the Plan.

NEPA Determination: The permanent loss of approximately 767 acres and temporary disturbance of 190 acres of constituent habitats that could contain or be considered protected wetlands and waters associated with Alternative 4, in the absence of other conservation actions, would constitute a potentially significant impact. The effects would be offset by the Plan's commitment to mitigate at 1.5:1 for wetlands and 1.52:1 for riverine. As described in Table 4.1 of the CARP, the proposed mitigation would maintain or improve the functions and services of wetlands, including special aquatic sites, within the Plan Area. These objectives and measures would ensure that preserved, enhanced, and established/re-established wetlands and waters maintain or improve the physical, chemical, and biological processes of wetlands in these landscapes, including nutrient cycling, vegetation structure, plant and animal diversity, habitat for rare species, and habitat linkages/corridors. The services that these wetlands provide would include such benefits as flood control, groundwater recharge, and maintenance of water quality in receiving waters. General Condition 4 would ensure that temporarily affected wetlands and waters are restored to pre-project conditions or better based on performance standards. As described in Chapter 6 of the Plan, potential effects on wetlands and waters during construction would be avoided and minimized through the implementation of General Condition1; Community Conditions 1.3 and 1.5; and Regional Public Project Conditions 2 and 3. Table 4.2 of the CARP includes additional avoidance and minimization measures for wetlands and waters. Considering these proposed conservation actions set forth by the Plan's goals, objectives, conservation measures, and conditions, the overall effects of Alternative 4 on wetlands and waters in the Plan Area would be less than significant.

CEQA Determination: The permanent loss of approximately 767 acres and temporary disturbance of 190 acres of constituent habitats that could contain or be considered protected wetlands and waters associated with Alternative 4, in the absence of other conservation actions, would constitute a significant impact through loss of protected wetlands and waters in the Plan Area. The natural community creation, enhancement, restoration, and protection activities and mitigation commitments under the CARP, which includes a commitment to mitigate at 1.5:1 for wetlands and 1.52:1 for riverine, are more than sufficient to support the conclusion that the impacts on protected wetlands and waters under Alternative 4 would be less than significant. No mitigation has been identified.

Impact BIO-28: Effects on fish and wildlife corridors (NEPA: less than significant; CEQA: less than significant)

Figure 4.3-1 shows the PFG area under the Plan relative to ECAs mapped as part of the California Essential Habitat Connectivity Project. As seen in this figure, the Valley PFG area overlaps with portions of the Curry Creek–Coon Creek ECA and the Coon Creek–Bear River ECA. Several existing reserves fall within the Curry Creek–Coon Creek ECA, which runs north–south and is dominated by vernal pool complex, annual grassland, and rice lands. The Valley PFG bisects this ECA in two areas: one is north of Nicolaus Road and west of SR 65 and if built out entirely would result in a 0.75-mile separation between an existing vernal pool reserve to the north and vernal pool complex to the south. The other area is north of Sunset Boulevard and west of Fiddyment Road and if fully developed would create a 3-mile separation between vernal complex and grasslands north and

south of this area. Buildout of this portion of the ECA could isolate natural lands to the south in Roseville and to the southeast in the Plan Area.

A limited amount of rural residential development could take place along the southern edge of the Coon Creek–Bear River ECA, in the portion of the PFG around Sheridan, and in the area south of Camp Far West Reservoir; however, large areas of the ECA would be within the RAA and would be available for conservation efforts. Connectivity of similar habitat types within this ECA would remain intact if the PFG were fully developed. This ECA is dominated by vernal pool complex and grasslands in the west and south and oak woodland to the east and north. The ECA would largely support wildlife movement both within and to areas outside the Plan Area.

The southeastern edge of the Foothill PFG overlaps the western edge of the Marble Valley–Sawtooth Ride ECA in an area between Auburn Folsom Road on the west and Folsom Lake and the North Fork American River on the east. The most of the land cover in this area, dominated by oak woodland, is already protected as part of the Folsom Lake State Recreation Area and thus will likely remain suitable for wildlife movement.

The Plan includes several objectives and conservation measures to maintain and improve connectivity for the movement of covered species and other wildlife through the Plan Area. These measures include landscape-level objectives (Objectives L-1.1, L-2.1, L-2.2, L-2.3, and L-2.4) for establishing a large interconnected Reserve System that allows native and covered species to move within and outside of the Plan Area. These objectives would be met by most of the conservation measures that address natural community protection and restoration but in particular by CM1 L-3, Connectivity and Conservation within the Region; CM1 L-4, Connectivity within the Plan Area; CM2 L-4, Maintenance and Enhancement of Reserve System Permeability; and CM2 RAR-2, Removal and/or Modification of Barriers to Fish Passage. Wildlife dispersal and corridors would also be addressed at the project level through Regional Public Projects Condition 1, which includes conditions for transportation projects to minimize the creation of barriers to wildlife dispersal.

NEPA Determination: Alternative 4 would result in the isolation of some natural habitats that are currently linked with similar habitats in the western half of the Plan Area; such isolation would constitute a potentially adverse effect on wildlife corridors. However, with implementation of the objectives, conservation measures, and conditions established in the Plan and the CARP, the movement of fish and wildlife within and to areas outside the Plan Area would generally be improved over the life of the Plan. Consequently, the impact on wildlife corridors would be less than significant.

CEQA Determination: Alternative 4 would result in the isolation of some natural habitats that are currently linked with similar habitats in the western half of the Plan Area; such isolation would constitute a significant impact. However, with implementation of the objectives, conservation measures, and conditions under the established in the Plan and the CARP, the movement of fish and wildlife within and to areas outside the Plan Area would generally be improved over the life of the Plan. Consequently, the impact on wildlife corridors would be less than significant. No mitigation has been identified.

Impact BIO-29: Effects of invasive plant species (NEPA: less than significant; CEQA: less than significant)

Covered Activities under Alternative 4, Reduced Permit Term, could have adverse effects on natural communities, wildlife, and native plants as a result of the introduction and spread of invasive plant

species through development, operations, maintenance, and some conservation activities throughout the Plan Area. Invasive plant species threaten the diversity or abundance of native plant species through competition for resources, predation, parasitism, hybridization with native populations, introduction of pathogens, and physical or chemical alteration of the invaded habitat. Unlike the native plants they displace, many invasive plant species do not provide the food, shelter, or other habitat components on which many native fish and wildlife species depend. Invasive species also have the potential to harm human health and the economy by adversely affecting natural ecosystems, water delivery, flood protection systems, recreation, agricultural lands, and developed areas.

The Plan addresses the potential effects of invasive plant species through implementation of CM2 L-1, Vegetation Management and Invasive Plant Control; CM2 VPCG-1, Vernal Pool Complex and Grassland Vegetation Management; CM3 VPCG-2, Grassland Restoration; CM2 AW-1, Aquatic/Wetlands Complex Vegetation Control; CM2 RAR-1, Riparian Vegetation Management; CM2 OW-1, Oak Woodland Vegetation Enhancement and Management, and CM2 OW-2, Control of Invasive Animals that Limit Oak Regeneration, all of which include measures to identify, remove, or manage invasive plant species.

The introduction of invasive plant species would be further avoided and minimized through General Condition 1, which includes specifications for the use of native seed mixtures for erosion control; General Condition 2, which requires the use of non-invasive plants in landscaping adjacent to reserve properties; Community Condition 2.1, which includes a requirement to handle and dispose of removed invasive plants to prevent further spread; and Regional Public Projects Condition 2, which includes post-construction BMPs to help avoid and minimize the introduction of invasive plants.

NEPA Determination: Alternative 4 has the potential to result in the introduction and spread of invasive plant species; however, implementation of the Plan's objectives, conservation measures, and conditions would ensure that this effect is less than significant.

CEQA Determination: Alternative 4 has the potential to result in the introduction and spread of invasive plant species; however, implementation of the Plan's objectives, conservation measures, and conditions would reduce this impact to a less-than-significant. No mitigation has been identified.

4.3.3 Cumulative Analysis

The cumulative analysis of effects on biological resources is a qualitative evaluation using the past, present, and reasonably foreseeable future projects listed in *Cumulative Impacts* in the introductory portion of this chapter; Placer County and City of Lincoln general plan EIR impact determinations for cumulative impacts, where applicable; and the impact determinations identified in Section 4.3.2, *Impacts and Mitigation Measures*, for the various alternatives.

This analysis assesses whether implementation of the Plan the Covered Activities would result in a cumulatively considerable incremental contribution that, when combined with past, present, and reasonably foreseeable future projects, would result in a cumulatively significant impact.

Alternative 1—No Action

Placer County and the City of Lincoln determined in their respective general plans that loss of natural communities and habitat for special-status species from development associated with implementation of those general plans would constitute a cumulatively considerable contribution to a cumulative impact on biological resources in the region. Under Alternative 1, individual projects would be expected to mitigate direct and indirect effects on biological resources. However, those projects would have limited or no ability to mitigate cumulative effects on those resources because the Plan's conservation strategy would not be in place to coordinate mitigation and conservation throughout the Plan Area. Accordingly, the cumulative impacts on biological resources would remain significant.

Alternative 2— Proposed Action

Past losses of natural communities and impacts on other biological resources in the Plan Area caused by urban development and conversion to agricultural lands have resulted in the loss of substantial amounts of grasslands, vernal pool complex, and oak woodlands in the Plan Area. The proposed development under the proposed action would further contribute to these losses and impacts in the Plan Area. In addition, future development in Auburn, Rocklin, Loomis, and Roseville—which are in Plan Area B-1and have some infrastructure projects covered by the Plan but are non-participating cities in the context of urban development covered by the Plan, would further contribute to the cumulative impacts on biological resources within the region.

Across the Central Valley, the conversion of vernal pool complex to cropland has continued with a reported loss of 47,306 acres between 2005 and 2012, with conversion to agricultural uses accounting for most of this loss (95%). In Placer County during this period, an estimated 2,126 acres of vernal pool complex was converted—68% of which was for agriculture-related uses (Witham et al. 2014). The majority of this conversion was classified as "bare plowed ag." Crop data available from the Placer County Agricultural Department show an overall decrease in cropland between 2000 and 2016 (Placer County Agriculture Department n.d.; Placer County Agriculture Weights and Measures n.d.). Most of the cropland loss is likely due to urban growth, but it appears that for at least part of this period, cropland expanded into vernal pool complex. This trend could potentially continue over the permit term. Any conversion of vernal pool complex or other natural communities to cropland would not be covered under the Plan.

The Plan's long-term mitigation for all planned development during the 50-year permit term—habitat protection, management, and restoration of natural communities and habitat for species guided by its goals, objectives, conservation measures, and conditions—would reduce the magnitude of these impacts on these resources in the Plan Area. Over the 50-year life of the Plan, the effects on the biological resources addressed in this EIS/EIR would not be cumulatively considerable.

Alternative 3—Reduced Take/Reduced Fill

The contribution of Alternative 3 to cumulative effects on biological resources in the Plan Area and region would be similar to that under Alternative 2. Alternative 3 would generally result in fewer impacts on covered species' habitats and natural communities and would implement the same conservation as that proposed under Alternative 2. Alternative 3 would not result in a cumulatively considerable contribution to cumulative effects on biological resources.

Alternative 4—Reduced Permit Term

The contribution of Alternative 4 to cumulative effects on biological resources in the Plan Area and region would be similar to that under Alternative 2. Alternative 4 would generally result in fewer impacts on covered species' habitats and natural communities and though it would entail less conservation, the conservation actions would be proportional to the impacts. Because of its comprehensive approach to mitigation, conservation, and covered species recovery, Alternative 4 would not result in a cumulatively considerable contribution to cumulative effects on biological resources.

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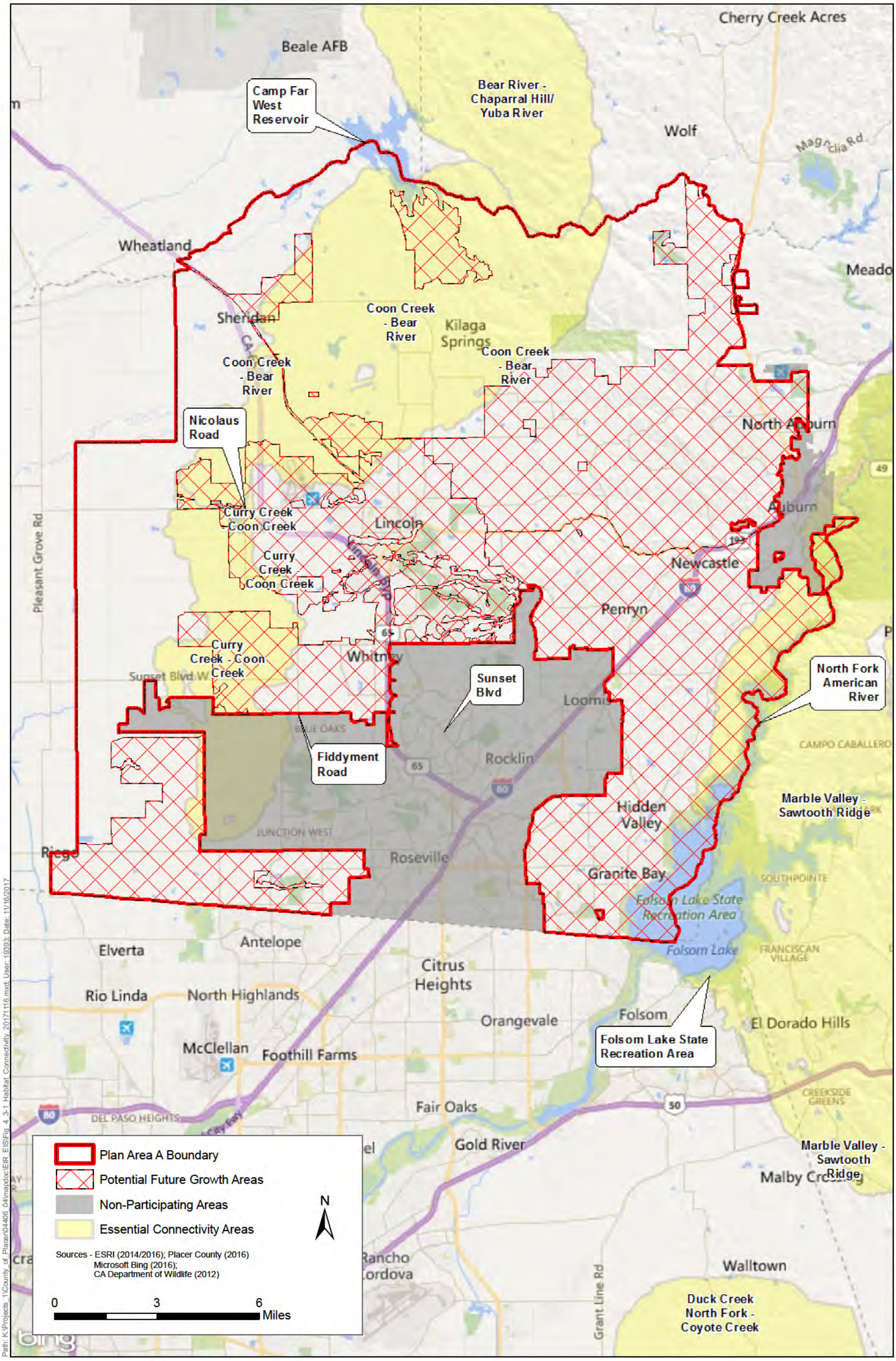

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Figure 4.3-1
Placer County Conservation Plan - California Essential Habitat Connectivity
Placer County Conservation Program – EIS/EIR

4.4 Cultural and Paleontological Resources

4.4.1 Methods and Significance Criteria

Methods

No new fieldwork was conducted for the preparation of this EIS/EIR.

Cultural Resources

Impacts on cultural resources were assessed on the basis of the proposed action and alternatives and review of applicable documents, such as the *Placer County General Plan* and *City of Lincoln General Plan*. Effects on cultural resources were analyzed qualitatively on a large-scale level, based on the judgment of qualified cultural resources professionals.

Anticipated changes in land cover/land use for each alternative are described in Chapter 2, *Proposed Action and Alternatives*. See Section 4.0, *Environmental Consequences*, for a description of the methodology used across all resource chapters for the analysis of cumulative effects.

Generally, the alternatives would have similar direct impacts on cultural resources because all alternatives would serve to streamline development and ground disturbance envisioned by the Permit Applicants' long-term plans such as the *Placer County General Plan* (Placer County 1994) and the *City of Lincoln General Plan* (City of Lincoln 2008a). The development activities contemplated in these plans could have substantial temporary and permanent impacts on cultural resources.

It is assumed that all Covered Activities would be consistent with the policies of the Permit Applicants' general plans and other long-term plans and that the Permit Applicants would comply with the requirements for identification of cultural resources, assessment of impacts, and treatment for affected resources outlined in the Cultural Resources Management Plan (CRMP) prepared for the PCCP (Westwood 2016).

In accordance with the CRMP, efforts pertaining to the identification and evaluation of cultural resources and the resolution of potential impacts on such resources under individual projects (Covered Activities) may include such methods as records searches conducted at the California Historical Resources Information System's (CHRIS's) North Central Information Center, archaeological pedestrian surveys, built environment research and assessments, recordation of archaeological sites and built environment resources, subsurface archaeological testing, and evaluation and mitigation of cultural resources that may be affected by the projects. In addition to adhering to the CRMP, actions of the PCCP that would require a Section 404 permit from the U.S. Army Corps of Engineers are subject to review pursuant to Section 106 of the National Historic Preservation Act; accordingly cultural resource studies would be conducted in accordance with Section 106 regulations (36 Code of Federal Regulations [CFR] Part 800).

Paleontological Resources

Impacts related to paleontological resources were assessed on the basis of the proposed PCCP and review of applicable documents such as the *Placer County General Plan* and *City of Lincoln General Plan*.

The primary source of information used in developing the paleontological resources analysis is the paleontological database at the University of California, Berkeley. Effects on paleontological resources were analyzed qualitatively on a large scale, based on professional judgment and the Society of Vertebrate Paleontology (SVP) guidelines below.

SVP's *Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources* provides standard guidelines that are widely followed (Society of Vertebrate Paleontology 2010). These guidelines reflect the accepted standard of care for paleontological resources. The SVP guidelines identify two key phases for protecting paleontological resources from project impacts.

- Assess the likelihood that the area contains significant nonrenewable paleontological resources that could be directly or indirectly affected, damaged, or destroyed as a result of the project.
- Formulate and implement measures to mitigate potential adverse impacts.

An important strength of SVP's approach to assessing potential impacts on paleontological resources is that the SVP guidelines provide some standardization in evaluating paleontological sensitivity. Table 3.4-1 in Section 3.4 of Chapter 3, *Affected Environment*, defines the SVP's sensitivity categories for paleontological resources and summarizes SVP's recommended treatments to avoid adverse effects in each sensitivity category.

Significance Criteria

NEPA establishes the federal policy of preserving important historic, cultural, and natural aspects of our national heritage during federal project planning. All federal or federally assisted projects requiring action pursuant to NEPA Section 102 must take into account impacts on cultural resources (42 United States Code Sections 4321–4347). NEPA analysis should identify the potential for an action to adversely affect resources that are listed or may be eligible for listing in the National Register of Historic Places (NRHP). Because NEPA does not have regulations that establish impacts thresholds for cultural resources in particular, the National Historic Preservation Act Section 106 criteria for adverse effect are typically used to identify adverse effects under NEPA.

The Section 106 criteria of adverse effect state that projects that would have an adverse effect on historic properties are those that would alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the NRHP in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association (36 CFR 800.5[a][1]). For the purposes of this analysis, "alteration of qualifying characteristics" may include but is not necessarily limited to the following.

- Physical destruction of all or part of a property.
- Alteration of built-environment resources that is not consistent with the federal standards for treatment of historic properties (36 CFR 68).
- Removal of a property from its historical location.
- Alteration of the significant features of a property or introduction of incongruous elements to the setting.
- For federally owned properties, transfer of the property out of federal control without adequate and legally enforceable mechanisms to ensure preservation.
- Neglect of a property that results in deterioration (36 CFR 800.5[a][2]).

According to Appendix G of the State CEQA Guidelines, a proposed project would be considered to have a significant effect under CEQA if it would result in any of the following.

- A substantial adverse change in the significance of a historical resource as defined in Section 15064.5.
- A substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5.
- Disturbance of any human remains, including those interred outside of dedicated cemeteries.
- Direct or indirect destruction of a unique paleontological resource or site or unique geologic feature.

4.4.2 Impacts and Mitigation Measures

Alternative 1—No Action

Impact CUL-1: Potential to cause alteration of characteristics of known or unknown cultural resources that may qualify such resources for listing in the NRHP (NEPA) or CRHR (CEQA) (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

Public and private development envisioned in the *Placer County General Plan* and the *City of Lincoln General Plan*, as well as South Placer Regional Transportation Authority (SPRTA) and Placer County Water Agency (PCWA) projects, would go forward under the no action alternative. For example, the general plans for Placer County and the City of Lincoln include activities associated with potential future growth, conservation and rural development, regional public programs, conservation programs, and in-stream programs that, if carried out, could affect cultural resources, including archaeological resources through ground-disturbing activities. The EIR for the *City of Lincoln General Plan* found that the effects on cultural resources of growth associated with the general plans would be less than significant with implementation of the policies of the plans, as described below (City of Lincoln 2008b). The EIR for the *Placer County General Plan* found that the effects on cultural resources of growth associated with the general plan would be potentially significant even with implementation of the policies of those plans, as described below (Placer County 1994). PCWA projects involve construction, operation, and maintenance of PCWA canals and new pipelines; SPRTA projects involve construction, maintenance, and repair of roads and bridges.

Although implementation of the activities identified in the Placer County and the City of Lincoln general plans could result in the loss of important previously identified and unknown cultural resources, projects subject to federal jurisdiction would be required to comply with Section 106 and projects subject to CEQA review would require compliance with the cultural resources regulations contained in CEQA, all on a project-by-project basis. In addition, for CEQA projects where the County is the lead agency, the cultural resources policies and actions outlined in Section 7.2 of the *Placer County General Plan* would be implemented. For projects where the City of Lincoln is the lead agency, Goals LU-2 and LU-3 and Goal OSC-6 of the *City of Lincoln General Plan* would be implemented. Following these guidelines would reduce potential impacts on cultural resources, but the impacts identified in the EIR for the *Placer County General Plan* would not be reduced to a less-than-significant level.

NEPA Determination: Impacts on known or unknown cultural resources could result from implementation of agency plans and projects—specifically, implementation of the general plans for Placer County and the City of Lincoln. Projects subject to federal jurisdiction would be required to comply with Section 106 on a project-by-project basis. Compliance with federal, state, and local regulations would reduce potential alterations, but not to a less-than-significant level. Therefore, the effect would be significant and unavoidable.

CEQA Determination: Impacts on known or unknown cultural resources could result from implementation of agency plans and projects—specifically, implementation of general plans for Placer County and the City of Lincoln. Projects subject to CEQA review would require compliance with the CEQA cultural resource regulations on a project-by-project basis. Compliance with federal, state, and local regulations would reduce potential alterations, but not to a less-than-significant level. Therefore, the effect would be significant and unavoidable.

Impact CUL-2: Disturbance of any human remains, including those interred outside of dedicated cemeteries (NEPA: less than significant; CEQA: less than significant)

Public and private development envisioned in the *Placer County General Plan* and the *City of Lincoln General Plan*, as well as SPRTA and PCWA projects, would go forward under the no action alternative. For example, the general plans for Placer County and the City of Lincoln include activities associated with potential future growth, conservation and rural development, regional public programs, conservation programs, and in-stream programs that, if carried out, could disturb human remains though ground-disturbing activities. The EIRs for the *Placer County General Plan* and *City of Lincoln General Plan* found that the effects on cultural resources of growth associated with the general plans would be less than significant with implementation of the policies of those plans, as described below.

Although implementation of the activities identified in the Placer County and the City of Lincoln general plans could result in the disturbance of human remains, projects subject to federal jurisdiction would be required to comply with Section 106 and projects subject to CEQA review would require compliance with the cultural resources regulations contained in CEQA, all on a project-by-project basis. In addition, projects would have to comply with state and local laws and regulations regarding the treatment of human remains, including California Health and Safety Code 7050.5, State CEQA Guidelines (Section 15064.5), and Public Resources Code Section 5097.98. By following these laws and guidelines, and by complying with Section 106 and CEQA, the potential disturbance of human remains would be reduced to a less-than-significant level.

NEPA Determination: Implementation of agency plans and projects, including implementation of general plans for Placer County and the City of Lincoln, may affect human remains. Projects subject to federal jurisdiction would be required to comply with Section 106 regarding the treatment of human remains. Compliance with federal, state, and local regulations would reduce disturbance of human remains to levels that are less than significant. Therefore, the effect would be less than significant.

CEQA Determination: Implementation of agency plans and projects, including implementation of general plans for Placer County and the City of Lincoln, may affect human remains. Projects subject to CEQA review would require compliance with CEQA cultural resource regulations on a project-by-project basis and with state and local laws and regulations regarding the treatment of human remains. Compliance with federal, state, and local regulations would reduce disturbance of human remains to levels that are less than significant. Therefore, the effect would be less than significant.

Impact CUL-3: Direct or indirect destruction of a unique paleontological resource or site or unique geologic feature (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

Under Alternative 1, the conservation measures would not be implemented, and there would be no ground disturbance as a result of the PCCP. However, several geologic units in the Plan Area are sensitive for paleontological resources, and if fossils are present, they could be damaged during ground-disturbing activities resulting from implementation of the general plans for Placer County and the City of Lincoln and SPRTA and PCWA projects. Compliance with the general plans would afford some protection to paleontological resources during ground-disturbing activities in potentially sensitive areas; however, the EIR for the *Placer County General Plan* found that these protections would not reduce potential impacts to a less-than-significant level. Therefore, the effect would be significant and unavoidable.

NEPA Determination: Implementation of general plans for Placer County and the City of Lincoln and SPRTA and PCWA projects may affect paleontological resources. Compliance with the general plans would afford some protection to paleontological resources during ground-disturbing activities in potentially sensitive areas; however, the EIR for the *Placer County General Plan* found that these protections would not reduce potential impacts to a less-than-significant level. Therefore, the effect would be significant and unavoidable.

CEQA Determination: General plans for Placer County and the City of Lincoln and SPRTA and PCWA projects may affect paleontological resources. Compliance with the general plans would afford some protection to paleontological resources during ground-disturbing activities in potentially sensitive areas; however, the EIR for the *Placer County General Plan* found that these protections would not reduce potential impacts to a less-than-significant level. Therefore, the effect would be significant and unavoidable.

Alternative 2—Proposed Action

Impact CUL-1: Potential to cause alteration of characteristics of known or unknown cultural resources that may qualify such resources for listing in the NRHP (NEPA) or CRHR (CEQA) (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

Implementation of the activities identified in the Placer County and City of Lincoln general plans could result in the loss of important previously identified and unknown cultural resources. For CEQA projects where the County is the lead agency, the cultural resources policies and actions outlined in Section 7.2 of the *Placer County General Plan* would be implemented. For projects where the City of Lincoln is the lead agency, Goals LU-2 and LU-3 and Goal OSC-6 of the *City of Lincoln General Plan* would be implemented. Following these guidelines would reduce potential impacts on cultural resources, but the impacts identified in the EIR for the *Placer County General Plan* would not be reduced to a less-than-significant level. Accordingly, such impacts would be considered significant and unavoidable.

Impacts on historical resources (CEQA) or historic properties (NEPA) could result from implementation of proposed PCCP conservation measures that require construction activities, such as earthmoving, re-contouring, excavation, or removal or modification of landscape features or structures. These construction activities have the potential to result in a significant impact on historical resources and historic properties. Some physical actions required to implement Conservation Measure (CM) 2 and CM3 (Table 2-13 in Chapter 2, *Proposed Action and Alternatives*)

involve ground disturbance and modifications to the built environment. For example, removal or modification of fences, ditches, trails, concrete dams, and roads listed in CM2 could cause a substantial adverse change to NRHP- or California Register of Historical Resources (CRHR)-eligible built environment resources by impairing the character-defining features of such resources and reducing or eliminating their ability to convey their historical significance. Ground-disturbing activities that extend below the surface, such as restoration or creation of vernal pool complexes, construction of drainage ditches, mechanical re-contouring of hydrological features and disking of vegetation listed in CM2 and CM3, could cause significant damage to intact subsurface archaeological deposits and reduce or eliminate their ability to yield important data, thus causing a substantial adverse change to NRHP- or CRHR-eligible archaeological resources. General plan policies and standard agency measures would reduce the levels of effects.

Implementation of the PCCP conservation measures could result in impacts including the loss of important previously identified and unknown historical resources. However, a CRMP (Westwood 2016) has been developed for the PCCP that would reduce the potential impacts on cultural resources to a less-than-significant level. The CRMP identifies the procedures and standards that would be used to evaluate and address the potential impacts on cultural resources that may result from projects and activities permitted under the PCCP. These standards and procedures would ensure that the individual projects are compliant with all federal, state, and local laws and regulations as they relate to cultural resources. Furthermore, the CRMP identifies the appropriate treatment for resources that would be significantly affected and provides guidance for developing resource-specific treatments. Standard treatment measures include capping of sites; data recovery excavation; project-specific public interpretation and education; construction monitoring; tribal access agreements; and Historic American Building Survey (HABS), Historic American Engineering Record (HAER), and Historic American Landscape Survey (HALS) programs.

NEPA Determination: Ground-disturbing activities or modifications to built resources associated with implementation of PCCP conservation measures under Alternative 2, the proposed action, could result in impacts on cultural resources. These activities and modifications could alter or destroy the characteristics of known or unknown cultural resources that may qualify for listing in the NRHP. Construction and O&M activities associated with Covered Activities could also affect cultural resources. However, identification procedures and treatment measures set forth in the PCCP CRMP, general plan policies, and standard agency measures are expected to reduce potential alterations to levels that are less than significant. Therefore, the impact would be less than significant.

Implementation of the local jurisdictions' general plans would be required to comply with Section 106 on a project-by-project basis for projects with a federal nexus. Compliance with federal, state, and local regulations would reduce potential impacts associated with these projects, but not to a less-than-significant level. Therefore, because the impacts associated with general plan implementation would be significant and unavoidable, the overall impact would also be significant and unavoidable.

CEQA Determination: Ground-disturbing activities or modifications to built resource associated with PCCP implementation under Alternative 2, the proposed action, could result in impacts on cultural resources. These activities or modifications could impair the characteristics of known or unknown cultural resources that may qualify them for inclusion in the CRHR. Construction and O&M activities associated with Covered Activities could also affect cultural resources. However, identification procedures and treatment measures set forth in the PCCP CRMP, general plan policies,

and standard agency measures are expected to reduce potential alterations to levels that are less than significant. Therefore, the impact would be less than significant.

Implementation of the local jurisdictions' general plans would be required to comply with Section 106 and Assembly Bill (AB) 52 on a project-by-project basis. Compliance with federal, state, and local regulations would reduce potential impacts associated with these projects, but not to a less-than-significant level. Therefore, because the impacts associated with general plan implementation would be significant and unavoidable, the overall impact would also be significant and unavoidable.

Impact CUL-2: Disturbance of any human remains, including those interred outside of dedicated cemeteries (NEPA: less than significant; CEQA: less than significant)

Activities under Alternative 2, the proposed action, have the potential to disturb known or unknown human remains. Disturbance of human remains under this alternative would most likely occur during ground-disturbing activities. The locations of known human remains are often obtained from government documents, archival data, oral histories, tribal consultation, or CHRIS data regarding previously recorded cultural resources or previous cultural resources studies. Unknown human remains are typically identified during archaeological construction monitoring, field surveys, testing, or data recovery.

Although the *Placer County General Plan* does not directly address impacts or procedures for the discovery or avoidance of human remains, policies and actions outlined in Section 7.2 (Goals 5.A and 5.D) provide guidance for avoidance and identification of cultural resources that may contain human remains. The *City of Lincoln General Plan* provides guidance (Policy OSC-6.10) for the discovery and treatment of human remains that comply with state and local laws and guidelines, including California Health and Safety Code 7050.5, State CEQA Guidelines (Section 15064.5), and Public Resources Code Section 5097.98. In addition, a CRMP developed for the PCCP would reduce the potential impacts on cultural resources and human remains to a less-than-significant level. The CRMP identifies the procedures and standards that would be used to evaluate and address the potential impacts on cultural resources that may result from projects and activities permitted under the PCCP. The EIRs for the *Placer County General Plan* and *City of Lincoln General Plan* found that the effects of growth associated with the general plans on cultural resources would be less than significant with implementation of the policies of those plans (Placer County 1994; City of Lincoln 2008b).

By following the laws and guidelines identified in the *City of Lincoln General Plan*, the *Placer County General Plan*, and the CRMP, the potential disturbance of human remains would be reduced to a less-than-significant level.

NEPA Determination: Ground-disturbing activities associated with PCCP conservation measures under Alternative 2, the proposed action, could disturb known or unknown human remains. However, CRMP policies and measures are expected to reduce the disturbance of human remains to levels that are less than significant. Ground-disturbing activities associated with Covered Activities could also disturb human remains. Projects subject to federal jurisdiction would be required to comply with Section 106 regarding the treatment of human remains. Compliance with federal, state, and local regulations would reduce disturbance of human remains resulting from Covered Activities to levels that are below significant. Therefore, the impact would be less than significant.

CEQA Determination: Ground-disturbing activities associated with PCCP conservation measures under Alternative 2, the proposed action, could disturb known or unknown human remains. However, CRMP policies and measures are expected to reduce the disturbance of human remains to levels that are less than significant. Ground-disturbing activities associated with Covered Activities could also disturb human remains. Projects subject to CEQA review would require compliance with the CEQA cultural resources regulations on a project-by-project basis and with state and local laws and regulations regarding the treatment of human remains. Compliance with federal, state, and local regulations would reduce disturbance to human remains to levels that are less than significant. Therefore, the impact would be less than significant. No mitigation has been identified.

Impact CUL-3: Direct or indirect destruction of a unique paleontological resource or site or unique geologic feature (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

Several geologic units in the Plan Area are sensitive for paleontological resources, and fossils could be present. If fossils are present, they could be damaged during ground-disturbing activities. Most ground-disturbing activities associated with PCCP conservation measures would be related to CM3, which would involve grading to restore or create vernal pool and grassland habitat. Many of the areas designated as potential restoration areas are directly underlain by geologic units sensitive for paleontological resources (Table 3.4-2 and Figure 3.4-1). Excavations deeper than 3 feet in these units could damage paleontological resources. Substantial damage to or destruction of significant paleontological resources as defined by the SVP (Society of Vertebrate Paleontology 2010) would be a significant impact. Ground-disturbing activities related to construction resulting from implementation of general plans for Placer County and the City of Lincoln and implementation of SPRTA and PCWA projects also could damage paleontological resources. Compliance with the general plans would afford some protection to paleontological resources during ground-disturbing activities in potentially sensitive areas; however, the EIR for the *Placer County General Plan* found that these protections would not reduce potential impacts to a less-than-significant level. Therefore, the effect would be significant and unavoidable.

Similar impacts could result from construction activities associated with implementation of PCCP conservation measures; however, the PCA would implement Mitigation Measures CUL-1 and CUL-2 in the course of establishing the Reserve System. Implementation of Mitigation Measures CUL-1 and CUL-2 would reduce these impacts to a less-than-significant level.

NEPA Determination: Under Alternative 2, the proposed action, ground-disturbing activities associated with PCCP conservation measures and the Covered Activities have the potential to disturb potentially significant paleontological resources if the activities occur in geologic units that are sensitive for these resources. Compliance with the general plans would afford some protection to paleontological resources during ground-disturbing activities in potentially sensitive areas; however, the EIR for the *Placer County General Plan* found that these protections would not reduce potential impacts to a less-than-significant level. Therefore, the effect would be significant and unavoidable. While implementation of Mitigation Measures CUL-1 and CUL-2 would reduce the impacts of activities associated with implementation of PCCP conservation measures to a less-than-significant level, the overall impact would remain significant and unavoidable.

CEQA Determination: Under Alternative 2, the proposed action, ground-disturbing activities associated with PCCP conservation measures and the Covered Activities have the potential to disturb potentially significant paleontological resources if the activities occur in geologic units that

are sensitive for these resources. Compliance with the general plans would afford some protection to paleontological resources during ground-disturbing activities in potentially sensitive areas; however, the EIR for the *Placer County General Plan* found that these protections would not reduce potential impacts to a less-than-significant level. Therefore, the effect would be significant and unavoidable. While implementation of Mitigation Measures CUL-1 and CUL-2 would reduce the impacts of activities associated with implementation of PCCP conservation measures to a less-than-significant level, the overall impact would remain significant and unavoidable.

Mitigation Measure CUL-1: Retain a qualified professional paleontologist to monitor significant ground-disturbing activities

When excavation deeper than 3 feet will occur in geologic units sensitive for paleontological resources (Table 3.4-2, Figure 3.4-1), a qualified paleontologist will be present during excavation. Prior to these ground-disturbing activities, the professional paleontologist, as defined by SVP's *Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources* (2010), will be retained. Data gathered during detailed project design will be used to determine the activities that will require the presence of the paleontologist. Recovered fossils will be prepared so that they can be properly documented. Recovered fossils will then be curated at a facility that will properly house and label them, maintain the association between the fossils and field data about the fossils' provenance, and make the information available to the scientific community.

Mitigation Measure CUL-2: Stop work if substantial fossil remains are encountered during construction

If substantial fossil remains (particularly vertebrate remains) are discovered during ground-disturbing activities, the construction contractor will stop activities immediately until a state-registered professional geologist or qualified professional paleontologist can assess the nature and importance of the find and a qualified professional paleontologist can recommend appropriate treatment. Treatment may include preparation and recovery of fossil materials so that they can be housed in an appropriate museum or university collection and may also include preparation of a report for publication describing the finds.

Alternative 3—Reduced Take/Reduced Fill

Impact CUL-1: Potential to cause alteration of characteristics of known or unknown cultural resources that may qualify such resources for listing in the NRHP (NEPA) or CRHR (CEQA) (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

Impacts of implementing Alternative 3 would be similar to or slightly less than those identified for CUL-1 under Alternative 2, the proposed action, because the acreage for potential restoration areas would likely be slightly smaller due to the reduced conversion of vernal pool complex under Alternative 3. Public and private development envisioned in the *Placer County General Plan* and the *City of Lincoln General Plan*, as well as SPRTA and PCWA projects, would go forward and would have the same impact under Alternative 3 as under Alternative 2.

Implementation of the activities identified in the Placer County and the City of Lincoln general plans could result in the loss of important previously identified and unknown cultural resources. For CEQA projects where the County is the lead agency, the cultural resources policies and actions

outlined in Section 7.2 of the *Placer County General Plan* would be implemented. For projects where the City of Lincoln is the lead agency, Goals LU-2 and LU-3 and Goal OSC-6 of the *City of Lincoln General Plan* would be implemented. Following these guidelines would reduce potential impacts on cultural resources, but the impacts identified in the EIR for the *Placer County General Plan* would not be reduced to a less-than-significant level. Accordingly, such impacts would be considered significant and unavoidable.

Impacts on historical resources (CEQA) or historic properties (NEPA) could result from implementation of proposed PCCP conservation measures that require construction activities, such as earthmoving, re-contouring, excavation, or removal or modification of landscape features or structures. These construction activities have the potential to result in significant impacts on historical resources and historic properties. Some physical actions required to implement Conservation Measure (CM) 2 and CM3 (Table 2-13 in Chapter 2, *Proposed Action and Alternatives*) involve ground disturbance and modifications to the built environment. For example, removal or modification of fences, ditches, trails, concrete dams, and roads listed in CM2 could cause a substantial adverse change to NRHP- or California Register of Historical Resources (CRHR)-eligible built environment resources by impairing the character-defining features of such resources and reducing or eliminating their ability to convey their historical significance. Ground-disturbing activities that extend below the surface, such as restoration or creation of vernal pool complexes, construction of drainage ditches, mechanical re-contouring of hydrological features and disking of vegetation listed in CM2 and CM3, could cause significant damage to intact subsurface archaeological deposits and reduce or eliminate their ability to yield important data, thus causing a substantial adverse change to NRHP- or CRHR-eligible archaeological resources. General plan policies and standard agency measures would reduce the levels of effects.

Implementation of the Covered Activities under the proposed PCCP could result in impacts, including the loss of important previously identified and unknown historical resources. However, a CRMP (Westwood 2016) has been developed for the PCCP that would reduce the potential impacts on cultural resources to a less-than-significant level. The CRMP identifies the procedures and standards that would be used to evaluate and address the potential impacts on cultural resources that may result from projects and activities permitted under the PCCP. These standards and procedures would ensure that the individual projects are compliant with all federal, state, and local laws and regulations as they relate to cultural resources. Furthermore, the CRMP identifies the appropriate treatment for resources that would be significantly affected and provides guidance for developing resource-specific treatments. Standard treatment measures include capping of sites; data recovery excavation; project-specific public interpretation and education; construction monitoring; tribal access agreements; and Historic American Building Survey (HABS), Historic American Engineering Record (HAER), and Historic American Landscape Survey (HALS) programs.

NEPA Determination: Ground-disturbing activities or modifications to built resources associated with PCCP implementation under Alternative 3 could result in impacts on cultural resources. These activities and modifications could alter or destroy the characteristics of known or unknown cultural resources that may qualify for listing in the NRHP. Construction and O&M activities associated with Covered Activities could also affect cultural resources. However, identification procedures and treatment measures set forth in the PCCP CRMP, general plan policies, and standard agency measures are expected to reduce potential alterations to levels that are less than significant. Therefore, the impact would be less than significant.

Implementation of the local jurisdictions' general plans would be required to comply with Section 106 on a project-by-project basis. Compliance with federal, state, and local regulations would reduce potential impacts associated with these projects, but not to a less-than-significant level. Therefore, because the impacts associated with general plan implementation would be significant and unavoidable, the overall impact would also be significant and unavoidable.

CEQA Determination: Ground-disturbing activities or modifications to built resource associated with PCCP implementation under Alternative 3 could result in impacts on cultural resources. These activities or modifications could impair the characteristics of known or unknown cultural resources that may qualify them for inclusion in the CRHR. Construction and O&M activities associated with Covered Activities could also affect cultural resources. However, identification procedures and treatment measures set forth in the PCCP CRMP, general plan policies, and standard agency measures are expected to reduce potential alterations to levels that are less than significant. Therefore, the impact would be less than significant.

Implementation of the local jurisdictions' general plans would be required to comply with Section 106 and AB 52 on a project-by-project basis. Compliance with federal, state, and local regulations would reduce potential impacts associated with these projects, but not to a less-than-significant level. Therefore, because the impacts associated with general plan implementation would be significant and unavoidable, the overall impact would also be significant and unavoidable.

Impact CUL-2: Disturbance of any human remains, including those interred outside of dedicated cemeteries (NEPA: less than significant; CEQA: less than significant)

Impacts of implementing Alternative 3 would be similar to or slightly less than those identified for CUL-2 under Alternative 2, the proposed action, because the acreage of potential restoration areas would likely be slightly smaller because of the reduced conversion of vernal pool complex under Alternative 3. Public and private development envisioned in the *Placer County General Plan* and the *City of Lincoln General Plan*, and SPRTA and PCWA projects would go forward and would have the same impact under Alternative 3 as under Alternative 2.

Activities under Alternative 3 have the potential to disturb known or unknown human remains. Disturbance of human remains under this alternative would most likely occur during ground-disturbing activities. The locations of known human remains are often obtained from government documents, archival data, oral histories, tribal consultation, or CHRIS data regarding previously recorded cultural resources or previous cultural resources studies. Unknown human remains are typically identified during archaeological construction monitoring, field surveys, testing, or data recovery.

Although the *Placer County General Plan* does not directly address impacts or procedures for the discovery or avoidance of human remains, policies and actions outlined in Section 7.2 (Goals 5.A and 5.D) provide guidance for avoidance and identification of cultural resources that may contain human remains. The *City of Lincoln General Plan* provides guidance (Policy OSC-6.10) for the discovery and treatment of human remains that comply with state and local laws and guidelines including California Health and Safety Code 7050.5, State CEQA Guidelines (Section 15064.5), and Public Resources Code Section 5097.98. In addition, a CRMP developed for the PCCP would reduce the potential impacts on cultural resources and human remains to a less-than-significant level. The CRMP identifies the procedures and standards that would be used to evaluate and address the potential impacts on cultural resources that may result from projects and activities permitted under the PCCP. By following the laws and guidelines identified in the *City of Lincoln General Plan*, the

Placer County General Plan, and the CRMP, the potential disturbance of human remains would be reduced to a less-than-significant level.

NEPA Determination: Ground-disturbing activities associated with PCCP conservation measures under Alternative 3 could disturb known or unknown human remains. However, CRMP policies and measures are expected to reduce the disturbance of human remains to levels that are less than significant. Ground-disturbing activities associated with Covered Activities could also disturb human remains. Projects subject to federal jurisdiction would be required to comply with Section 106 regarding the treatment of human remains. Compliance with federal, state, and local regulations would reduce disturbance of human remains resulting from Covered Activities to levels that are below significant. Therefore, the impact would be less than significant.

CEQA Determination: Ground-disturbing activities associated with PCCP implementation under Alternative 3 could disturb known or unknown human remains. However, CRMP policies and measures are expected to reduce the disturbance of human remains to levels that are less than significant. Ground-disturbing activities associated with Covered Activities could also disturb human remains. Projects subject to CEQA review would require compliance with the CEQA cultural resources regulations on a project-by-project basis and with state and local laws and regulations regarding the treatment of human remains. Compliance with federal, state, and local regulations would reduce disturbance to human remains to levels that are less than significant. Therefore, the impact would be less than significant. No mitigation has been identified.

Impact CUL-3: Direct or indirect destruction of a unique paleontological resource or site or unique geologic feature (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

Several geologic units in the Plan Area are sensitive for paleontological resources, and fossils could be present. If fossils are present, they could be damaged during ground-disturbing activities. Most ground-disturbing activities associated with PCCP conservation measures would be related to CM3, which would involve grading to restore or create vernal pool and grassland habitat. Many of the areas designated as potential restoration areas are directly underlain by geologic units sensitive for paleontological resources (Table 3.4-2 and Figure 3.4-1). Excavation deeper than 3 feet in these units could damage paleontological resources. Substantial damage to or destruction of significant paleontological resources as defined by the SVP (Society of Vertebrate Paleontology 2010) would be a significant impact. Under Alternative 3, the potential areal extent of ground disturbance would be similar to or less than the extent under Alternative 2, the proposed action, because the acreage for potential restoration area would likely be slightly smaller due to reduced conversion of vernal pool complex. Ground-disturbing activities related to construction resulting from implementation of general plans for Placer County and the City of Lincoln and implementation of SPRTA and PCWA projects could also damage paleontological resources.

Compliance with the general plans would afford some protection to paleontological resources during ground-disturbing activities in potentially sensitive areas; however, the EIR for the *Placer County General Plan* found that these protections would not reduce potential impacts to a less-than-significant level. Therefore, the effect would be significant and unavoidable.

Similar impacts could result from construction activities associated with implementation of PCCP conservation measures; however, the PCA would implement Mitigation Measures CUL-1 and CUL-2 in the course of establishing the Reserve System. Implementation of Mitigation Measures CUL-1 and CUL-2 would reduce these impacts to a less-than-significant level.

NEPA Determination: Alternative 3 ground-disturbing activities associated with PCCP conservation measures and Covered Activities have the potential to disturb potentially significant paleontological resources if the activities occur in geologic units that are sensitive for these resources. Compliance with the general plans would afford some protection to paleontological resources during ground-disturbing activities in potentially sensitive areas; however, the EIR for the *Placer County General Plan* found that these protections would not reduce potential impacts to a less-than-significant level. Therefore, the effect would be significant and unavoidable. While implementation of Mitigation Measures CUL-1 and CUL-2 would reduce the impacts of activities associated with implementation of PCCP conservation measures to a less-than-significant level, the overall impact would remain significant and unavoidable.

CEQA Determination: Alternative 3 ground-disturbing activities associated with PCCP conservation measures and Covered Activities have the potential to disturb potentially significant paleontological resources if the activities occur in geologic units that are sensitive for these resources. Compliance with the general plans would afford some protection to paleontological resources during ground-disturbing activities in potentially sensitive areas; however, the EIR for the *Placer County General Plan* found that these protections would not reduce potential impacts to a less-than-significant level. Therefore, the effect would be significant and unavoidable. While implementation of Mitigation Measures CUL-1 and CUL-2 would reduce the impacts of activities associated with implementation of PCCP conservation measures to a less-than-significant level, the overall impact would remain significant and unavoidable.

Mitigation Measure CUL-1: Retain a qualified professional paleontologist to monitor significant ground-disturbing activities

Mitigation Measure CUL-2: Stop work if substantial fossil remains are encountered during construction

Alternative 4—Reduced Permit Term

Impact CUL-1: Potential to cause alteration of characteristics of known or unknown cultural resources that may qualify such resources for listing in the NRHP (NEPA) or CRHR (CEQA) (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

Implementation of the activities identified in the Placer County and City of Lincoln general plans could result in the loss of important previously identified and unknown cultural resources. For CEQA projects where the County is the lead agency, the cultural resources policies and actions outlined in Section 7.2 of the *Placer County General Plan* would be implemented. For projects where the City of Lincoln is the lead agency, Goals LU-2 and LU-3 and Goal OSC-6 of the *City of Lincoln General Plan* would be implemented. Following these guidelines would reduce potential impacts on cultural resources, but the impacts identified in the EIR for the *Placer County General Plan* would not be reduced to a less-than-significant level. Accordingly, such impacts would be considered significant and unavoidable.

Impacts resulting from PCCP implementation under Alternative 4 would be the same as those identified for CUL-1 under Alternative 2, the proposed action, although the permit term would be reduced from 50 to 30 years. The impacts on historical resources resulting from Covered Activities would also be similar to those identified for CUL-1 under Alternative 2 although there may be a smaller amount of land disturbed. Public and private development envisioned in the *Placer County*

General Plan and *City of Lincoln General Plan* as well as SPRTA and PCWA projects would go forward and would have the same impact under Alternative 4 as under Alternative 2.

Impacts on historical resources (CEQA) or historic properties (NEPA) could result from implementation of proposed PCCP conservation measures that require construction activities, such as earthmoving, re-contouring, excavation, or removal or modification of landscape features or structures. Conservation activities associated with PCCP implementation have the potential to result in significant impacts on historical resources and historic properties. Some physical actions required to implement CM2 and CM3 (Table 2-13 in Chapter 2, *Proposed Action and Alternatives*) involve ground disturbance and modifications to the built environment. For example, removal or modification of fences, ditches, trails, concrete dams, and roads listed in CM2 could cause a substantial adverse change to NRHP- or CRHR-eligible built environment resources by impairing the character-defining features of such resources and reducing or eliminating their ability to convey their historical significance. Ground-disturbing activities that extend below the surface such as restoration or creation of vernal pool complexes, construction of drainage ditches, mechanical re-contouring of hydrological features and disking of vegetation listed in CM2 and CM3 could cause significant damage to intact subsurface archaeological deposits and reduce or eliminate their ability to yield important data, thus causing a substantial adverse change to NRHP- or CRHR-eligible archaeological resources. General plan policies and standard agency measures would reduce the levels of effects.

Implementation of the Covered Activities under Alternative 4 could result in impacts, including the loss of important previously identified and unknown historical resources. However, a CRMP (Westwood 2016) has been developed for the PCCP which would reduce the potential impacts on cultural resources to a less-than-significant level. The CRMP identifies the procedures and standards that would be used to evaluate and address the potential impacts on cultural resources that may result from projects and activities permitted under the PCCP. These standards and procedures set forth in the CRMP would ensure that the individual projects are compliant with all federal, state, and local laws and regulations as they relate to cultural resources. Furthermore, the CRMP identifies the appropriate treatment for resources that would be significantly affected and provides guidance for developing resource-specific treatments. Standard treatment measures include capping of sites; data recovery excavation; project-specific public interpretation and education; construction monitoring; tribal access agreements; and Historic American Building Survey (HABS), Historic American Engineering Record (HAER), and Historic American Landscape Survey (HALS) programs.

NEPA Determination: Ground-disturbing activities or modifications to built resources associated with PCCP implementation under Alternative 4 could result in impacts on cultural resources. These activities and modifications could alter or destroy the characteristics of known or unknown cultural resources that may qualify for listing in the NRHP. Construction and O&M activities associated with Covered Activities could also affect cultural resources. However, identification procedures and treatment measures set forth in the PCCP CRMP, general plan policies, and standard agency measures are expected to reduce potential alterations to levels that are less than significant. Therefore, the impact would be less than significant.

Implementation of the local jurisdictions' general plans would be required to comply with Section 106 and AB 52 on a project-by-project basis. Compliance with federal, state, and local regulations would reduce potential impacts associated with these projects, but not to a less-than-significant level. Therefore, because the impacts associated with general plan implementation would be significant and unavoidable, the overall impact would also be significant and unavoidable.

CEQA Determination: Ground-disturbing activities or modifications to built resource associated with PCCP implementation under Alternative 3 could result in impacts on cultural resources. These activities or modifications could impair the characteristics of known or unknown cultural resources that may qualify them for inclusion in the CRHR. Construction and O&M activities associated with Covered Activities could also affect cultural resources. However, identification procedures and treatment measures set forth in the PCCP CRMP, general plan policies, and standard agency measures are expected to reduce potential alterations to levels that are less than significant. Therefore, the impact would be less than significant. No mitigation has been identified.

Implementation of the local jurisdictions' general plans would be required to comply with Section 106 on a project-by-project basis. Compliance with federal, state, and local regulations would reduce potential impacts associated with these projects, but not to a less-than-significant level. Therefore, because the impacts associated with general plan implementation would be significant and unavoidable, the overall impact would also be significant and unavoidable.

Impact CUL-2: Disturbance of any human remains, including those interred outside of dedicated cemeteries (NEPA: less than significant; CEQA: less than significant)

Impacts resulting from PCCP conservation measures under Alternative 4 would be similar to those identified for CUL-2 under Alternative 2, the proposed action, although there may be a smaller amount of land disturbed, although the permit term would be reduced from 50 to 30 years. The impacts of Covered Activities on human remains would also be similar to those identified for CUL-2 under Alternative 2. Public and private development envisioned in the *Placer County General Plan* and the *City of Lincoln General Plan*, and SPRTA and PCWA projects would go forward and would have the same impact under Alternative 4 as under Alternative 2.

Activities under Alternative 4 have the potential to disturb known or unknown human remains. Disturbance of human remains under this alternative would most likely occur during ground-disturbing activities. The locations of known human remains are often obtained from government documents, archival data, oral histories, tribal consultation, or CHRIS data regarding previously recorded cultural resources or previous cultural resources studies. Unknown human remains are typically identified during archaeological construction monitoring, field surveys, testing, or data recovery.

Although the *Placer County General Plan* does not directly address impacts or procedures for the discovery or avoidance of human remains, policies and actions outlined in Section 7.2 (Goals 5.A and 5.D) provide guidance for avoidance and identification of cultural resources that may contain human remains. The *City of Lincoln General Plan* provides guidance (Policy OSC-6.10) for the discovery and treatment of human remains that comply with state and local laws and guidelines including California Health and Safety Code 7050.5, State CEQA Guidelines (Section 15064.5), and Public Resources Code Section 5097.98. In addition, a CRMP developed for the PCCP would reduce the potential impacts on cultural resources and human remains to a less-than-significant level. The CRMP identifies the procedures and standards that will be used to evaluate and address the potential impacts on cultural resources that may result from projects and activities permitted under the PCCP. By following these laws and guidelines identified in the *City of Lincoln General Plan*, the *Placer County General Plan*, and the CRMP, the potential disturbance of human remains would be reduced to a less-than-significant level.

NEPA Determination: Ground-disturbing activities associated with PCCP implementation under Alternative 4 could disturb known or unknown human remains. However, CRMP policies and measures are expected to reduce the disturbance of human remains to levels that are less than significant. Covered Activities under this alternative could also disturb human remains. Projects subject to federal jurisdiction would be required to comply with Section 106 regarding the treatment of human remains. Compliance with federal, state, and local regulations would reduce disturbance of human remains resulting from Covered Activities to levels that are below significant. Therefore, the impact would be less than significant.

CEQA Determination: Ground-disturbing activities associated with PCCP implementation under Alternative 4 could disturb known or unknown human remains. However, CRMP policies and measures are expected to reduce the disturbance of human remains to levels that are less than significant. Covered Activities under this alternative could also disturb human remains. Projects subject to CEQA review would require compliance with the CEQA cultural resources regulations on a project-by-project basis and with state and local laws and regulations regarding the treatment of human remains. Compliance with federal, state, and local regulations would reduce disturbance of human remains to levels that are less than significant. Therefore, the impact would be less than significant. No mitigation has been identified.

Impact CUL-3: Direct or indirect destruction of a unique paleontological resource or site or unique geologic feature (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

Several geologic units in the Plan Area are sensitive for paleontological resources, and fossils could be present. If fossils are present, they could be damaged during ground-disturbing activities. Most ground-disturbing activities associated with PCCP conservation measures would be related to CM3, which would involve grading to restore or create vernal pool and grassland habitat. Many of the areas designated as potential restoration areas are directly underlain by geologic units sensitive for paleontological resources (Table 3.4-2) (Figure 3.4-1). Excavation deeper than 3 feet in these units could damage paleontological resources. Substantial damage to or destruction of significant paleontological resources as defined by the SVP (Society of Vertebrate Paleontology 2010) would be a significant impact. Ground-disturbing activities related to construction resulting from implementation of general plans for Placer County and the City of Lincoln and implementation of SPRTA and PCWA projects also could damage paleontological resources. Under Alternative 4, it is expected that fewer acres would be restored than under Alternative 2, the proposed action. There would therefore be less ground-disturbing activity associated with this alternative. Compliance with the general plans would afford some protection to paleontological resources during ground-disturbing activities in potentially sensitive areas; however, the EIR for the *Placer County General Plan* found that these protections would not reduce potential impacts to a less-than-significant level. Therefore, the effect would be significant and unavoidable.

Similar impacts could result from construction activities associated with implementation of PCCP conservation measures; however, the PCA would implement Mitigation Measures CUL-1 and CUL-2 in the course of establishing the Reserve System. Implementation of Mitigation Measures CUL-1 and CUL-2 would reduce these impacts to a less-than-significant level.

NEPA Determination: Under Alternative 4, ground-disturbing activities associated with PCCP conservation measures and the Covered Activities have the potential to disturb potentially significant paleontological resources if the activities occur in geologic units that are sensitive for

these resources. Compliance with the general plans would afford some protection to paleontological resources during ground-disturbing activities in potentially sensitive areas; however, the EIR for the *Placer County General Plan* found that these protections would not reduce potential impacts to a less-than-significant level. Therefore, the effect would be significant and unavoidable. While implementation of Mitigation Measures CUL-1 and CUL-2 would reduce the impacts of activities associated with implementation of PCCP conservation measures to a less-than-significant level, the overall impact would remain significant and unavoidable.

CEQA Determination: Under Alternative 4, ground-disturbing activities associated with PCCP conservation measures and the Covered Activities have the potential to disturb potentially significant paleontological resources if the activities occur in geologic units that are sensitive for these resources. Compliance with the general plans would afford some protection to paleontological resources during ground-disturbing activities in potentially sensitive areas; however, the EIR for the *Placer County General Plan* found that these protections would not reduce potential impacts to a less-than-significant level. Therefore, the effect would be significant and unavoidable. While implementation of Mitigation Measures CUL-1 and CUL-2 would reduce the impacts of activities associated with implementation of PCCP conservation measures to a less-than-significant level, the overall impact would remain significant and unavoidable.

Mitigation Measure CUL-1: Retain a qualified professional paleontologist to monitor significant ground-disturbing activities

Mitigation Measure CUL-2: Stop work if substantial fossil remains are encountered during construction

4.4.3 Cumulative Analysis

Alternative 1—No Action

Cultural Resources

Under Alternative 1, the no action alternative, the PCCP would not be implemented and there would be no cumulative impact related to cultural resources. Implementation of the general plans would result in cumulative impacts, as identified in the EIR for the *Placer County General Plan*, which concluded that buildout of the general plan would make a considerable contribution to the cumulative impact.

Paleontological Resources

According to the EIR for the *Placer County General Plan* (Placer County 1994:7-12), increased development could result in occasional accidental disruption and adverse effects on unidentified paleontological resources resulting in a cumulative impact. Compliance with the local jurisdictions' general plan goals and policies would protect paleontological resources during ground-disturbing activities in potential sensitive areas, but the EIR for the *Placer County General Plan* (Placer County 1994:7-12) concluded that buildout of the general plan would make a considerable contribution to the cumulative impact.

Alternative 2—Proposed Action

Cultural Resources

Portions of the Plan Area may be sensitive for cultural resources. If cultural resources are present, they could be damaged during ground-disturbing activities associated with construction of projects. Compliance with the local jurisdictions' general plan goals and policies and the CRMP would reduce impacts, but implementation of the general plans would result in cumulative impacts, as identified in the EIR for the *Placer County General Plan*, which concluded that buildout of the general plan would make a considerable contribution to the cumulative impact.

Paleontological Resources

Several geologic units in the Plan Area are sensitive for paleontological resources, and fossils could be present. If fossils are present, they could be damaged during ground-disturbing activities associated with construction of projects such as the Placer Parkway. According to the EIR for the *Placer County General Plan* (Placer County 1994:7-12), increased development could result in occasional accidental disruption and adverse effects on unidentified paleontological resources, resulting in a cumulative impact. Compliance with the local jurisdictions' general plan goals and policies would protect paleontological resources during ground-disturbing activities in potentially sensitive areas, but the EIR for the *Placer County General Plan* (Placer County 1994:7-12) concluded that buildout of the general plan would make a considerable contribution to the cumulative impact.

Alternative 3—Reduced Take/Reduced Fill

Cultural Resources

Portions of the Plan Area may be sensitive for cultural resources. If cultural resources are present, they could be damaged during ground-disturbing activities associated with construction of projects. Compliance with the local jurisdictions' general plan goals and policies and the CRMP would reduce impacts, but implementation of the general plans would result in cumulative impacts, as identified in the EIR for the *Placer County General Plan*, which concluded that buildout of the general plan would make a considerable contribution to the cumulative impact.

Paleontological Resources

Several geologic units in the Plan Area are sensitive for paleontological resources, and fossils could be present. If fossils are present, they could be damaged during ground-disturbing activities associated with construction of projects such as the Placer Parkway. According to the EIR for the *Placer County General Plan* (Placer County 1994:7-12), increased development could result in occasional accidental disruption and adverse effects on unidentified paleontological resources, resulting in a cumulative impact. Compliance with the local jurisdictions' general plan goals and policies would protect paleontological resources during ground-disturbing activities in potentially sensitive areas, but the EIR for the *Placer County General Plan* (Placer County 1994:7-12) concluded that buildout of the General Plan would make a considerable contribution to the cumulative impact.

Alternative 4—Reduced Permit Term

Cultural Resources

Portions of the Plan Area may be sensitive for cultural resources. If cultural resources are present, they could be damaged during ground-disturbing activities associated with construction of projects. Compliance with the local jurisdictions' general plan goals and policies and the CRMP would reduce impacts, but implementation of the general plans would result in cumulative impacts, as identified in the EIR for the *Placer County General Plan*, which concluded that buildout of the general plan would make a considerable contribution to the cumulative impact.

Paleontological Resources

Several geologic units in the Plan Area are sensitive for paleontological resources, and fossils could be present. If fossils are present, they could be damaged during ground-disturbing activities associated with construction of projects such as the Placer Parkway. According to the EIR for the *Placer County General Plan* (Placer County 1994:7-12), increased development could result in occasional accidental disruption and adverse effects on unidentified paleontological resources, resulting in a cumulative impact. Compliance with the local jurisdictions' general plan goals and policies would protect paleontological resources during ground-disturbing activities in potentially sensitive areas, but the EIR for the *Placer County General Plan* (Placer County 1994:7-12) concluded that buildout of the general plan would make a considerable contribution to the cumulative impact.

4.4.4 References Cited

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4.5 Hydrology and Water Quality

4.5.1 Methods and Significance Criteria

Methods

This section evaluates the effects on hydrology and water quality that would result from implementation of the proposed action and alternatives.

Anticipated changes in land cover/land use for each alternative are described in Chapter 2, *Proposed Action and Alternatives*. See Section 4.0, *Environmental Consequences*, for a description of the methodology used across all resource chapters for the analysis of cumulative effects.

Impacts on hydrology and water quality were assessed on the basis of the proposed PCCP and review of relevant general plans, as presented in Section 3.5.1, *Regulatory Setting*. Due to the size of the Plan Area, potential impacts on hydrology and water quality resources were analyzed qualitatively on a large-scale level, based on technical reports, other available data (e.g., flood maps), and professional judgment.

The methodology for evaluating impacts on hydrologic and water resources assumes that, as a part of project implementation, standard construction best management practices (BMPs) required by the permitting agencies would be followed, including BMPs specific to in-channel work and managing stormwater and sediment runoff.

The impact analysis related to the PCCP conservation measures is organized into short-term and long-term effects where appropriate. Short-term effects would typically be those associated with construction, and long-term effects would typically be those associated with operations, including recurring maintenance or permanent land use changes that alter hydrologic patterns. Potential impacts were analyzed by comparing existing conditions, as described in Section 3.5.1, *Regulatory Setting*, with conditions that could result from changes in land use or construction activities.

The analysis assesses the potential impacts related to surface water hydrology, flood hazards, groundwater recharge, and surface and groundwater quality, as described below.

- **Surface Water Hydrology:** The surface water hydrology impact analysis considered potential changes in the physical characteristics of waterbodies, impervious surfaces, and drainage patterns throughout the Plan Area as a result implementing the proposed action or alternatives.
- **Flood Hazards:** The impact analysis for flood risk was conducted using the Federal Emergency Management Agency's (FEMA's) National Flood Insurance Program (NFIP) maps and Best Available Maps to determine whether implementation of the conservation measures affects existing designated 100-year and 200-year floodplains.
- **Groundwater Recharge:** Impacts on groundwater recharge were assessed by comparing existing sources of recharge versus recharge capabilities following project implementation. Recharge is determined by the ability of water to infiltrate into the soil.

- **Surface and Groundwater Quality:** Impacts of the PCCP conservation measures on surface water and groundwater quality were analyzed using existing information on existing water quality conditions (i.e., Clean Water Act [CWA] Section 303[d] listed waterbodies). These conditions were then compared to conditions under the proposed action for potential sources of water contaminants generated or inadvertently released during project construction (e.g., sediments, fuel, oil, concrete) and operation. The potential for water quality objectives to be exceeded and beneficial uses to be compromised as a result of the proposed action was also considered.

Significance Criteria

According to Appendix G of the State CEQA Guidelines, a proposed action would be considered to have a significant effect if it would result in any of the following.

- Violate any water quality standards or waste discharge requirements.
- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge, resulting in a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted).
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation onsite or offsite.
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding onsite or offsite.
- Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.
- Otherwise substantially degrade water quality.
- Place housing within a 100-year flood hazard area, as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map.
- Place within a 100-year flood hazard area structures that would impede or redirect flood flows.
- Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam.
- Contribute to inundation by seiche, tsunami, or mudflow.

4.5.2 Impacts and Mitigation Measures

Alternative 1—No Action

As described in Section 4.0, *Environmental Consequences*, Alternative 1 includes reasonably foreseeable activities in the Plan Area associated with urbanization and related infrastructure development, operation, and maintenance identified in the various planning documents of the Permit Applicants, as well as future projects of the South Placer Regional Transportation Authority (SPRTA) and Placer County Water Agency (PCWA), such as local transportation and water projects.

Under Alternative 1, permits would not be issued by USFWS, NMFS, or CDFW for incidental take of the proposed Covered Species through a regional habitat conservation plan (HCP) or natural community conservation plan. As a result, the Permit Applicants and private developers within their jurisdictions would remain subject to the take prohibition for federally listed species under ESA and state-listed species under CESA. The Permit Applicants and others that have ongoing activities or future actions in the Plan Area that may result in the incidental take of federally listed species would need to apply, on a project-by-project basis, for incidental take authorization from either USFWS or NMFS through ESA Section 7 (when a federal agency is involved) or Section 10 (for nonfederal actions). Similarly, the Permit Applicants and others whose ongoing activities or future actions have the potential for incidental take of state-listed species in the Plan Area would apply for incidental take authorization under CESA through a Section 2081 Permit. In addition, regional wetland permits would not be issued by the U.S. Army Corps of Engineers (USACE) and, as a result, the Permit Applicants and private developers within their jurisdictions would remain subject to federal wetland regulations for any ongoing activities or future actions.

As a result of federal and state consultation for impacts on listed species and project-by-project CEQA and NEPA review for effects on biological resources, various types of mitigation measures are expected to be required for individual projects that would go forward under Alternative 1, the no action alternative. These types of mitigation measures are listed below.

- Avoidance and minimization measures incorporating generally accepted species-specific protocols and/or project-specific measures as negotiated with various wildlife agencies. These could include preservation and management of onsite habitat. Other avoidance and minimization requirements could include preconstruction surveys, construction timing restrictions, setback requirements, use restrictions, or other similar measures.
- Restoration and/or enhancement of onsite habitat.
- Compensatory mitigation in offsite areas. Such mitigation could include purchasing credits at a private conservation bank; purchasing and restoring large areas of habitat and using those areas to mitigate various project effects in much the same way that a mitigation bank functions; and purchasing and restoring habitat to mitigate individual project effects.

Though conservation of species and their habitats through mitigation and compensation under the existing regulatory framework would likely result in a pattern of conservation that is geographically fragmented (including mitigation outside the Plan Area) and managed in a piecemeal fashion, the individual restoration and/or enhancement and mitigation measures that would be required on a project-by-project basis would provide many of the hydrology and water quality benefits described under Alternative 2, the proposed action. Implementation of applicable general plan policies and other applicable federal, state, and local regulations would ensure that there would be no adverse effects.

Impact WQ-1: Violation of any water quality standards or waste discharge requirements (NEPA: less than significant; CEQA: less than significant)

Under the no action alternative, construction and eventual operation of public and private development projects and infrastructure facilities in the Plan Area as envisioned in the *Placer County General Plan*, *City of Lincoln General Plan* and SPRTA and PCWA plans would result in impacts related to water quality.

Construction and grading activities for residential and commercial development projects, including supporting infrastructure such as wastewater plants and new transportation facilities, could degrade water quality in the short-term by increasing the potential for soil erosion and associated contaminants from stormwater discharges, thereby resulting in higher sediment loads, turbidity, and other contaminants in receiving waters. Bridge construction and repair, flood control and stormwater management, bank stabilization, and other water infrastructure projects would have short-term construction impacts similar to land development. Contaminated runoff from project sites during and immediately following construction could ultimately be transported offsite via drainage channels. In-stream operations and maintenance activities in stream channels, along streambanks, and on adjacent lands at top-of-bank within riparian corridors also could affect water quality.

Nonpoint source pollution from increased runoff volumes may affect water quality in the long term, primarily as a result of the increase of impervious surfaces (e.g., pavements and buildings) under operating conditions of permanent development. For example, development of new roads, bridges, and parking lots would increase in the potential for oil, grease, and other contaminants from vehicles to accumulate on these impervious surfaces and enter waterbodies. The increase in impervious surfaces can alter peak storm runoff rates, reduce natural groundwater recharge, reduce opportunities for deposition of sediment and pollutants, and reduce natural filtration by native soils and vegetation. Increased peak flows can also erode and destabilize receiving channels and contribute to sediment contamination. Some in-stream activities, such as enhancing stormwater management, improving conveyance through improved bridges and culverts, and stabilizing eroding banks, could benefit water quality by reducing and better managing peak runoff volumes.

The potential for impacts on water quality from development in the Plan Area under the *Placer County General Plan* and *City of Lincoln General Plan* are addressed in general plan policies and in the *West Placer Storm Water Quality Design Manual*. The EIR for the *Placer County General Plan* states that implementation of the policies and programs identified in the general plan would result in less-than-significant impacts on surface water quality (Placer County 1994). The EIR for the *City of Lincoln General Plan* found that general plan implementation would have less-than-significant impacts on water quality (City of Lincoln 2008).

SPRTA and PCWA projects, which would include in-stream activities, are not specifically addressed in the general plan EIRs. The potential impacts on water quality resulting from construction and operation of SPRTA and PCWA projects in the Plan Area would be similar to impacts of development under the general plans of Placer County and the City of Lincoln. For projects that disturb more than 1 acre of land, SPRTA and PCWA would be required to prepare a stormwater pollution prevention plan (SWPPP) as part of compliance with the National Pollutant Discharge Elimination System (NPDES) Construction General Permit. The purpose of a SWPPP is to reduce the amount of construction-related pollutants that are transported by stormwater runoff to surface waters. The SWPPP would emphasize standard temporary erosion control measures to reduce sedimentation and turbidity of surface runoff from disturbed areas within the planning area. If the area of disturbance is less than 1 acre, the County grading permit for the project would require similar erosion and sediment control measures as required by the Construction General Permit. If no grading permit is required, BMPs required by the CWA Section 401 certification would need to be implemented. If a project is under an acre and does not require Section 401 certification, PCWA's standard construction specifications contracts require the contractor to prepare a SWPPP that is in compliance with the NPDES Construction General Permit.

In addition to compliance with the latest NPDES and other water quality requirements (e.g., USACE's CWA Section 404(b)(1) guidelines, Construction General Permit, Small MS4 Permit, and the General Dewatering Permit), construction projects would also comply with other federal and state regulations and local ordinances, as noted in Section 3.5.1, *Regulatory Setting*. Furthermore, the *Placer County General Plan* includes policies focused on mitigating construction-related water quality impacts, including Policies 6.A.4.e, 6.A.5, 6.A.6, 6.A.7, 6.A.8, and 6.A.10, which are listed in Section 3.5.1, *Regulatory Setting*.

In addition, individual mitigation efforts may be tailored to each project implemented in the Plan Area under the general plans of Placer County or City of Lincoln and to SPRTA and PCWA projects in order to reduce project-specific impacts to less-than-significant levels. Mitigation could include project-specific avoidance and minimization measures, setback requirements, restoration or enhancement of onsite wetlands, creation of new floodplain storage to accommodate hydromodification, and compensatory mitigation in offsite areas.

NEPA Determination: Implementation of applicable general plan policies, the *West Placer Storm Water Quality Design Manual*, and other federal, state, and local regulations would ensure that impacts on water quality as a result of the no action alternative would be less than significant.

CEQA Determination: Implementation of applicable general plan policies, the *West Placer Storm Water Quality Design Manual*, and other federal, state, and local regulations would ensure that impacts on water quality as a result of the no action alternative would be less than significant.

Impact WQ-2: Substantial depletion of groundwater supplies or substantial interference with groundwater recharge (NEPA: less than significant; CEQA: less than significant)

Construction and grading activities in the Plan Area for public and private development envisioned in the *Placer County General Plan*, the *City of Lincoln General Plan*, and for SPRTA transportation projects and PCWA water infrastructure projects would increase the amount of impervious surfaces, which would decrease the amount of land area available for rainfall to infiltrate into the ground. Several policies are in place to ensure that these activities and resultant impervious surfaces do not deplete groundwater supply or interfere with recharge.

The *Placer County General Plan* includes goals and implementation programs aimed at protecting against groundwater overdraft, protecting recharge areas, and supporting major consumptive use of groundwater aquifers in the western part of the county only where it can be demonstrated that use does not exceed safe yield and is appropriately balanced with surface water supply to the same area. The *City of Lincoln General Plan* has similar groundwater management plans and policies, and the general plan EIR found that general plan implementation would have less-than-significant impacts on groundwater supply and recharge (City of Lincoln 2008).

As described in Section 3.5.1, *Regulatory Setting*, in 2007, the City of Lincoln, City of Roseville, PCWA, and the California American Water Company prepared the *Western Placer County Groundwater Management Plan* (WPCGMP) as a planning tool with the objectives of maintaining safe, sustainable, and high-quality groundwater resources. The WPCGMP is intended to be a living document that will be updated in the future to account for progress and changing conditions (City of Roseville et al. 2007). In addition, in 2017, Placer County, the Cities of Lincoln and Roseville, Nevada Irrigation District, PCWA, and California American Water Company agreed to form the West Placer Groundwater Sustainability Agency. The agency will implement the state Sustainable Groundwater Management Act, which requires preparation of local groundwater management plans. The agency

is scheduled to adopt its groundwater sustainability plan by January 2020. Development in the Plan Area under the Placer County and City of Lincoln general plans would adhere to the WPCGMP and eventual West Placer Groundwater Sustainability Agency plans.

Some in-stream activities would likely enhance groundwater supply and recharge. These activities include stormwater management projects that effectively slow the rate of runoff and increase opportunities for groundwater recharge.

In addition, individual mitigation efforts may be tailored to each project developed in the Plan Area under the *Placer County General Plan* or *City of Lincoln General Plan* and to SPRTA and PCWA projects in order to reduce project-specific impacts to less-than-specific levels. Mitigation could include project-specific limitations on groundwater pumping, designation of groundwater recharge areas, restoration or enhancement of onsite wetlands, creation of new floodplain storage, and compensatory mitigation in offsite areas.

NEPA Determination: With implementation of Placer County and City of Lincoln general plan policies, local groundwater management plans, and state and local requirements pertaining to groundwater, impacts on groundwater supplies and recharge under the no action alternative would be less than significant.

CEQA Determination: With implementation of Placer County and City of Lincoln general plan policies, local groundwater management plans, and state and local requirements pertaining to groundwater, impacts on groundwater supplies and recharge under the no action alternative would be less than significant.

Impact WQ-3: Substantial alteration of existing drainage patterns in a manner that would result in substantial erosion or siltation onsite or offsite (NEPA: less than significant; CEQA: less than significant)

Public and private land development in the Plan Area under the *Placer County General Plan, City of Lincoln General Plan*, and SPRTA and PCWA projects could result in alterations to drainage patterns and cause an increase in the volume and rate of surface runoff during and after construction, potentially resulting in substantial erosion, siltation, or flooding. In addition, increased stormwater runoff resulting from the increased amount of impervious surfaces could create erosive velocities and higher bank shear stress, causing bank and bed erosion or sedimentation in drainages and streams. Some projects, particularly the in-stream activities such as bridge and culvert replacement projects and floodplain enhancement and modification projects, would likely improve natural drainage patterns.

As described in Section 3.5.1, *Regulatory Setting,* both the *Placer County General Plan* and *City of Lincoln General Plan* include general plan policies and stormwater programs designed to address these potential impacts. The EIR for the *Lincoln General Plan* found that general plan implementation would have less-than-significant impacts related to siltation or erosion (City of Lincoln 2008). In addition, standard site design requirements, source control measures, and BMPs would protect against violations of water quality standards.

Individual mitigation efforts may need to be tailored to each project developed in the Plan Area under the Placer County and City of Lincoln general plans and to SPRTA and PCWA projects in order to reduce project-specific impacts to less-than-significant levels. Mitigation may include project-specific avoidance and minimization measures, setback requirements, restoration or enhancement

of onsite wetlands, creation of new floodplain storage to accommodate hydromodification, and compensatory mitigation in offsite areas.

NEPA Determination: With implementation of Placer County and City of Lincoln general plan policies, local stormwater management regulations, and state and federal regulations pertaining to drainage, erosion, and siltation, impacts related to drainage siltation or erosion under the no action alternative would be less than significant.

CEQA Determination: With implementation of Placer County and City of Lincoln general plan policies, local stormwater management regulations, and state and federal regulations pertaining to drainage, erosion, and siltation, impacts related to drainage siltation or erosion under the no action alternative would be less than significant.

Impact WQ-4: Substantial alteration of existing drainage patterns in a manner that would result in flooding onsite or offsite (NEPA: less than significant; CEQA: less than significant)

Development of new roads, bridges, parking lots, and other infrastructure associated with public and private development in the Plan Area pursuant to the *Placer County General Plan*, *City of Lincoln General Plan*, and under SPRTA and PCWA projects would result in an increase in impervious surfaces. These activities could increase peak stormwater runoff and increase sedimentation that could increase the rate of deposition in natural receiving waters and reduce conveyance capacities. The net result could be alteration of drainage patterns with an increased risk of flooding.

Projects would be required to comply with general plan policies, the *Sunset Industrial Area Plan* Policy 3.E.7, *Storm Water Management Manual*, and the *West Placer Storm Water Quality Design Manual*. As discussed in Section 3.5.1, *Regulatory Setting*, existing regulations—such as the requirements of the NFIP, USACE provisions, and California Fish and Game Code Sections 1601–1607, as well as *Placer County General Plan* Policies 6.A.2, 6.A.4.e, and 4.F.4—require that a hydraulic analysis be performed on any proposed stream channel or floodplain modifications to demonstrate the modifications would not increase flood risk. In addition, some of the flood control and in-stream activities would improve bridges and culverts and increase floodplain connectivity, all of which could beneficially reduce flood risk by improving water conveyance.

The EIR for the *City of Lincoln General Plan* found that implementation of the general plan would have less-than-significant impacts related to substantial alteration of existing drainage patterns in a manner that would increase flooding (City of Lincoln 2008). As described in Section 3.5.1, *Regulatory Setting*, both the *Placer County General Plan* and *City of Lincoln General Plan* include general plan policies and stormwater programs designed to address these potential impacts and ensure that activities do not increase flood risk.

To reduce project impacts to less-than-significant levels, individual mitigation efforts may need to be tailored to each project developed in the Plan Area under the Placer County and City of Lincoln general plans and to SPRTA and PCWA projects. Mitigation may include project-specific avoidance and minimization measures, setback requirements, restoration or enhancement of onsite wetlands, creation of new floodplain storage to accommodate hydromodification, and compensatory mitigation in offsite areas.

NEPA Determination: With implementation of general plan policies, Placer County's Stormwater Management Program, and other federal, state, and local regulations, impacts related to substantial alteration of drainage patterns under the no action alternative would be less than significant.

CEQA Determination: With implementation of general plan policies, Placer County's Stormwater Management Program, and other federal, state, and local regulations, impacts related to substantial alteration of drainage patterns under the no action alternative would be less than significant.

Impact WQ-5: Creation of or contribution to runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff (NEPA: less than significant; CEQA: less than significant)

Public and private development in the Plan Area under the *Placer County General Plan*, *City of Lincoln General Plan*, and SPRTA and PCWA projects could provide substantial additional sources of polluted runoff. Development could increase nonpoint source pollution from increased runoff volumes as a result of additional impervious surfaces (e.g., pavements and buildings); increase sediment loads in receiving waters by increasing erosion through construction activities; increase the potential for pollutants (e.g., oil and grease) to accumulate on road surfaces due to increases in traffic; and contribute to the pollutant load of stormwater runoff and waterbodies through urban activities (e.g., landscape and infrastructure maintenance).

As described in Section 3.5.1, *Regulatory Setting*, both the *Placer County General Plan* and *City of Lincoln General Plan* contain general plan policies and stormwater programs designed to address these potential impacts and ensure activities do not exceed the capacity of stormwater systems or increase polluted runoff. In addition, standard site design requirements, source control measures, and BMPs would apply to public and private development projects would protect against violations of water quality standards. Some drainage projects could reduce demands on stormwater systems and pollutant loads by improving conveyance through improved bridges and culverts, stabilizing streambanks, and increasing floodplain connectivity in a way that would increase flood water storage and provide natural filtration for pollutants.

To reduce potential project impacts to less-than-significant levels, individual mitigation efforts may need to be tailored to each project in the Plan Area under the Placer County and City of Lincoln general plans and to SPRTA and PCWA projects. Mitigation may include project-specific avoidance and minimization measures, setback requirements, restoration or enhancement of onsite wetlands, creation of new floodplain storage to accommodate hydromodification, and compensatory mitigation in offsite areas.

NEPA Determination: With implementation of general plan policies, Placer County's Stormwater Management Program, and other federal, state, and local regulations, impacts related to stormwater drainage capacity and polluted runoff under the no action alternative would be less than significant.

CEQA Determination: With implementation of general plan policies, Placer County's Stormwater Management Program, and other federal, state, and local regulations, impacts related to stormwater drainage capacity and polluted runoff under the no action alternative would be less than significant.

Impact WQ-6: Other substantial degradation of water quality (NEPA: less than significant; CEQA: less than significant)

Growth in the Plan Area associated with the Placer County and City of Lincoln general plans, and SPRTA and PCWA projects would have the same effects related to substantial degradation of water quality as described under Impact WQ-1.

NEPA Determination: With implementation of general plan policies, Placer County's Stormwater Management Program, and other federal, state, and local regulations, impacts related to substantial degradation of water quality under the no action alternative would be less than significant.

CEQA Determination: With implementation of general plan policies, Placer County's Stormwater Management Program, and other federal, state, sand local regulations, impacts related to substantial degradation of water quality under the no action alternative would be less than significant.

Impact WQ-7: Placement of housing within a 100-year flood hazard area (NEPA: less than significant; CEQA: less than significant)

Under the no action alternative, public and private development envisioned within the Plan Area in the *Placer County General Plan* and *City of Lincoln General Plan* would go forward. Both the *Placer County General Plan* and *City of Lincoln General Plan* contain several policies related to development in the 100-year floodplain (see Section 3.5.1, *Regulatory Setting*). City of Lincoln Policy HS-6.4 requires new residential construction to have its lowest habitable floor elevated above the base flood level elevation determined by FEMA standards. Placer County Policy 4.F.4 states that the County shall require evaluation of potential flood hazards prior to approval of development projects and that the County shall require proponents of new development to submit accurate topographic and flow characteristics information and depiction of the 100-year floodplain boundaries under fully developed, unmitigated runoff conditions. Adherence to the general plan policies, and to state and federal floodplain regulations, would ensure that impacts would be less than significant. SPRTA and PCWA do not develop housing; therefore SPRTA and PCWA projects would have no impact.

NEPA Determination: Development under the no action alternative would be required to comply with the Placer County and City of Lincoln general plans, and with local, state, and federal policies and regulations designed to prevent flooding of occupied developments and to restrict new development within the 100-year flood zone. Therefore, impacts would be less than significant.

CEQA Determination: Development under the no action alternative would be required to comply with the Placer County and City of Lincoln general plans, and with local, state, and federal policies and regulations designed to prevent flooding of occupied developments and restrict new development within the 100-year flood zone. Therefore, impacts would be less than significant.

Impact WQ-8: Placement of structures that would impede or redirect flood flows within a 100-year flood hazard area (NEPA: less than significant; CEQA: less than significant)

Under the no action alternative, public and private development envisioned within the Plan Area in the *Placer County General Plan, City of Lincoln General Plan*, and SPRTA and PCWA projects would go forward. Both the *Placer County General Plan* and *City of Lincoln General Plan* contain several policies related to development in the 100-year floodplain that would impede or redirect 100-year flood flows (see Section 3.5.1, *Regulatory Setting*).

Any work conducted in an area within the Central Valley Flood Protection Board's (CVFPB's) area of jurisdiction, which includes the lower portion of the Bear River, would require an encroachment permit (see Section 3.5.1, *Regulatory Setting*). An encroachment permit application would trigger the USACE permit process under CWA Section 408, which would require hydraulic modeling to demonstrate potential changes in flood water surface elevations.

Most public and private development under the no action alternative would be located outside of CVFPB jurisdiction but could be located within a FEMA regulated floodplain. If the work has the potential to affect the hydrologic or hydraulic characteristics of a flooding source and, thus, result in the modification of the existing regulatory floodway, the effective Base Flood Elevations (BFEs), or the Special Flood Hazard Area (SFHA), then as described in Section 3.5.1, *Regulatory Setting*, the project proponent would be required to perform hydraulic modeling to demonstrate compliance with FEMA regulations through the Conditional Letter of Map Revision (CLOMR) and Letter of Map Revision (LOMR) process. California Fish and Game Code Sections 1601–1607 also regulate the potential placement of structures that would impede or redirect flood flows within a 100-year flood hazard area. These existing regulations and policies require hydraulic analysis be performed on any proposed stream channel or floodplain modifications to demonstrate that those modifications would not increase 100-year flood risk. Implementation of necessary engineering design and risk assessments would ensure that channel modifications would not create or alter flood flows in a manner inconsistent with existing policies and regulations. Construction of new bridges and culverts and flood protection projects under the no action alternative would reduce the risk of flooding.

NEPA Determination: Local, state, and federal policies and regulations designed to prevent flooding of occupied developments and restrict new development within the 100-year flood zone would ensure that effects would not be adverse. Impacts would be less than significant.

CEQA Determination: Local, state, and federal policies and regulations designed to prevent flooding of occupied developments and restrict new development within the 100-year flood zone would ensure that effects would not be adverse. Impacts would be less than significant.

Impact WQ-9: Exposure of people or structures to significant risk involving flooding, including flooding as a result of the failure of a levee or dam (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

Increased development in the Plan Area associated with the *Placer County General Plan* and *City of Lincoln General Plan* under the no action alternative could result in more people and structures being exposed to significant risk of flooding. Impacts could include loss, injury, or death involving flooding, including flooding as a result of levee or dam failure. *Placer County General Plan* Policies 8.B.4 and 8.B.6 require that the design and location of dams and levees be in accordance with all applicable design standards and specifications and accepted state-of-the-art design and construction practices. The policies prohibit the construction of facilities essential for emergencies and large public assembly in the 100-year floodplain, unless the structure and access to the structure are free from flood inundation. In addition, Implementation Program 8.5 states that the County will continually review and revise its applicable portions of the County Emergency Operations Plan that concern dam failure, and the Office of Emergency Services will continue to provide public information on dam failure preparedness and response. *City of Lincoln General Plan* Policy PFS-4.9 discourages development and major fill or structural improvements in the 100-year floodplain, and Policy OSC-1.4 designates as open space all land within the 100-year floodway and all land within 50 feet of the center channel of streams or creeks that provide drainage. The EIR for the *Placer County General Plan* concludes that these policies will ensure that impacts related to dam inundation would be less than significant. The EIR for the *City of Lincoln General Plan* states that, even with implementation of general plan policies, flood hazard impacts would be significant and unavoidable (Placer County 1994; City of Lincoln 2008).

Therefore, effects related to growth in the Plan Area associated with the *City of Lincoln General Plan* would be significant and unavoidable.

NEPA Determination: Adherence to general plan policies and to state and federal requirements would reduce impacts resulting from development under the Placer County and City of Lincoln general plans, but not to a less-than–significant level. Therefore, the impact would be significant and unavoidable.

CEQA Determination: Adherence to general plan policies and to state and federal requirements would reduce impacts resulting from development under the Placer County and City of Lincoln general plans, but not to a less-than–significant level. Therefore, the impact would be significant and unavoidable.

Impact WQ-10: Contribution to inundation by seiche, tsunami, or mudflow (NEPA: less than significant; CEQA: less than significant)

Western Placer County is not at risk due to inundation from a tsunami because of its distance from the ocean. The area is also not prone to seiches or earthquake-generated waves within enclosed or restricted bodies of water. Major earthquakes could produce oscillations or waves in local bodies of water that could overtop and damage levees or other infrastructure.

Implementation of growth associated with the Placer County and City of Lincoln general plans, and SPRTA and PCWA projects would not result in contribution to inundation by seiche, tsunami, or mudflow and, thus, would have a less-than-significant impact.

NEPA Determination: Growth associated with the Placer County and City of Lincoln general plans and SPRTA and PCWA projects would not contribute to inundation by seiche or tsunami, and the increased likelihood of a mudflow resulting from such development is very low. Impacts would be less than significant.

CEQA Determination: Growth associated with the Placer County and City of Lincoln general plans and SPRTA and PCWA projects would not contribute to inundation by seiche or tsunami, and the increased likelihood of a mudflow resulting from such development is very low. Impacts would be less than significant.

Alternative 2—Proposed Action

Impact WQ-1: Violation of any water quality standards or waste discharge requirements (NEPA: less than significant; CEQA: less than significant)

Activities associated with PCCP implementation are discussed in terms of initial construction and eventual operation of the land use changes.

Construction

The PCCP conservation measures include several physical activities that would involve ground-disturbing activities with the potential to increase pollutant loading to the drainage system (Table 2-13 in Chapter 2, *Proposed Action and Alternatives*).

- Improvement of culverts and other road crossings.
- Mechanical recontouring of vernal pool basins.

- Removal of modification of ditches, raised roads, trails, and other barriers.
- Construction of drainage ditches or retention basins and removal of sediment to enhance vernal pool hydrology.
- Removal of fish barriers.
- Wetland, riparian, and vernal pool grassland habitat restoration within the 100-year floodplain.
- In-channel work associated with stream enhancement and restoration.
- Excavating or recontouring historical vernal pools, swales, and wetlands to natural bathymetry.

Typical construction-related ground-disturbing activities would introduce the potential for increased erosion, runoff, and sedimentation, with subsequent effects on water quality. During site grading, trenching, and other construction activities, areas of bare soil could be exposed to erosive forces during rainfall events. Bare soils are much more likely to erode than vegetated areas because of the lack of dispersion, infiltration, and retention properties created by covering vegetation. The extent of the impacts would depend on soil erosion potential, construction practices, disturbed area size, precipitation events, topography, and proximity to drainage channels. Pollutants such as solvents, petroleum products, pesticides, and fertilizers can attach to and be transported by the sediment and lead to water quality impacts. In addition, construction equipment and activities would have the potential to leak hazardous materials, such as oil and gasoline, and potentially affect surface water or groundwater quality. Improper use or accidental spills of fuels, oils, and other construction-related hazardous materials such as pipe sealant, solvents, and paints could also pose a threat to the water quality of local waterbodies. These potential leaks or spills, if not contained, would be considered a significant impact on groundwater and surface water quality. If precautions were not taken to contain or capture sediments and accidental hazardous spills, construction activities could produce substantial pollutants in stormwater runoff and result in a significant impact on the existing surface water quality.

Projects that would disturb more than 1 acre of land are required to prepare a SWPPP as part of compliance with the NPDES Construction General Permit. The purpose of a SWPPP is to reduce the amount of construction-related pollutants that are transported by stormwater runoff to surface waters. The SWPPP would emphasize standard temporary erosion control measures to reduce sedimentation and turbidity of surface runoff from disturbed areas within the Plan Area. If the area of disturbance is less than 1 acre, the County grading permit for the project would require similar erosion and sediment control measures as required by the Construction General Permit. If no grading permit is required, BMPs required by the CWA Section 401 certification would need to be implemented.

In addition to compliance with the latest NPDES and other water quality requirements (e.g., Construction General Permit, Small MS4 Permit, and the General Dewatering Permit), construction projects would also comply with other federal and state regulations and local ordinances, as noted in Section 3.5.1, *Regulatory Setting*.

Several of the PCCP conservation measures would require working in or near waterbodies. Construction dewatering in areas of surface water or shallow groundwater may be required during excavation. Dewatering would be conducted locally, and according to the dewatering permit obtained from the Central Valley Regional Water Quality Control Board (Central Valley Water Board), as described in Section 3.5.1, *Regulatory Setting*. In areas where groundwater is shallow and

there would be potential to adversely affect riparian habitat, project features would be installed using the vibration method, which minimizes subsurface disruption.

The *Placer County General Plan* includes policies focused on mitigating construction-related water quality impacts, including Policies 6.A.4.e, 6.A.5, 6.A.6, 6.A.7, 6.A.8, and 6.A.10, which are listed in Section 3.5.1, *Regulatory Setting*.

Operations

The operations of several of the PCCP conservation measures listed in Chapter 2, *Proposed Action and Alternatives*, Table 2-13, would provide beneficial changes to hydrologic resources and water quality.

- Improvement of culverts would likely provide more natural stream flow conveyance through road crossings that would lessen the potential for erosion and sedimentation problems often associated with improperly functioning culverts.
- Mechanical recontouring of vernal pool basins and removal of sediment and repairs to aquatic/wetland features would create additional natural storage for runoff that would reduce peak runoff downstream that could exceed the capacity of the stormwater drainage system. The improvements would also enhance water quality by creating additional opportunities for treatment of contaminants through natural filtering and treatment processes provided by wetland features.
- The removal or modification of ditches, raised roads, trails, and other barriers to restore natural surface flow would enhance water quality by removing features on the landscape that artificially concentrate and redirect runoff in a manner that often results in problematic soil erosion.
- The use of filter and buffer strips around wetlands and minimization of the use of herbicides would remove or reduce point and nonpoint sources of water pollution.
- The removal and modification of artificial crossings or obstructions in stream channels, including seasonal flashboard dams, pipeline crossings, and concrete dams, would restore natural stream flow conveyance and reduce the potential for streambed and streambank erosions that often occurs at these types of structures.
- Reconstructing natural channel geometry and installation of large woody material would likely increase channel sinuosity and add roughness elements to streams. This would slow the velocity of floodwaters and provide new opportunities for floodplain storage, groundwater recharge, and water treatment in the restored reaches, thereby reducing peak flows and the volume of runoff routed to stormwater drainage systems downstream.

Operations of some of the PCCP conservation measures have the potential to increase soil erosion, but the risk would be managed as described below.

- Prescribed burning for vegetation management has the potential to expose soils and make them more susceptible to erosion, particularly on steep slopes with erodible soils. Proper planning in developing the prescribed burn management plan would reduce this risk substantially by considering topography, soil physical properties, seasonality of when the burn is conducted, and the temperature of the burn to ensure that some vegetative cover remains over the ground to protect soils post-burn.

- Removal of armored levees and replacement with earthen levees would provide habitat benefits but could increase the risk of erosion if stream channels migrate into the earthen levees. Existing USACE regulations would require engineering analysis to demonstrate that the new earthen levees incorporate sufficient vegetation and other stability measures into their design to provide the erosion resistance and stability previously provided by the armored material to be removed.

Development within the Plan Area envisioned in the *Placer County General Plan*, *City of Lincoln General Plan*, and SPRTA and PCWA plans would result in impacts related to initial construction and eventual operation. Impacts would be the same as described for Impact WQ-1 under Alternative 1 and similar to those described above for the PCCP conservation measures. Impacts resulting from Covered Activities would be more extensive than impacts associated with PCCP implementation because of the scale of the Covered Activity projects compared with the PCCP conservation measures.

Construction and grading associated with Covered Activities could degrade water quality in the short-term by increasing the potential for soil erosion and associated contaminants from stormwater discharges, thereby resulting in higher sediment loads, turbidity, and other contaminants in receiving waters. In-stream Covered Activities would include operations and maintenance activities in the stream channel, along the streambank, and on adjacent lands at top-of-bank within the riparian corridor and could affect water quality. However, some of the in-stream Covered Activities could benefit water quality by reducing peak runoff volumes through enhanced stormwater management, improving conveyance through improved bridges and culverts, and stabilizing eroding banks.

The EIR for the *Placer County General Plan* states implementation of the policies and programs identified in the general plan would result in impacts on surface water quality being less than significant. The EIR for the *City of Lincoln General Plan* found that general plan implementation would have less-than-significant impacts on water quality (City of Lincoln 2008).

The Covered Activities of SPRTA and PCWA, which include in-stream activities, would have impacts similar to impacts of Placer County's and the City of Lincoln's development-related Covered Activities. As stated in Chapter 6 of the Plan, all Covered Activities would be required to comply with the state's General Construction Permit—including requirements to develop a project-based SWPPP—and applicable NPDES program requirements as implemented by the City of Lincoln and Placer County. The site design requirements, source control measures, and BMPs required as the conditions for the Covered Activities (see Chapter 6 of the Plan) would protect against violations of water quality standards or waste discharge requirements. Furthermore, implementation of PCCP conservation measures would provide many water quality benefits that would help ensure potential effects of Covered Activities would be less than significant.

NEPA Determination: Under Alternative 2, the proposed action, implementation of applicable general plan policies, Placer County's Stormwater Management Program, and other applicable federal, state, and local regulations would ensure that there would be no adverse effects from the PCCP conservation measures. Similarly, the same policies and regulations, as well conditions on Covered Activities and implementation of the PCCP conservation measures, would ensure that there would be no adverse effects from the Covered Activities. Impacts would be less than significant.

CEQA Determination: Under Alternative 2, the proposed action, implementation of applicable general plan policies, Placer County's Stormwater Management Program, and other applicable federal, state, and local regulations would ensure that there would be no adverse effects from the PCCP conservation measures. Similarly, the same policies and regulations, as well as conditions on Covered Activities and implementation of the PCCP conservation measures, would ensure that there would be no adverse effects from the Covered Activities. Impacts would be less than significant. No mitigation has been identified.

Impact WQ-2: Substantial depletion of groundwater supplies or substantial interference with groundwater recharge (NEPA: less than significant; CEQA: less than significant)

Several PCCP conservation measures listed in Chapter 2, *Proposed Action and Alternatives*, Table 2-13, would provide beneficial changes to groundwater recharge. The proposed creation and restoration of habitat features that work to slow and retain runoff on the landscape would create enhanced opportunity for water infiltration through the soil and into groundwater storage. The increase of properly functioning wetland areas, including ponds, would create new recharge areas and improve groundwater quality by filtering out sediment and pollutants. Similarly, reconstructing natural channel geometry and installation of large woody material would likely increase channel sinuosity and add roughness elements to streams. This would slow the velocity of floodwaters and provide new opportunities for floodplain storage and groundwater recharge.

Covered Activities would have the same impacts as identified under Impact WQ-2 for Alternative 1. Construction and grading associated with Covered Activities would increase impervious surfaces, which would decrease the amount of land area available for rainfall to infiltrate into the ground. Several policies are in place to ensure that the Covered Activities do not deplete groundwater supply or interfere with recharge. The EIR for the *City of Lincoln General Plan* found that general plan implementation would have less-than-significant impacts on groundwater supply and recharge (City of Lincoln 2008). The *Placer County General Plan* includes goals and implementation programs aimed at protecting against groundwater overdraft, protecting recharge areas, and supporting major consumptive use of groundwater aquifers in the western part of the county only where it can be demonstrated that this use does not exceed safe yield and is appropriately balanced with surface water supply to the same area. The *City of Lincoln General Plan* has similar groundwater management plans and policies.

As described in Section 3.5.1, *Regulatory Setting*, in 2007, the City of Lincoln, City of Roseville, PCWA, and the California American Water Company prepared the WPCGMP as a planning tool with the objectives of maintaining a safe, sustainable, and high-quality groundwater resource. The WPCGMP is intended to be a living document that will be updated in the future to account for progress and changing conditions (City of Roseville et al. 2007). In addition, Placer County, the Cities of Lincoln and Roseville, Nevada Irrigation District, PCWA, and California American Water Company have formed the West Placer Groundwater Sustainability Agency to develop a groundwater sustainability plan by January 2020.

Some Covered Activities, particularly the in-stream activities, would likely enhance groundwater supply and recharge. These include stormwater management activities that effectively slow the rate of runoff and increase opportunities for groundwater recharge. Adherence to these groundwater management goals, in combination with the groundwater benefits created by the PCCP conservation measures, would ensure that potential effects on groundwater supply and recharge resulting from Covered Activities would be less than significant.

NEPA Determination: The PCCP conservation measures of Alternative 2, the proposed action, would have an overall benefit to groundwater recharge. Potential effects on groundwater supply and recharge resulting from Covered Activities would be addressed by existing groundwater management programs, plans, and policies and by implementation of the PCCP conservation measures. Impacts would be less than significant.

CEQA Determination: The PCCP conservation measures of Alternative 2, the proposed action, would have an overall benefit to groundwater recharge. Potential effects on groundwater supply and recharge resulting from Covered Activities would be addressed by existing groundwater management programs, plans, and policies and by implementation of the PCCP conservation measures. Impacts would be less than significant. No mitigation has been identified.

Impact WQ-3: Substantial alteration of existing drainage patterns in a manner that would result in substantial erosion or siltation onsite or offsite (NEPA: less than significant; CEQA: less than significant)

As described under Alternative 2, Impact WQ-1, several PCCP conservation measures listed in Chapter 2, *Proposed Action and Alternatives*, Table 2-13 would provide beneficial changes to existing drainage patterns that have been altered, and these changes would result in beneficial improvements to patterns of erosion and sedimentation.

- Improvement of culverts would likely provide more natural stream flow conveyance through road crossings that would lessen the potential for erosion and sedimentation problems often associated with improperly functioning culverts.
- Mechanical recontouring of vernal pool basins and removal of sediment and repairs to aquatic/wetland features would create additional natural storage for runoff that would reduce peak runoff downstream that could exceed the capacity of the stormwater drainage system and lead to substantial erosion and siltation.
- The removal or modification of certain ditches, raised roads, trails, and other barriers to restore natural surface flow could enhance water quality by removing features on the landscape that artificially concentrate and redirect runoff in a manner that may result in problematic soil erosion.
- The use of filter and buffer strips around wetlands would create opportunities for sediment to deposit prior to entering aquatic features.
- The removal and modification of certain artificial crossings or obstructions in stream channels, including seasonal flashboard dams, pipeline crossings, and concrete dams, could restore natural stream flow conveyance and reduce the potential for streambed and streambank erosions that may occur at these types of structures.
- Reconstructing natural channel geometry and installation of large woody material would likely increase channel sinuosity and add roughness elements to streams. This would slow the velocity of floodwaters and provide new opportunities for floodplain storage in the restored reaches, thereby reducing peak flows and the volume of runoff routed to stormwater drainage systems downstream that could lead to erosion and siltation problems if the capacity is exceeded.

Covered Activities would result in the same impacts as described under Impact WQ-3 for Alternative 1. Implementation of the Covered Activities, particularly land development, could result in alterations to drainage patterns and cause an increase in the volume and rate of surface runoff,

potentially resulting in substantial erosion, siltation, or flooding. Some Covered Activities, particularly the in-stream activities, such as bridge and culvert replacement and enhancement and floodplain modification, would likely enhance natural drainage patterns.

The EIR for the *City of Lincoln General Plan* found that general plan implementation would have less-than-significant impacts related to substantial alteration of existing drainage patterns that would lead to substantial siltation or erosion (City of Lincoln 2008). As described in Section 3.5.1, *Regulatory Setting*, both the *Placer County General Plan* and *City of Lincoln General Plan* include general plan policies and stormwater programs designed to address these potential impacts. In addition, the site design requirements, source control measures, and BMPs required as conditions for the Covered Activities (see Chapter 6 of the Plan) would protect against violations of water quality standards. Furthermore, implementation of the PCCP conservation measures would provide restoration of certain natural drainage patterns and many water quality benefits that would help ensure potential effects resulting from Covered Activities would be less than significant.

NEPA Determination: The PCCP conservation measures of Alternative 2, the proposed action, would have an overall benefit to natural drainage patterns. Potential effects on natural drainage patterns resulting from Covered Activities would be addressed by adherence to general plan policies, implementation of conditions on Covered Activities, and implementation of the PCCP conservation measures. Impacts would be less than significant.

CEQA Determination: The PCCP conservation measures of Alternative 2, the proposed action, would have an overall benefit to natural drainage patterns. Potential effects on natural drainage patterns resulting from Covered Activities would be addressed by adherence to general plan policies, implementation of conditions on Covered Activities, and implementation of the PCCP conservation measures. Impacts would be less than significant. No mitigation has been identified.

Impact WQ-4: Substantial alteration of existing drainage patterns in a manner that would result in flooding onsite or offsite (NEPA: less than significant; CEQA: less than significant)

Several PCCP conservation measures listed in Chapter 2, *Proposed Action and Alternatives*, Table 2-13, and described under Alternative 2, Impact WQ-3, would beneficially alter existing drainage patterns by removing artificial landscape modifications and creating and enhancing new aquatic features. The proposed creation and restoration of habitat features that work to slow and retain runoff on the landscape would create enhanced opportunity for water storage and infiltration. The increase of properly functioning wetland areas, including ponds, would reduce the peak flows in receiving waterbodies downstream. Similarly, reconstructing natural channel geometry and installation of large woody material would likely increase channel sinuosity and add roughness elements to streams. This would slow the velocity of flood water, provide new opportunities for floodplain storage, and also reduce peak flows in receiving waterbodies. Though the stream channel enhancements may reduce flooding conditions downstream, the additional flow resistance created by increases in channel roughness may locally increase water surface elevations and increase local flooding. Existing regulations—such as NFIP requirements, USACE provisions, and California Fish and Game Code Sections 1601–1607, as well as *Placer County General Plan* Policies 6.A.2, 6.A.4.e, and 4.F.4, which are listed in Section 3.5.1, *Regulatory Setting*—require that a hydraulic analysis be performed on any proposed stream channel or floodplain modifications to demonstrate that those modifications would not increase flood risk.

Covered Activities would result in an increase in impervious surfaces and the same impacts as identified under Impact WQ-4 for Alternative 1.

The EIR for the *City of Lincoln General Plan* found that general plan implementation would have less-than-significant impacts related to substantial alteration of existing drainage patterns in a manner that would increase flooding (City of Lincoln 2008). As described in Section 3.5.1, *Regulatory Setting*, both the *Placer County General Plan* and *City of Lincoln General Plan* include general plan policies and stormwater programs designed to address these potential impacts and ensure activities do not increase flood risk. Furthermore, implementation of PCCP conservation measures, such as restoring natural runoff patterns, improving floodplain storage, and removing channel obstructions, would help ensure potential effects resulting from Covered Activities would be less than significant.

NEPA Determination: The PCCP conservation measures of Alternative 2, the proposed action, would enhance drainage patterns and reduce flooding overall. Potential effects on natural drainage patterns and flooding resulting from Covered Activities would be addressed by adherence to applicable general plan policies, Placer County's Stormwater Management Program, implementation of conditions on Covered Activities, and implementation of the PCCP conservation measures to ensure that there would be no adverse effect. Impacts would be less than significant.

CEQA Determination: The PCCP conservation measures of the Alternative 2, the proposed action, would enhance drainage patterns and reduce flooding overall. Potential effects on natural drainage patterns and flooding resulting from Covered Activities would be addressed by adherence to applicable general plan policies, Placer County's Stormwater Management Program, implementation of conditions on Covered Activities, and implementation of the PCCP conservation measures to ensure that there would be no adverse effect. Impacts would be less than significant. No mitigation has been identified.

Impact WQ-5: Creation of or contribution to runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff (NEPA: less than significant; CEQA: less than significant)

Implementation of the PCCP conservation measures would not create new sources of runoff. As described under Alternative 2, Impact WQ-3, implementation of several of the PCCP conservation measures would beneficially alter runoff patterns by creating additional areas of flood storage that would reduce peak flows and the volume of runoff routed to stormwater drainage systems. This would benefit stormwater drainage by reducing the demand on the system. The PCCP conservation measures would also provide new opportunities for water quality treatment within restored and enhanced wetlands rather than routing polluted water to receiving waterbodies and the stormwater drainage system. The PCCP conservation measures are consistent with *Placer County General Plan* Policies 4.E.1, 4.E.10, 4.E.12, and 4.E.14, S*utter County General Plan* Policy I 3.1, and *City of Lincoln General Plan* Policy PFS-4.2, all of which are listed in Section 3.5.1, *Regulatory Setting*.

Covered Activities would result in the same impacts identified under Impact WQ-5 for Alternative 1. Covered Activities may provide additional sources of polluted runoff. However, some flood control and in-stream Covered Activities could beneficially reduce demands on stormwater systems and pollutant loads by improving conveyance through improved bridges and culverts, stabilizing streambanks, and increasing floodplain connectivity that would increase flood water storage and provide natural filtration for pollutants.

As described in Section 3.5.1, *Regulatory Setting*, both the *Placer County General Plan* and *City of Lincoln General Plan* include general plan policies and stormwater programs designed to address these potential impacts and ensure activities do not exceed the capacity of stormwater systems or increase polluted runoff. In addition, the site design requirements, source control measures, and

BMPs required as conditions for the Covered Activities (see Chapter 6 of the Plan) would protect against violations of water quality standards. Furthermore, implementation of PCCP conservation measures, such as restoring natural runoff patterns, improving floodplain storage, and removing channel obstructions, would help ensure potential effects resulting from Covered Activities would be less than significant.

NEPA Determination: Many of the PCCP conservation measures of Alternative 2, the proposed action, would beneficially reduce stormwater and polluted runoff. Potential effects related to stormwater drainage systems and polluted runoff resulting from Covered Activities would be addressed by adherence to applicable general plan policies, Placer County's Stormwater Management Program, implementation of conditions on Covered Activities, and implementation of the PCCP conservation measures to ensure that there would be no adverse effect. Impacts would be less than significant.

CEQA Determination: Many of the PCCP conservation measures of Alternative 2, the proposed action, would beneficially reduce stormwater and polluted runoff. Potential effects related to stormwater drainage systems and polluted runoff resulting from Covered Activities would be addressed by adherence to applicable general plan policies, Placer County's Stormwater Management Program, implementation of conditions on Covered Activities, and implementation of the PCCP conservation measures to ensure that there would be no adverse effect. Impacts would be less than significant. No mitigation has been identified.

Impact WQ-6: Other substantial degradation of water quality (NEPA: less than significant; CEQA: less than significant)

As described in under Alternative 2, Impact WQ-1, several PCCP conservation measures would improve water quality by restoring natural runoff patterns, providing new flood storage and water treatment opportunities in enhanced and created wetland features, and restoring natural physical processes and geomorphic function to degraded stream reaches. These activities would benefit water quality.

The same effects of the Covered Activities described under Alternative 2, Impact WQ-1, also apply for Impact WQ-6.

NEPA Determination: Implementation of applicable general plan policies and Placer County's Stormwater Management Program, and compliance with applicable federal, state, and local regulations would ensure that there would be no adverse effects from the PCCP conservation measures. Similarly, the same policies and regulations, as well as conditions on Covered Activities and implementation of the PCCP conservation measures, would ensure that there would be no adverse effects resulting from the Covered Activities. Impacts would be less than significant.

CEQA Determination: Implementation of applicable general plan policies and Placer County's Stormwater Management Program, and compliance with applicable federal, state, and local regulations would ensure that there would be no adverse effects from the PCCP conservation measures. Similarly, the same policies and regulations, as well as conditions on Covered Activities and implementation of the PCCP conservation measures, would ensure that there would be no adverse effects resulting from the Covered Activities. Impacts would be less than significant. No mitigation has been identified.

Impact WQ-7: Placement of housing within a 100-year flood hazard area (NEPA: less than significant; CEQA: less than significant)

The proposed action would not result in the construction of housing within a 100-year flood hazard area. The Plan Area includes areas currently designated as 100-year flood zones. Both the *Placer County General Plan* and *City of Lincoln General Plan* contain several policies related to development in the 100-year floodplain (see Section 3.5.1, *Regulatory Setting*). City of Lincoln Policy HS-6.4 requires new residential construction to have its lowest habitable floor elevated above the base flood level elevation, determined by FEMA standards. Placer County Policy 4.F.4 states that the County shall require evaluation of potential flood hazards prior to approval of development projects and that the County shall require proponents of new development to submit accurate topographic and flow characteristics information and depiction of the 100-year floodplain boundaries under fully developed, unmitigated runoff conditions. SPRTA and PCWA cannot approve new housing; their activities have no effect. Adherence to the general plan policies and to state and federal floodplain regulations would ensure the Covered Activities have a less-than-significant effect.

NEPA Determination: The PCCP conservation measures would not place housing in a 100-year floodplain and thus would have no impact. Local, state, and federal policies and regulations designed to prevent flooding of occupied developments and restrict new development within the 100-year flood zone would ensure that effects of Covered Activities associated with the 100-year flood hazard zone would not be adverse. Impacts would be less than significant.

CEQA Determination: The PCCP conservation measures would not place housing in a 100-year floodplain and thus would have no impact. Local, state, and federal policies and regulations designed to prevent flooding of occupied developments and restrict new development within the 100-year flood zone would ensure that effects of Covered Activities associated with the 100-year flood hazard zone would not be adverse. Impacts would be less than significant. No mitigation has been identified.

Impact WQ-8: Placement of structures that would impede or redirect flood flows within a 100-year flood hazard area (NEPA: less than significant; CEQA: less than significant)

The PCCP conservation measures include actions to reconstruct natural channel geometry, install large woody material in channels, and replenish and/or clean spawning gravel. These actions would likely increase channel sinuosity and add roughness elements to streams. The additional roughness and channel length would beneficially slow the velocity of flood water, thereby providing new opportunities for floodplain storage and a reduction in peak flows in receiving waterbodies. Although the stream channel enhancements may reduce flooding conditions downstream, the additional flow resistance created by increases in channel roughness may locally increase water surface elevations and impede or redirect flood flows within a 100-year flood hazard area.

Any work, including PCCP activities and Covered Activities, conducted in an area within CVFPB's area of jurisdiction, which includes the lower portion of the Bear River, would require an encroachment permit (see Section 3.5.1, *Regulatory Setting*). An encroachment permit application would trigger the USACE permit process under CWA Section 408, which would require hydraulic modeling to demonstrate potential changes in flood water surface elevations. Many of the PCCP conservation measures and Covered Activities may be implemented outside of CVFPB jurisdiction, but would be located within a FEMA-regulated floodplain and could affect the hydrologic or hydraulic characteristics of a flooding source and thus result in the modification of the existing regulatory floodway, the effective BFEs, or the SFHA. As described in Section 3.5.1, *Regulatory*

Setting, hydraulic modeling would be required to be performed to demonstrate compliance with FEMA regulations through the CLOMR/LOMR process. Other regulations pertaining to placement of structures that would impede or redirect flood flows within a 100-year flood hazard area include California Fish and Game Code Sections 1601–1607 and *Placer County General Plan* Policies 6.A.2, 6.A.4.e, and 4.F.4, which are listed in Section 3.5.1, *Regulatory Setting*. Adherence to these existing regulations and policies would require hydraulic analysis be performed on any proposed stream channel or floodplain modifications to demonstrate that those modifications would not increase 100-year flood risk. Implementation of necessary engineering design and risk assessments would ensure that the proposed channel modifications would not create or alter flood flows in a manner inconsistent with existing policies and regulations.

The Plan Area includes areas currently designated as 100-year flood zones. Both the *Placer County General Plan* and *City of Lincoln General Plan* contain several policies related to development in the 100-year floodplain that would impede or redirect 100-year flood flows (see Section 3.5.1, *Regulatory Setting*). Some Covered Activities, such as construction of new bridges and culverts and flood protection projects, would reduce the risk of infrastructure flooding from a 100-year flood. Adherence to the general plan policies, and state and federal floodplain regulations, would ensure the Covered Activities would have a less-than-significant effect.

NEPA Determination: The PCCP conservation measures may place structures or make other modifications that would impede or redirect 100-year flood flow. Compliance with FEMA regulations and with local, state, and federal policies and regulations designed to prevent flooding of occupied developments and restrict new development within the 100-year flood zone would ensure that effects of Covered Activities associated with the 100-year flood hazard zone would not be adverse. Impacts would be less than significant.

CEQA Determination: The PCCP conservation measures may place structures or make other modifications that would impede or redirect 100-year flood flow. Compliance with FEMA regulations and with local, state, and federal policies and regulations designed to prevent flooding of occupied developments and restrict new development within the 100-year flood zone would ensure that effects of Covered Activities associated with the 100-year flood hazard zone would not be adverse. Impacts would be less than significant. No mitigation has been identified.

Impact WQ-9: Exposure of people or structures to significant risk involving flooding, including flooding as a result of the failure of a levee or dam (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

Implementation of several PCCP conservation measures—such as creating and enhancing wetlands, remeandering streams, and reestablishing channel and floodplain connections—would beneficially alter runoff patterns by slowing water draining off the land and creating additional areas of flood storage that would reduce peak flows and attenuate the volume of runoff routed downstream. This would reduce flood risks by lowering water surface elevations for a given flood event that must be held back by levees and dams. However, as stated under Alternative 2, Impact WQ-4 and Impact WQ-8, local, reach-scale increases in flood water surface elevations may arise from these proposed conservation measures. As stated in Alternative 2, Impact WQ-4, existing regulations—such as NFIP requirements, USACE provisions, and California Fish and Game Code Sections 1601–1607, as well as *Placer County General Plan* Policies 6.A.2, 6.A.4.e, and 4.F.4, which are listed in Section 3.5.1, *Regulatory Setting*—require that a hydraulic analysis be performed on any proposed stream channel or floodplain modifications to demonstrate that those modifications would not increase flood risk.

The PCCP conservation measures do not call for the construction of new dams or new levees. One conservation measure calls for the removal of armored levees and replacement with earthen levees. Adequate engineering design and risk assessment would be necessary to demonstrate the new earthen levees provide the erosion resistance and stability previously provided by the armored material if the levees are still necessary to provide flood protection.

Covered Activities would result in the same impacts as identified under Impact WQ-9 for Alternative 1. Increased development in the Plan Area from the Covered Activities could result in more people and structures being exposed to significant risk of flooding; impacts could include loss, injury, or death involving flooding, including flooding as a result of levee or dam failure. The EIR for the *Placer County General Plan* concludes that general plan policies will ensure that impacts related to dam inundation would be less than significant. The EIR for the *City of Lincoln General Plan* states that, even with implementation of general plan policies, flood hazard impacts would be significant and unavoidable (Placer County 1994; City of Lincoln 2008).

Therefore, the effects of the Covered Activities with the exception of growth associated with the *City of Lincoln General Plan* would be reduced to a less-than-significant level by existing regulations and policies. However, effects related to growth associated with the *City of Lincoln General Plan*, although reduced by existing regulations and policies, would be significant and unavoidable.

NEPA Determination: Implementation of the PCCP conservation measures would not increase exposure of people or structures to significant risk involving flooding, including flooding as a result of the failure of a levee or dam. Additionally, adherence to general plan policies and state and federal requirements would reduce effects from Covered Activities, but not to less-than-significant levels. Therefore, the overall impact would be significant and unavoidable.

CEQA Determination: Implementation of the PCCP conservation measures would not increase exposure of people or structures to significant risk involving flooding, including flooding as a result of the failure of a levee or dam. Additionally, adherence to general plan policies and state and federal requirements would reduce effects from Covered Activities, but not to less-than–significant levels. Therefore, the overall impact would be significant and unavoidable.

Impact WQ-10: Contribution to inundation by seiche, tsunami, or mudflow (NEPA: less than significant; CEQA: less than significant)

The Plan Area is not at risk due to inundation from a tsunami because of its distance from the ocean. The Plan Area is also not prone to seiches or earthquake-generated waves within enclosed or restricted bodies of water. Major earthquakes could produce oscillations or waves in local bodies of water which could overtop and damage levees or other infrastructure. Implementation of the PCCP conservation measures would not increase the number of persons and property potentially at risk from seiche, and it would not contribute to inundation depth if an event were to occur because it would not create new bodies of water susceptible to seiches.

One conservation measure calls for prescribed burning for vegetation management. Prescribed burns have the potential to expose soils and make them more susceptible to erosion, particularly on steep slopes with erodible soils. A prescribed burn that removes too much vegetation and exposes too much bare soil could increase the risk of soil erosion, and possibly a mudflow if the right combination of steep terrain and heavy rainfall were to occur. Proper planning in developing the prescribed burn management plan would reduce this risk substantially by considering topography,

soil physical properties, seasonality of when the burn is conducted, and the temperature of the burn to ensure that some vegetative cover remains over the ground to protect soils post-burn.

Implementation of the Covered Activities would not result in contribution to inundation by seiche, tsunami, or mudflow, and thus would have a less-than-significant effect.

NEPA Determination: Neither the PCCP conservation measures nor Covered Activities would contribute to inundation by seiche or tsunami, and the increased likelihood of a mudflow occurring is very low. Impacts would be less than significant.

CEQA Determination: Neither the PCCP conservation measures nor Covered Activities would contribute to inundation by seiche or tsunami, and the increased likelihood of a mudflow occurring is very low. Impacts would be less than significant. No mitigation has been identified.

Alternative 3—Reduced Take/Reduced Fill

Under Alternative 3, there would be a reduction of approximately 1,000 acres in land conversion in the Potential Future Growth Area (PFG) from that proposed in the proposed action, as described in Section 2.4.3, *Alternative 3—Reduced Take/Reduced Fill*.

Impact WQ-1: Violation of any water quality standards or waste discharge requirements (NEPA: less than significant; CEQA: less than significant)

Activities associated with PCCP implementation are discussed in terms of initial construction and eventual operation of the land use changes.

Construction

The PCCP conservation measures include several physical activities that would involve ground-disturbing activities with the potential to increase pollutant loading to the drainage system (Table 2-13 in Chapter 2, *Proposed Action and Alternatives*), as listed below.

- Improvement of culverts and other road crossings.
- Mechanical recontouring of vernal pool basins.
- Removal of modification of ditches, raised roads, trails, and other barriers.
- Construction of drainage ditches or retention basins and removal of sediment to enhance vernal pool hydrology.
- Removal of fish barriers.
- In-channel work associated with stream enhancement and restoration.
- Excavating or recontouring historical vernal pools, swales, and wetlands to natural bathymetry.

Typical construction-related ground-disturbing activities would introduce the potential for increased erosion, runoff, and sedimentation, with subsequent effects on water quality. During site grading, trenching, and other construction activities, areas of bare soil could be exposed to erosive forces during rainfall events. Bare soils are much more likely to erode than vegetated areas because of the lack of dispersion, infiltration, and retention properties created by covering vegetation. The extent of the impacts would depend on soil erosion potential, construction practices, disturbed area size, precipitation events, and topography and proximity to drainage channels. Pollutants such as

solvents, petroleum products, pesticides, and fertilizers can attach to and be transported by the sediment and lead to water quality impacts. In addition, construction equipment and activities would have the potential to leak hazardous materials, such as oil and gasoline, and potentially affect surface water or groundwater quality. Improper use or accidental spills of fuels, oils, and other construction-related hazardous materials such as pipe sealant, solvents, and paints could also pose a threat to the water quality of local waterbodies. These potential leaks or spills, if not contained, would be considered a significant impact on groundwater and surface water quality. If precautions were not taken to contain or capture sediments and accidental hazardous spills, construction activities could produce substantial pollutants in stormwater runoff and result in a significant impact on the existing surface water quality.

Projects that would disturb more than 1 acre of land are required to prepare a SWPPP as part of compliance with the NPDES Construction General Permit. The purpose of a SWPPP is to reduce the amount of construction-related pollutants that are transported by stormwater runoff to surface waters. The SWPPP would emphasize standard temporary erosion control measures to reduce sedimentation and turbidity of surface runoff from disturbed areas within the Plan Area. If the area of disturbance is less than 1 acre, the County grading permit for the project would require similar erosion and sediment control measures as required by the Construction General Permit. If no grading permit is required, BMPs required by the CWA Section 401 certification would need to be implemented.

In addition to compliance with the latest NPDES and other water quality requirements (e.g., Construction General Permit, Small MS4 Permit, and the General Dewatering Permit), construction projects would also comply with other federal and state regulations and local ordinances, as noted in Section 3.5.1, *Regulatory Setting*.

Several of the PCCP conservation measures would require working in or near waterbodies. Construction dewatering in areas of surface water or shallow groundwater may be required during excavation. Dewatering would be conducted locally, and according to the dewatering permit obtained from the Central Valley Water Board, as described in Section 3.5.1, *Regulatory Setting*. In areas where groundwater is shallow and there would be potential to adversely affect riparian habitat, project features would be installed using the vibration method, which minimizes subsurface disruption.

The *Placer County General Plan* includes policies focused on mitigating construction-related water quality impacts, including Policies 6.A.4.e, 6.A.5, 6.A.6, 6.A.7, 6.A.8, and 6.A.10, which are listed in Section 3.5.1, *Regulatory Setting*.

Operations

The operations of several of the PCCP conservation measures listed in Chapter 2, *Proposed Action and Alternatives*, Table 2-13 would provide beneficial changes to hydrologic resources and water quality.

- Improvement of culverts would likely provide more natural stream flow conveyance through road crossings that would lessen the potential for erosion and sedimentation problems often associated with improperly functioning culverts.
- Mechanical recontouring of vernal pool basins and removal of sediment and repairs to aquatic/wetland features would create additional natural storage for runoff that would reduce peak runoff downstream that could exceed the capacity of the stormwater drainage system. The

improvements would also enhance water quality by creating additional opportunities for treatment of contaminants through natural filtering and treatment processes provided by wetland features.

- The removal or modification of ditches, raised roads, trails, and other barriers to restore natural surface flow would enhance water quality by removing features on the landscape that artificially concentrate and redirect runoff in a manner that often results in problematic soil erosion.
- The use of filter and buffer strips around wetlands and minimization of the use of herbicides would remove or reduce point and nonpoint sources of water pollution.
- The removal and modification of artificial crossings or obstructions in stream channels, including seasonal flashboard dams, pipeline crossings, and concrete dams, would restore natural stream flow conveyance and reduce the potential for streambed and streambank erosions that often occurs at these types of structures.
- Reconstructing natural channel geometry and installation of large woody material would likely increase channel sinuosity and add roughness elements to streams. This would slow the velocity of floodwaters and provide new opportunities for floodplain storage, groundwater recharge, and water treatment in the restored reaches, thereby reducing peak flows and the volume of runoff routed to stormwater drainage systems downstream.

Operations of some of the PCCP conservation measures have the potential to increase soil erosion, but the risk would be managed as described below.

- Prescribed burning for vegetation management has the potential to expose soils and make them more susceptible to erosion, particularly on steep slopes with erodible soils. Proper planning in developing the prescribed burn management plan would reduce this risk substantially by considering topography, soil physical properties, seasonality of when the burn is conducted, and the temperature of the burn to ensure that some vegetative cover remains over the ground to protect soils post-burn.
- Removal of armored levees and replacement with earthen levees would provide habitat benefits but could increase the risk of erosion if stream channels migrate into the earthen levees. Existing USACE regulations would require engineering analysis to demonstrate that the new earthen levees incorporate sufficient vegetation and other stability measures into their design to provide the erosion resistance and stability previously provided by the armored material to be removed.

Development within the Plan Area envisioned in the *Placer County General Plan*, *City of Lincoln General Plan*, SPRTA plans, and long-term PCWA plans would result in impacts related to initial construction and eventual operation. Impacts would be the same as described for Impact WQ-1 under Alternative 1 and similar to those described for the PCCP conservation measures. However, impacts resulting from Covered Activities would be more extensive due to the scale of the Covered Activity projects compared with the PCCP conservation measures.

Construction and grading activities for Covered Activities could degrade water quality in the short-term by increasing the potential for soil erosion and associated contaminants from stormwater discharges, thereby resulting in higher sediment loads, turbidity, and other contaminants in receiving waters. Covered Activities would include operations and maintenance activities in the stream channel, along the streambank, and on adjacent lands at top-of-bank within the riparian corridor and could affect water quality. However, some Covered Activities could benefit water

quality by reducing peak runoff volumes through enhanced stormwater management, improving conveyance through improved bridges and culverts, and stabilizing eroding banks.

The EIR for the *Placer County General Plan* states implementation of the policies and programs identified in the general plan would result in impacts on surface water quality being less than significant. The EIR for the *City of Lincoln General Plan* found that general plan implementation would have less-than-significant impacts on water quality (City of Lincoln 2008).

The Covered Activities of SPRTA and PCWA, which include in-stream activities, would have impacts that are similar to impacts of Placer County's and the City of Lincoln's development-related Covered Activities. As stated in Chapter 6 of the Plan, all Covered Activities would be required to comply with the state's General Construction Permit—including requirements to develop a project-based SWPPP—and applicable NPDES program requirements as implemented by the City of Lincoln and Placer County. The site design requirements, source control measures, and BMPs required as the conditions for the Covered Activities (see Chapter 6 of the Plan) would protect against violations of water quality standards or waste discharge requirements. Furthermore, implementation of PCCP conservation measures would provide many water quality benefits that would help ensure potential effects of Covered Activities would be less than significant.

NEPA Determination: Under Alternative 3, implementation of applicable general plan policies, Placer County's Stormwater Management Program, and other applicable federal, state, and local regulations would ensure that there would be no adverse effects from the PCCP conservation measures. Similarly, the same policies and regulations, as well as conditions on Covered Activities and implementation of the PCCP conservation measures, would ensure that there would be no adverse effects from the Covered Activities. Impacts would be less than significant.

CEQA Determination: Under Alternative 3, implementation of applicable general plan policies, Placer County's Stormwater Management Program, and other applicable federal, state, and local regulations would ensure that there would be no adverse effects from the PCCP conservation measures. Similarly, the same policies and regulations, as well as conditions on Covered Activities and implementation of the PCCP conservation measures, would ensure that there would be no adverse effects from the Covered Activities. Impacts would be less than significant. No mitigation has been identified.

Impact WQ-2: Substantial depletion of groundwater supplies or substantial interference with groundwater recharge (NEPA: less than significant; CEQA: less than significant)

Several PCCP conservation measures listed in Chapter 2, *Proposed Action and Alternatives*, Table 2-13, would provide beneficial changes to groundwater recharge. The proposed creation and restoration of habitat features that work to slow and retain runoff on the landscape would create enhanced opportunity for water infiltration through the soil and into groundwater storage. The increase of properly functioning wetland areas, including ponds, would create new recharge areas and improve groundwater quality by filtering out sediment and pollutants. Similarly, reconstructing natural channel geometry and installation of large woody material would likely increase channel sinuosity and add roughness elements to streams. This would slow the velocity of floodwaters and provide new opportunities for floodplain storage and groundwater recharge.

Covered Activities would have the same impacts as identified under Impact WQ-2 for Alternative 1. Construction and grading associated with Covered Activities would increase impervious surfaces, which would decrease the amount of land area available for rainfall to infiltrate into the ground.

Several policies are in place to ensure that the Covered Activities do not deplete groundwater supply or interfere with recharge. The EIR for the *City of Lincoln General Plan* found that general plan implementation would have less-than-significant impacts for groundwater supply and recharge (City of Lincoln 2008). The *Placer County General Plan* includes goals and implementation programs aimed at protecting against groundwater overdraft, protecting recharge areas, and supporting major consumptive use of groundwater aquifers in the western part of the county only where it can be demonstrated that this use does not exceed safe yield and is appropriately balanced with surface water supply to the same area. The *City of Lincoln General Plan* has similar groundwater management plans and policies.

As described in Section 3.5.1, *Regulatory Setting*, in 2007 the City of Lincoln, City of Roseville, PCWA, and the California American Water Company prepared the WPCGMP as a planning tool with the objectives of maintaining a safe, sustainable, and high-quality groundwater resource. The WPCGMP is intended to be a living document that will be updated in the future to account for progress and changing conditions (City of Roseville et al. 2007). In addition, Placer County, the Cities of Lincoln and Roseville, Nevada Irrigation District, PCWA, and California American Water Company have formed the West Placer Groundwater Sustainability Agency to develop a groundwater sustainability plan by January 2020.

Some of the Covered Activities, particularly the in-stream activities, would likely enhance groundwater supply and recharge. These include stormwater management activities that effectively slow the rate of runoff and increase opportunities for groundwater recharge. Adherence to these groundwater management goals, in combination with the groundwater benefits created by the PCCP conservation measures, would ensure that potential effects on groundwater supply and recharge resulting from Covered Activities would be less than significant.

NEPA Determination: The PCCP conservation measures of Alternative 3 would have an overall benefit to groundwater recharge. Potential effects of the Covered Activities on groundwater supply and recharge would be addressed by existing groundwater management programs, plans, and policies and implementation of the PCCP conservation measures. Impacts would be less than significant.

CEQA Determination: The PCCP conservation measures of Alternative 3 would have an overall benefit to groundwater recharge. Potential effects of the Covered Activities on groundwater supply and recharge would be addressed by existing groundwater management programs, plans, and policies and implementation of the PCCP conservation measures. Impacts would be less than significant. No mitigation has been identified.

Impact WQ-3: Substantial alteration of existing drainage patterns in a manner that would result in substantial erosion or siltation onsite or offsite (NEPA: less than significant; CEQA: less than significant)

As described under Alternative 3, Impact WQ-1, several PCCP conservation measures listed in Chapter 2, *Proposed Action and Alternatives*, Table 2-13, would provide beneficial changes to existing drainage patterns that have been altered, and these changes would result in beneficial improvements to patterns of erosion and sedimentation.

- Improvement of culverts would likely provide more natural stream flow conveyance through road crossings that would lessen the potential for erosion and sedimentation problems often associated with improperly functioning culverts.

- Mechanical recontouring of vernal pool basins and removal of sediment and repairs to aquatic/wetland features would create additional natural storage for runoff that would reduce peak runoff downstream that could exceed the capacity of the stormwater drainage system and lead to substantial erosion and siltation.
- The removal or modification of certain ditches, raised roads, trails, and other barriers to restore natural surface flow could enhance water quality by removing features on the landscape that artificially concentrate and redirect runoff in a manner that may result in problematic soil erosion.
- The use of filter and buffer strips around wetlands would create opportunities for sediment to deposit prior to entering aquatic features.
- The removal and modification of certain artificial crossings or obstructions in stream channels, including seasonal flashboard dams, pipeline crossings, and concrete dams, could restore natural stream flow conveyance and reduce the potential for streambed and streambank erosions that may occur at these types of structures.
- Reconstructing natural channel geometry and installation of large woody material would likely increase channel sinuosity and add roughness elements to streams. This would slow the velocity of floodwaters and provide new opportunities for floodplain storage in the restored reaches, thereby reducing peak flows and the volume of runoff routed to stormwater drainage systems downstream that could lead to erosion and siltation problems if the capacity is exceeded.

Covered Activities would result in the same impacts as described under Impact WQ-3 for Alternative 1. Implementation of the Covered Activities, particularly land development, could result in alterations to drainage patterns and cause an increase in the volume and rate of surface runoff, potentially resulting in substantial erosion, siltation, or flooding. Some Covered Activities, particularly the in-stream activities such as bridge and culvert replacement and enhancement and floodplain modification, would likely enhance natural drainage patterns.

The EIR for the *City of Lincoln General Plan* found that general plan implementation would have less-than-significant impacts related to substantial alteration of existing drainage patterns that would lead to substantial siltation or erosion (City of Lincoln 2008). As described in Section 3.5.1, *Regulatory Setting*, both the *Placer County General Plan* and *City of Lincoln General Plan* include general plan policies and stormwater programs designed to address these potential impacts. In addition, the site design requirements, source control measures, and BMPs required as the conditions for the Covered Activities (see Chapter 6 of the Plan) would protect against violations of water quality standards. Furthermore, implementation of the PCCP conservation measures would provide restoration of certain natural drainage patterns and many water quality benefits that would help ensure potential effects resulting from Covered Activities would be less than significant.

NEPA Determination: The PCCP conservation measures of Alternative 3 would have an overall benefit to natural drainage patterns. Potential effects of the Covered Activities on natural drainage patterns would be addressed by adherence to general plan policies, implementation of the conditions on Covered Activities, and implementation of the PCCP conservation measures. Impacts would be less than significant.

CEQA Determination: The PCCP conservation measures of Alternative 3 would have an overall benefit to natural drainage patterns. Potential effects of the Covered Activities on natural drainage patterns would be addressed by adherence to general plan policies, implementation of the

conditions on Covered Activities, and implementation of the PCCP conservation measures. Impacts would be less than significant. No mitigation has been identified.

Impact WQ-4: Substantial alteration of existing drainage patterns in a manner that would result in flooding onsite or offsite (NEPA: less than significant; CEQA: less than significant)

Several PCCP conservation measures listed in Chapter 2, *Proposed Action and Alternatives*, Table 2-13, and described under Alternative 3, Impact WQ-3 would beneficially alter existing drainage patterns by removing artificial landscape modifications and creating and enhancing new aquatic features. The proposed creation and restoration of habitat features that work to slow and retain runoff on the landscape would create enhanced opportunity for water storage and infiltration. The increase of properly functioning wetland areas, including ponds, would reduce the peak flows in receiving waterbodies downstream. Similarly, reconstructing natural channel geometry and installation of large woody material would likely increase channel sinuosity and add roughness elements to streams. This would slow the velocity of flood water, provide new opportunities for floodplain storage, and also reduce peak flows in receiving waterbodies. Though the stream channel enhancements may reduce flooding conditions downstream, the additional flow resistance created by increases in channel roughness may locally increase water surface elevations and increase local flooding. Existing regulations—such as NFIP requirements, USACE provisions, and California Fish and Game Code Sections 1601–1607, as well as *Placer County General Plan* Policies 6.A.2, 6.A.4.e, and 4.F.4, which are listed in Section 3.5.1, *Regulatory Setting*—require that a hydraulic analysis be performed on any proposed stream channel or floodplain modifications to demonstrate that those modifications would not increase flood risk.

Covered Activities would result in an increase in impervious surfaces and the same impacts as identified under Impact WQ-4 for Alternative 1.

The EIR for the *City of Lincoln General Plan* found that general plan implementation would have less-than-significant impacts related to substantial alteration of existing drainage patterns in a manner that would increase flooding (City of Lincoln 2008). As described in Section 3.5.1, *Regulatory Setting*, both the *Placer County General Plan* and *City of Lincoln General Plan* include general plan policies and stormwater programs designed to address these potential impacts and ensure activities do not increase flood risk. Furthermore, implementation of PCCP conservation measures, such as restoring natural runoff patterns, improving floodplain storage, and removing channel obstructions, would help ensure potential effects resulting from Covered Activities would be less than significant.

NEPA Determination: The PCCP conservation measures of Alternative 3 would enhance drainage patterns and reduce flooding overall. Potential effects of the Covered Activities on natural drainage patterns and flooding would be addressed by adherence to applicable general plan policies, Placer County's Stormwater Management Program, implementation of conditions on the Covered Activities, and implementation of the PCCP conservation measures to ensure that there would be no adverse effect. Impacts would be less than significant.

CEQA Determination: The PCCP conservation measures of the Alternative 3 would enhance drainage patterns and reduce flooding overall. Potential effects of the Covered Activities on natural drainage patterns and flooding would be addressed by adherence to applicable general plan policies, Placer County's Stormwater Management Program, implementation of the conditions on Covered Activities, and implementation of the PCCP conservation measures to ensure that there would be no adverse effect. Impacts would be less than significant. No mitigation has been identified.

Impact WQ-5: Creation of or contribution to runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff (NEPA: less than significant; CEQA: less than significant)

Implementation of the PCCP conservation measures would not create new sources of runoff. As described under Alternative 3, Impact WQ-3, implementation of several of the PCCP conservation measures would beneficially alter runoff patterns by creating additional areas of flood storage that would reduce peak flows and the volume of runoff routed to stormwater drainage systems. This would benefit stormwater drainage by reducing the demand on the system. The PCCP conservation measures would also provide new opportunities for water quality treatment within restored and enhanced wetlands rather than routing polluted water to receiving waterbodies and the stormwater drainage system. The PCCP conservation measures are consistent with *Placer County General Plan* Policies 4.E.1, 4.E.10, 4.E.12, and 4.E.14, S*utter County General Plan* Policy I 3.1, and *City of Lincoln General Plan* Policy PFS-4.2, all of which are listed in Section 3.5.1, *Regulatory Setting*.

Covered Activities would result in the same impacts identified under Impact WQ-5 for Alternative 1. Covered Activities may provide additional sources of polluted runoff. However, some of the flood control and in-stream Covered Activities could beneficially reduce demands on stormwater systems and pollutant loads by improving conveyance through improved bridges and culverts, stabilizing streambanks, and increasing floodplain connectivity that would increase flood water storage and provide natural filtration for pollutants.

As described in Section 3.5.1, *Regulatory Setting*, both the *Placer County General Plan* and *City of Lincoln General Plan* include general plan policies and stormwater programs designed to address these potential impacts and ensure activities do not exceed the capacity of stormwater systems or increase polluted runoff. In addition, the site design requirements, source control measures, and BMPs required as conditions for the Covered Activities (see Chapter 6 of the Plan) would protect against violations of water quality standards. Furthermore, implementation of PCCP conservation measures, such as restoring natural runoff patterns, improving floodplain storage, and removing channel obstructions, would help ensure potential effects of the Covered Activities would be less than significant.

NEPA Determination: Many of the PCCP conservation measures of Alternative 3 would beneficially reduce stormwater and polluted runoff. Potential effects of the Covered Activities related to stormwater drainage systems and polluted runoff would be addressed by adherence to applicable general plan policies, Placer County's Stormwater Management Program, implementation of the conditions on Covered Activities conditions, and implementation of the PCCP conservation measures to ensure that there would be no adverse effect. Impacts would be less than significant.

CEQA Determination: Many of the PCCP conservation measures of Alternative 3 would beneficially reduce stormwater and polluted runoff. Potential effects of the Covered Activities on stormwater drainage systems and polluted runoff would be addressed by adherence to applicable general plan policies, Placer County's Stormwater Management Program, implementation of the conditions on Covered Activities, and implementation of the PCCP conservation measures to ensure that there would be no adverse effect. Impacts would be less than significant. No mitigation has been identified.

Impact WQ-6: Other substantial degradation of water quality (NEPA: less than significant; CEQA: less than significant)

As described under Alternative 3, Impact WQ-1, several PCCP conservation measures would improve water quality by restoring natural runoff patterns, providing new flood storage and water treatment opportunities in enhanced and created wetland features, and restoring natural physical processes and geomorphic function to degraded stream reaches. These activities would benefit water quality.

The same effects of the Covered Activities described under Alternative 3, Impact WQ-1, also apply for Impact WQ-6.

NEPA Determination: Implementation of applicable general plan policies and Placer County's Stormwater Management Program, and compliance with applicable federal, state, and local regulations, would ensure that there would be no adverse effects from the PCCP conservation measures. Similarly, the same policies and regulations, as well as conditions on Covered Activities and implementation of the PCCP conservation measures, would ensure that there would be no adverse effects resulting from the Covered Activities. Impacts would be less than significant.

CEQA Determination: Implementation of applicable general plan policies and Placer County's Stormwater Management Program, and compliance with applicable federal, state, and local regulations, would ensure that there would be no adverse effects from the PCCP conservation measures. Similarly, the same policies and regulations, as well as conditions on Covered Activities and implementation of the PCCP conservation measures, would ensure that there would be no adverse effects resulting from the Covered Activities. Impacts would be less than significant. No mitigation has been identified.

Impact WQ-7: Placement of housing within a 100-year flood hazard area (NEPA: less than significant; CEQA: less than significant)

The proposed action would not result in the construction of housing within a 100-year flood hazard area. The Plan Area includes areas currently designated as 100-year flood zones. Both the *Placer County General Plan* and *City of Lincoln General Plan* contain several policies related to development in the 100-year floodplain (see Section 3.5.1, *Regulatory Setting*). City of Lincoln Policy HS-6.4 requires new residential construction to have its lowest habitable floor elevated above the base flood level elevation, determined by FEMA standards. Placer County Policy 4.F.4 states that the County shall require evaluation of potential flood hazards prior to approval of development projects and that the County shall require proponents of new development to submit accurate topographic and flow characteristics information and depiction of the 100-year floodplain boundaries under fully developed, unmitigated runoff conditions. SPRTA and PCWA cannot approve new housing; their activities have no effect. Adherence to the general plan policies and to state and federal floodplain regulations would ensure the Covered Activities have a less-than-significant effect.

NEPA Determination: The PCCP conservation measures would not place housing in a 100-year floodplain and thus would have no impact. Local, state, and federal policies and regulations designed to prevent flooding of occupied developments and restrict new development within the 100-year flood zone would ensure that effects of Covered Activities associated with the 100-year flood hazard zone would not be adverse. Impacts would be less than significant.

CEQA Determination: The PCCP conservation measures would not place housing in a 100-year floodplain and thus would have no impact. Local, state, and federal policies and regulations designed to prevent flooding of occupied developments and restrict new development within the 100-year flood zone would ensure that effects of Covered Activities associated with the 100-year flood hazard zone would not be adverse. Impacts would be less than significant. No mitigation has been identified.

Impact WQ-8: Placement of structures that would impede or redirect flood flows within a 100-year flood hazard area (NEPA: less than significant; CEQA: less than significant)

The PCCP conservation measures include actions to reconstruct natural channel geometry, install large woody material in channels, and replenish and/or clean spawning gravel. These actions would likely increase channel sinuosity and add roughness elements to streams. The additional roughness and channel length would beneficially slow the velocity of flood water, thereby providing new opportunities for floodplain storage and a reduction in peak flows in receiving waterbodies. Although the stream channel enhancements may reduce flooding conditions downstream, the additional flow resistance created by increases in channel roughness may locally increase water surface elevations and impede or redirect flood flows within a 100-year flood hazard area.

Any work, including PCCP activities and Covered Activities, conducted in an area within CVFPB's area of jurisdiction, which includes the lower portion of the Bear River, would require an encroachment permit (see Section 3.5.1, *Regulatory Setting*). An encroachment permit application would then trigger the USACE permit process under CWA Section 408, which would require hydraulic modeling to demonstrate potential changes in flood water surface elevations. Many of the PCCP conservation measures and Covered Activities may be implemented outside of CVFPB jurisdiction, but would be located within a FEMA-regulated floodplain and could affect the hydrologic or hydraulic characteristics of a flooding source and, thus, result in the modification of the existing regulatory floodway, the effective BFEs, or the SFHA. As described in Section 3.5.1, *Regulatory Setting*, hydraulic modeling would be required to be performed to demonstrate compliance with FEMA regulations through the CLOMR/LOMR process. Other regulations pertaining to placement of structures that would impede or redirect flood flows within a 100-year flood hazard area include California Fish and Game Code Sections 1601–160 and *Placer County General Plan* Policies 6.A.2, 6.A.4.e, and 4.F.4, which are listed in Section 3.5.1, *Regulatory Setting*. Adherence to these existing regulations and policies would require a hydraulic analysis be performed on any proposed stream channel or floodplain modifications to demonstrate that those modifications would not increase 100-year flood risk. Implementation of necessary engineering design and risk assessments would ensure that the proposed channel modifications would not create or alter flood flows in a manner inconsistent with existing policies and regulations.

The Plan Area includes areas currently designated as 100-year flood zones. Both the *Placer County General Plan* and *City of Lincoln General Plan* contain several policies related to development in the 100-year floodplain that would impede or redirect 100-year flood flows (see Section 3.5.1, *Regulatory Setting*). Some Covered Activities, such as construction of new bridges and culverts and flood protection projects, would reduce the risk of infrastructure flooding from a 100-year flood. Adherence to the general plan policies, and state and federal floodplain regulations, would ensure the Covered Activities would have a less-than-significant effect.

NEPA Determination: The PCCP conservation measures may place structures or make other modifications that would impede or redirect 100-year flood flow. Compliance with FEMA regulations and with local, state, and federal policies and regulations designed to prevent flooding of occupied developments and restrict new development within the 100-year flood zone would ensure that effects of Covered Activities associated with the 100-year flood hazard zone would not be adverse. Impacts would be less than significant.

CEQA Determination: The PCCP conservation measures may place structures or make other modifications that would impede or redirect 100-year flood flow. Compliance with FEMA regulations and with local, state, and federal policies and regulations designed to prevent flooding of occupied developments and restrict new development within the 100-year flood zone would ensure that effects of Covered Activities associated with the 100-year flood hazard zone would not be adverse. Impacts would be less than significant. No mitigation has been identified.

Impact WQ-9: Exposure of people or structures to significant risk involving flooding, including flooding as a result of the failure of a levee or dam (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

Implementation of several PCCP conservation measures—such as creating and enhancing wetlands, remeandering streams, and reestablishing channel and floodplain connections—would beneficially alter runoff patterns by slowing down water draining off the land and creating additional areas of flood storage that would reduce peak flows and attenuate the volume of runoff routed downstream. This would reduce flood risks by lowering water surface elevations for a given flood event that must be held back by levees and dams. However, as stated under Alternative 3, Impact WQ-4 and Impact WQ-8, local, reach-scale increases in flood water surface elevations may arise from these proposed conservation measures. These risks would need to be evaluated in the engineering design and permitting required for individual projects as required by existing regulation as described under Alternative 2 Impact WQ-9.

The PCCP conservation measures do not call for the construction of new dams or new levees. One conservation measure calls for the removal of armored levees and replacement with earthen levees. Adequate engineering design and risk assessment would be necessary to demonstrate the new earthen levees provide the erosion resistance and stability previously provided by the armored material if the levees are still necessary to provide flood protection.

Covered Activities would result in the same impacts as identified under Impact WQ-9 for Alternative 1. Increased development in the Plan Area from the Covered Activities could result in more people and structures being exposed to significant risk of flooding; impacts could include loss, injury, or death involving flooding, including flooding as a result of levee or dam failure. The EIR for the *Placer County General Plan* concludes that general plan policies will ensure that impacts related to dam inundation would be less than significant. The EIR for the *City of Lincoln General Plan* states that, even with implementation of general plan policies, flood hazard impacts would be significant and unavoidable (Placer County 1994; City of Lincoln 2008).

Therefore, the effects of the Covered Activities under Alternative 3, with the exception of growth associated with the *City of Lincoln General Plan* would be reduced to a less-than-significant level by existing regulations and policies. However, effects related to growth associated with the *City of Lincoln General Plan*, although reduced by existing regulations and policies, would be significant and unavoidable.

NEPA Determination: Implementation of the PCCP conservation measures under Alternative 3 would not increase exposure of people or structures to significant risk involving flooding, including flooding as a result of the failure of a levee or dam. Additionally, adherence to general plan policies and state and federal requirements would reduce effects from Covered Activities, but not to less-than–significant levels. Therefore, the overall impact would be significant and unavoidable.

CEQA Determination: Implementation of the PCCP conservation measures under Alternative 3 would not increase exposure of people or structures to significant risk involving flooding, including flooding as a result of the failure of a levee or dam. Additionally, adherence to general plan policies and state and federal requirements would reduce effects from Covered Activities, but not to less-than–significant levels. Therefore, the overall impact would be significant and unavoidable.

Impact WQ-10: Contribution to inundation by seiche, tsunami, or mudflow (NEPA: less than significant; CEQA: less than significant)

The Plan Area is not at risk due to inundation from a tsunami because of its distance from the ocean. The Plan Area is also not prone to seiches or earthquake-generated waves within enclosed or restricted bodies of water. Major earthquakes could produce oscillations or waves in local bodies of water which could overtop and damage levees or other infrastructure. Implementation of the PCCP conservation measures would not increase the number of persons and property potentially at risk from seiche, and it would not contribute to inundation depth if an event were to occur because it would not create new bodies of water susceptible to seiches.

One conservation measure calls for prescribed burning for vegetation management. Prescribed burns have the potential to expose soils and make them more susceptible to erosion, particularly on steep slopes with erodible soils. A prescribed burn that removes too much vegetation and exposes too much bare soil could increase the risk of soil erosion, and possibly a mudflow if the right combination of steep terrain and heavy rainfall were to occur. Proper planning in developing the prescribed burn management plan would reduce this risk substantially by considering topography, soil physical properties, seasonality of when the burn is conducted, and the temperature of the burn to ensure that some vegetative cover remains over the ground to protect soils post-burn.

Implementation of the Covered Activities would not result in contribution to inundation by seiche, tsunami, or mudflow and, thus, would have a less-than-significant effect.

NEPA Determination: Neither the PCCP conservation measures nor Covered Activities would contribute to inundation by seiche or tsunami, and the increased likelihood of a mudflow occurring is very low. Impacts would be less than significant.

CEQA Determination: Neither the PCCP conservation measures nor Covered Activities would contribute to inundation by seiche or tsunami, and the increased likelihood of a mudflow occurring is very low. Impacts would be less than significant. No mitigation has been identified.

Alternative 4—Reduced Permit Term

Under Alternative 4, it is expected that fewer acres would be restored than under Alternative 2, the proposed action.

Impact WQ-1: Violation of any water quality standards or waste discharge requirements (NEPA: less than significant; CEQA: less than significant)

Activities associated with PCCP implementation are discussed in terms of initial construction and eventual operation of the land use changes.

Construction

The PCCP conservation measures include several physical activities that would involve ground-disturbing activities with the potential to increase pollutant loading to the drainage system (Table 2-13 in Chapter 2, *Proposed Action and Alternatives*), as listed below.

- Improvement of culverts and other road crossings.
- Mechanical recontouring of vernal pool basins.
- Removal of modification of ditches, raised roads, trails, and other barriers.
- Construction of drainage ditches or retention basins and removal of sediment to enhance vernal pool hydrology.
- Removal of fish barriers.
- In-channel work associated with stream enhancement and restoration.
- Excavating or recontouring historical vernal pools, swales, and wetlands to natural bathymetry.

Typical construction-related ground-disturbing activities would introduce the potential for increased erosion, runoff, and sedimentation, with subsequent effects on water quality. During site grading, trenching, and other construction activities, areas of bare soil could be exposed to erosive forces during rainfall events. Bare soils are much more likely to erode than vegetated areas because of the lack of dispersion, infiltration, and retention properties created by covering vegetation. The extent of the impacts would depend on soil erosion potential, construction practices, disturbed area size, precipitation events, and topography and proximity to drainage channels. Pollutants such as solvents, petroleum products, pesticides, and fertilizers can attach to and be transported by the sediment and lead to water quality impacts. In addition, construction equipment and activities would have the potential to leak hazardous materials, such as oil and gasoline, and potentially affect surface water or groundwater quality. Improper use or accidental spills of fuels, oils, and other construction-related hazardous materials such as pipe sealant, solvents, and paints could also pose a threat to the water quality of local waterbodies. These potential leaks or spills, if not contained, would be considered a significant impact on groundwater and surface water quality. If precautions were not taken to contain or capture sediments and accidental hazardous spills, construction activities could produce substantial pollutants in stormwater runoff and result in a significant impact on the existing surface water quality.

Projects that would disturb more than 1 acre of land are required to prepare a SWPPP as part of compliance with the NPDES Construction General Permit. The purpose of a SWPPP is to reduce the amount of construction-related pollutants that are transported by stormwater runoff to surface waters. The SWPPP would emphasize standard temporary erosion control measures to reduce sedimentation and turbidity of surface runoff from disturbed areas within the Plan Area. If the area of disturbance is less than 1 acre, the County grading permit for the project would require similar erosion and sediment control measures as required by the Construction General Permit. If no

grading permit is required, BMPs required by the CWA Section 401 certification would need to be implemented.

In addition to compliance with the latest NPDES and other water quality requirements (e.g., Construction General Permit, Small MS4 Permit, and the General Dewatering Permit), construction projects would also comply with other federal and state regulations, and other local ordinances, as noted in Section 3.5.1, *Regulatory Setting*.

Several of the PCCP conservation measures would require working in or near waterbodies. Construction dewatering in areas of surface water or shallow groundwater may be required during excavation. Dewatering would be conducted locally, and according to the dewatering permit obtained from the Central Valley Water Board, as described in Section 3.5.1, *Regulatory Setting*. In areas where groundwater is shallow and there would be potential to adversely affect riparian habitat, project features would be installed using the vibration method, which minimizes subsurface disruption.

The *Placer County General Plan* includes policies focused on mitigating construction-related water quality impacts, including Policies 6.A.4.e, 6.A.5, 6.A.6, 6.A.7, 6.A.8, and 6.A.10, which are listed in Section 3.5.1, *Regulatory Setting*.

Operations

The operations of several of the PCCP conservation measures listed in Table 2-13 in Chapter 2, *Proposed Action and Alternatives*, would provide beneficial changes to hydrologic resources and water quality.

- Improvement of culverts would likely provide more natural stream flow conveyance through road crossings that would lessen the potential for erosion and sedimentation problems often associated with improperly functioning culverts.
- Mechanical recontouring of vernal pool basins and removal of sediment and repairs to aquatic/wetland features would create additional natural storage for runoff that would reduce peak runoff downstream that could exceed the capacity of the stormwater drainage system. The improvements would also enhance water quality by creating additional opportunities for treatment of contaminants through natural filtering and treatment processes provided by wetland features.
- The removal or modification of ditches, raised roads, trails, and other barriers to restore natural surface flow would enhance water quality by removing features on the landscape that artificially concentrate and redirect runoff in a manner that often results in problematic soil erosion.
- The use of filter and buffer strips around wetlands and minimization of the use of herbicides would remove or reduce point and nonpoint sources of water pollution.
- The removal and modification of artificial crossings or obstructions in stream channels, including seasonal flashboard dams, pipeline crossings, and concrete dams, would restore natural stream flow conveyance and reduce the potential for streambed and streambank erosions that often occurs at these types of structures.
- Reconstructing natural channel geometry and installation of large woody material would likely increase channel sinuosity and add roughness elements to streams. This would slow the velocity of floodwaters and provide new opportunities for floodplain storage, groundwater recharge, and

water treatment in the restored reaches, thereby reducing peak flows and the volume of runoff routed to stormwater drainage systems downstream.

Operations of some of the PCCP conservation measures have the potential to increase soil erosion, but the risk would be managed as described below.

- Prescribed burning for vegetation management has the potential to expose soils and make them more susceptible to erosion, particularly on steep slopes with erodible soils. Proper planning in developing the prescribed burn management plan would reduce this risk substantially by considering topography, soil physical properties, seasonality of when the burn is conducted, and the temperature of the burn to ensure that some vegetative cover remains over the ground to protect soils post-burn.
- Removal of armored levees and replacement with earthen levees would provide habitat benefits but could increase the risk of erosion if stream channels migrate into the earthen levees. Existing USACE regulations would require engineering analysis to demonstrate that the new earthen levees incorporate sufficient vegetation and other stability measures into their design to provide the erosion resistance and stability previously provided by the armored material to be removed.

Development within the Plan Area envisioned in the *Placer County General Plan*, *City of Lincoln General Plan*, SPRTA plans, and long-term PCWA plans would result in impacts related to initial construction and eventual operation. Impacts would be the same as described for Impact WQ-1 under Alternative 1 and similar to those or the PCCP conservation measures. However, impacts resulting from Covered Activities would be more extensive due to the scale of the Covered Activity projects compared with the PCCP conservation measures.

Construction and grading associated with Covered Activities could degrade water quality in the short-term by increasing the potential for soil erosion and associated contaminants from stormwater discharges, thereby resulting in higher sediment loads, turbidity, and other contaminants in receiving waters. In-stream Covered Activities would include operations and maintenance activities in the stream channel, along the streambank, and on adjacent lands at top-of-bank within the riparian corridor and could affect water quality. However, some of the in-stream Covered Activities could benefit water quality by reducing peak runoff volumes through enhanced stormwater management, improving conveyance through improved bridges and culverts, and stabilizing eroding banks.

The EIR for the *Placer County General Plan* states implementation of the policies and programs identified in the general plan would result in impacts on surface water quality being less than significant. The EIR for the *City of Lincoln General Plan* found that general plan implementation would have less-than-significant impacts on water quality (City of Lincoln 2008).

The Covered Activities of SPRTA and PCWA, which include in-stream activities, would have impacts similar to impacts resulting from Placer County's and the City of Lincoln's development-related Covered Activities. As stated in Chapter 6 of the Plan, all Covered Activities would be required to comply with the state's General Construction Permit—including requirements to develop a project-based SWPPP—and applicable NPDES program requirements as implemented by the City of Lincoln and Placer County. The site design requirements, source control measures, and BMPs required as conditions for the Covered Activities (see Chapter 6 of the Plan) would protect against violations of water quality standards or waste discharge requirements. Furthermore, implementation of PCCP

conservation measures would provide many water quality benefits that would help ensure potential effects resulting from Covered Activities would be less than significant.

NEPA Determination: Under Alternative 4, implementation of applicable general plan policies, Placer County's Stormwater Management Program, and other applicable federal, state, and local regulations would ensure that there would be no adverse effects from the PCCP conservation measures. Similarly, the same policies and regulations, as well as conditions on Covered Activities and implementation of the PCCP conservation measures, would ensure that there would be no adverse effects resulting from the Covered Activities. Impacts would be less than significant.

CEQA Determination: Under Alternative 4, implementation of applicable general plan policies, Placer County's Stormwater Management Program, and other applicable federal, state, and local regulations would ensure that there would be no adverse effects from the PCCP conservation measures. Similarly, the same policies and regulations, as well as conditions on Covered Activities and implementation of the PCCP conservation measures, would ensure that there would be no adverse effects resulting from the Covered Activities. Impacts would be less than significant. No mitigation has been identified.

Impact WQ-2: Substantial depletion of groundwater supplies or substantial interference with groundwater recharge (NEPA: less than significant; CEQA: less than significant)

Several PCCP conservation measures listed in Chapter 2, *Proposed Action and Alternatives*, Table 2-13, would provide beneficial changes to groundwater recharge. The proposed creation and restoration of habitat features that work to slow and retain runoff on the landscape would create enhanced opportunity for water infiltration through the soil and into groundwater storage. The increase of properly functioning wetland areas, including ponds, would create new recharge areas and improve groundwater quality by filtering out sediment and pollutants. Similarly, reconstructing natural channel geometry and installation of large woody material would likely increase channel sinuosity and add roughness elements to streams. This would slow the velocity of floodwaters and provide new opportunities for floodplain storage and groundwater recharge.

Covered Activities would have the same impacts as identified under Impact WQ-2 for Alternative 1. Construction and grading associated with Covered Activities would increase impervious surfaces, which would decrease the amount of land area available for rainfall to infiltrate into the ground. Several policies are in place to ensure that the Covered Activities do not deplete groundwater supply or interfere with recharge. The EIR for the *City of Lincoln General Plan* found that general plan implementation would have less-than-significant impacts on groundwater supply and recharge (City of Lincoln 2008). The *Placer County General Plan* includes goals and implementation programs aimed at protecting against groundwater overdraft, protecting recharge areas, and supporting major consumptive use of groundwater aquifer(s) in the western part of the county only where it can be demonstrated that this use does not exceed safe yield and is appropriately balanced with surface water supply to the same area. The *City of Lincoln General Plan* has similar groundwater management plans and policies.

As described in Section 3.5.1, *Regulatory Setting*, in 2007 the City of Lincoln, City of Roseville, PCWA, and the California American Water Company prepared the WPCGMP as a planning tool with the objectives of maintaining a safe, sustainable, and high-quality groundwater resource. The WPCGMP is intended to be a living document that will be updated in the future to account for progress and changing conditions (City of Roseville et al. 2007). In addition, Placer County, the Cities of Lincoln and Roseville, Nevada Irrigation District, PCWA, and California American Water Company have

formed the West Placer Groundwater Sustainability Agency to develop a groundwater sustainability plan by January 2020.

Some Covered Activities, particularly the in-stream activities, would likely enhance groundwater supply and recharge. These include stormwater management activities that effectively slow the rate of runoff and increase opportunities for groundwater recharge. Adherence to these groundwater management goals, in combination with the groundwater benefits created by the PCCP conservation measures, would ensure that potential effects on groundwater supply and recharge resulting from Covered Activities would be less than significant.

NEPA Determination: The PCCP conservation measures of Alternative 4 would have an overall benefit to groundwater recharge. Potential effects on groundwater supply and recharge resulting from Covered Activities would be addressed by existing groundwater management programs, plans, and policies and implementation of the PCCP conservation measures. Impacts would be less than significant.

CEQA Determination: The PCCP conservation measures of Alternative 4 would have an overall benefit to groundwater recharge. Potential effects on groundwater supply and recharge resulting from Covered Activities would be addressed by existing groundwater management programs, plans, and policies and implementation of the PCCP conservation measures. Impacts would be less than significant. No mitigation has been identified.

Impact WQ-3: Substantial alteration of existing drainage patterns in a manner that would result in substantial erosion or siltation onsite or offsite (NEPA: less than significant; CEQA: less than significant)

As described under Alternative 4, Impact WQ-1, several PCCP conservation measures listed in Table 2-13 would provide beneficial changes to existing drainage patterns that have been altered, and these changes would result in beneficial improvements to patterns of erosion and sedimentation.

- Improvement of culverts would likely provide more natural stream flow conveyance through road crossings that would lessen the potential for erosion and sedimentation problems often associated with improperly functioning culverts.
- Mechanical recontouring of vernal pool basins and removal of sediment and repairs to aquatic/wetland features would create additional natural storage for runoff that would reduce peak runoff downstream that could exceed the capacity of the stormwater drainage system and lead to substantial erosion and siltation.
- The removal or modification of certain ditches, raised roads, trails, and other barriers to restore natural surface flow could enhance water quality by removing features on the landscape that artificially concentrate and redirect runoff in a manner that may result in problematic soil erosion.
- The use of filter and buffer strips around wetlands would create opportunities for sediment to deposit prior to entering aquatic features.
- The removal and modification of certain artificial crossings or obstructions in stream channels, including seasonal flashboard dams, pipeline crossings, and concrete dams, could restore natural stream flow conveyance and reduce the potential for streambed and streambank erosions that may occur at these types of structures.

- Reconstructing natural channel geometry and installation of large woody material would likely increase channel sinuosity and add roughness elements to streams. This would slow the velocity of floodwaters and provide new opportunities for floodplain storage in the restored reaches, thereby reducing peak flows and the volume of runoff routed to stormwater drainage systems downstream that could lead to erosion and siltation problems if the capacity is exceeded.

Covered Activities would result in the same impacts as described under Impact WQ-3 for Alternative 1. Implementation of the Covered Activities, particularly land development, could result in alterations to drainage patterns and cause an increase in the volume and rate of surface runoff, potentially resulting in substantial erosion, siltation, or flooding. Some Covered Activities, particularly the in-stream activities such as bridge and culvert replacement and enhancement and floodplain modification, would likely enhance natural drainage patterns.

The EIR for the *City of Lincoln General Plan* found that general plan implementation would have less-than-significant impacts related to substantial alteration of existing drainage patterns that would lead to substantial siltation or erosion (City of Lincoln 2008). As described in Section 3.5.1, *Regulatory Setting*, both the *Placer County General Plan* and *City of Lincoln General Plan* include general plan policies and stormwater programs designed to address these potential impacts. In addition, the site design requirements, source control measures, and BMPs required as conditions for the Covered Activities (see Chapter 6 of the Plan) would protect against violations of water quality standards. Furthermore, implementation of the PCCP conservation measures would provide restoration of certain natural drainage patterns and many water quality benefits that would help ensure potential effects resulting from Covered Activities would be less than significant.

NEPA Determination: The PCCP conservation measures of Alternative 4 would have an overall benefit to natural drainage patterns. Potential effects on natural drainage patterns resulting from Covered Activities would be addressed by adherence to general plan policies, implementation of the conditions on Covered Activities, and implementation of the PCCP conservation measures. Impacts would be less than significant.

CEQA Determination: The PCCP conservation measures of Alternative 4 would have an overall benefit to natural drainage patterns. Potential effects on natural drainage patterns resulting from Covered Activities would be addressed by adherence to general plan policies, implementation of the conditions on Covered Activities, and implementation of the PCCP conservation measures. Impacts would be less than significant. No mitigation has been identified.

Impact WQ-4: Substantial alteration of existing drainage patterns in a manner that would result in flooding onsite or offsite (NEPA: less than significant; CEQA: less than significant)

Several PCCP conservation measures listed in Chapter 2, *Proposed Action and Alternatives*, Table 2-13, and described under Alternative 4, Impact WQ-3, would beneficially alter existing drainage patterns by removing artificial landscape modifications and creating and enhancing new aquatic features. The proposed creation and restoration of habitat features that work to slow and retain runoff on the landscape would create enhanced opportunity for water storage and infiltration. The increase of properly functioning wetland areas, including ponds, would reduce the peak flows in receiving waterbodies downstream. Similarly, reconstructing natural channel geometry and installation of large woody material would likely increase channel sinuosity and add roughness elements to streams. This would slow the velocity of flood water, provide new opportunities for floodplain storage, and also reduce peak flows in receiving waterbodies. Though the stream channel enhancements may reduce flooding conditions downstream, the additional flow resistance created

by increases in channel roughness may locally increase water surface elevations and increase local flooding. Existing regulations—such as NFIP requirements, USACE provisions, and California Fish and Game Code Sections 1601–1607, as well as *Placer County General Plan* Policies 6.A.2, 6.A.4.e, and 4.F.4, which are listed in Section 3.5.1, *Regulatory Setting*—require that a hydraulic analysis be performed on any proposed stream channel or floodplain modifications to demonstrate that those modifications would not increase flood risk.

Covered Activities would result in an increase in impervious surfaces and the same impacts as identified under Impact WQ-4 for Alternative 1.

The EIR for the *City of Lincoln General Plan* found that general plan implementation would have less-than-significant impacts related to substantial alteration of existing drainage patterns in a manner that would increase flooding (City of Lincoln 2008). As described in Section 3.5.1, *Regulatory Setting*, both the *Placer County General Plan* and *City of Lincoln General Plan* include general plan policies and stormwater programs designed to address these potential impacts and ensure activities do not increase flood risk. Furthermore, implementation of PCCP conservation measures, such as restoring natural runoff patterns, improving floodplain storage, and removing channel obstructions, would help ensure potential effects resulting from Covered Activities would be less than significant.

NEPA Determination: The PCCP conservation measures of Alternative 4 would enhance drainage patterns and reduce flooding overall. Potential effects on natural drainage patterns and flooding resulting from Covered Activities would be addressed by adherence to applicable general plan policies, Placer County's Stormwater Management Program, implementation of the conditions on Covered Activities, and implementation of the PCCP conservation measures to ensure that there would be no adverse effect. Impacts would be less than significant.

CEQA Determination: The PCCP conservation measures of the Alternative 4 would enhance drainage patterns and reduce flooding. Potential effects on natural drainage patterns and flooding resulting from Covered Activities would be addressed by adherence to applicable general plan policies, Placer County's Stormwater Management Program, implementation of the conditions on Covered Activities, and implementation of the PCCP conservation measures to ensure that there would be no adverse effect. Impacts would be less than significant. No mitigation has been identified.

Impact WQ-5: Creation of or contribution to runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff (NEPA: less than significant; CEQA: less than significant)

Implementation of the PCCP conservation measures would not create new sources of runoff. As described in Impact WQ-3, implementation of several of the PCCP conservation measures would beneficially alter runoff patterns by creating additional areas of flood storage that would reduce peak flows and the volume of runoff routed to stormwater drainage systems. This would benefit stormwater drainage by reducing the demand on the system. The PCCP conservation measures would also provide new opportunities for water quality treatment within restored and enhanced wetlands rather than routing polluted water to receiving waterbodies and the stormwater drainage system. The PCCP conservation measures are consistent with *Placer County General Plan* Policies 4.E.1, 4.E.10, 4.E.12, and 4.E.14, S*utter County General Plan* Policy I 3.1, and *City of Lincoln General Plan* Policy PFS-4.2, all of which are listed in Section 3.5.1, *Regulatory Setting*.

Covered Activities would result in the same impacts identified under Impact WQ-5 for Alternative 1. Covered Activities may provide additional sources of polluted runoff. However, some flood control and in-stream Covered Activities could beneficially reduce demands on stormwater systems and pollutant loads by improving conveyance through improved bridges and culverts, stabilizing streambanks, and increasing floodplain connectivity that would increase flood water storage and provide natural filtration for pollutants.

As described in Section 3.5.1, *Regulatory Setting*, both the *Placer County General Plan* and *City of Lincoln General Plan* include general plan policies and stormwater programs designed to address these potential impacts and ensure activities do not exceed the capacity of stormwater systems or increase polluted runoff. In addition, the site design requirements, source control measures, and BMPs required as conditions for the Covered Activities (see Chapter 6 of the Plan) would protect against violations of water quality standards. Furthermore, implementation of PCCP conservation measures, such as restoring natural runoff patterns, improving floodplain storage, and removing channel obstructions, would help ensure potential effects resulting from Covered Activities would be less than significant.

NEPA Determination: Many of the PCCP conservation measures of Alternative 4 would beneficially reduce stormwater and polluted runoff. Potential effects related to stormwater drainage systems and polluted runoff resulting from Covered Activities would be addressed by adherence to applicable general plan policies, Placer County's Stormwater Management Program, implementation of the conditions on Covered Activities, and implementation of the PCCP conservation measures to ensure that there would be no adverse effect. Impacts would be less than significant.

CEQA Determination: Many of the PCCP conservation measures of Alternative 4 would beneficially reduce stormwater and polluted runoff. Potential effects related to stormwater drainage systems and polluted runoff resulting from Covered Activities would be addressed by adherence to applicable general plan policies, Placer County's Stormwater Management Program, implementation of the conditions on Covered Activities, and implementation of the PCCP conservation measures to ensure that there would be no adverse effect. Impacts would be less than significant. No mitigation has been identified.

Impact WQ-6: Other substantial degradation of water quality (NEPA: less than significant; CEQA: less than significant)

As described under Alternative 4, Impact WQ-1, several PCCP conservation measures would improve water quality by restoring natural runoff patterns, providing new flood storage and water treatment opportunities in enhanced and created wetland features, and restoring natural physical processes and geomorphic function to degraded stream reaches. These activities would benefit water quality.

The same effects of the Covered Activities described under Alternative 4 Impact WQ-1 also apply for Impact WQ-6.

NEPA Determination: Implementation of applicable general plan policies and Placer County's Stormwater Management Program, and compliance with other applicable federal, state, and local regulations would ensure that there would be no adverse effects from the PCCP conservation measures. Similarly, the same policies and regulations, as well as conditions on Covered Activities and implementation of the PCCP conservation measures, would ensure that there would be no adverse effects resulting from the Covered Activities. Impacts would be less than significant.

CEQA Determination: Implementation of applicable general plan policies and Placer County's Stormwater Management Program, and compliance with other applicable federal, state, and local regulations would ensure that there would be no adverse effects from the PCCP conservation measures. Similarly, the same policies and regulations, as well as conditions on Covered Activities and implementation of the PCCP conservation measures, would ensure that there would be no adverse effects resulting from the Covered Activities. Impacts would be less than significant. No mitigation has been identified.

Impact WQ-7: Placement of housing within a 100-year flood hazard area (NEPA: less than significant; CEQA: less than significant)

The PCCP conservation measures would not result in the construction of housing within a 100-year flood hazard area.

The Plan Area includes areas currently designated as 100-year flood zones. Both the *Placer County General Plan* and *City of Lincoln General Plan* contain several policies related to development in the 100-year floodplain (see Section 3.5.1, *Regulatory Setting*). City of Lincoln Policy HS-6.4 requires new residential construction to have its lowest habitable floor elevated above the base flood level elevation, determined by FEMA standards. Placer County Policy 4.F.4 states that the County shall require evaluation of potential flood hazards prior to approval of development projects and that the County shall require proponents of new development to submit accurate topographic and flow characteristics information and depiction of the 100-year floodplain boundaries under fully developed, unmitigated runoff conditions. SPRTA and PCWA cannot approve new housing; their activities have no effect. Adherence to the general plan policies, and to state and federal floodplain regulations, would ensure the Covered Activities have a less-than-significant effect.

NEPA Determination: The PCCP conservation measures would not place housing in a 100-year floodplain and thus would have no impact. Local, state, and federal policies and regulations designed to prevent flooding of occupied developments and restrict new development within the 100-year flood zone would ensure that effects associated with the 100-year flood hazard zone resulting from Covered Activities would not be adverse. Impacts would be less than significant.

CEQA Determination: The PCCP conservation measures would not place housing in a 100-year floodplain and thus would have no impact. Local, state, and federal policies and regulations designed to prevent flooding of occupied developments and restrict new development within the 100-year flood zone would ensure that effects associated with 100-year flood hazard zone resulting from Covered Activities would not be adverse. Impacts would be less than significant. No mitigation has been identified.

Impact WQ-8: Placement of structures that would impede or redirect flood flows within a 100-year flood hazard area (NEPA: less than significant; CEQA: less than significant)

The PCCP conservation measures include actions to reconstruct natural channel geometry, install large woody material in channels, and replenish and/or clean spawning gravel. These actions would likely increase channel sinuosity and add roughness elements to streams. The additional roughness and channel length would beneficially slow the velocity of flood water, thereby providing new opportunities for floodplain storage and a reduction in peak flows in receiving waterbodies. Although the stream channel enhancements may reduce flooding conditions downstream, the additional flow resistance created by increases in channel roughness may locally increase water surface elevations and impede or redirect flood flows within a 100-year flood hazard area.

Any work, including PCCP activities and Covered Activities, conducted in an area within CVFPB's area of jurisdiction, which includes the lower portion of the Bear River, would require an encroachment permit (see Section 3.5.1, *Regulatory Setting*). An encroachment permit application would trigger the USACE permit process under CWA Section 408, which would require hydraulic modeling to demonstrate potential changes in flood water surface elevations. Many of the PCCP conservation measures and Covered Activities may be implemented outside of CVFPB jurisdiction, but would be located within a FEMA-regulated floodplain and could affect the hydrologic or hydraulic characteristics of a flooding source and thus result in the modification of the existing regulatory floodway, the effective BFEs, or the SFHA. As described in Section 3.5.1, *Regulatory Setting*, hydraulic modeling would be required to be performed to demonstrate compliance with FEMA regulations through the CLOMR/LOMR process. Other regulations pertaining to placement of structures that would impede or redirect flood flows within a 100-year flood hazard area include California Fish and Game Code Sections 1601–1607 and *Placer County General Plan* Policies 6.A.2, 6.A.4.e, and 4.F.4, which are listed in Section 3.5.1, *Regulatory Setting*. Adherence to these existing regulations and policies would require hydraulic analysis be performed on any proposed stream channel or floodplain modifications to demonstrate that those modifications would not increase 100-year flood risk. Implementation of necessary engineering design and risk assessments would ensure that the proposed channel modifications would not create or alter flood flows in a manner inconsistent with existing policies and regulations.

The Plan Area includes areas currently designated as 100-year flood zones. Both the *Placer County General Plan* and *City of Lincoln General Plan* contain several policies related to development in the 100-year floodplain that would impede or redirect 100-year flood flows (see Section 3.5.1, *Regulatory Setting*). Some Covered Activities, such as construction of new bridges and culverts and flood protection projects, would reduce the risk of infrastructure flooding from a 100-year flood. Adherence to the general plan policies, and state and federal floodplain regulations, would ensure the Covered Activities would have a less-than-significant effect.

NEPA Determination: The PCCP conservation measures may place structures or make other modifications that would impede or redirect 100-year flood flow. Compliance with FEMA regulations and with local, state, and federal policies and regulations designed to prevent flooding of occupied developments and restrict new development within the 100-year flood zone would ensure that effects associated with the 100-year flood hazard zone resulting from Covered Activities would not be adverse. Impacts would be less than significant.

CEQA Determination: The PCCP conservation measures may place structures or make other modifications that would impede or redirect 100-year flood flow. Compliance with FEMA regulations and with local, state, and federal policies and regulations designed to prevent flooding of occupied developments and restrict new development within the 100-year flood zone would ensure that effects associated with the 100-year flood hazard zone resulting from Covered Activities would not be adverse. Impacts would be less than significant. No mitigation has been identified.

Impact WQ-9: Exposure of people or structures to significant risk involving flooding, including flooding as a result of the failure of a levee or dam (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

Implementation of several PCCP conservation measures—such as creating and enhancing wetlands, remeandering streams, and reestablishing channel and floodplain connections—would beneficially alter runoff patterns by slowing down water draining off the land and creating additional areas of

flood storage that would reduce peak flows and attenuate the volume of runoff routed downstream. This would reduce flood risks by lowering water surface elevations for a given flood event that must be held back by levees and dams. However, as stated under Alternative 4, Impact WQ-4 and Impact WQ-8, local, reach-scale increases in flood water surface elevations may arise from these proposed PCCP conservation measures. These risks would need to be evaluated in the engineering design and permitting required for individual projects as required by existing regulation as described under Alternative 2 Impact WQ-9.

The PCCP conservation measures do not call for the construction of new dams or new levees. One conservation measure calls for the removal of armored levees and replacement with earthen levees. Adequate engineering design and risk assessment would be necessary to demonstrate the new earthen levees provide the erosion resistance and stability previously provided by the armored material if the levees are still necessary to provide flood protection.

Covered Activities would result in the same impacts as identified under Impact WQ-9 for Alternative 1. Increased development in the Plan Area from the Covered Activities could result in more people and structures being exposed to significant risk of flooding; impacts could include loss, injury, or death involving flooding, including flooding as a result of levee or dam failure. The EIR for the *Placer County General Plan* concludes that general plan policies will ensure that impacts related to dam inundation would be less than significant. The EIR for the *City of Lincoln General Plan* states that, even with implementation of general plan policies, flood hazard impacts would be significant and unavoidable (Placer County 1994; City of Lincoln 2008).

Therefore, the effects of the Covered Activities with the exception of growth associated with the *City of Lincoln General Plan* would be reduced to a less-than-significant level by existing regulations and policies. However, effects related to growth associated with the *City of Lincoln General Plan* would be significant and unavoidable.

NEPA Determination: Implementation of the PCCP conservation measures under Alternative 4 would not increase exposure of people or structures to significant risk involving flooding, including flooding as a result of the failure of a levee or dam. Additionally, adherence to general plan policies and state and federal requirements would reduce effects from Covered Activities, but not to less-than–significant levels. Therefore, the overall impact would be significant and unavoidable.

CEQA Determination: Implementation of the PCCP conservation measures under Alternative 4 would not increase exposure of people or structures to significant risk involving flooding, including flooding as a result of the failure of a levee or dam. Additionally, adherence to general plan policies and state and federal requirements would reduce effects from Covered Activities, but not to less-than–significant levels. Therefore, the overall impact would be significant and unavoidable.

Impact WQ-10: Contribution to inundation by seiche, tsunami, or mudflow (NEPA: less than significant; CEQA: less than significant)

The Plan Area is not at risk due to inundation from a tsunami because of its distance from the ocean. The Plan Area is also not prone to seiches or earthquake-generated waves within enclosed or restricted bodies of water. Major earthquakes could produce oscillations or waves in local bodies of water which could overtop and damage levees or other infrastructure. Implementation of the PCCP conservation measures would not increase the number of persons and property potentially at risk from seiche, and it would not contribute to inundation depth if an event were to occur because it would not create new bodies of water susceptible to seiches.

One conservation measure calls for prescribed burning for vegetation management. Prescribed burns have the potential to expose soils and make them more susceptible to erosion, particularly on steep slopes with erodible soils. A prescribed burn that removes too much vegetation and exposes too much bare soil could increase the risk of soil erosion, and possibly a mudflow if the right combination of steep terrain and heavy rainfall were to occur. Proper planning in developing the prescribed burn management plan would reduce this risk substantially by considering topography, soil physical properties, seasonality of when the burn is conducted, and the temperature of the burn to ensure that some vegetative cover remains over the ground to protect soils post-burn.

Implementation of the Covered Activities would not result in contribution to inundation by seiche, tsunami, or mudflow, and thus would have a less-than-significant effect.

NEPA Determination: Neither the PCCP conservation measures nor Covered Activities would contribute to inundation by seiche or tsunami, and the increased likelihood of a mudflow occurring is very low. Impacts would be less than significant.

CEQA Determination: Neither the PCCP conservation measures nor Covered Activities would contribute to inundation by seiche or tsunami, and the increased likelihood of a mudflow occurring is very low. Impacts would be less than significant. No mitigation has been identified.

4.5.3 Cumulative Analysis

Alternative 1—No Action

Under Alternative 1, the conservation of species and their habitats would occur on a project-by-project basis through mitigation and compensation under the existing regulatory framework. Although this would likely result in a pattern of conservation that is geographically fragmented and (including out-of-county mitigation) managed in a piecemeal fashion, the individual restoration and/or enhancement and mitigation measures that would be required on a project-by-project basis would provide many of the hydrology and water quality benefits described under Alternative 2, the proposed action. Similar to Alternative 2, the proposed action, these mitigation and conservation measures would mostly provide beneficial environmental effects on water quality and hydrologic resources that would not contribute to cumulative impacts. Once implemented, these mitigation and conservation measures would be available to provide long-term water treatment and stormwater attenuation benefits for existing and future projects if the projects are in a similar geographic area (e.g., a new created wetland is located downstream of a new subdivision and able to provide water treatment instead of a being located in a different watershed from the development). However, the piecemeal implementation of conservation under Alternative 1 would likely provide less benefit than under Alternative 2 because the projects would, and least initially, have a reduced geographic extent, making them less likely to provide multiple benefits. Furthermore, fewer cumulative benefits may be obtained compared Alternative 2 because it could take years or decades longer for the same number of mitigation measures associated with individual projects to be implemented compared to the conservation measures associated with the PCCP and Alternative 2.

As described under Alternative 1, Impact WQ-1, the construction required to build anticipated mitigation and conservation measures required for future projects has the potential to impact water quality from erosion/sedimentation and fuel spills associated with heavy construction. This construction could occur in conjunction with other construction activity in the Plan Area associated with development or civil works structures. Implementation of applicable general plan policies;

Placer County's Stormwater Management Program; and other federal, state, and local regulations, including a SWPPP as part of compliance with the NPDES Construction General Permit and a General Dewatering Permit, establish a consistent program for mitigation of stormwater impacts. These regulatory actions are designed to minimize cumulative, nonpoint source impacts from construction activities, even when more than one activity could potentially affect the same receiving waters. Therefore, individual project implementation of the proposed mitigation and conservation measures would result in less-than-significant cumulative effects on hydrologic and water quality resources.

With respect to growth under local general plans and major projects of the Permit Applicants, cumulative effects would be similar to Alternative 2, the proposed action, with the exception that the benefits of the conservation measures would not be able to help mitigate for project effects. Additional project-specific mitigation would be necessary to provide necessary mitigation. Implementation of these projects and activities would result in less-than-significant cumulative effects on hydrologic and water quality resources if full compliance with local, state, and federal regulations pertaining to protecting water resources is achieved with the necessary mitigation measures.

Alternative 2—Proposed Action

Under Alternative 2, the proposed action, implementation of PCCP conservation measures would mostly provide beneficial environmental effects on water quality and hydrologic resources that would not contribute to cumulative impacts. As described under Impact WQ-1, the construction required to build some of the conservation measures has the potential to impact water quality from erosion/sedimentation and fuel spills associated with heavy construction. This construction could occur in conjunction with other construction activity in the Plan Area associated with development or civil works structures. Implementation of applicable general plan policies; Placer County's Stormwater Management Program; and other federal, state, and local regulations, including SWPPP as part of compliance with the NPDES Construction General Permit and a General Dewatering Permit, would establish a consistent program for mitigation of stormwater impacts. These regulatory actions are designed to minimize cumulative, nonpoint source impacts from construction activities, even when more than one activity could potentially affect the same receiving waters.

The PCCP contains conservation measures that provide for additional water quality and hydrologic benefit over the long term. These include creation and enhancement of new wetlands; establishment of vegetative buffers surrounding streams, wetlands, and uplands; and stream and floodplain restoration. Once implemented, these conservation measures would provide water treatment and stormwater attenuation benefits for existing and future projects.

In addition, implementation of the proposed PCCP, in combination with other regional conservation efforts, including *Placer Legacy* and other HCPs in progress in Sacramento, Yolo, and Sutter Counties, may provide large, regional benefits to water quality. Therefore, implementation of the proposed PCCP would result in less-than-significant cumulative impacts on hydrologic and water quality resources.

The additional development of housing and infrastructure related to the Covered Activities would occur in conjunction with similar development occurring in adjacent areas outside the Plan Area. The net result is exposure of more people and infrastructure to flood risk and increased area of impervious surfaces that would additionally alter local hydrologic resources. This could lead to increased peak flows, increased pollutant runoff into receiving waterbodies and groundwater, and

increased erosion and sedimentation problems. However, the new development would be required to comply with existing policies and regulations to ensure minimization of impacts to a less-than-significant level. This includes enhancement of floodplain storage, erosion control measures, BMPs, and adequate levels of storm-water drainage infrastructure. Some of the Covered Activities, such as the in-stream projects and flood protection projects, would provide benefits to hydrologic resources and water quality by reducing flood risk, stabilizing eroding banks, improving channels, and enhancing conveyance through existing bridges and culverts. Furthermore, the benefits provided by the conservation measures would help mitigate for the effects of the Covered Activities. Therefore, implementation of the proposed Covered Activities would result in less-than-significant cumulative effects on hydrologic and water quality resources if full compliance with local, state, and federal regulations pertaining to protecting water resources is achieved with the necessary mitigation measures.

Alternative 3—Reduced Take/Reduced Fill

The nature of the PCCP conservation measures would be the same under Alternative 3 as under Alternative 2, the proposed action, although there would be a reduction in fill and in PFG. The cumulative benefits for Alternative 3 would be similar to Alternative 2.

Alternative 4—Reduced Permit Term

Under Alternative 4, it is expected that fewer acres would be restored than under Alternative 2, the proposed action. Therefore, the amount of conservation associated with this alternative would be less. The nature of the cumulative benefits for Alternative 4 would be similar to Alternative 2, yet the magnitude of benefit would be less because a smaller amount of conservation would likely occur, resulting in a lower level of water resource benefits to other development occurring in the watershed.

4.5.4 References Cited

City of Lincoln. 2008. *City of Lincoln General Plan Update Final Environmental Impact Report.* State Clearinghouse No. 2005112003. February.

City of Roseville, Placer County Water Agency, City of Lincoln, and California American Water. 2007. *Western Placer County Groundwater Management Plan*. Prepared by MWH. November. Available: https://www.pcwa.net/files/docs/enviro/WPCGMP_Groundwater_Managerment_Plan_07.pdf. Accessed: June 21, 2016.

Placer County. 1994. *Placer County General Plan Update: Countywide General Plan Final Environmental Impact Report*. July. Auburn, CA. Prepared by Crawford Multari & Starr, DKS Associates, Psomas and Associates, Jones & Stokes Associates, Recht Hausrath & Associates, and J. Laurence Mintier & Associates.

4.6 Land Use and Planning

4.6.1 Methods and Significance Criteria

Methods

This section evaluates the effects on land use and planning that would result from implementation of the proposed action and alternatives.

Anticipated changes in land cover/land use for each alternative are described in Chapter 2, *Proposed Action and Alternatives*. See Section 4.0, *Environmental Consequences*, for a description of the methodology used across all resource chapters for the analysis of cumulative effects.

Impacts related to land use and planning were determined by analyzing the PCCP and Covered Activities and comparing them to the *Placer County General Plan* land use designation map (Placer County 2013), the *City of Lincoln General Plan* land use designation map (City of Lincoln 2008a), and GIS data of land cover types in the Plan Area. Also reviewed were the EIRs for the general plans (City of Lincoln 2008b; Placer County 1994) as well as pertinent Federal Aviation Administration (FAA) guidance regarding wildlife attractants in the vicinity of airports.

Significance Criteria

According to Appendix G of the State CEQA Guidelines, a proposed action would be considered to have a significant effect if it would result in any of the following.

- Physically divide an established community.
- Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, a general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.
- Conflict with any applicable habitat conservation plan (HCP) or natural community conservation plan (NCCP).

In addition, based on guidance from the FAA, the proposed action would be considered to have a significant effect if it would result in the following.

- Result in safety hazards due to creation, restoration, or enhancement of habitats that can result in the creation of wildlife attractants in the vicinity of airports as identified in *FAA Advisory Circular 150-5200-33B Hazardous Wildlife Attractants on or Near Airports* (Federal Aviation Administration 2007).

4.6.2 Impacts and Mitigation Measures

Alternative 1—No Action

As described in Section 4.0, *Environmental Consequences*, Alternative 1 includes reasonably foreseeable activities in the Plan Area associated with urbanization and associated infrastructure

development, operation, and maintenance considered in the various planning documents of the local jurisdictions (i.e., Placer County and the City of Lincoln) as well as future projects of the South Placer Regional Transportation Authority (SPRTA) and Placer County Water Agency (PCWA), such as local transportation and water projects.

Impact LU-1: Physical division of an established community (NEPA: no impact; CEQA: no impact)

Because development would occur as planned for and allowed under the *City of Lincoln General Plan* and the *Placer County General Plan*, land use impacts would be the same as those identified for the general plans. In addition, the Covered Activities, including growth associated with the general plans, were found in the EIRs for those plans not to result in the division of established communities. Future projects of SPRTA and PCWA, such as local transportation and water projects, would likely be implemented either outside or on the borders of existing communities, and would be unlikely to physically divide established communities.

NEPA Determination: Growth associated with the general plans of the City of Lincoln and Placer County would not result in the division of established communities, and future projects of SPRTA and PCWA would likely be implemented either outside or on the borders of existing communities and would be unlikely to physically divide established communities. Therefore, there would be no impact.

CEQA Determination: Growth associated with the general plans of the City of Lincoln and Placer County would not result in the division of established communities, and future projects of SPRTA and PCWA would likely be implemented either outside or on the borders of existing communities and would be unlikely to physically divide established communities. Therefore, there would be no impact.

Impact LU-2: Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project adopted for the purpose of avoiding or mitigating an environmental effect (NEPA: no impact; CEQA: no impact)

Under Alternative 1, because development would occur as planned for and allowed under the local jurisdictions' general plans, land use impacts would be the same as those identified for the general plans, and would not result in any new actions or policies that could conflict with land use plans, policies, and regulations.

NEPA Determination: Alternative 1 would not result in any new actions or policies that could conflict with land use plans, policies and regulations. Therefore, there would be no impact.

CEQA Determination: Alternative 1 would not result in any new actions or policies that could conflict with land use plans, policies and regulations. Therefore, there would be no impact.

Impact LU-3: Conflict with any applicable habitat conservation plan or natural community conservation plan (NEPA: no impact; CEQA: no impact)

The PCCP would not be adopted under Alternative 1. There would continue to be no HCP or NCCP in the Plan Area. The County's Placer Legacy Open Space and Agricultural Conservation Program (Placer Legacy) will remain an active program in the county, and the existing plans are consistent with that program. For these reasons, there would be no impact.

NEPA Determination: Under Alternative 1, there would continue to be no HCP or NCCP in the Plan Area, and existing plans are not in conflict with Placer Legacy. Therefore, there would be no impact.

CEQA Determination: Under Alternative 1, there would continue to be no HCP or NCCP in the Plan Area, and existing plans are not in conflict with Placer Legacy. Therefore, there would be no impact.

Impact LU-4: Result in safety hazards due to creation, restoration, or enhancement of habitats that can result in the creation of wildlife attractants in the vicinity of airports as identified in *FAA Advisory Circular 150-5200-33B Hazardous Wildlife Attractants on or Near Airports* (NEPA: no impact)

Existing plans do not specifically include development of habitats in the vicinity of airports. Should such projects be proposed in the future, project-specific environmental analysis would address such effects.

NEPA Determination: Existing plans do not specifically include development of habitats in the vicinity of airports. Therefore, there would be no impact.

CEQA Determination: This impact is not subject to analysis under CEQA.

Alternative 2—Proposed Action

Impact LU-1: Physical division of an established community (NEPA: less than significant; CEQA: less than significant)

Communities could be divided if barriers (such as a major transportation project or a wildlife preserve with no public access) are constructed that would limit existing access to all or part of a community.

Under Alternative 2, the proposed action, implementation of the PCCP would occur. Land use designations as well as approval and standards for development of land and infrastructure would continue to be governed by various local agencies in the Plan Area. The Reserve Acquisition Area (RAA) is shown in Figure 2-2, and although the specific locations of lands that would be acquired for conservation purposes are not currently identified, it is anticipated that they would be located primarily on undeveloped or agricultural lands where there are existing special-status species habitats or populations or that have high connectivity to existing habitat and conservation areas. Such areas would typically be non-urbanized and outside of established communities, including rural communities. The conservation strategy does allow for acquisitions within the Potential Future Growth Area (PFG), particularly in the Valley, potentially resulting in the physical division of existing communities. Such acquisitions—expected to be approximately 2,500 acres (approximately 0.05% of all acquisitions)—would primarily be focused on the Stream System or on large contiguous blocks of vernal pool complex lands adjacent to the RAA. Reserve acquisitions within the PFG would be selected to minimize the adverse edge effects associated with urban interface and to minimize the potential division of existing communities. Reserve acquisitions in the PFG would likely be in and around the Stream System—areas not otherwise suitable for urban development because of floodplain constraints, related general plan policies, and PCCP avoidance and minimization measures. Small avoidance areas and other isolated parcels within existing communities that may have a disruptive effect would not be suitable lands for establishing a reserve that would meet the Plan's biological goals and objectives because of the incompatible interface with existing urban land uses and the impracticability of suitably managing lands in the PFG in perpetuity.

In addition, the EIRs for the local jurisdictions' general plans concluded that growth associated with implementation of the general plans would not result in the division of established communities. Accordingly, implementation of the PCCP would not result in the division of established communities.

NEPA Determination: Alternative 2, the proposed action, would not result in the physical division of established communities. This impact would be less than significant.

CEQA Determination: Alternative 2, the proposed action, would not result in the physical division of established communities. This impact would be less than significant. No mitigation has been identified.

Impact LU-2: Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project adopted for the purpose of avoiding or mitigating an environmental effect (NEPA: less than significant; CEQA: less than significant)

Under Alternative 2, the proposed action, land use and development would continue to be ultimately governed by the land use elements of the local jurisdictions' general and specific plans subject to Chapter 6 of the Plan. The Plan contains a conservation strategy that includes the acquisition and management of land for conservation purposes within the RAA. However, the Plan does not designate specific lands for conservation and would not reduce or affect the ability of Placer County or the City of Lincoln to regulate land use through their general plans. The land uses allowed by current zoning and land use designations within the RAA would continue to be allowed when the PCCP is implemented. The proposed conservation measures would generally be undertaken in areas where planning and zoning designations would be compatible with open space and would not be in conflict with policies adopted to reduce environmental effects. In addition, the PCCP does not authorize the Covered Activities, which would continue to be regulated through existing land use authority. The local jurisdictions' general plan EIRs found that impacts of implementation of the general plans related to conflicts with plans and policies would be less than significant.

NEPA Determination: Alternative 2, the proposed action, would not reduce or affect the ability of the local jurisdictions to regulate land use through their respective general plans and would not authorize specific land uses. Conservation measures would be consistent with the local general plans. This impact would be less than significant.

CEQA Determination: Alternative 2, the proposed action, would not reduce or affect the ability of the local jurisdictions to regulate land use through their respective general plans and would not authorize specific land uses. Conservation measures would be consistent with the local general plans. This impact would be less than significant. No mitigation has been identified.

Impact LU-3: Conflict with any applicable habitat conservation plan or natural community conservation plan (NEPA: less than significant; CEQA: less than significant)

Currently there are no HCPs or NCCPs in the Plan Area. Placer Legacy has goals that intentionally overlap and are consistent with some PCCP goals, but it was developed within a broader context of open space (i.e., recreation, agriculture, cultural and historic resources, scenic values, and public safety in addition to biological resources) and local, state, and federal non-regulatory environmental objectives. Placer Legacy largely relies upon existing statutes and general plan policies for implementation. Placer Legacy will remain an active program within the county. Placer Legacy will

continue to acquire land and may—depending upon funding sources and land suitability—be considered as contributing to the PCCP Reserve System.

NEPA Determination: Under Alternative 2, the proposed action, the PCCP would operate concurrently in the Plan Area with Placer Legacy, which has a different context, and the two programs would complement each other. This impact would be less than significant.

CEQA Determination: Under Alternative 2, the proposed action, the PCCP would operate concurrently in the Plan Area with Placer Legacy, which has a different context, and the two programs would complement each other. This impact would be less than significant. No mitigation has been identified.

Impact LU-4: Result in safety hazards due to creation, restoration, or enhancement of habitats that can result in the creation of wildlife attractants in the vicinity of airports as identified in *FAA Advisory Circular 150-5200-33B Hazardous Wildlife Attractants on or Near Airports* (NEPA: less than significant)

Of the two airports located in the Plan Area, only the Lincoln Regional Airport is located within 5 miles of the Plan Area boundary and is adjacent to areas designated as RAA, as shown in Figure 2-2. As stated in Section 3.6.2, *Environmental Setting*, the Lincoln Regional Airport is covered under the *Placer County Airport Land Use Compatibility Plan* (ALUCP), which states under Policy 2.5 that HCPs are subject to Airport Land Use Commission (ALUC) review (Placer County Airport Land Use Commission 2014). An HCP with the potential to increase the attraction of birds or other wildlife that can be hazardous to aircraft operations in the vicinity of an airport is considered a Major Land Use Action. The local jurisdiction and its staff are responsible for a consistency analysis. Copies of the complete text and maps of the plan, ordinance, or regulation proposed for adoption or amendment must be submitted to the ALUC. Any supporting material, such as environmental documents, assessing the proposal's consistency with the ALUCP should be included. The ALUC must respond to the local jurisdiction's request for consistency determination within 60 days, and will determine if the project is consistent with the ALUCP, consistent with the ALUCP subject to compliance measures that the ALUC would specify, or inconsistent with the ALUCP. Small portions of the RAA that lie within 5 miles of this airport are proposed for conservation, but any enhancement activities would be subject to review and determination as to whether wildlife attractants would have a reasonably foreseeable potential to occur. Therefore, this impact would be less than significant.

NEPA Determination: Under Alternative 2, the proposed action, conservation activities associated with the PCCP that could increase hazardous wildlife activities would potentially occur within 5 miles of an airport. Any enhancement activities are subject to ALUC review. Consequently, this impact would be less than significant.

CEQA Determination: This impact is not subject to analysis under CEQA.

Alternative 3—Reduced Take/Reduced Fill

Impact LU-1: Physical division of an established community (NEPA: less than significant; CEQA: less than significant)

Communities could be divided if barriers (such as a major transportation project or a wildlife preserve with no public access) are constructed that would limit existing access to all or part of a community.

Under Alternative 3, a reduced configuration for the Plan would be implemented. Land use designations as well as approval and standards for development of land and infrastructure would continue to be governed by various local agencies in the Plan Area. The conversion of vernal pool complex land in the Valley PFG would be reduced by 10% compared to that under the proposed action. Table 2-17 in Chapter 2, *Proposed Action and Alternatives*, shows the differences in land use conversion. The total extent of land conversion in the Valley PFG would be reduced by 1,000 acres under Alternative 3, compared to the proposed action. This limits increased conversion of non–wetland associated communities to less than 5%, as shown in Table 2-17. The PCCP conservation strategy allows for acquisitions within the PFG, particularly in the Valley, that could result in the physical division of existing communities. Acquisitions would be fewer under Alternative 3 than under Alternative 2, the proposed action. Under Alternative 3, it is assumed that the extent of the Reserve System in the Valley RAA would be reduced by approximately 3,000 acres compared to that under Alternative 2. Reserve acquisitions in the PFG would likely be in and around the Stream System—areas not otherwise suitable for urban development because of floodplain constraints, related general plan policies, and PCCP avoidance and minimization measures. Small avoidance areas and other isolated parcels within existing communities that may have a disruptive effect would not be suitable lands for establishing a reserve that would meet the Plan's biological goals and objectives because of the incompatible interface with existing urban land uses and the impracticability of suitably managing lands in the PFG in perpetuity.

In addition, the EIRs for the local jurisdictions' general plans concluded that growth associated with implementation of the general plans would not result in the division of established communities. Accordingly, implementation of the PCCP would not result in the division of established communities.

NEPA Determination: Alternative 3 would not result in the physical division of established communities. This impact is less than significant.

CEQA Determination: Alternative 3 would not result in the physical division of established communities. This impact is less than significant. No mitigation has been identified.

Impact LU-2: Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project adopted for the purpose of avoiding or mitigating an environmental effect (NEPA: less than significant; CEQA: less than significant)

As stated under Impact LU-1, the amount of land conversion in the Valley PFG under Alternative 3 would be reduced by 1,000 acres compared to that under Alternative 2, the proposed action. Acquisitions would be fewer under Alternative 3 than under Alternative 2. Under Alternative 3, land use and development would continue to be governed by the land use components of the local jurisdictions' general and specific plans. The PCCP contains a conservation strategy that includes the acquisition and management of land for conservation purposes within the RAA. However, the Plan

does not designate specific lands for conservation and would not reduce or affect the ability of Placer County or the City of Lincoln to regulate land use through their general plans. The proposed conservation measures would generally be undertaken in areas where planning and zoning designations would be compatible with open space and would not be in conflict with policies adopted to reduce environmental effects. In addition, the PCCP does not authorize the Covered Activities, which would continue to be regulated through existing land use authority. Like Alternative 2, Alternative 3 is not anticipated to conflict with the local jurisdictions' general plans.

NEPA Determination: Alternative 3 would not reduce or affect the ability of the local jurisdictions to regulate land use through their respective general plans and would not authorize specific land uses. Conservation measures would be consistent with the local general plans. This impact would be less than significant.

CEQA Determination: Alternative 3 would not reduce or affect the ability of the local jurisdictions to regulate land use through their respective general plans and would not authorize specific land uses. Conservation measures would be consistent with the local general plans. This impact would be less than significant. No mitigation has been identified.

Impact LU-3: Conflict with any applicable habitat conservation plan or natural community conservation plan (NEPA: less than significant; CEQA: less than significant)

Currently there are no HCPs or NCCPs in the Plan Area. Placer Legacy has goals that intentionally overlap and are consistent with some PCCP goals, but it was developed within a broader context of open space (i.e., recreation, agriculture, cultural and historic resources, scenic values, and public safety in addition to biological resources) and local, state, and federal non-regulatory environmental objectives. Placer Legacy largely relies upon existing statutes and general plan policies for implementation. Placer Legacy will remain an active program within the county. Placer Legacy will continue to acquire land and may—depending upon funding sources and land suitability—be considered as contributing to the PCCP Reserve System.

NEPA Determination: Under Alternative 3, the PCCP would operate concurrently in the Plan Area with Placer Legacy, which has a different context, and the two programs would complement each other. This impact would be less than significant.

CEQA Determination: Under Alternative 3, the PCCP would operate concurrently in the Plan Area with Placer Legacy, which has a different context, and the two programs would complement each other. This impact would be less than significant. No mitigation has been identified.

Impact LU-4: Result in safety hazards due to creation, restoration, or enhancement of habitats that can result in the creation of wildlife attractants in the vicinity of airports as identified in *FAA Advisory Circular 150-5200-33B Hazardous Wildlife Attractants on or Near Airports* (NEPA: less than significant)

Under Alternative 3, although approximately 3,000 fewer acres would be acquired for inclusion in the Reserve System, the RAA boundary is still within 5 miles of the Lincoln Regional Airport. Impacts would be similar to those described for Alternative 2, the proposed action. Lincoln Regional Airport is covered under the ALUC, which states under Policy 2.5 that HCPs are subject to ALUCP review and determination. While small portions of the RAA that lie within 5 miles of this airport are proposed for conservation, any enhancement activities would be subject to review and determination as to

whether wildlife attractants would have a reasonably foreseeable potential to occur. Therefore, this impact would be less than significant.

NEPA Determination: Conservation activities associated with Alternative 3 that could increase hazardous wildlife activities would occur within 5 miles of an airport. Any enhancement activities are subject to ALUC review. Consequently, this impact would be less than significant.

CEQA Determination: This impact is not subject to analysis under CEQA.

Alternative 4—Reduced Permit Term

Impact LU-1: Physical division of an established community (NEPA: less than significant; CEQA: less than significant)

Under Alternative 4, the impacts on communities would be similar to those described under Alternative 2, the proposed action, only for a reduced permit term of 30 years. Land use designations as well as approval and standards for development of land and infrastructure would continue to be governed by various local agencies in the Plan Area. The RAA is shown in Figure 2-2, and although the specific locations of lands that would be acquired for conservation purposes are not currently identified, it is anticipated that they would be located primarily on undeveloped or agricultural lands where there are existing special-status species habitats or populations or that have high connectivity to existing habitat and conservation areas. Such areas would typically be non-urbanized and outside of established communities, including rural communities, with the exception of approximately 0.05% of the Reserve System that may be established within the PFG. In addition, the EIRs for the local jurisdictions' general plans concluded that growth associated with implementation of the general plans would not result in the division of established communities. Accordingly, implementation of the PCCP would not result in the division of established communities.

NEPA Determination: Alternative 4 would not result in the physical division of established communities. This impact would be less than significant.

CEQA Determination: Alternative 4 would not result in the physical division of established communities. This impact would be less than significant. No mitigation has been identified.

Impact LU-2: Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project adopted for the purpose of avoiding or mitigating an environmental effect (NEPA: less than significant; CEQA: less than significant)

Under Alternative 4, land use and development would continue to be governed by the land use components of the local jurisdictions' general and specific plans. The PCCP contains a conservation strategy that includes the acquisition and management of land for conservation purposes within the RAA. However, the Plan does not designate specific lands for conservation and would not reduce or affect the ability of Placer County or the City of Lincoln to regulate land use through their general plans. The proposed conservation measures would generally be undertaken in areas where planning and zoning designations would be compatible with open space and would not be in conflict with policies adopted to reduce environmental effects. In addition, the PCCP does not authorize the Covered Activities, which would continue to be regulated through existing land use authority.

NEPA Determination: Alternative 4 would not reduce or affect the ability of the local jurisdictions to regulate land use through their respective general plans and would not authorize specific land uses. Conservation actions would be consistent with the local general plans. This impact would be less than significant.

CEQA Determination: Alternative 4 would not reduce or affect the ability of the local Jurisdictions to regulate land use through their respective general plans and would not authorize specific land uses. Conservation actions would be consistent with the local general plans. This impact would be less than significant. No mitigation has been identified.

Impact LU-3: Conflict with any applicable habitat conservation plan or natural community conservation plan (NEPA: less than significant; CEQA: less than significant)

Currently there are no HCPs or NCCPs in the Plan Area. Placer Legacy has goals that may overlap with some PCCP goals, but it was developed within a different context of local, state, and federal regulatory environmental requirements, relying upon existing statutes and general plan policies for implementation. Placer Legacy will remain an active program within the county. Placer Legacy will continue to acquire land and may, depending upon funding sources and land suitability, be considered as contributing to the PCCP Reserve System.

NEPA Determination: Under Alternative 4 the PCCP would operate concurrently in the Plan Area with Placer Legacy, which has a different context, and the two programs would complement each other. This impact would be less than significant.

CEQA Determination: Under Alternative 4 the PCCP would operate concurrently in the Plan Area with Placer Legacy, which has a different context, and the two programs would complement each other. This impact would be less than significant. No mitigation has been identified.

Impact LU-4: Result in safety hazards due to creation, restoration, or enhancement of habitats that can result in the creation of wildlife attractants in the vicinity of airports as identified in *FAA Advisory Circular 150-5200-33B Hazardous Wildlife Attractants on or Near Airports* (NEPA: less than significant)

Under Alternative 4, the amount of conservation would be less than under Alternative 2, the proposed action, although the areas are not mapped. Nevertheless, the RAA boundary is within 5 miles of the Lincoln Regional Airport. Lincoln Regional Airport is covered under the ALUC, which states under Policy 2.5 that HCPs are subject to ALUCP review and determination. While small portions of the RAA that lie within 5 miles of this airport are proposed for conservation, any enhancement activities would be subject to review and determination as to whether wildlife attractants would have a reasonably foreseeable potential to occur. Therefore, this impact would be less than significant.

NEPA Determination: Conservation activities associated with Alternative 4 that could increase hazardous wildlife activities would occur within 5 miles of an airport. However, any enhancement activities are subject to ALUC review and determination. Consequently, this impact would be less than significant.

CEQA Determination: This impact is not subject to analysis under CEQA.

4.6.3 Cumulative Analysis

Alternative 1—No Action

Under Alternative 1, the PCCP would not be adopted and development would occur as currently planned for and allowed under existing and in-progress general and specific plans. Alternative 1 would have no land use impacts and would not contribute to a cumulative impact.

Alternative 2—Proposed Action

Under Alternative 2, the proposed action, the PCCP would be adopted and implemented. As stated above, land use impacts under this alternative would be less than significant. Covered Activities would be consistent with local general plans. The conservation strategy would focus on non-urbanized areas, would avoid established communities, and would not reduce or affect the ability of Placer County or the City of Lincoln to regulate land use through their general plans. Conservation measures would be consistent with the local general plans. Other reasonably foreseeable projects would be subject to relevant land use plans, policies, and regulations. The impacts of Alternative 2, the proposed action, would not contribute to a cumulative impact.

Alternative 3—Reduced Take/Reduced Fill

The cumulative impacts under Alternative 3 would be similar to those described under Alternative 2, the proposed action. However, under Alternative 3, land conversion for Valley PFG would be reduced by 1,000 acres, and smaller and potentially less contiguous reserve areas would be acquired in the RAA (approximately 3,000 fewer acres). As stated above, land use impacts under this alternative would be less than significant. Covered Activities would be consistent with local general plans and the ALUCP. Alternative 3 would not reduce or affect the ability of Placer County or the City of Lincoln to regulate land use through their general plans. Other reasonably foreseeable projects would be subject to relevant land use plans, policies, and regulations. Alternative 3 would not contribute to a cumulative impact.

Alternative 4—Reduced Permit Term

The cumulative impacts under Alternative 4 would be similar to those described under Alternative 2, the proposed action. Under Alternative 4 the PCCP would be adopted and implemented for a reduced permit term of 30 years instead of 50. Land use impacts under this alternative would be less than significant. Covered Activities would be consistent with local general plans and the ALCUP. Alternative 4 would not reduce or affect the ability of Placer County or the City of Lincoln to regulate land use through their general plans. Conservation actions would be consistent with the local general plans. Other reasonably foreseeable projects would be subject to relevant land use plans, policies, and regulations. Alternative 4 would not contribute to a cumulative impact.

4.6.4 References Cited

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4.7 Mineral Resources

4.7.1 Methods and Significance Criteria

Methods

This section evaluates the effects on minerals that would result from implementation of the proposed action and alternatives.

Anticipated changes in land cover/land use for each alternative are described in Chapter 2, *Proposed Action and Alternatives*. See Section 4.0, *Environmental Consequences*, for a description of the methodology used across all resource chapters for the analysis of cumulative effects.

Impacts related to mineral resources were assessed on the basis of the proposed action and review of applicable documents, such as relevant general plans and mineral reports by the California Geological Survey.

Significance Criteria

According to Appendix G of the State CEQA Guidelines, a proposed project would be considered to have a significant effect if it would result in any of the following.

- Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.
- Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan.

4.7.2 Impacts and Mitigation Measures

Alternative 1—No Action

As described in Section 4.0, *Environmental Consequences*, Alternative 1 includes reasonably foreseeable activities in the Plan Area associated with urbanization and associated infrastructure development, operation, and maintenance included in the various planning documents of Placer County and the City of Lincoln as well as future projects of the South Placer Regional Transportation Authority (SPRTA) and Placer County Water Agency (PCWA), such as local transportation and water projects.

Impact MIN-1: Contribute to the loss of availability of a known mineral resource that would be of value to the region and the residents of the state (NEPA: no impact; CEQA: no impact)

The effects of implementing the general plans on the availability of known mineral resources were assessed in the EIRs for the *City of Lincoln General Plan* and the *Placer County General Plan* (City of Lincoln 2008; Placer County 1994). Both EIRs concluded that the policies of the respective general plans would ensure that development under those general plans would not result in loss of availability of known mineral resources; for the *City of Lincoln General Plan*, this conclusion relied upon adoption of a revised policy as a mitigation measure. Future projects of SPRTA and PCWA,

such as local transportation and water projects, would be unlikely to result in the permanent conversion of large areas of land such that mineral resources would not be accessible. Therefore, there would be no impact.

NEPA Determination: There would be no impact.

CEQA Determination: There would be no impact.

Impact MIN-2: Contribute to the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan (NEPA: no impact; CEQA: no impact)

No additional locally important mineral resource recovery sites were designated in the Plan Area other than those areas already referred to in the EIRs for the *Placer County General Plan* and the *City of Lincoln General Plan*. Therefore, there would be no impact.

NEPA Determination: No additional locally important mineral resource recovery sites were designated in the Plan Area other than those areas already referred to in the EIRs for the *Placer County General Plan* and the *City of Lincoln General Plan*. Therefore, there would be no impact.

CEQA Determination: No additional locally important mineral resource recovery sites were designated in the Plan Area other than those areas already referred to in the EIRs for the *Placer County General Plan* and the *City of Lincoln General Plan*. Therefore, there would be no impact.

Alternative 2—Proposed Action

Impact MIN-1: Contribute to the loss of availability of a known mineral resource that would be of value to the region and the residents of the state (NEPA: less than significant; CEQA: less than significant)

If under Alternative 2, the proposed action, land adjacent to land designated as an MRZ-2 or MRZ-3 on the Placer County mineral land classification map (Figure 3.7-1) were to be acquired for conservation, that acquisition could result in the loss of a known mineral resource if the land use were incompatible with mining. This would be a significant impact. Implementation of General Condition 1 of the Plan and the Plan requirement for internal buffers to protect reserves from adjacent development and other effects would ensure that such conflicts would not occur.

If, under Alternative 2, the proposed action, land designated as an MRZ-2 or MRZ-3 on the Placer County mineral land classification map (Figure 3.7-1) were to be acquired for conservation, that acquisition could result in the loss of a known mineral resource by making the land unavailable for mineral extraction if the Placer Conservation Authority (PCA) determined through the process identified in Section 8.8.4.2.6.2 of the Plan that the PCA would need to acquire or extinguish the severed mineral rights because the PCA has determined that the mineral rights would be used in a manner incompatible with conservation. This could be a significant impact. It is unlikely, however, that land designated as an MRZ-2 or MRZ-3 would be acquired because of the higher cost of land with mineral resources, and because such land is likely to have the mineral rights held separately, which makes the land ineligible for acquisition for conservation.

The effects of Covered Activities on the availability of known mineral resources were assessed in the EIRs for *Placer County General Plan* and the *City of Lincoln General Plan*. Both EIRs concluded that the policies of the respective general plans would ensure that development under the general plans

would not result in loss of availability of known mineral resources; for the *City of Lincoln General Plan*, this conclusion relied upon adoption of a revised policy as a mitigation measure. In addition, as stated above for Alternative 1, future projects of SPRTA and PCWA would be unlikely to result in impacts on the availability of known mineral resources.

NEPA Determination: Alternative 2, the proposed action, would not result in acquisition of land that could create a conflicting land use with mining operations on other lands due to Plan requirements. In addition, the acquisition of land designated as an MRZ-2 or MRZ-3 is unlikely because of the higher cost of land with mineral resources, and because such land is likely to have the mineral rights held separately, which makes the land ineligible for acquisition for conservation. Effects of the Covered Activities would be less than significant with implementation of general plan policies. This impact would be less than significant.

CEQA Determination: Alternative 2, the proposed action, would not result in acquisition of land that could create a conflicting land use with mining operations on other lands due to Plan requirements. In addition, the acquisition of land designated as an MRZ-2 or MRZ-3 is unlikely because of the higher cost of land with mineral resources, and because such land is likely to have the mineral rights held separately, which makes the land ineligible for acquisition for conservation. Effects of the Covered Activities would be less than significant with implementation of general plan policies. No mitigation has been identified.

Impact MIN-2: Contribute to the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan (NEPA: no impact; CEQA: no impact)

As described in Section 3.7.2, *Environmental Setting*, no additional locally important mineral resource recovery sites were designated in the Plan Area other than those areas already referred to in the EIRs for the *Placer County General Plan* and the *City of Lincoln General Plan*. Therefore, there would be no impact.

NEPA Determination: No additional locally important mineral resource recovery sites were designated in the Plan Area other than those areas already referred to in the EIRs for the *Placer County General Plan* and the *City of Lincoln General Plan*. Therefore, there would be no impact.

CEQA Determination: No additional locally important mineral resource recovery sites were designated in the Plan Area other than those areas already referred to in the EIRs for the *Placer County General Plan* and the *City of Lincoln General Plan*. Therefore, there would be no impact. No mitigation has been identified.

Alternative 3—Reduced Take/Reduced Fill

Impact MIN-1: Contribute to the loss of availability of a known mineral resource that would be of value to the region and the residents of the state (NEPA: less than significant; CEQA: less than significant)

The potential for land acquisition that could affect mineral resources would be the same as under Alternative 2, the proposed action, because the Plan would operate under the same policies as under Alternative 2. While slightly less land may be acquired for conservation under Alternative 3, less land would be converted to other uses as well. Under Alternative 3, land adjacent to land designated as an MRZ-2 or MRZ-3 on the Placer County mineral land classification map (Figure 3.7-1) were to

be acquired for conservation, that acquisition could result in the loss of a known mineral resource if the land use were incompatible with mining. This would be a significant impact. Implementation of General Condition 1 of the Plan and the Plan requirement for internal buffers to protect reserves from adjacent development and other effects would ensure that such conflicts would not occur.

If, under Alternative 3, land designated as an MRZ-2 or MRZ-3 on the Placer County mineral land classification map (Figure 3.7-1) were to be acquired for conservation, that acquisition could result in the loss of a known mineral resource by making the land unavailable for mineral extraction if the Placer Conservation Authority (PCA) determined through the process identified in Section 8.8.4.2.6.2 of the Plan that the PCA would need to acquire or extinguish the severed mineral rights because the PCA has determined that the mineral rights would be used in a manner incompatible with conservation. This could be a significant impact. It is unlikely, however, that land designated as an MRZ-2 or MRZ-3 would be acquired because of the higher cost of land with mineral resources, and because such land is likely to have the mineral rights held separately, which makes the land ineligible for acquisition for conservation.

Covered Activities that involve development on undeveloped land would be unlikely to make the land permanently unavailable for mining because of policies in the *Placer County General Plan* and the *City of Lincoln General Plan* that protect mineral resources.

NEPA Determination: Alternative 3 would not result in acquisition of land that could create a conflicting land use with mining operations on other lands due to Plan requirements. In addition, the acquisition of land designated as an MRZ-2 or MRZ-3 is unlikely because of the higher cost of land with mineral resources, and because such land is likely to have the mineral rights held separately, which makes the land ineligible for acquisition for conservation. Effects of the Covered Activities would be less than significant with implementation of general plan policies.

CEQA Determination: Alternative 3 would not result in acquisition of land that could create a conflicting land use with mining operations on other lands due to Plan requirements. In addition, the acquisition of land designated as an MRZ-2 or MRZ-3 is unlikely because of the higher cost of land with mineral resources, and because such land is likely to have the mineral rights held separately, which makes the land ineligible for acquisition for conservation. Effects of the Covered Activities would be less than significant with implementation of general plan policies. No mitigation has been identified.

Impact MIN-2: Contribute to the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan (NEPA: no impact; CEQA: no impact)

No additional locally important mineral resource recovery sites were designated in the Plan Area other than those areas already referred to in the EIRs for the *Placer County General Plan* and the *City of Lincoln General Plan*. Therefore, there would be no impact.

NEPA Determination: No additional locally important mineral resource recovery sites were designated in the Plan Area other than those areas already referred to in the EIRs for the *Placer County General Plan* and the *City of Lincoln General Plan*. Therefore, there would be no impact.

CEQA Determination: No additional locally important mineral resource recovery sites were designated in the Plan Area other than those areas already referred to in the EIRs for the *Placer County General Plan* and the *City of Lincoln General Plan*. Therefore, there would be no impact. No mitigation has been identified.

Alternative 4—Reduced Permit Term

Impact MIN-1: Contribute to the loss of availability of a known mineral resource that would be of value to the region and the residents of the state (NEPA: less than significant; CEQA: less than significant)

The potential for land acquisition that could affect mineral resources would be the same as under Alternative 2, the proposed action, because the Plan would operate under the same policies as under Alternative 2, although less land would be acquired for conservation under Alternative 4. Under Alternative 4, land adjacent to land designated as an MRZ-2 or MRZ-3 on the Placer County mineral land classification map (Figure 3.7-1) were to be acquired for conservation, that acquisition could result in the loss of a known mineral resource if the land use were incompatible with mining. This would be a significant impact. Implementation of General Condition 1 of the Plan and the Plan requirement for internal buffers to protect reserves from adjacent development and other effects would ensure that such conflicts would not occur.

If, under Alternative 4, land designated as an MRZ-2 or MRZ-3 on the Placer County mineral land classification map (Figure 3.7-1) were to be acquired for conservation, that acquisition could result in the loss of a known mineral resource by making the land unavailable for mineral extraction if the PCA determined through the process identified in Section 8.8.4.2.6.2 of the Plan that the PCA would need to acquire or extinguish the severed mineral rights because the PCA has determined that the mineral rights would be used in a manner incompatible with conservation. This could be a significant impact. It is unlikely, however, that land designated as an MRZ-2 or MRZ-3 would be acquired because of the higher cost of land with mineral resources, and because such land is likely to have the mineral rights held separately, which makes the land ineligible for acquisition for conservation.

NEPA Determination: Alternative 4 would not result in acquisition of land that could create a conflicting land use with mining operations on other lands due to Plan requirements. In addition, the acquisition of land designated as an MRZ-2 or MRZ-3 is unlikely because of the higher cost of land with mineral resources, and because such land is likely to have the mineral rights held separately, which makes the land ineligible for acquisition for conservation. Effects of the Covered Activities would be less than significant with implementation of general plan policies.

CEQA Determination: Alternative 4 would not result in acquisition of land that could create a conflicting land use with mining operations on other lands due to Plan requirements. In addition, the acquisition of land designated as an MRZ-2 or MRZ-3 is unlikely because of the higher cost of land with mineral resources, and because such land is likely to have the mineral rights held separately, which makes the land ineligible for acquisition for conservation. Effects of the Covered Activities would be less than significant with implementation of general plan policies. No mitigation has been identified.

Impact MIN-2: Contribute to the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan (NEPA: no impact; CEQA: no impact)

No other locally important mineral resource recovery sites were designated in the Plan Area on the general plans other than in the MRZ-2 and MRZ-3 areas. Therefore, there would be no impact.

NEPA Determination: No additional locally important mineral resource recovery sites were designated in the Plan Area other than those areas already referred to in the EIRs for the *Placer County General Plan* and the *City of Lincoln General Plan*. Therefore, there would be no impact.

CEQA Determination: No additional locally important mineral resource recovery sites were designated in the Plan Area other than those areas already referred to in the EIRs for the *Placer County General Plan* and the *City of Lincoln General Plan*. Therefore, there would be no impact. No mitigation has been identified.

4.7.3 Cumulative Analysis

Alternative 1—No Action

As described in Section 4.0, *Environmental Consequences*, other activities and projects that could contribute to a cumulative impact consist of agriculture and urban development, infrastructure development and operation including the Antelope Creek Flood Control Project, park acquisition and management, and other habitat conservation planning. The proposed action is not anticipated to result in loss of mineral resource lands to recovery, and, for reasons similar to those for the proposed action, neither would other habitat conservation planning and park acquisition and management. As described above, agriculture and urban development as considered in the EIRs for the *Placer County General Plan* and *City of Lincoln General Plan* would also not result in significant impacts on mineral resources. While flood control projects could occur in areas of mineral resources, the permanent impact of such projects would not be large enough to result in a cumulative impact. For these reasons, there would be no cumulative impact.

Alternative 2—Proposed Action

As described in Section 4.0, *Environmental Consequences*, other activities and projects that could contribute to a cumulative impact consist of agriculture and urban development, infrastructure development and operation including the Antelope Creek Flood Control Project, park acquisition and management, and other habitat conservation planning. The proposed action is not anticipated to result in loss of mineral resource lands to recovery, nor would other habitat conservation planning and park acquisition and management. As described above, agriculture and urban development as considered in the EIRs for the *Placer County General Plan* and *City of Lincoln General Plan* would also not result in significant impacts on mineral resources. While flood control projects could occur in areas of mineral resources, the permanent impact of such projects would not be large enough to result in a cumulative impact. For these reasons, there would be no cumulative impact.

Alternative 3—Reduced Take/Reduced Fill

Cumulative impacts resulting from Alternative 3 would be the same as for the proposed action.

Alternative 4—Reduced Permit Term

Cumulative impacts resulting from Alternative 4 would be the same as for the proposed action.

4.7.4 References Cited

City of Lincoln. 2008. *City of Lincoln General Plan Update Final Environmental Impact Report*. State Clearinghouse No. 2005112003. February.

Placer County. 1994. *Placer County General Plan Update: Countywide General Plan Final Environmental Impact Report*. July. Auburn, CA. Prepared by Crawford Multari & Starr, DKS Associates, Psomas and Associates, Jones & Stokes Associates, Recht Hausrath & Associates, and J. Laurence Mintier & Associates.

4.8 Noise and Vibration

4.8.1 Methods and Significance Criteria

Methods

This section addresses the potential noise and vibration effects on humans and structures that would result from implementation of the proposed action and alternatives. (For impacts on wildlife, see Section 4.3, *Biological Resources*.)

Anticipated changes in land cover/land use for each alternative are described in Chapter 2, *Proposed Action and Alternatives*. See Section 4.0 *Environmental Consequences*, for a description of the methodology used across all resource chapters for the analysis of cumulative effects.

The Placer Conservation Authority's (PCA's) potential construction and operations and maintenance (O&M) (using construction-type equipment) noise impacts were assessed using a reasonable worst-case assumption that four pieces of equipment (a grader, a truck, and two scrapers) would be operating simultaneously to implement a given noise-generating Covered Activity. Potential vibration impacts were assessed by presenting vibration levels at various distances from a variety of equipment that may be used for the project, and assessing the likelihood that sensitive land uses would be located close enough to vibration-generating activities to experience adverse effects. Modeled noise and vibration levels from project-related activities were then compared to the applicable thresholds (Placer County noise standards, Federal Transit Administration [FTA] vibration criteria) to determine if potentially significant impacts would occur.

Significance Criteria

According to Appendix G of the State CEQA Guidelines, a proposed action would be considered to have a significant effect if it would result in any of the following.

- Expose persons to or generate noise levels in excess of standards established in a local general plan or noise ordinance or applicable standards of other agencies.
- Expose persons to or generate excessive groundborne vibration or groundborne noise levels.
- Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.
- Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.
- Be located within an airport land use plan area, or, where such a plan has not been adopted, be within 2 miles of a public airport or public use airport and expose people residing or working in the Plan Area to excessive noise levels.
- Be located in the vicinity of a private airstrip and expose people residing or working in the Plan Area to excessive noise levels.

4.8.2 Impacts and Mitigation Measures

Alternative 1—No Action

As discussed in Chapter 2, *Proposed Action and Alternatives*, under Alternative 1, the no action alternative, project proponents would apply for take permits on a project-by-project basis, without a coordinated and comprehensive effort to minimize and mitigate biological impacts through the PCCP. Urban development and public infrastructure projects would continue to occur pursuant to the approved *Placer County General Plan* and *City of Lincoln General Plan* (i.e., the local jurisdictions' general plans), as would South Placer Regional Transportation Authority (SPRTA) and Placer County Water Agency (PCWA) planned projects. No regional conservation strategy or conservation measures would be implemented; therefore, impacts related to noise and vibration that are associated with the conservation strategy and conservation measures would not occur.

Impact NOI-1: Exposure of persons to or generation of noise levels in excess of applicable standards (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

Under Alternative 1, noise from a variety of sources (including traffic, trains, aircraft, and construction) could exceed applicable noise thresholds throughout the Plan Area in the future. However, various general plan goals, objectives, and actions would restrict noise from transportation sources and would help to reduce potential impacts. As stated in the EIR for the *Placer County General Plan*, traffic noise impacts of general plan implementation would be significant. As described in the EIR for the *City of Lincoln General Plan*, future projects developed under the general plan could result in significant noise impacts related to the generation of noise in excess of thresholds, the generation of excessive vibration, and substantial temporary and permanent increases in noise levels. In addition, future projects of SPRTA and PCWA such as transportation and water projects would need to obtain project-specific approvals and would undergo project-level CEQA review and relevant NEPA review (if applicable) for construction and operations-related noise effects.

Specifically, with regard to construction noise, urban development and public infrastructure projects under Alternative 1 would continue to occur pursuant to the local jurisdictions' general plans, as would SPRTA and PCWA planned projects. Development of the local jurisdictions' general plans and infrastructure projects would be expected to require the use of construction equipment throughout the Plan Area. Throughout the Plan Area, it is expected that some construction activity for such projects could occur near noise-sensitive land uses such as rural residences. Reasonable worst-case noise modeling of construction was modeled assuming that four pieces of equipment (a grader, a truck, and two scrapers) would be operating simultaneously to implement a given noise-generating activity. Table 4.8-1 shows the calculated worst-case maximum sound level (L_{max}) and equivalent sound level (L_{eq}) (in A-weighted decibel [dBA]) of these four pieces of equipment operating simultaneously at various distances. Note that construction noise typically attenuates at a rate of 6 decibels (dB) per doubling of distance (called *geometric attenuation* in Table 4.8-1).

Table 4.8-1. Worst-Case Scenario Noise Levels of Construction Equipment (Grader, Truck, Two Scrapers) Operating Simultaneously

Distance between Source and Receiver (feet)	Geometric Attenuation (dB)	Calculated L_{max} Sound Level (dBA)	Calculated L_{eq} Sound Level (dBA)
50	0	89	85
100	-6	83	79
200	-12	77	73
300	-16	74	70
400	-18	71	67
500	-20	69	65
600	-22	68	64
700	-23	66	62
800	-24	65	61
900	-25	64	60
1,000	-26	63	59
1,200	-28	62	58
1,400	-29	60	56
1,600	-30	59	55
1,800	-31	58	54
2,000	-32	57	53
2,500	-34	55	51
3,000	-36	54	50

Notes: Noise reference levels from the Federal Highway Administration's *Road Construction Noise Model User's Guide* were used to assess noise from equipment (Federal Highway Administration 2006). This calculation does not include the effects, if any, of local shielding from walls, topography, or other barriers that may reduce sound levels further, nor does it include ground-effect attenuation from noise traveling over absorptive (grass, dirt, etc.) ground. Actual noise levels would likely be lower based on reductions from shielding and ground-effect attenuation.

dB = decibel.
dBA = A-weighted decibel.
L_{eq} = equivalent sound level.
L_{max} = maximum sound level.

In addition to the standard non-impact construction equipment used for most projects, it is possible that pile driving would be required for some development activities under Alternative 1. Pile driving typically generates more noise than most standard non-impact equipment. Table 4.8-2 shows the calculated L_{max} and L_{eq} sound level of a pile driver at various distances.

Table 4.8-2. Pile Driving Construction Noise Levels

Distance between Source and Receiver (feet)	Geometric Attenuation (dB)	Calculated L_{max} Sound Level (dBA)	Calculated L_{eq} Sound Level (dBA)
50	0	101	94
100	-6	95	88
200	-12	89	82
300	-16	85	78
400	-18	83	76
500	-20	81	74
600	-22	79	72
700	-23	78	71
800	-24	77	70
900	-25	76	69
1,000	-26	95	88
1,200	-28	73	66
1,400	-29	72	65
1,600	-30	71	64
1,800	-31	70	63
2,000	-32	69	62
2,500	-34	67	60
3,000	-36	65	58

Notes: Noise reference levels from the Federal Highway Administration's *Road Construction Noise Model User's Guide* were used to assess noise from equipment (Federal Highway Administration 2006). This calculation does not include the effects, if any, of local shielding from walls, topography or other barriers that may reduce sound levels further, nor does it include ground-effect attenuation from noise traveling over absorptive (grass, dirt, etc.) ground. Actual noise levels would likely be lower based on reductions from shielding and ground-effect attenuation.

dB = decibel.
dBA = A-weighted decibel.
L_{eq} = equivalent sound level.
L_{max} = maximum sound level.

The City of Lincoln does not have noise limits for construction equipment, so the Placer County Noise Ordinance is used to assess construction noise effects. As shown in Tables 4.8-1 and 4.8-2, activities involving construction equipment could generate noise levels in excess of the Placer County Noise Ordinance's 55 dBA L_{eq} daytime (7 a.m. to 10 p.m.) noise standard at distances as great as 1,600 feet for non-impact construction equipment and over 3,000 feet for pile drivers. Noise levels from construction equipment could exceed Placer County's nighttime threshold (10 p.m. to 7 a.m.) of 45 dBA L_{eq} at even greater distances (though it is unlikely that pile driving would occur during nighttime hours).

These noise levels indicate that construction noise from development activities, although temporary and infrequent based on the type of activity (e.g., grading or scraping to restore riparian areas), could exceed local standards at noise-sensitive land uses. Although this is just an example construction project and the construction of other projects may involve less or quieter equipment, it is not possible to ensure that construction and operational noise from future projects would not be in excess of thresholds.

NEPA Determination: Individual projects that could take place with implementation of Alternative 1 could result in the exposure of persons to or generation of noise levels in excess of standards established in a local general plan or noise ordinance. The EIRs for the local jurisdictions' general plans both determined that noise impacts related to the generation of noise in excess of thresholds would be potentially significant. As discussed in the EIRs for the general plans, no mitigation is available to ensure that future potential impacts would be reduced to less-than-significant levels. Accordingly, noise impacts from Alternative 1 would be significant and unavoidable.

CEQA Determination: Individual projects that could take place with implementation of Alternative 1 could result in the exposure of persons to or generation of noise levels in excess of standards established in a local general plan or noise ordinance. The EIRs for the local jurisdictions' general plans both determined that noise impacts related to the generation of noise in excess of thresholds would be potentially significant. As discussed in the EIRs for the general plans, no mitigation is available to ensure that future potential impacts would be reduced to less-than-significant levels. Accordingly, noise impacts under Alternative 1 would be significant and unavoidable.

Impact NOI-2: Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

Urban development and public infrastructure projects under Alternative 1 would continue to occur pursuant to the local jurisdictions' general plans, as would SPRTA and PCWA planned projects. As described in the EIR for the *City of Lincoln General Plan*, future projects developed under the general plan could result in significant vibration impacts. Specifically, the EIR clarifies that vibration created through construction and industrial activities or through the operation of motor vehicles and railways could result in potentially significant impacts on local residents. Although mitigation measures are proposed in the EIR for the *City of Lincoln General Plan*, the ability to mitigate this potential impact is contingent on a variety of factors including the severity of the vibration impact, existing land use conditions, and the technical feasibility of being able to implement any proposed mitigation measures.

Development of the local jurisdictions' general plans, including SPRTA and PCWA projects, that require the use of construction equipment could result in the generation of construction vibration and potentially in the exposure of persons to excessive groundborne vibration. The main concern associated with this type of vibration is annoyance; however, vibration-sensitive instruments and operations can be disrupted at much lower levels than would typically affect other uses. In extreme cases, vibration can cause damage to buildings, particularly those that are old or otherwise fragile. Tables 3.8-14 and 3.8-15 in Section 3.8.2, *Environmental Setting*, show vibration criteria for annoyance and damage potential suggested by the California Department of Transportation (2013).

Refer to Section 3.8.1, *Regulatory Setting*, for more details related to FTA's guidance criteria for construction vibration effects. The potential construction-related vibration impacts depend primarily on the proximity of construction activities to sensitive receptors and the size and type of equipment. Impact pile drivers have the greatest potential to result in adverse effects. Perceptible groundborne vibration from construction equipment is generally limited to areas within a few hundred feet of construction activities.

Typical vibration levels for various pieces of equipment at a reference distance of 25 feet are included in Table 3.8-13 (Federal Transit Administration 2006). Table 4.8-3 shows calculated vibration levels for the same equipment at greater distances based on typical soil conditions

(Federal Transit Administration 2006). Note that the use of a pile driver for activities under Alternative 1 is low, but it is included in this table for informational purposes.

Table 4.8-3. Construction Equipment Vibration Levels at Various Distances

	Distance from Construction (feet)					
	25	50	75	100	175	200
Equipment	Peak Particle Velocity (in/sec)					
Pile driver (impact)	1.518	0.5367	0.2921	0.1898	0.0820	0.0671
Pile drive (vibratory)	0.734	0.2595	0.1413	0.0918	0.0396	0.0324
Vibratory roller	0.210	0.0742	0.0404	0.0263	0.0113	0.0093
Hoe ram	0.089	0.0315	0.0171	0.0111	0.0048	0.0039
Large bulldozer	0.089	0.0315	0.0171	0.0111	0.0048	0.0039
Caisson drilling	0.089	0.0315	0.0171	0.0111	0.0048	0.0039
Loaded truck	0.076	0.0269	0.0146	0.0095	0.0041	0.0034
Jackhammer	0.035	0.0124	0.0067	0.0044	0.0019	0.0015
Small bulldozer	0.003	0.0011	0.0006	0.0004	0.0002	0.0001

Note: Values derived from information in FTA's *Transit Noise and Vibration Impact Assessment* (Federal Transit Administration 2006) using the vibration attenuation equation ($PPV=PPV_{ref}\ (25/Distance)^{1.5}$).

Construction activities associated with Alternative 1 would be temporary, and related vibration effects would be short-term. At this time, it is not known how close vibration-generating equipment may come to nearby residences or vibration-sensitive land uses. However, using methods specified in FTA's (2006) *Transit Noise and Vibration Impact Assessment*, the distance within which vibration is estimated to exceed the peak particle velocity (PPV) threshold of 0.1 inch per second (in/sec) can be calculated. Predicted vibration in excess of 0.1 in/sec PPV is considered to result in an adverse impact relative to potential annoyance and structure damage based on the criteria in Tables 3.8-14 and 3.8-15.

As shown in Table 4.8-3, impact pile driving could exceed the 0.1 in/sec PPV threshold at a distance of close to 175 feet. However, impact pile driving would not be expected to occur frequently development of the local jurisdictions' general plans, including SPRTA and PCWA projects. Vibratory pile driving, which may be used instead of impact pile driving in many instances, could exceed the 0.1 in/sec PPV threshold at distances of less than 100 feet. Other construction equipment (such as a vibratory roller or hoe ram) could result in vibration levels of greater than 0.1 in/sec PPV at distances ranging from 25 to 50 feet. It is anticipated that there may be no need for pile driving. If pile drivers are required, they would not typically operate within close proximity of occupied buildings or structures. In general, construction equipment used for activities under Alternative 1 would not typically operate within close proximity to occupied buildings or other structures. However, there may be situations that result in excessive vibration. Should this occur, these potential construction activities could directly expose occupied buildings and other structures to ground vibration in excess of previously discussed 0.1 in/sec PPV threshold.

As none of these specific details for future projects can be known at this time, it is not possible to ensure that vibration impacts of these future projects would be able to be reduced to less-than-significant levels. In addition, future SPRTA and PCWA projects such as transportation and water

projects would need to obtain project-specific approvals and would undergo project-level CEQA review and relevant NEPA review (if applicable) for potential vibration effects. However, as specific details of those types of future projects are also not known at this time, it is not possible to conclude that vibration levels from future projects would not be excess of thresholds or applicable standards.

NEPA Determination: Implementation of Alternative 1 could result in the exposure to or generation of excessive vibration levels. Individual projects would need to obtain project-specific permits or undergo project-specific NEPA review (as applicable); however, it may not be possible to ensure that all future projects do not result in significant impacts related to vibration. Therefore, vibration impacts from Alternative 1 would be significant and unavoidable.

CEQA Determination: Implementation of Alternative 1 could result in the exposure to or generation of excessive vibration levels. Individual projects would need to obtain project-specific permits or undergo project-specific CEQA review (as applicable); however, it may not be possible to ensure that all future projects do not result in significant impacts related to vibration. Therefore, vibration impacts from Alternative 1 would be significant and unavoidable.

Impact NOI-3: Generation of a substantial permanent increase in existing ambient noise levels in the project vicinity (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

As stated in the EIR for the *Placer County General Plan*, traffic noise impacts of general plan implementation would be significant, which also is indicative of a substantial permanent increase in noise. As described in the EIR for the *City of Lincoln General Plan*, future projects developed under the general plan could result in significant noise impacts related to substantial permanent increases in ambient noise levels. In addition, future SPRTA and PCWA projects such as transportation and water projects would need to obtain project-specific approvals and would undergo project-level CEQA review and relevant NEPA review (if applicable). However, future projects may not always be able to mitigate potentially significant noise impacts related to a permanent increase in noise to less-than-significant levels.

NEPA Determination: Implementation of Alternative 1 could result in the generation of a substantial permanent increase in noise. Individual projects would need to obtain project-specific permits or undergo project-specific NEPA review (as applicable); however, it may not be possible to ensure that all future projects do not result in substantial permanent increases in noise. Therefore, noise impacts from Alternative 1 related to a substantial permanent increase in noise would be significant and unavoidable.

CEQA Determination: Implementation of Alternative 1 could result in the generation of a substantial permanent increase in noise. Individual projects would need to obtain project-specific permits or undergo project-specific CEQA review (as applicable); however, it may not be possible to ensure that all future projects do not result in substantial permanent increases in noise. Therefore, noise impacts from Alternative 1 related to a substantial permanent increase in noise would be significant and unavoidable.

Impact NOI-4: Creation of a substantial temporary or periodic increase in existing ambient noise levels in the project vicinity (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

As described in the EIR for the *City of Lincoln General Plan*, future projects developed under the general plan could result in significant noise impacts related to substantial temporary increases in ambient noise levels. The EIR for the *Placer County General Plan* concluded that such impacts would be less than significant. In addition, future SPRTA and PCWA projects such as transportation and water projects would need to obtain project-specific approvals and would undergo project-level CEQA review and relevant NEPA review (if applicable). However, future projects may not always be able to mitigate potentially significant noise impacts related to a temporary increase in noise to less-than-significant levels.

NEPA Determination: Implementation of Alternative 1 could result in the generation of a substantial temporary increase in noise. Individual projects would need to obtain project-specific permits or undergo project-specific NEPA review (as applicable); however, it may not be possible to ensure that all future projects do not result in substantial temporary increases in noise. Therefore, noise impacts from Alternative 1 related to a substantial temporary increase in noise would be significant and unavoidable.

CEQA Determination: Implementation of Alternative 1 could result in the generation of a substantial temporary increase in noise. Individual projects would need to obtain project-specific permits or undergo project-specific CEQA review (as applicable); however, it may not be possible to ensure that all future projects do not result in substantial temporary increases in noise. Therefore, noise impacts from Alternative 1 related to a substantial temporary increase in noise would be significant and unavoidable.

Impact NOI-5: Presence of project-related activities within an airport land use plan area or within 2 miles of a public airport or public use airport, resulting in exposure of people residing or working in the Plan Area to excessive noise levels (NEPA: less than significant; CEQA: less than significant)

Under Alternative 1, aircraft noise from public airports would not result in the exposure of people working or residing in the Plan Area to excessive noise levels. With implementation of Alternative 1, future individual projects would need to undergo project-specific analysis and environmental review, and would need to mitigate potentially significant noise impacts related to aircraft noise to less-than-significant levels. Further, as discussed in the EIRs for the *City of Lincoln General Plan* and the *Placer County General Plan*, impacts related to airport noise from implementation of these two general plans were determined to be less than significant. As noted in Section 3.8.2, *Environmental Setting*, Lincoln Regional Airport is the only airport in the Plan Area. High noise levels are generated by the Lincoln Regional Airport only in Hazard Zone A, which is contained within the airport property (Placer County Airport Land Use Commission 2014). Therefore, Alternative 1 would not result in the exposure of persons to excess aircraft noise from a public airport.

NEPA Determination: Lincoln Regional Airport is the only airport in the Plan Area. High noise levels are generated by the Lincoln Regional Airport only in Hazard Zone A, which is contained within the airport property (Placer County Airport Land Use Commission 2014). Therefore, Alternative 1 would not result in the exposure of persons to excess aircraft noise from a public airport, and impacts related to the exposure of persons to excessive aircraft noise would be less than significant.

CEQA Determination: Lincoln Regional Airport is the only airport in the Plan Area. High noise levels are generated by the Lincoln Regional Airport only in Hazard Zone A, which is contained within the airport property (Placer County Airport Land Use Commission 2014). Therefore, Alternative 1 would not result in the exposure of persons to excess aircraft noise from a public airport, and impacts related to the exposure of persons to excessive aircraft noise would be less than significant.

Impact NOI-6: Presence of project-related activities in the vicinity of a private airstrip, resulting in exposure of people residing or working in the Plan Area to excessive noise levels (NEPA: less than significant; CEQA: less than significant)

The effects of implementation of Alternative 1 related to aircraft noise from a private airstrip would be comparable to the noise effects from a public airport as described for Impact NOI-5 above, as private airstrips do not generate much noise outside of the immediate vicinity of the facility. In addition, there are few if any private airstrips in the Plan Area. Private airstrips do not generate noise a substantial distance from the runways. Further, as discussed in the EIRs for the local jurisdictions' general plans, impacts related to aircraft noise from implementation of these two general plans were determined to be less than significant.

NEPA Determination: Private airstrips do not generate noise a substantial distance from the runways. Further, as discussed in the EIRs for the local jurisdictions' general plans, impacts related to aircraft noise from implementation of these two general plans were determined to be less than significant. Therefore, impacts related to the exposure of persons to excessive aircraft noise would be less than significant.

CEQA Determination: Private airstrips do not generate noise a substantial distance from the runways. Further, as discussed in the EIRs for the local jurisdictions' general plans, impacts related to aircraft noise from implementation of these two general plans were determined to be less than significant. Therefore, impacts related to the exposure of persons to excessive aircraft noise would be less than significant.

Alternative 2—Proposed Action

Under Alternative 2, the proposed action, noise impacts could occur during construction or O&M of activities including habitat restoration and creation (conservation measures designed to protect, enhance, and restore and improve the ecological function of natural communities, and to avoid, minimize, and compensate for effects on Covered Species); adaptive management and monitoring activities; the existing, planned, and proposed land uses over which the local jurisdictions have land use authority; future SPRTA and PCWA projects such as local transportation and water projects.

Most Covered Activities would require individual permits and approvals pursuant to the local jurisdictions' general plans and land use regulations, or the requirements of the implementing agency, and would undergo subsequent project-level CEQA review and relevant NEPA review for construction and operations-related impacts; some Covered Activities, however, may be exempted from environmental review requirements due to project characteristics. Those activities that involve construction and the use of heavy construction equipment or those that involve earthmoving activities could generate noise.

Covered Activities (i.e., development of the local jurisdictions' general plans, including SPRTA and PCWA projects) would have the potential to result in impacts as identified in the EIRs for the general

plans. Within the Plan Area, Alternative 2, the proposed action, would serve to streamline the development envisioned in the local jurisdictions' general plans as well as SPRTA and PCWA projects. The EIR for the *Placer County General Plan* determined that noise impacts from railroads and from industrial and other stationary noise sources would be less than significant. However, the EIR stated that traffic noise impacts of general plan implementation would be significant. No mitigation measures were identified that could reduce this impact to a less-than-significant level (Placer County 1994). The EIR for the *City of Lincoln General Plan* determined that general plan implementation, even while incorporating mitigation measures, would result in significant noise impacts related to the generation of noise in excess of thresholds, the generation of excessive vibration, and substantial temporary and permanent increases in noise levels. As stated in the EIR for the *City of Lincoln General Plan*, there are no feasible mitigation measures that would reduce impacts to a less-than-significant level (City of Lincoln 2008).

Impact NOI-1: Exposure of persons to or generation of noise levels in excess of applicable standards (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

As under Alternative 1, urban development and public infrastructure projects under Alternative 2, the proposed action, would continue to occur pursuant to the local jurisdictions' general plans, as would SPRTA and PCWA planned projects. Covered Activities (i.e., development of the local jurisdictions' general plans and infrastructure projects) would be expected to require the use of construction equipment throughout the Plan Area. Implementation of PCCP conservation measures would also require the use of construction equipment throughout the Plan Area. The specific locations of future construction and O&M activities associated with the conservation measures are currently unknown. Throughout the Plan Area, it is expected that some construction activity for conservation measures and for other Covered Activities could occur near noise-sensitive land uses such as rural residences. As discussed under Alternative 1, reasonable worst-case noise modeling of construction was completed assuming that four pieces of equipment (a grader, a truck, and two scrapers) would be operating simultaneously to implement a given noise-generating Covered Activity or (under Alternative 2 but not under Alternative 1) conservation measure. Note that construction equipment used for conservation measures and Covered Activities would be similar. Tables 4.8-1 and 4.8-2 under the analysis for Alternative 1 show the calculated worst-case maximum L_{max} and L_{eq} sound levels of four pieces of equipment operating simultaneously at various distances, as well as for a pile driver at various distances.

As described under Alternative 1 and shown in Tables 4.8-1 and 4.8-2, activities involving construction equipment (including construction and O&M activities) could generate noise levels in excess of the Placer County Noise Ordinance's 55 dBA L_{eq} daytime (7 a.m. to 10 p.m.) noise standard at distances as great as 1,600 feet for combined construction noise and over 3,000 feet for pile driver noise. Note that this threshold also applies in the city of Lincoln, for the purposes of this analysis (as discussed previously). Noise levels from construction equipment could also exceed Placer County's nighttime threshold (10 p.m. to 7 a.m.) of 45 dBA L_{eq} at even greater distances (though it is unlikely that pile driving would occur during nighttime hours).

These noise levels indicate that construction noise, although temporary and infrequent based on the type of activity (e.g., grading or scraping to restore riparian areas), could exceed local standards at noise-sensitive land uses.

The PCCP includes a best management practice (BMP) measure that is primarily designed to reduce underwater noise effects on fish and wildlife that would result from conservation activities involving

pile driving. This BMP may also help reduce potential noise impacts on humans in the Plan Area. The following In-Stream and Stream System BMP relates to pile driving and impact equipment (Appendix A):

The following will be implemented to minimize noise effects on fish and wildlife during pile driving:

- Vibratory pile drivers or other Wildlife Agency–approved methods, shall be used to drive piles, to the maximum extent practicable.
- Where feasible, the use of impact hammers to drive piles will be limited to areas outside of the stream channel or in dry cofferdams.
- Bubble curtains will be used to attenuate sound when it is necessary to drive piles with an impact hammer in water.
- Where feasible, metal-to-metal contact of the driver hammer and metal piles will be avoided.
- The smallest pile driver and the minimum force necessary to complete the work will be used.
- All types of pile driving will be limited to daylight hours only to provide fish and wildlife with extended quiet periods.
- Prior to initiating pile driving with an impact hammer, an acoustic analysis using the most recent interagency standards and guidelines will be conducted to predict impacts of pile driving noise on listed fish species.
- A hydroacoustic monitoring plan will be developed and implemented and underwater noise levels will be monitored during all impact pile driving on land, in dry cofferdams and in water (using bubble curtains) to ensure that the peak and cumulative sound exposure levels do not exceed predicted values.

This measure would help to specifically reduce the potential noise effects of pile driving activity, but construction noise could still exceed local standards at noise-sensitive land uses. However, the Placer County Noise Ordinance provides an exception for construction noise (in Placer County Code Section 9.36.030) as long as all construction equipment is "fitted with factory installed muffling devices and that all construction equipment shall be maintained in good working order." Allowable time periods for this construction noise are as follows: 6 a.m. to 8 p.m., Monday through Friday, and 8 a.m. to 8 p.m., Saturdays and Sundays. Therefore, construction activity occurring during these daytime hours would comply with the Placer County Noise Ordinance. Should construction noise occur outside of these hours, the noise resulting from construction activities would result in significant noise effects.

NEPA Determination: Implementation of Alternative 2, the proposed action, could result in the generation of construction noise from the use of heavy equipment for conservation activities under the Plan and from Covered Activities (i.e., development of the local jurisdictions' general plans, including SPRTA and PCWA projects). Implementation of the PCCP BMP related to pile driving (shown above), which is intended to reduce negative noise effects on wildlife from pile driving in the Plan Area, would help reduce effects on humans in the vicinity of noise-generating Covered Activity work that involves pile driving. However, construction activities associated with implementation of the PCCP could still result in short-term exceedances in local noise standards. Implementation of Mitigation Measure NOI-1 would reduce impacts related to the generation of excessive noise levels from PCCP implementation; however, depending on the specific construction activities required for a future conservation measure or Covered Activity, it may not be possible to reduce construction noise impacts to less-than-significant levels. As described in the EIR for the *City of Lincoln General Plan*, future projects developed under the general plan could result in significant noise impacts related to the generation of noise in excess of thresholds from construction activities as well as

operations. In addition, as stated in the EIR for the *Placer County General Plan*, traffic noise impacts from general plan implementation related to an exceedance of thresholds would also be significant. Therefore, impacts from implementation of Alternative 2 related to the generation of noise in excess of thresholds would be significant and unavoidable.

CEQA Determination: Implementation of Alternative 2, the proposed action, could result in the generation of construction noise from the use of heavy equipment for conservation activities and from Covered Activities (i.e., development of the local jurisdictions' general plans, including SPRTA and PCWA projects). Implementation of the PCCP BMP related to pile driving (shown above), which is intended to reduce negative noise effects on wildlife in the Plan Area, would also help reduce impacts on humans in the vicinity of noise-generating Covered Activity work that involves pile driving. However, construction activities associated with implementation of the PCCP could still result in short-term exceedances in local noise standards. Implementation of Mitigation Measure NOI-1 would reduce the impacts related to the generation of excessive noise levels from PCCP implementation; however, depending on the specific construction activities required for a future conservation measure or Covered Activity, it may not be possible to reduce construction noise impacts to less-than-significant levels. Further, and as described in the EIR for the *City of Lincoln General Plan*, future projects developed under the general plan could result in significant noise impacts related to the generation of noise in excess of thresholds from construction activities as well as operations. In addition, as stated in the EIR for the *Placer County General Plan*, traffic noise impacts from general plan implementation related to an exceedance of thresholds would also be significant. Therefore, impacts from the proposed action related to the generation of noise in excess of thresholds from project implementation would be significant and unavoidable.

Mitigation Measure NOI-1: Implement measures to reduce noise resulting from conservation measures and Covered Activities during construction and O&M activities to ensure compliance with applicable noise standards, where feasible.

Employ Noise-Reducing Construction Practices during Construction and O&M Activities

During construction and O&M activities associated with PCCP conservation measures that include the use of heavy equipment, PCA contractors will employ BMPs to reduce construction noise near noise-sensitive land uses. Implementation of this measure will ensure that construction noise levels, as applicable, do not violate applicable local noise standards.

Measures used to limit construction noise include the following.

- Limiting above-ground noise-generating construction to the hours between 6:00 a.m. and 8:00 p.m., Monday through Friday, and between 8:00 a.m. and 8:00 p.m. on Saturdays and Sundays, in accordance with the Placer County Noise Ordinance.
- Locating stationary equipment (e.g., generators, compressors, rock crushers, cement mixers, idling trucks) as far as possible from noise-sensitive land uses.
- Prohibiting gasoline or diesel engines from having unmuffled exhaust.
- Requiring all construction equipment powered by gasoline or diesel engines to have sound-control devices that are at least as effective as those originally provided by the manufacturer, and requiring all equipment to be operated and maintained to minimize noise generation.
- Preventing excessive noise by shutting down idle vehicles or equipment.

- Using noise-reducing enclosures around noise-generating equipment.
- Selecting haul routes that affect the fewest numbers of people.
- Constructing barriers between noise sources and noise-sensitive land uses or taking advantage of existing barrier features (e.g., terrain, structures) to block sound transmission to noise-sensitive land uses. The barriers shall be designed to obstruct the line of sight between the noise-sensitive land use and onsite construction equipment. When installed properly, acoustic barriers can reduce construction noise levels by approximately 8–10 dBA (U.S. Environmental Protection Agency 1971).

Prior to Construction, Initiate a Complaint/Response Tracking Program

Prior to commencement of construction and O&M activities, PCA contractors will make a construction schedule available to residents living in the vicinity of the construction areas before construction begins and designate a noise disturbance coordinator. The coordinator will be responsible for responding to complaints regarding construction noise by determining the cause of the complaint, and ensuring that reasonable measures are implemented to correct the problem when feasible. A contact telephone number for the noise disturbance coordinator will be conspicuously posted on construction site fences and will be included in the notification of the construction schedule.

Impact NOI-2: Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

As under Alternative 1, urban development and public infrastructure projects under Alternative 2, the proposed action, would continue to occur pursuant to the local jurisdictions' general plans, as would SPRTA and PCWA planned projects. Public infrastructure projects would be expected to require the use of construction equipment throughout the Plan Area. The implementation of Covered Activities (i.e., development of the local jurisdictions' general plans, including SPRTA and PCWA projects) that require the use of construction equipment could therefore result in the generation of construction vibration and potentially in the exposure of persons to excessive groundborne vibration.

As discussed for Impact NOI-1, implementation of the PCCP would also result in construction and O&M activities associated with conservation measures described in the Plan. Some conservation measures would require the use of heavy duty construction equipment that could produce groundborne vibration that may affect adjacent uses. The main concern associated with this type of vibration is annoyance; however, vibration-sensitive instruments and operations can be disrupted at much lower levels than would typically affect other uses. In extreme cases, vibration can cause damage to buildings, particularly those that are old or otherwise fragile. Tables 3.8-14 and 3.8-15 in Section 3.8.2, *Environmental Setting*, show vibration criteria for annoyance and damage potential suggested by the California Department of Transportation (2013).

Refer to Section 3.8.1, *Regulatory Setting*, for more details related to FTA's guidance criteria for construction vibration effects. The potential construction-related vibration impacts depend primarily on the proximity of construction activities to sensitive receptors and the size and type of equipment. Impact pile drivers have the greatest potential to result in adverse effects. Perceptible

groundborne vibration from construction equipment is generally limited to areas within a few hundred feet of construction activities.

To help demonstrate the potential for Covered Activities, including conservation measures, to result in excessive vibration, typical vibration levels for various pieces of equipment at a reference distance of 25 feet are included in Table 3.8-13 (Federal Transit Administration 2006). Table 4.8-3 under Alternative 1 (Federal Transit Administration 2006).

Construction activities associated with conservation measures under the PCCP as well as Covered Activities would be temporary, and related vibration effects would be short-term. At this time, it is not known how close vibration-generating equipment associated with conservation measures or Covered Activities may come to nearby residences or vibration-sensitive land uses. However, using methods specified in FTA's (2006) *Transit Noise and Vibration Impact Assessment*, the distance within which vibration is estimated to exceed the peak particle velocity (PPV) threshold of 0.1 inch per second (in/sec) can be calculated. Predicted vibration in excess of 0.1 in/sec PPV is considered to result in an adverse impact relative to potential annoyance and structure damage based on the criteria in Tables 3.8-14 and 3.8-15.

As shown discussed under Alternative 1, impact pile driving could exceed the 0.1 in/sec PPV threshold at a distance of close to 175 feet and vibratory pile driving, which may be used instead of impact pile driving in many instances, could exceed the 0.1 in/sec PPV threshold at distances of less than 100 feet. Other construction equipment (such as a vibratory roller or hoe ram) could result in vibration levels of greater than 0.1 in/sec PPV at distances ranging from 25 to 50 feet. It is anticipated that, for conservation measures, there may be no need for pile driving. If pile drivers are required for conservation measures, they would not typically operate within close proximity of occupied buildings or structures. In general, construction equipment used to implement conservation measures would also not typically operate within close proximity to occupied buildings or other structures. However, there may be situations where Covered Activities result in excessive vibration, or when vibration-generating construction work for conservation measures may be required to occur closer to nearby structures. Should this occur, these potential construction activities could directly expose occupied buildings and other structures to ground vibration in excess of previously discussed 0.1 in/sec PPV threshold.

The PCCP includes a BMP that is primarily designed to reduce underwater noise effects on fish and wildlife that would result from pile driving. This BMP is described above, and may also help reduce potential vibration impacts on occupied buildings and other structures.

Although this BMP is mostly intended to reduce potential vibration effects on fish and wildlife in the stream systems, it would also help reduce potential vibration effects on humans working or residing near work areas for Covered Activities and conservation measures.

Even with implementation of this BMP, however, vibration-generating construction activities associated with both conservation measures as well as with Covered Activities may occur close enough to nearby residences to expose people and structures to excessive vibration levels.

NEPA Determination: Implementation of a PCCP BMP, which is intended to reduce negative vibration effects on fish and wildlife in the Plan Area, would also help reduce vibration effects on humans and structures in the vicinity of vibration-generating conservation measure work. However, implementation of Covered Activities (i.e., development of the local jurisdictions' general plans, including SPRTA and PCWA projects) that require the use of construction equipment could result in

the generation of construction vibration and in the exposure of persons to excessive groundborne vibration or noise. In addition, construction activities for conservation measures under the PCCP, could also result in excessive vibration levels if impact pile driving activity were to occur within 175 feet, vibratory pile driving activity were to occur within 100 feet, and other vibration-generating construction activity (e.g., the use of a vibratory roller or hoe ram) were to occur within 25–50 feet of nearby vibration-sensitive uses. Since the exact locations of future vibration-generating construction activities are not known at this time, construction activity is assumed to potentially occur within these distances, and this impact would be potentially significant. Implementation of Mitigation Measure NOI-2 would reduce impacts related to the generation of excessive vibration. However, it may not be possible to reduce vibration to a less-than-significant level in all instances. Therefore, this impact would be significant and unavoidable.

CEQA Determination: Implementation of a PCCP BMP, which is intended to reduce negative vibration effects on fish and wildlife in the Plan Area, would also help reduce vibration effects on humans and structures in the vicinity of vibration-generating Covered Activity or conservation measure work. Implementation of Covered Activities (i.e., development of the local jurisdictions' general plans, including SPRTA and PCWA projects) that require the use of construction equipment could result in the generation of construction vibration and in the exposure of persons to excessive groundborne vibration or noise. In addition, construction activities for conservation measures under the PCCP, could also result in excessive vibration levels if impact pile driving activity were to occur within 175 feet, vibratory pile driving activity were to occur within 100 feet, and other vibration-generating construction activity (e.g., the use of a vibratory roller or hoe ram) were to occur within 50 feet of nearby vibration-sensitive uses. Since the exact locations of future vibration-generating construction activities are not known at this time, construction activity is assumed to potentially occur within these distances, and this impact would be potentially significant. Implementation of Mitigation Measure NOI-2 would reduce impacts related to the generation of excessive vibration; however, it may not be possible to reduce vibration to a less-than-significant level in all instances. Therefore, this impact would be significant and unavoidable.

Mitigation Measure NOI-2: Employ vibration-reducing construction practices for vibration-generating activities associated with conservation measures and Covered Activities

The PCA construction contractor will, to the extent feasible, maintain a minimum distance of 200 feet between pile drivers (should these be used for construction related to conservation measures) and occupied buildings or structures, and 50 feet between other construction equipment and occupied buildings or structures, when utilizing construction equipment for the implementation of conservation measures under the PCCP.

For cases where this is not feasible, residents or property owners would be notified in writing prior to construction activity that construction may occur within the specified distances of their buildings. The PCA will inspect the potentially affected buildings prior to construction to inventory existing cracks in paint, plaster, concrete, and other building elements. The PCA shall retain a qualified acoustical consultant or engineering firm to conduct vibration monitoring at potentially affected buildings to measure the actual vibration levels during construction. If measured vibration exceeds 0.1 in/sec PPV, alternative construction approaches will be implemented to limit vibration to 0.1 in/sec PPV. Following completion of construction, the PCA will conduct a second inspection to inventory changes in existing cracks and new cracks or

damage, if any, which occurred as a result of construction-induced vibration. If new damage is found, then the PCA will promptly arrange to have the damaged repaired.

In addition, if construction activity is required within 100 feet of residences or other vibration-sensitive buildings, a designated complaint coordinator will be responsible for handling and responding to any complaints received during such periods of construction. A reporting program will be required to document complaints received, actions taken, and the effectiveness of these actions in resolving disputes.

Impact NOI-3: Generation of a substantial permanent increase in existing ambient noise levels in the project vicinity (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

Although increases in noise levels as compared to the existing ambient noise level would occur during some construction or O&M activities related to implementation of the PCCP, implementation of Alternative 2, the proposed action, is not anticipated to result in a substantial permanent increase in noise since noise associated with temporary construction is not permanent. Minor increases in traffic associated with conservation measures including habitat restoration and construction activities in different locations throughout the Plan Area would be temporary and short-term in any given location as well. Although construction activities would not be expected to result in a permanent increase in ambient noise, it is possible that the implementation of Covered Activities (i.e., development of the local jurisdictions' general plans, including SPRTA and PCWA projects) could result in longer-term traffic increases. As discussed in the EIRs for the local jurisdictions' general plans, future development could result in permanent increases in ambient noise levels that would be significant. Therefore, it is possible that Covered Activities could have a substantial and permanent effect on ambient noise levels due to traffic noise or the generation of new stationary sources of noise in a given area.

NEPA Determination: Conservation measures implemented under Alternative 2, the proposed action, are not anticipated to result in a substantial permanent increase in noise, as construction and O&M activities associated with conservation measures under Plan implementation would be short-term and temporary in any given area. However, as discussed in the EIRs for the local jurisdictions' general plans, it is possible that the implementation of Covered Activities (i.e., development of the local jurisdictions' general plans, including SPRTA and PCWA projects) could result in traffic increases or in the development of stationary noise sources that could have a substantial and permanent effect on ambient noise levels in a given area. Because it would not be possible to reduce the noise impacts associated with Covered Activities to less-than-significant levels, this impact would be significant and unavoidable.

CEQA Determination: Conservation measures implemented under Alternative 2, the proposed action, are not anticipated to result in a substantial permanent increase in noise, as construction and O&M activities associated with conservation measures under Plan implementation would be short-term and temporary in any given area. This impact would be less than significant. However, as discussed in the EIRs for the local jurisdictions' general plans, it is possible that the implementation of Covered Activities (i.e., development of the local jurisdictions' general plans, including SPRTA and PCWA projects) could result in traffic increases or in the development of stationary noise sources that could have a substantial and permanent effect on ambient noise levels in a given area. Because it would not be possible to reduce the noise impacts associated with Covered Activities to less-than-significant levels, this impact would be significant and unavoidable.

Impact NOI-4: Creation of a substantial temporary or periodic increase in existing ambient noise levels in the project vicinity (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

As stated above under Alternative 2, Impact NOI-1, implementation of Alternative 2, the proposed action, would entail construction and O&M activities throughout the Plan Area associated with PCCP conservation measures, along with the implementation of Covered Activities (i.e., development of the local jurisdictions' general plans, including SPRTA and PCWA projects). Noise from heavy construction equipment used for implementation of conservation measures and Covered Activities could result in substantial temporary increases in ambient noise levels.

As shown in Tables 4.8-1 and 4.8-2, activities involving construction equipment could generate noise levels in excess of the 55 dBA L_{eq} daytime noise standard at distances as great as 1,600 feet for non-impact construction equipment and over 3,000 feet for pile drivers. Noise levels from construction equipment could also exceed the 45 dBA L_{eq} nighttime standard at even greater distances. This could result in a substantial temporary or periodic increase in ambient noise levels.

NEPA Determination: Implementation of conservation measures under Alternative 2, the proposed action, would involve the use of construction equipment and could result in a substantial temporary increase in noise. Although implementation of Mitigation Measure NOI-1 would reduce potential construction noise impacts from conservation measures, it is possible that construction noise generated would still constitute a substantial temporary increase in noise and that impacts related to a temporary increase in noise would remain significant. In addition, implementation of Covered Activities (i.e., development of the local jurisdictions' general plans, including SPRTA and PCWA projects) could also result in significant noise impacts, even with implementation of Mitigation Measure NOI-1 because even though this mitigation measure would restrict noise-generating activities under the purview of the PCA to daytime hours and includes methods for reducing overall noise generated by heavy equipment, it cannot restrict construction activities outside of the purview of the PCA. It would not be possible to reduce the noise impacts associated with Covered Activities to a less-than-significant level, as the PCA would not be the approving authority for these activities. This impact would be significant and unavoidable.

CEQA Determination: Implementation of conservation measures under Alternative 2, the proposed action, would involve the use of construction equipment and could result in a substantial temporary increase in noise. Although implementation of Mitigation Measure NOI-1 would reduce potential construction noise impacts from conservation measures, it is possible that construction noise generated would still constitute a substantial temporary increase in noise and that impacts related to a temporary increase in noise would remain significant. In addition, implementation of Covered Activities (i.e., development of the local jurisdictions' general plans, including SPRTA and PCWA projects) could also result in significant noise impacts even with implementation of Mitigation Measure NOI-1. This is because this mitigation measure would restrict noise-generating activities under the purview of the PCA to daytime hours and includes methods for reducing overall noise generated by heavy equipment. However, it would not be possible to reduce the noise impacts associated with Covered Activities to a less-than-significant level, as the PCA would not be the approving authority for these activities. This impact would be significant and unavoidable.

Mitigation Measure NOI-1: Implement measures to reduce noise resulting from conservation measures and Covered Activities during construction and O&M activities to ensure compliance with applicable noise standards, where feasible.

Impact NOI-5: Presence of project-related activities within an airport land use plan area or within 2 miles of a public airport or public use airport, resulting in exposure of people residing or working in the Plan Area to excessive noise levels (NEPA: less than significant; CEQA: less than significant)

Implementation of Alternative 2, the proposed action, would require the use of construction equipment throughout the Plan Area for both construction and O&M activities. It is not known at this time where all future activities would take place; however, construction workers may work within close proximity of the Lincoln Regional Airport at times. If this were to occur, the work would be intermittent and temporary, lasting for only the duration of the specific construction activity in any given location. Furthermore, construction workers would primarily experience noise from the actual construction work, rather than noise from Lincoln Regional Airport or nearby airports outside the Plan Area (i.e., Auburn Municipal Airport, McClellan Park, and Beale Air Force Base). Therefore, as construction activities would be temporary and intermittent, airport activities are not expected to expose construction workers to excessive noise.

As described in the EIRs for the local jurisdictions' general plans, impacts related to airport noise from implementation of these two general plans were determined to be less than significant.

NEPA Determination: As no Covered Activities would be expected to occur within the airport property, Covered Activities would not be expected to result in the exposure of persons to excess aircraft noise from a public airport. Similarly, conservation measures would not be expected to be located within the airport property. Further, as discussed in the EIRs for the local jurisdictions' general plans, impacts related to airport noise from implementation of these two general plans were determined to be less than significant. Therefore, impacts related to the exposure of persons to excessive aircraft noise would be less than significant.

CEQA Determination: As no Covered Activities would be expected to occur within the airport property, Covered Activities would not be expected to result in the exposure of persons to excess aircraft noise from a public airport. Similarly, conservation measures would not be expected to be located within the airport property. Further, as discussed in the EIRs for the local jurisdictions' general plans, impacts related to airport noise from implementation of these two general plans were determined to be less than significant. Therefore, impacts related to the exposure of persons to excessive aircraft noise would be less than significant. No mitigation has been identified.

Impact NOI-6: Presence of project-related activities in the vicinity of a private airstrip, resulting in exposure of people residing or working in the Plan Area to excessive noise levels (NEPA: less than significant; CEQA: less than significant)

Noise from private airstrips would not be considered excessive outside of the immediate vicinity of the airstrip. In addition, few private airstrips are located within the Plan Area, and the County and Cities have incorporated goals, policies, and objectives in their general plans to limit exposure to aircraft noise from these types of facilities. These measures would ensure that future development near airports and airstrips would meet applicable noise standards. For these reasons, the effects of implementation of Alternative 2, the proposed action, related to the exposure of persons to aircraft noise from a private airstrip would be comparable to the noise effects from a public airport as described for Alternative 2, Impact NOI-5.

NEPA Determination: Because it is unlikely that Covered Activities (i.e., development of the local jurisdictions' general plans, including SPRTA and PCWA projects) would occur in the immediate vicinity (e.g., on the property) of a private airstrip, Covered Activities would not be expected to result in the exposure of persons to excess aircraft noise from a private airstrip. Similarly, conservation measures would not be expected to be located in the immediate vicinity of or on an airstrip property. In addition, although the completion of specific future Covered Activities could involve the locating of permanent employees within the Plan Area, it is unlikely that these projects would be adjacent to or on a private airstrip, and would therefore not be exposed to excessive aircraft noise from private airstrips. Further, the County and Cities have incorporated goals, policies, and objectives in their general plans to limit exposure to aircraft noise from these types of facilities. These measures would ensure that future development near airports and airstrips would meet applicable noise standards. Noise impacts related to private airstrips exposing workers to excessive noise levels would be less than significant.

CEQA Determination: Because it is unlikely that Covered Activities (i.e., development of the local jurisdictions' general plans, including SPRTA and PCWA projects) would occur in the immediate vicinity (e.g., on the property) of a private airstrip, Covered Activities would not be expected to result in the exposure of persons to excess aircraft noise from a private airstrip. Similarly, conservation measures would not be expected to be located in the immediate vicinity of or on an airstrip property. In addition, although the completion of specific future Covered Activities could involve the locating of permanent employees within the Plan Area, it is unlikely that these projects would be adjacent to or on a private airstrip, and would therefore not be exposed to excessive aircraft noise from private airstrips. Further, the County and Cities have incorporated goals, policies, and objectives in their general plans to limit exposure to aircraft noise from these types of facilities. These measures would ensure that future development near airports and airstrips would meet applicable noise standards. Noise impacts related to private airstrips exposing workers to excessive noise levels would be less than significant.

Alternative 3—Reduced Take/Reduced Fill

Under Alternative 3, land conversion in the Potential Future Growth Area (PFG) would be approximately 1,000 acres than that under the proposed action. However, the overall construction activity that would occur under Alternative 3 would be comparable to that proposed under Alternative 2. Equipment would be used for construction as well as O&M activities, but the locations of construction and O&M activities are currently unknown for this and the other alternatives. Throughout the Plan Area, however, it is expected that some construction activity could occur near noise-sensitive land uses such as rural residences.

Impact NOI-1: Exposure of persons to or generation of noise levels in excess of applicable standards (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

As under Alternative 1, urban development and public infrastructure projects would continue to occur pursuant to the approved general plans of the applicable jurisdictions, as would SPRTA and PCWA planned projects. Covered Activities (i.e., development of the local jurisdictions' general plans, including SPRTA and PCWA projects) would be expected to require the use of construction equipment throughout the Plan Area. Like Alternative 2, the proposed action, Alternative 3 and the associated conservation measures would require the use of construction equipment throughout the Plan Area. Construction activities under Alternative 3 would be comparable to those for Alternative 2; and the associated noise levels are shown in Tables 4.8-1 and 4.8-2. As described previously,

activities involving construction equipment for both conservation measures under the PCCP (e.g., earthmoving for and re-contouring of vernal pools and excavating ponds and channels) and for Covered Activities could generate noise levels in excess of thresholds. This indicates that construction noise associated with both Covered Activities and PCCP conservation measures, although temporary and infrequent in any given location, could exceed local standards at noise-sensitive land uses.

Although implementation of Alternative 3 would reduce the amount of land converted in the PFG by approximately 1,000 acres compared to Alternative 2, the proposed action, the potential for construction activity associated with Covered Activities and conservation measures to result in excessive noise levels would be comparable to those described under Impact NOI-1 for Alternative 2.

NEPA Determination: Implementation of Alternative 3 could result in the generation of construction noise from the use of heavy equipment for both PCCP conservation measures and Covered Activities (i.e., development of the local jurisdictions' general plans, including SPRTA and PCWA projects). Implementation of the PCCP BMP (described under Alternative 2, the proposed cation) related to pile driving, intended to reduce negative noise effects from pile driving on wildlife in the Plan Area, would help reduce effects on humans in the vicinity of noise-generating Covered Activity work that involves pile driving. However, construction activities associated with implementation of Alternative 3 would still be expected to result in short-term exceedances in local noise standards. Implementation of Mitigation Measure NOI-1 would reduce impacts related to the generation of excessive noise from PCCP implementation; however, depending on the specific construction activities required for a future conservation measure or Covered Activity, it may not be possible to reduce construction noise impacts to a less-than-significant level. Further, and as described under Alternative 1 and in the EIR for the *City of Lincoln General Plan*, future projects developed under the general plan could result in significant noise impacts related to the generation of noise in excess of thresholds from construction activities as well as operations. As stated in the EIR for the *Placer County General Plan*, traffic noise impacts from general plan implementation related to an exceedance of thresholds would also be significant. Therefore, impacts from the proposed action related to the generation of noise in excess of thresholds would be significant and unavoidable under Alternative 3.

CEQA Determination: Implementation of Alternative 3 could result in the generation of construction noise from the use of heavy equipment for both PCCP conservation measures and Covered Activities (i.e., development of the local jurisdictions' general plans, including SPRTA and PCWA projects). Implementation of the PCCP BMP (described under Alternative 2, the proposed action) related to pile driving, intended to reduce negative noise effects from pile driving on wildlife in the Plan Area, would help reduce effects on humans in the vicinity of noise-generating Covered Activity work that involves pile driving. However, construction activities associated with implementation of Alternative 3 would still be expected to result in short-term exceedances in local noise standards. Implementation of Mitigation Measure NOI-1 would reduce impacts related to the generation of excessive noise from PCCP implementation; however, depending on the specific construction activities required for a future conservation measure or Covered Activity, it may not be possible to reduce construction noise impacts to a less-than-significant level. Further, and as described under Alternative 1 and in the EIR for the *City of Lincoln General Plan*, future projects developed under the general plan could result in significant noise impacts related to the generation of noise in excess of thresholds from construction activities as well as operations. As stated in the EIR for the *Placer County General Plan*, traffic noise impacts from general plan implementation

related to an exceedance of thresholds would also be significant. Therefore, impacts from the proposed action related to the generation of noise in excess of thresholds would be significant and unavoidable under Alternative 3.

Mitigation Measure NOI-1: Implement measures to reduce noise resulting from conservation measures and Covered Activities during construction and O&M activities to ensure compliance with applicable noise standards, where feasible.

Impact NOI-2: Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

As under Alternative 1, urban development and public infrastructure projects would continue to occur pursuant to the local jurisdictions' general plans, as would SPRTA and PCWA planned projects. Public infrastructure projects would be expected to require the use of construction equipment throughout the Plan Area. The implementation of Covered Activities (i.e., development of the local jurisdictions' general plans, including SPRTA and PCWA projects) that require the use of construction equipment could therefore result in the generation of construction vibration and could result in exposure of persons to excessive groundborne vibration or noise.

Like Alternative 2, the proposed action, Alternative 3 would result in construction and O&M activities associated with PCCP conservation measures. Implementation of the associated conservation measures would require the use of construction equipment throughout the Plan Area. The locations of construction and O&M activities are currently unknown. Throughout the Plan Area, it is expected that some construction activity could occur near noise-sensitive land uses such as rural residences.

As described previously, construction activities associated with PCCP conservation measures would be temporary, and related vibration effects would be short-term. However, as is true of Alternative 2, the proposed action, it is not known how close to nearby residences or vibration-sensitive land uses vibration-generating equipment may be have to operate. Activities involving construction equipment (including construction and O&M activities) could generate vibration levels in excess of the FTA guidance criteria for construction vibration effects. Construction activities for conservation measures under Alternative 3 would be comparable to those under Alternative 2; the associated vibration levels are shown in Table 4.8-3. According to the vibration levels shown in that table, there may be situations where vibration-generating construction work may be required closer to nearby structures than these distances, directly exposing occupied buildings and other structures to ground vibration in excess of 0.1 in/sec PPV.

As also discussed for Alternative 2, the proposed action, the PCCP includes a BMP that is primarily designed to reduce underwater noise effects from pile driving on fish. Described under Alternative 2, this BMP would also help reduce potential vibration effects on wildlife in the stream systems, as well as on humans working or residing near work areas for conservation measures.

Even with implementation of this BMP, vibration-generating construction activities may occur close enough to nearby residences to expose people and structures to excessive vibration levels. In addition, although this BMP may reduce vibration effects of construction associated with conservation measures, it would not be expected to reduce vibration associated with construction for Covered Activities (i.e., development of the local jurisdictions' general plans, including SPRTA and PCWA projects).

Although implementation of Alternative 3 would result in a reduction in the amount of land converted in the PFG of approximately 1,000 acres, the potential for construction activity associated with Covered Activities to result in excessive vibration levels would be comparable to those described under Impact NOI-2 for Alternative 2, the proposed action.

NEPA Determination: Implementation of a PCCP BMP intended to reduce negative vibration effects on fish and wildlife in the Plan Area would also help reduce vibration effects on humans and structures in the vicinity of vibration-generating conservation measure work. However, implementation of Covered Activities (i.e., development of the local jurisdictions' general plans, including SPRTA and PCWA projects) that require the use of construction equipment could result in the generation of construction vibration and in the exposure of persons to excessive groundborne vibration or noise. In addition, construction activities for conservation measures under the PCCP, could also result in excessive vibration levels if impact pile driving activity were to occur within 175 feet, vibratory pile driving activity were to occur within 100 feet, and other vibration-generating construction activity (e.g., the use of a vibratory roller or hoe ram) were to occur within 25–50 feet of nearby vibration-sensitive uses. Since the exact locations of future vibration-generating construction activities are not known at this time, construction activity is assumed to potentially occur within these distances, and this impact would be potentially significant. Implementation of Mitigation Measure NOI-2 would reduce impacts related to the generation of excessive vibration. However, it may not be possible to reduce vibration to a less-than-significant level in all instances. Therefore, this impact would be significant and unavoidable.

CEQA Determination: Implementation of a PCCP BMP, which is intended to reduce negative vibration effects on fish and wildlife in the Plan Area, would also help reduce vibration effects on humans and structures in the vicinity of vibration-generating conservation measure work. However, implementation of Covered Activities (i.e., development of the local jurisdictions' general plans, including SPRTA and PCWA projects) that require the use of construction equipment could result in the generation of construction vibration and in the exposure of persons to excessive groundborne vibration or noise. In addition, construction activities for conservation measures under the PCCP, could also result in excessive vibration levels if impact pile driving activity were to occur within 175 feet, vibratory pile driving activity were to occur within 100 feet, and other vibration-generating construction activity (e.g., the use of a vibratory roller or hoe ram) were to occur within 25–50 feet of nearby vibration-sensitive uses. Since the exact locations of future vibration-generating construction activities are not known at this time, construction activity is assumed to potentially occur within these distances, and this impact would be potentially significant. Implementation of Mitigation Measure NOI-2 would reduce impacts related to the generation of excessive vibration. However, it may not be possible to reduce vibration to a less-than-significant level in all instances. Therefore, this impact would be significant and unavoidable.

Mitigation Measure NOI-2: Employ vibration-reducing construction practices for vibration-generating activities associated with conservation measures and Covered Activities

Impact NOI-3: Generation of a substantial permanent increase in existing ambient noise levels in the project vicinity (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

Like Alternative 2, the proposed action, Alternative 3 would result in increases in noise levels from the existing ambient noise level. These increases would occur during some construction or O&M

activities for PCCP conservation measures and for Covered Activities (i.e., development of the local jurisdictions' general plans, including SPRTA and PCWA projects).

The implementation of conservation measures under Alternative 3 is not anticipated to result in a substantial permanent increase in noise since noise associated with temporary construction is not permanent. Minor increases in traffic associated with conservation measures including habitat restoration and construction activities in different locations throughout the Plan Area would be temporary and short-term in any given location.

Although construction activities would not be expected to result in a permanent increase in ambient noise, it is possible that the implementation of Covered Activities could result in longer-term traffic increases. In addition, Covered Activities could also include the development of stationary noise sources that could result in a permanent increase in noise. Therefore, it is possible that Covered Activities could have a substantial and permanent effect on ambient noise levels as a result of traffic noise or the generation of new stationary sources of noise in specific areas.

NEPA Determination: Conservation measures implemented under Alternative 3 are not anticipated to result in a substantial permanent increase in noise, as construction and O&M activities associated with conservation measures under Plan implementation would be short-term and temporary in any given area. However, as discussed in the EIRs for the local jurisdictions' general plans, it is possible that the implementation of Covered Activities (i.e., development of the local jurisdictions' general plans, including SPRTA and PCWA projects) could result in traffic increases or in the development of stationary noise sources that could have a substantial and permanent effect on ambient noise levels in a given area. Because it would not be possible to reduce the noise impacts associated with Covered Activities to less-than-significant levels, this impact would be significant and unavoidable.

CEQA Determination: Conservation measures implemented under Alternative 2, the proposed action, are not anticipated to result in a substantial permanent increase in noise, as construction and O&M activities associated with conservation measures under Plan implementation would be short-term and temporary in any given area. However, as discussed in the EIRs for the local jurisdictions' general plans, it is possible that the implementation of Covered Activities (i.e., development of the local jurisdictions' general plans, including SPRTA and PCWA projects) could result in traffic increases or in the development of stationary noise sources that could have a substantial and permanent effect on ambient noise levels in a given area. Because it would not be possible to reduce the noise impacts associated with Covered Activities to less-than-significant levels, this impact would be significant and unavoidable.

Impact NOI-4: Creation of a substantial temporary or periodic increase in existing ambient noise levels in the project vicinity (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

As stated above under Impact NOI-1, implementation of Alternative 3 would entail construction and O&M activities throughout the Plan Area associated with PCCP conservation measures, along with the implementation of Covered Activities (i.e., development of the local jurisdictions' general plans, including SPRTA and PCWA projects, as described under Alternative 1). Noise from heavy construction equipment used for both conservation measures and Covered Activities could result in substantial temporary increases in ambient noise levels. As shown above in Tables 4.8-1 and 4.8-2, construction noise levels could result in noise levels exceeding the 55 dBA L_{eq} daytime standard at distances as great as 1,600 feet from combined construction activity assuming four pieces of equipment and 3,000 feet for pile driving activity (and the 45 dBA L_{eq} nighttime standard at even

greater distances). This could result in a substantial temporary or periodic increase in ambient noise levels.

NEPA Determination: Implementation of conservation measures under Alternative 3 would involve the use of construction equipment, and could result in a substantial temporary increase in noise. Although implementation of Mitigation Measure NOI-1 would reduce potential construction noise impacts, it is possible that construction noise generated would still constitute a substantial temporary increase in noise and that impacts related to a temporary increase in noise would remain significant. In addition, implementation of Covered Activities (i.e., development of the local jurisdictions' general plans, including SPRTA and PCWA projects) could also result in significant noise impacts even with implementation of Mitigation Measure NOI-1 because this mitigation measure would only restrict noise-generating activities under the purview of the PCA to daytime hours and, although it includes methods for reducing overall noise generated by heavy equipment, it cannot restrict construction activities outside the purview of the PCA. It would not be possible to reduce the noise impacts associated with Covered Activities under Alternative 3 to a less-than-significant level, as the PCA would not be the approving authority for these activities. This impact would be significant and unavoidable.

CEQA Determination: Implementation of conservation measures under Alternative 3 would involve the use of construction equipment, and could result in a substantial temporary increase in noise. Although implementation of Mitigation Measure NOI-1 would reduce potential construction noise impacts, it is possible that construction noise generated would still constitute a substantial temporary increase in noise and that impacts related to a temporary increase in noise would remain significant. In addition, implementation of Covered Activities (i.e., development of the local jurisdictions' general plans, including SPRTA and PCWA projects) could also result in significant noise impacts even with implementation of Mitigation Measure NOI-1 because this mitigation measure would only restrict noise-generating activities under the purview of the PCA to daytime hours and, although it includes methods for reducing overall noise generated by heavy equipment, it cannot restrict construction activities outside the purview of the PCA. It would not be possible to reduce the noise impacts associated with Covered Activities under Alternative 3 to a less-than-significant level, as the PCA would not be the approving authority for these activities. This impact would be significant and unavoidable.

Mitigation Measure NOI-1: Implement measures to reduce noise resulting from conservation measures and Covered Activities during construction and O&M activities to ensure compliance with applicable noise standards, where feasible.

Impact NOI-5: Presence of project-related activities within an airport land use plan area or within 2 miles of a public airport or public use airport, resulting in exposure of people residing or working in the Plan Area to excessive noise levels (NEPA: less than significant; CEQA: less than significant)

Implementation of Alternative 3 would require the use of construction equipment throughout the Plan Area for both construction and O&M activities. It is not known at this time where all future activities would take place; however, construction workers may work within close proximity of the Lincoln Regional Airport at times. If this were to occur, the work would be intermittent and temporary, lasting for only the duration of the specific construction activity in any given location. Furthermore, construction workers would primarily experience noise from the actual construction work, rather than noise from Lincoln Regional Airport or nearby airports outside the Plan Area (i.e.,

Auburn Municipal Airport, McClellan Park and Beale Air Force Base). Therefore, as construction activities would be temporary and intermittent, airport activities are not expected to expose construction workers to excessive noise.

As described in the EIRs for the local jurisdictions' general plans, impacts related to airport noise from implementation of these two general plans were determined to be less than significant.

NEPA Determination: As no Covered Activities would be expected to occur within the airport property, Covered Activities would not be expected to result in the exposure of persons to excess aircraft noise from a public airport. Similarly, conservation measures would not be expected to be located within the airport property. Further, as discussed in the EIRs for the local jurisdictions' general plans, impacts related to airport noise from implementation of these two general plans were determined to be less than significant. Therefore, impacts related to the exposure of persons to excessive aircraft noise would be less than significant.

CEQA Determination: As no Covered Activities would be expected to occur within the airport property, Covered Activities would not be expected to result in the exposure of persons to excess aircraft noise from a public airport. Similarly, conservation measures would not be expected to be located within the airport property. Further, as discussed in the EIRs for the local jurisdictions' general plans, impacts related to airport noise from implementation of these two general plans were determined to be less than significant. Therefore, impacts related to the exposure of persons to excessive aircraft noise would be less than significant. No mitigation has been identified.

Impact NOI-6: Presence of project-related activities in the vicinity of a private airstrip, resulting in exposure of people residing or working in the Plan Area to excessive noise levels (NEPA: less than significant; CEQA: less than significant)

Noise from private airstrips would not be considered excessive outside of the immediate vicinity of the airstrip. In addition, few private airstrips are located within the Plan Area, and the County and Cities have incorporated goals, policies, and objectives in their general plans to limit exposure to aircraft noise from these types of facilities. These measures would ensure that future development near airports and airstrips would meet applicable noise standards. For these reasons, the effects of implementation of Alternative 3 related to the exposure of persons to aircraft noise from a private airstrip would be comparable to the noise effects from a public airport as described for Impact NOI-5.

NEPA Determination: Because it is unlikely that Covered Activities (i.e., development of the local jurisdictions' general plans, including SPRTA and PCWA projects) would occur in the immediate vicinity (e.g., on the property) of a private airstrip, Covered Activities would not be expected to result in the exposure of persons to excess aircraft noise from a private airstrip. Similarly, conservation measures would not be expected to be located in the immediate vicinity of or on an airstrip property. In addition, although the completion of specific future Covered Activities could involve the locating of permanent employees within the Plan Area, it is unlikely that these projects would be adjacent to or on a private airstrip, and would therefore not be exposed to excessive aircraft noise from private airstrips. Further, the County and Cities have incorporated goals, policies, and objectives in their general plans to limit exposure to aircraft noise from these types of facilities. These measures would ensure that future development near airports and airstrips would meet applicable noise standards. Noise impacts related to private airstrips exposing workers to excessive noise levels would be less than significant.

CEQA Determination: Because it is unlikely that Covered Activities (i.e., development of the local jurisdictions' general plans, including SPRTA and PCWA projects) would occur in the immediate vicinity (e.g., on the property) of a private airstrip, Covered Activities would not be expected to result in the exposure of persons to excess aircraft noise from a private airstrip. Similarly, conservation measures would not be expected to be located in the immediate vicinity of or on an airstrip property. In addition, although the completion of specific future Covered Activities could involve the locating of permanent employees within the Plan Area, it is unlikely that these projects would be adjacent to or on a private airstrip, and would therefore not be exposed to excessive aircraft noise from private airstrips. Further, the County and Cities have incorporated goals, policies, and objectives in their general plans to limit exposure to aircraft noise from these types of facilities. These measures would ensure that future development near airports and airstrips would meet applicable noise standards. Noise impacts related to private airstrips exposing workers to excessive noise levels would be less than significant.

Alternative 4—Reduced Permit Term

Construction activities for Alternative 4 would be comparable to those for Alternative 2, the proposed action.

Impact NOI-1: Exposure of persons to or generation of noise levels in excess of applicable standards (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

As under Alternative 1, urban development and public infrastructure projects would continue to occur pursuant to the approved general plans of the applicable jurisdictions, as would SPRTA and PCWA planned projects. Covered Activities (i.e., development of the local jurisdictions' general plans, including SPRTA and PCWA projects) would be expected to require the use of construction equipment throughout the Plan Area. Like Alternative 2, the proposed action, Alternative 4 and the associated conservation measures would require the use of construction equipment throughout the Plan Area.

Construction activities under Alternative 4 would be comparable to those for Alternative 2; the associated noise levels are shown in Tables 4.8-1 and 4.8-2. As described previously, activities involving construction equipment for both conservation measures under the PCCP (e.g., earthmoving for and re-contouring of vernal pools and excavating ponds and channels) and for Covered Activities could generate noise levels in excess of thresholds. This indicates that construction noise associated with both Covered Activities and PCCP conservation measures, although temporary and infrequent in any given location, could exceed local standards at noise-sensitive land uses.

Although implementation of Alternative 4 would result in Covered Activities and conservation measures occurring over a period of 30 years rather than 50 years, the level of potential noise effects during the permit term would be comparable to those described under Impact NOI-1 for Alternative 2.

NEPA Determination: Implementation of Alternative 4 could result in the generation of construction noise from the use of heavy equipment for both PCCP conservation measures and Covered Activities (i.e., development of the local jurisdictions' general plans, including SPRTA and PCWA projects). Implementation of the PCCP BMP (described under Alternative 2, the proposed action) related to pile driving, intended to reduce negative noise effects from pile driving on wildlife in the Plan Area, would help reduce effects on humans in the vicinity of noise-generating Covered

Activity work that involves pile driving. However, construction activities associated with implementation Alternative 4 would still be expected to result in short-term exceedances in local noise standards. Implementation of Mitigation Measure NOI-1 would reduce impacts related to the generation of excessive noise from PCCP implementation; however, depending on the specific construction activities required for a future conservation measure or Covered Activity, it may not be possible to reduce construction noise impacts to a less-than-significant level. Further, and as described under Alternative 1 and in the EIR for the *City of Lincoln General Plan*, future projects developed under the general plan could result in significant noise impacts related to the generation of noise in excess of thresholds from construction activities as well as operations. As stated in the EIR for the *Placer County General Plan*, traffic noise impacts from general plan implementation related to an exceedance of thresholds would also be significant. Therefore, impacts from the proposed action related to the generation of noise in excess of thresholds would be significant and unavoidable under Alternative 4.

CEQA Determination: Implementation of Alternative 4 could result in the generation of construction noise from the use of heavy equipment for both PCCP conservation measures and Covered Activities (i.e., development of the local jurisdictions' general plans, including SPRTA and PCWA projects). Implementation of the PCCP BMP (described under Alternative 2, the proposed action) related to pile driving, intended to reduce negative noise effects from pile driving on wildlife in the Plan Area, would help reduce effects on humans in the vicinity of noise-generating Covered Activity work that involves pile driving. However, construction activities associated with implementation Alternative 4 would still be expected to result in short-term exceedances in local noise standards. Implementation of Mitigation Measure NOI-1 would reduce impacts related to the generation of excessive noise from PCCP implementation; however, depending on the specific construction activities required for a future conservation measure or Covered Activity, it may not be possible to reduce construction noise impacts to a less-than-significant level. Further, and as described for under Alternative 1 and in the EIR for the *City of Lincoln General Plan*, future projects developed under the general plan could result in significant noise impacts related to the generation of noise in excess of thresholds from construction activities as well as operations. As stated in the EIR for the *Placer County General Plan*, traffic noise impacts from general plan implementation related to an exceedance of thresholds would also be significant. Therefore, impacts from the proposed action related to the generation of noise in excess of thresholds would be significant and unavoidable under Alternative 4.

Mitigation Measure NOI-1: Implement measures to reduce noise resulting from conservation measures and Covered Activities during construction and O&M activities to ensure compliance with applicable noise standards, where feasible.

Impact NOI-2: Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

As under the no action alternative, urban development and public infrastructure projects would continue to occur pursuant to the local jurisdictions' general plans, as would SPRTA and PCWA planned projects. Public infrastructure projects would be expected to require the use of construction equipment throughout the Plan Area. The implementation of Covered Activities (i.e., development of the local jurisdictions' general plans, including SPRTA and PCWA projects) that require the use of

construction equipment could therefore result in the generation of construction vibration and could result in exposure of persons to excessive groundborne vibration or noise.

Like Alternative 2, the proposed action, Alternative 4 would result in construction and O&M activities associated with PCCP conservation measures. Implementation of the associated conservation measures would require the use of construction equipment throughout the Plan Area. The locations of construction and O&M activities are currently unknown. Throughout the Plan Area, it is expected that some construction activity could occur near noise-sensitive land uses such as rural residences.

As described previously, construction activities associated with Project conservation measures or with other Covered Activities would be temporary, and related vibration effects would be short-term. However, as is true of Alternative 2, it is not known how close to nearby residences or vibration-sensitive land uses vibration-generating equipment may be have to operate. Activities involving construction equipment (including construction and O&M activities) could generate vibration levels in excess of the FTA guidance criteria for construction vibration effects. Construction activities for conservation measures under Alternative 4 would be comparable to those under Alternative 2; the associated vibration levels are shown in Table 4.8-3. According to the vibration levels shown in that table, there may be situations where vibration-generating construction work may be required closer to nearby structures than these distances, directly exposing occupied buildings and other structures to ground vibration in excess of 0.1 in/sec PPV.

As also discussed for Alternative 2, the proposed action, the PCCP includes a BMP that is primarily designed to reduce underwater noise effects on fish from pile driving. Described under Alternative 2 this BMP would also help reduce potential vibration effects on wildlife in the stream systems, as well as on humans working or residing near work areas for conservation measures.

Even with implementation of this BMP, vibration-generating construction activities may occur close enough to nearby residences to expose people and structures to excessive vibration levels. In addition, although this BMP may reduce vibration effects of construction associated with conservation measures, it would not be expected to reduce vibration associated with construction for Covered Activities (i.e., development of the local jurisdictions' general plans, including SPRTA and PCWA projects).

Although implementation of Alternative 4 would result in a reduction of the PCCP permit term from 50 years to 30, the potential for construction activity associated with Covered Activities to result in excessive vibration levels during the permit term would be comparable to those described under Impact NOI-2 for Alternative 2, the proposed action.

NEPA Determination: Implementation of a PCCP BMP intended to reduce negative vibration effects on fish and wildlife in the Plan Area would also help reduce vibration effects on humans and structures in the vicinity of vibration-generating conservation measure work. However, implementation of Covered Activities (i.e., development of the local jurisdictions' general plans, including SPRTA and PCWA projects) that require the use of construction equipment could result in the generation of construction vibration and in the exposure of persons to excessive groundborne vibration or noise. In addition, construction activities for conservation measures under the PCCP, could also result in excessive vibration levels if impact pile driving activity were to occur within 175 feet, vibratory pile driving activity were to occur within 100 feet, and other vibration-generating construction activity (e.g., the use of a vibratory roller or hoe ram) were to occur within 25–50 feet of nearby vibration-sensitive uses. Since the exact locations of future vibration-generating

construction activities are not known at this time, construction activity is assumed to potentially occur within these distances, and this impact would be potentially significant. Implementation of Mitigation Measure NOI-2 would reduce impacts related to the generation of excessive vibration. However, it may not be possible to reduce vibration to a less-than-significant level in all instances. Therefore, this impact would be significant and unavoidable.

CEQA Determination: Implementation of a PCCP BMP intended to reduce negative vibration effects on fish and wildlife in the Plan Area would also help reduce vibration effects on humans and structures in the vicinity of vibration-generating conservation measure work. However, implementation of Covered Activities (i.e., development of the local jurisdictions' general plans, including SPRTA and PCWA projects) that require the use of construction equipment could result in the generation of construction vibration and in the exposure of persons to excessive groundborne vibration or noise. In addition, construction activities for conservation measures under the PCCP, could also result in excessive vibration levels if impact pile driving activity were to occur within 175 feet, vibratory pile driving activity were to occur within 100 feet, and other vibration-generating construction activity (e.g., the use of a vibratory roller or hoe ram) were to occur within 25–50 feet of nearby vibration-sensitive uses. Since the exact locations of future vibration-generating construction activities are not known at this time, construction activity is assumed to potentially occur within these distances, and this impact would be potentially significant. Implementation of Mitigation Measure NOI-2 would reduce impacts related to the generation of excessive vibration. However, it may not be possible to reduce vibration to a less-than-significant level in all instances. Therefore, this impact would be significant and unavoidable.

Mitigation Measure NOI-2: Employ vibration-reducing construction practices for vibration-generating activities associated with conservation measures and Covered Activities

Impact NOI-3: Generation of a substantial permanent increase in existing ambient noise levels in the project vicinity (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

Like Alternative 2, the proposed action, Alternative 4 would result in increases in noise levels from the existing ambient noise level. These increases would occur during some construction or O&M activities for PCCP conservation measures and for (i.e., development of the local jurisdictions' general plans, including SPRTA and PCWA projects).

The implementation of conservation measures under Alternative 4 is not anticipated to result in a substantial permanent increase in noise since noise associated with temporary construction is not permanent. Minor increases in traffic associated with conservation measures including habitat restoration and construction activities in different locations throughout the Plan Area would be temporary and short-term in any given location.

Implementation of Alternative 4 would result in a shorter overall duration of noise-generating Covered Activities and conservation measures (30 years as opposed to 50 years). However, it is possible that the implementation of Covered Activities could result in traffic increases or in the development of stationary noise sources that could have a substantial and permanent effect on ambient noise levels in a given area under this alternative, and could result in a permanent increase in noise.

NEPA Determination: Conservation measures implemented under Alternative 4 are not anticipated to result in a substantial permanent increase in noise, as construction and O&M activities associated with Plan implementation would be short-term and temporary in any given area. However, as discussed in the EIRs for the local jurisdictions' general plans, it is possible that the implementation of Covered Activities (i.e., development of the local jurisdictions' general plans, including SPRTA and PCWA projects) could result in traffic increases or in the development of stationary noise sources that could have a substantial and permanent effect on ambient noise levels in a given area. Because it would not be possible to reduce the noise impacts associated with Covered Activities to less-than-significant levels, this impact would be significant and unavoidable.

CEQA Determination: Conservation measures implemented under Alternative 4 are not anticipated to result in a substantial permanent increase in noise, as construction and O&M activities associated with Plan implementation would be short-term and temporary in any given area. However, as discussed in the EIRs for the local jurisdictions' general plans, it is possible that the implementation of Covered Activities (i.e., development of the local jurisdictions' general plans, including SPRTA and PCWA projects) could result in traffic increases or in the development of stationary noise sources that could have a substantial and permanent effect on ambient noise levels in a given area. Because it would not be possible to reduce the noise impacts associated with Covered Activities to less-than-significant levels, this impact would be significant and unavoidable.

Impact NOI-4: Creation of a substantial temporary or periodic increase in existing ambient noise levels in the project vicinity (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

As stated above under Impact NOI-1, implementation of Alternative 4 would entail construction and O&M activities throughout the Plan Area associated with PCCP conservation measures, along with the implementation of Covered Activities as described under the Alternative a. Noise from heavy construction equipment used for both conservation measures and Covered Activities (i.e., development of the local jurisdictions' general plans, including SPRTA and PCWA projects) could result in substantial temporary increases in ambient noise levels. As shown above in Tables 4.8-1 and 4.8-2, construction noise levels could result in noise levels exceeding the 55 dBA L_{eq} daytime standard at distances as great as 1,600 feet from combined construction activity assuming four pieces of equipment and 3,000 feet for pile driving activity (and the 45 dBA L_{eq} nighttime standard at even greater distances). This could result in a substantial temporary or periodic increase in ambient noise levels.

NEPA Determination: Implementation of conservation measures under Alternative 4 would involve the use of construction equipment, and could result in a substantial temporary increase in noise. Although implementation of Mitigation Measure NOI-1 would reduce potential construction noise impacts, it is possible that construction noise generated would still constitute a substantial temporary increase in noise and that impacts related to a temporary increase in noise would remain significant. In addition, implementation of Covered Activities (i.e., development of the local jurisdictions' general plans, including SPRTA and PCWA projects) could also result in significant noise impacts even with implementation of Mitigation Measure NOI-1 because this mitigation measure would only restrict noise-generating activities under the purview of the PCA to daytime hours, and although it includes methods for reducing overall noise generated by heavy equipment, it cannot restrict construction activities outside the purview of the PCA. I It would not be possible to reduce the noise impacts associated with Covered Activities under Alternative 4 to a less-than-

significant level, as the PCA would not be the approving authority for these activities. This impact would be significant and unavoidable.

CEQA Determination: Implementation of conservation measures under Alternative 4 would involve the use of construction equipment, and could result in a substantial temporary increase in noise. Although implementation of Mitigation Measure NOI-1 would reduce potential construction noise impacts, it is possible that construction noise generated would still constitute a substantial temporary increase in noise and that impacts related to a temporary increase in noise would remain significant. In addition, implementation of Covered Activities (i.e., development of the local jurisdictions' general plans, including SPRTA and PCWA projects) could also result in significant noise impacts even with implementation of Mitigation Measure NOI-1 because this mitigation measure would only restrict noise-generating activities under the purview of the PCA to daytime hours, and although it includes methods for reducing overall noise generated by heavy equipment, it cannot restrict construction activities outside the purview of the PCA. I It would not be possible to reduce the noise impacts associated with Covered Activities under Alternative 4 to a less-than-significant level, as the PCA would not be the approving authority for these activities. This impact would be significant and unavoidable.

Mitigation Measure NOI-1: Implement measures to reduce noise resulting from conservation measures and Covered Activities during construction and O&M activities to ensure compliance with applicable noise standards, where feasible.

Impact NOI-5: Presence of project-related activities within an airport land use plan area or within 2 miles of a public airport or public use airport, resulting in exposure of people residing or working in the Plan Area to excessive noise levels (NEPA: less than significant; CEQA: less than significant)

Implementation of Alternative 4 would require the use of construction equipment throughout the Plan Area for both construction and O&M activities. It is not known at this time where all future activities would take place; however, construction workers may work within close proximity of the Lincoln Regional Airport at times. If this were to occur, the work would be intermittent and temporary, lasting for only the duration of the specific construction activity in any given location. Furthermore, construction workers would primarily experience noise from the actual construction work, rather than noise from Lincoln Regional Airport or nearby airports outside the Plan Area (i.e., Auburn Municipal Airport, McClellan Park, and Beale Air Force Base). Therefore, as construction activities would be temporary and intermittent, airport activities are not expected to expose construction workers to excessive noise.

As described in the EIRs for the local jurisdictions' general plans, impacts related to airport noise from implementation of these two general plans were determined to be less than significant.

NEPA Determination: As no Covered Activities would be expected to occur within the airport property, Covered Activities would not be expected to result in the exposure of persons to excess aircraft noise from a public airport. Similarly, conservation measures would not be expected to be located within the airport property. Further, as discussed in the EIRs for the local jurisdictions' general plans, impacts related to airport noise from implementation of these two general plans were determined to be less than significant. Therefore, impacts related to the exposure of persons to excessive aircraft noise would be less than significant.

CEQA Determination: As no Covered Activities would be expected to occur within the airport property, Covered Activities would not be expected to result in the exposure of persons to excess aircraft noise from a public airport. Similarly, conservation measures would not be expected to be located within the airport property. Further, as discussed in the EIRs for the local jurisdictions' general plans, impacts related to airport noise from implementation of these two general plans were determined to be less than significant. Therefore, impacts related to the exposure of persons to excessive aircraft noise would be less than significant. No mitigation has been identified.

Impact NOI-6: Presence of project-related activities in the vicinity of a private airstrip, resulting in exposure of people residing or working in the Plan Area to excessive noise levels (NEPA: less than significant; CEQA: less than significant)

Noise from private airstrips would not be considered excessive outside of the immediate vicinity of the airstrip. In addition, few private airstrips are located within the Plan Area, and the County and Cities have incorporated goals, policies, and objectives in their general plans to limit exposure to aircraft noise from these types of facilities. These measures would ensure that future development near airports and airstrips would meet applicable noise standards. For these reasons, the effects of implementation of Alternative 4 related to the exposure of persons to aircraft noise from a private airstrip would be comparable to the noise effects from a public airport as described for Impact NOI-5.

NEPA Determination: Because it is unlikely that Covered Activities (i.e., development of the local jurisdictions' general plans, including SPRTA and PCWA projects) would occur in the immediate vicinity (e.g., on the property) of a private airstrip, Covered Activities would not be expected to result in the exposure of persons to excess aircraft noise from a private airstrip. Similarly, conservation measures would not be expected to be located in the immediate vicinity of or on an airstrip property. In addition, although the completion of specific future Covered Activities could involve the locating of permanent employees within the Plan Area, it is unlikely that these projects would be adjacent to or on a private airstrip, and would therefore not be exposed to excessive aircraft noise from private airstrips. Further, the County and Cities have incorporated goals, policies, and objectives in their general plans to limit exposure to aircraft noise from these types of facilities. These measures would ensure that future development near airports and airstrips would meet applicable noise standards. Noise impacts related to private airstrips exposing workers to excessive noise levels would be less than significant.

CEQA Determination: Because it is unlikely that Covered Activities (i.e., development of the local jurisdictions' general plans, including SPRTA and PCWA projects) would occur in the immediate vicinity (e.g., on the property) of a private airstrip, Covered Activities would not be expected to result in the exposure of persons to excess aircraft noise from a private airstrip. Similarly, conservation measures would not be expected to be located in the immediate vicinity of or on an airstrip property. In addition, although the completion of specific future Covered Activities could involve the locating of permanent employees within the Plan Area, it is unlikely that these projects would be adjacent to or on a private airstrip, and would therefore not be exposed to excessive aircraft noise from private airstrips. Further, the County and Cities have incorporated goals, policies, and objectives in their general plans to limit exposure to aircraft noise from these types of facilities. These measures would ensure that future development near airports and airstrips would meet applicable noise standards. Noise impacts related to private airstrips exposing workers to excessive noise levels would be less than significant.

4.8.3 Cumulative Analysis

Methods and Approach

The cumulative analysis for noise is a qualitative evaluation taking into consideration past, present, and reasonably foreseeable future projects that could be developed under general plan buildout in all jurisdictions encompassed by the Plan Area as presented in Section 4.0, *Environmental Consequences*, of this document.

The cumulative effects analysis for noise considers the effects of implementing the action alternatives in combination with other past, present, and reasonably foreseeable projects or programs. This analysis determines whether the Covered Activities not analyzed in previous environmental documents would result in a cumulatively considerable incremental contribution that, when combined with the past, present, and reasonably foreseeable future projects, would result in a cumulatively significant impact.

Alternative 1—No Action

Alternative 1 would entail buildout of the general plans for the jurisdictions encompassed by the Plan Area; Alternative 1 is therefore anticipated to result in cumulative noise increases related to the construction of various projects in the Plan Area. However, the additional noise contributed by the conservation actions would not occur. Alternative 1 would not have a cumulatively considerable contribution to this cumulative impact, because substantial noise would be generated by the projects considered in the local jurisdictions' general plans, and the general plan impacts would be significant and unavoidable, as discussed above.

Alternative 2—Proposed Action

As discussed under Alternative 1 above, buildout of the general plans for the jurisdictions encompassed by the Plan Area is anticipated to result in cumulative noise increases related to the construction of various projects in the Plan Area. Noise from these construction projects, including projects considered to be Covered Activities under the PCCP (refer to Chapter 4 of the Plan), could combine with noise from conservation measures activities associated directly with the proposed action to result in significant cumulative noise impacts.

Buildout of the local jurisdictions' general plans, in conjunction with activities associated with the proposed action, could result in cumulative impacts related to construction noise. The proposed action's contribution to this effect would be considered cumulatively considerable, as it is currently not known how near to one another conservation measure activities and other Covered Activities could occur. Although Mitigation Measure NOI-1, described above, would reduce construction noise impacts associated with the conservation measures under the proposed action, cumulative impacts related to construction noise in the Plan Area (including impacts from construction for Covered Activities) may still be significant. Cumulative construction noise impacts would conservatively be considered to be significant and unavoidable.

Buildout under the local jurisdictions' general plans could potentially result in cumulative impacts related to transportation noise. Conservation measures under the proposed action would not contribute to this cumulative impact because the conservation measures would involve temporary construction and maintenance projects, and would not result in permanent increases in traffic noise

in the Plan Area. However, Covered Activities could result in increases in traffic in certain areas. Traffic increases associated with Covered Activities under the PCCP could result in excessive traffic noise. Accordingly, the proposed action's contribution to a cumulative transportation noise impact could be cumulatively considerable.

Alternative 3—Reduced Fill/Reduced Take

Implementation of Alternative 3 would result in the same cumulatively considerable contribution to a cumulative construction noise impact in the Plan Area as identified above for Alternative 2, the proposed action. As also discussed above under Alternative 2, the proposed action's contribution to a cumulative transportation noise impact could be cumulatively considerable.

Alternative 4—Reduced Permit Term

Implementation of Alternative 4 would result in the same cumulatively considerable contribution to a cumulative construction noise impact in the Plan Area as identified above for Alternative 2, the proposed action. As also discussed above under Alternative 2, the proposed action's contribution to a cumulative transportation noise impact could be cumulatively considerable.

4.8.4 References Cited

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4.9 Population and Housing, Socioeconomics, and Environmental Justice

4.9.1 Methods and Significance Criteria

Methods

This section evaluates the effects on population and housing, socioeconomics, and environmental justice that would result from implementation of the proposed action and alternatives.

Anticipated changes in land cover/land use for each alternative are described in Chapter 2, *Proposed Action and Alternatives*. See Section 4.0, *Environmental Consequences*, for a description of the methodology used across all resource chapters for the analysis of cumulative effects.

The effects of the proposed action and alternatives on population and housing, socioeconomics, and environmental justice are analyzed qualitatively. Generally, impacts would occur if the proposed action or alternatives would result in an increase in population growth, displace a substantial amount of people or housing, result in substantial changes in wages or employment, or result in disproportionately adverse effects on minority or low-income populations. Effects could also result from the development envisioned by the Permit Applicants' long-term plans.

Significance Criteria

Population and Housing

According to Appendix G of the State CEQA Guidelines, a proposed action would be considered to have a significant effect if it would result in any of the following.

- Induce substantial population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure).
- Displace a substantial number of existing housing units, necessitating the construction of replacement housing elsewhere.
- Displace a substantial number of people, necessitating the construction of replacement housing elsewhere.

Socioeconomics

For the purposes of this analysis, a socioeconomic impact is considered to be adverse if it would result in any of the following.

- Substantially change economic activity within the Plan Area.
- Substantially affect property tax revenue.

Environmental Justice

Federal Council on Environmental Quality (CEQ) guidance provides relevant thresholds for identification of environmental justice effects. The CEQ guidance identifies three factors to be

considered to the extent practicable when determining whether environmental effects are disproportionately high and adverse (Council on Environmental Quality 1997).

- Whether there is or would be an impact on the natural or physical environment that significantly and adversely affects a minority population or low-income population. Such effects may include ecological, cultural, human health, economic, and social impacts on minority communities, low-income communities, or Indian tribes when those impacts are interrelated to impacts on the natural or physical environment. For the purposes of this analysis, a significant and adverse effect on a minority population is found where significant environmental effects would occur in a location where minorities constitute greater than 50% of the population or low-income individuals constitute 20% or more of the population.
- Whether the environmental effects are significant and are or may have an adverse impact on minority populations or low-income populations—that is, an impact that appreciably exceeds or is likely to appreciably exceed those on the general population or other appropriate comparison group. For the purposes of this analysis, an effect appreciably exceeds the effect on the general population if it would occur in a location where minorities constitute more than 50% of the population or low-income individuals constitute 20% or more of the population.
- Whether the environmental effects occur or would occur in a minority population or low-income population affected by cumulative or multiple adverse exposures to environmental hazards that appreciably exceed the cumulative or adverse exposure of the population at large. For the purposes of this analysis, an effect appreciably exceeds the effect on the general population if the affected population is more than 50% minority or 20% or more low-income.

These standards are consistent with the standards of the California Resources Agency Environmental Justice Policy. This policy states that the Resources Agency and the constituent departments will undertake the following (California Resources Agency 2012).

- Identify relevant populations that might be adversely affected by programs or projects submitted by outside parties, as appropriate.
- Work in conjunction with other federal, state, regional, and local agencies to ensure consideration of disproportionate impacts on relevant populations.

The factors and standards described above have been summarized into the following significance criterion. For the purposes of this analysis, an impact is considered to be adverse if it would result in the following.

- Substantially disproportionately affect minority or low-income populations.

4.9.2 Impacts and Mitigation Measures

Alternative 1—No Action

As described in Section 4.0, *Environmental Consequences*, Alternative 1 includes reasonably foreseeable activities in the Plan Area associated with urbanization and associated infrastructure development, operation, and maintenance included in the various planning documents of Placer County and the City of Lincoln (the local jurisdictions) as well as future projects of the South Placer Regional Transit Authority (SPRTA) and the Placer County Water Agency (PCWA), such as local transportation and water projects.

Impact SOC-1: Creation of substantial population growth either directly or indirectly (NEPA: less than significant; CEQA: less than significant)

Development envisioned in the *Placer County General Plan* and the *City of Lincoln General Plan* would go forward under Alternative 1. As stated in Section 3.9.2, *Environmental Setting*, both Placer County and the City of Lincoln have experienced rapid growth over the past 20 years. Population in Placer County is expected to continue to grow, particularly in the incorporated cities. Because development would occur as planned for and allowed under both general plans, impacts would be the same as those identified in the EIRs prepared for those plans.

The EIR for the *Placer County General Plan* acknowledged that indirect effects would result from population growth (e.g., traffic, land use changes) but concluded that impacts on population and housing would be less than significant.

The EIR for the *City of Lincoln General Plan* concluded that impacts of growth would be accommodated by the general plan and would be less than significant. The City's growth assumptions are consistent with the land use principles/concepts of the Sacramento Area Council of Governments' (SACOG's) Blueprint Project, and its general plan discourages undesirable development in areas with sensitive natural resources, critical habitats, and important scenic resources. Orderly growth and new development are planned in areas adjacent to existing urban uses and developers are required to provide service extensions. Accordingly, the EIR concluded that, although the general plan would result in growth, its policies reduce the potential for negative impacts associated with growth that is a direct consequence of general plan implementation to a less-than-significant level.

NEPA Determination: Population growth that would occur through implementation of the local jurisdictions' general plans is planned, and the general plan EIRs found that impacts related to population growth would be less than significant. Therefore, this impact would be less than significant.

CEQA Determination: Population growth that would occur through implementation of the local jurisdictions' general plans is planned, and general plan EIRs found that impacts related to population growth would be less than significant. Therefore, this impact would be less than significant.

Impact SOC-2: Displacement of a substantial number of existing housing units, necessitating the construction of replacement housing elsewhere (NEPA: less than significant; CEQA: less than significant)

Under Alternative 1, the no action alternative, development envisioned in the *Placer County General Plan* and *City of Lincoln General Plan* as well as long-term SPRTA and PCWA plans would go forward. The EIR for the *Placer County General Plan* concluded that impacts on housing would be less than significant. The EIR for the *City of Lincoln General Plan* does not specifically address housing, but did conclude that impacts resulting from growth would be accommodated by the general plan and would be less than significant. The City's growth assumptions are consistent with the land use principles/concepts of the SACOG Blueprint Project, and the general plan discourages undesirable development in areas with sensitive natural resources, critical habitats, and important scenic resources. Orderly growth and new development are planned in areas adjacent to existing urban uses and require developers to provide service extensions. Accordingly, although the City's general

plan would result in growth, the general plan policies reduce the potential for negative impacts associated with growth to a less-than-significant level.

NEPA Determination: Housing developed in accordance with the general plans would be concentrated in areas adjacent to existing urban uses and would not result in a substantial displacement of housing. Therefore, Alternative 1 would have a less-than-significant impact on housing.

CEQA Determination: Housing developed in accordance with the general plans would be concentrated in areas adjacent to existing urban uses and would not result in a substantial displacement of housing. Therefore, Alternative 1 would have a less-than-significant impact on housing.

Impact SOC-3: Displacement of a substantial number of people, necessitating the construction of replacement housing elsewhere (NEPA: less than significant; CEQA: less than significant)

Impacts of Alternative 1, the no action alternative, regarding displacement of people would be the same as those described for Impacts SOC-1 and SOC-2. This alternative would not directly result in the displacement of a substantial amount of people or housing.

NEPA Determination: Alternative 1 would not result in the displacement of a substantial number of people that would necessitate the construction of replacement housing. This impact would be less than significant.

CEQA Determination: Alternative 1 would not result in the displacement of a substantial number of people that would necessitate the construction of replacement housing. This impact would be less than significant.

Impact SOC-4: Substantially change economic activity in the Plan Area (NEPA: less than significant)

Under Alternative 1, the no action alternative, permits would be granted on a project-by-project basis. There would be no comprehensive means to coordinate and standardize mitigation and compensation requirements within the Plan Area. This approach is anticipated to result in a more costly, less equitable, and less efficient project review process.

Economic activity would result from planned growth, development, employment, and industry within the local jurisdictions and the Plan Area. Under the local general plans, development, employment, and industry are expected to grow. The no action alternative would not substantially change economic activity in the Plan Area.

NEPA Determination: Economic activity in the Plan Area would continue to increase, as planned in the local jurisdictions' general plans. Alternative 1 would not substantially change economic activity in the Plan Area. This impact would be less than significant.

CEQA Determination: This impact is not subject to analysis under CEQA.

Impact SOC-5: Substantially affect property tax revenue (NEPA: less than significant)

Economic activity would result from planned growth, development, employment, and industry within the local jurisdictions and the Plan Area; such activity is accounted for in the local

jurisdictions' general plans. Alternative 1, the no action alternative, would not substantially affect property tax revenue in the Plan Area.

NEPA Determination: Alternative 1 is not anticipated to substantially affect development and property tax revenue in the Plan Area. This impact would be less than significant.

CEQA Determination: This impact is not subject to analysis under CEQA.

Impact SOC-6: Substantially disproportionately affect minority or low-income populations (NEPA: less than significant)

To determine whether the no action alternative would result in a substantially disproportionate effect on minority populations or low-income populations, the significant effects of the proposed action that would affect people were examined to determine whether these effects would occur disproportionately in areas with a higher proportion of such demographic populations. As described in Table 3.9-8, Placer County and Lincoln have lower percentages of minority and low-income residents than does the rest of the state. Figure 3.9-1 shows that minority populations are located in the southwest portion of the Plan Area. One census tract in Lincoln has more than 50% minority residents.

Alternative 1 was determined to have significant and unavoidable impacts on air quality, noise, and transportation. These conclusions are summarized below. Because development would occur as planned and allowed under the local jurisdictions' general plans, impacts would be the same as those identified for the general plans.

Agricultural Resources

Under Alternative 1 implementing the local jurisdictions' general plans would result in the conversion of Important Farmland to nonagricultural use; future SPRTA and PCWA projects could also result in the conversion of Important Farmland to nonagricultural use. Accordingly, this impact would be significant and unavoidable.

Air Quality

Under Alternative 1, individual projects could conflict with the applicable air district air quality plans and violate applicable air quality standards. General conformity *de minimis* thresholds could be exceeded. Future projects would undergo project-specific analysis and would need to mitigate potentially significant fugitive particulate matter emission impacts to less-than-significant levels. However, construction activities associated with this alternative could result in exposure of sensitive receptors to substantial diesel particulate matter pollutant concentrations even after CEQA/NEPA review and implementation of possible mitigation measures. Therefore, air quality impacts from Alternative 1 would be significant and unavoidable.

Noise

Under Alternative 1, individual projects could result in the exposure of persons to or generation of noise levels in excess of standards established in a local general plan or noise ordinance. No mitigation available would ensure that potential impacts would be reduced to less-than-significant levels. Consequently, noise impacts from Alternative 1 would be significant and unavoidable.

Transportation

Alternative 1 would result in impacts on traffic and transportation from reasonably foreseeable activities in the Plan Area associated with urbanization and associated infrastructure development, operation, and maintenance included in the various planning documents of the local jurisdictions as well as future SPRTA and PCWA projects, such as local transportation and water projects. Specifically, implementation of the local jurisdictions' general plans would result in significant impacts on traffic and transportation that cannot be avoided. Therefore, Alternative 1 would have a significant and unavoidable effect on traffic and roadway capacity.

NEPA Determination: Under Alternative 1, impacts would be experienced throughout the Plan Area, not disproportionately in the few areas with concentrated minority populations and low-income populations. Impacts on minority and low-income persons would not be disproportionately high and adverse. This impact would be less than significant.

CEQA Determination: This impact is not subject to analysis under CEQA.

Alternative 2—Proposed Action

Impact SOC-1: Creation of substantial population growth either directly or indirectly (NEPA: less than significant; CEQA: less than significant)

Population growth results when new homes, businesses, or roads or other infrastructure are constructed. Projects in rural areas are less likely to result in substantive growth impacts because the population density and economic activity are lower in those areas. Implementation of Alternative 2, the proposed action, would require construction activities such as earthmoving for and re-contouring of vernal pools and excavating ponds and channels. These activities would not result in substantial land use changes and would not cause growth-related impacts.

Within the Plan Area, the proposed action could serve to streamline the development envisioned in the *Placer County General Plan* and *City of Lincoln General Plan* as well as future projects of SPRTA and PCWA. The EIR for the *Placer County General Plan* acknowledged effects resulting from population growth (e.g., traffic, land use changes) but concluded that impacts on population and housing would be less than significant (Placer County 1994). The EIR for the *City of Lincoln General Plan* concluded that impacts associated with growth would be accommodated by the general plan and would be less than significant because the City's growth assumptions are consistent with the land use principles/concepts of the SACOG Blueprint Project and because the general plan discourages undesirable development in areas with sensitive natural resources, critical habitats, and important scenic resources (City of Lincoln 2006). Orderly growth and new development are planned in areas adjacent to existing urban uses and developers are required to provide service extensions. Accordingly, the EIR concluded that although the City's general plan would result in growth, the general plan policies reduce potential negative impacts associated with growth that is a direct consequence of general plan implementation to a less-than-significant level.

NEPA Determination: Alternative 2, the proposed action, would not result in effects on population growth attributable to Plan implementation. Effects resulting from the implementation of Covered Activities would be less than significant.

CEQA Determination: Alternative 2, the proposed action, would not result in effects on population growth attributable to Plan implementation. Effects resulting from the implementation of Covered Activities would be less than significant. No mitigation has been identified.

Impact SOC-2: Displacement of a substantial number of existing housing units, necessitating the construction of replacement housing elsewhere (NEPA: less than significant; CEQA: less than significant)

Implementation of Alternative 2, the proposed action, would involve activities such as obtaining fee title or conservation easements for reserve acquisitions and performing construction activities related to restoration and habitat enhancement. PCCP activities associated with the conservation strategy and measures are not anticipated to displace existing housing because they would involve either placing easements on existing agricultural lands or restoring habitat in rural and open space areas. These activities would not result in the displacement of a substantial number of existing housing units. Although most lands that would be acquired and added to the Reserve System have land use designations for a limited amount of residential development (typically one dwelling unit per 80 acres), the amount of land that would be unavailable for housing as a result of establishing the Reserve System, compared with the inventory of housing that is and will be available, would be inconsequential. Additionally, for some reserve acquisitions, homes would already be present or may be allowed, further reducing the potential to affect the housing supply, particularly in rural areas.

Within the Plan Area, the proposed action could serve to streamline the development envisioned in the *Placer County General Plan* and *City of Lincoln General Plan* as well as future SPRTA and PCWA projects. The EIR for the *Placer County General Plan* concluded that impacts on housing would be less than significant. The EIR for the *City of Lincoln General Plan* does not specifically address housing, but it did conclude that impacts resulting from growth would be accommodated by the general plan and would be less than significant. The City's growth assumptions are consistent with the land use principles/concepts of the SACOG Blueprint Project, and the general plan discourages undesirable development in areas with sensitive natural resources, critical habitats, and important scenic resources. Orderly growth and new development are planned in areas adjacent to existing urban uses and developers are required to provide service extensions. Accordingly, although the City's general plan would result in an increase in growth, the general plan policies reduce potential negative impacts associated with growth to a less-than-significant level.

NEPA Determination: Under Alternative 2, the proposed action, implementation of the PCCP would not result in impacts related to housing. Housing development in accordance with the general plans would be concentrated in areas adjacent to existing urban uses and would not result in a substantial displacement of housing. Covered Activities of SPRTA and PCWA would be unlikely to result in removal of housing. Therefore, the proposed action would have a less-than-significant impact on housing.

CEQA Determination: Under Alternative 2, the proposed action, implementation of the PCCP would not result in impacts related to housing. Housing developed in accordance with the general plans would be concentrated in areas adjacent to existing urban uses and would not result in a substantial displacement of housing. Covered Activities of SPRTA and PCWA would be unlikely to result in removal of housing. Therefore, the proposed action would have a less-than-significant impact on housing. No mitigation has been identified.

Impact SOC-3: Displacement of a substantial number of people, necessitating the construction of replacement housing elsewhere (NEPA: less than significant; CEQA: less than significant)

Impacts regarding displacement of people would be the same as those described above under Impact SOC-2. Under Alternative 2, the proposed action, PCCP implementation would not result in the displacement of a substantial amount of people or housing. The EIRs for the local jurisdictions' general plans found that implementation of the general plans would have a less-than-significant impact related to displacement of a substantial number of people. Covered Activities of SPRTA and PCWA would be unlikely to result in removal of housing and, therefore, would be unlikely to displace a substantial number of people.

NEPA Determination: Under Alternative 2, the proposed action, PCCP implementation and Covered Activities would not result in the displacement of a substantial number of people that would necessitate the construction of replacement housing. This impact would be less than significant.

CEQA Determination: Under Alternative 2, the proposed action, PCCP implementation and Covered Activities would not result in the displacement of a substantial number of people that would necessitate the construction of replacement housing. This impact would be less than significant. No mitigation has been identified.

Impact SOC-4: Substantially change economic activity in the Plan Area (NEPA: less than significant)

Because the PCCP is programmatic in nature, there is some uncertainty regarding the extent of the proposed action's effects on economic activity in the Plan Area. Indirect economic activity would result from development, employment, and industry within the local jurisdictions and the Plan Area. As discussed in Section 4.1, *Agricultural and Forestry Resources*, the Plan could result in conversions of up to 8,050 acres of Important Farmland to nonagricultural uses within the Reserve Acquisition Area (RAA), potentially reducing agricultural productivity. Grazing would still be a compatible use on acquired farmland, but changes in agricultural practices could occur under Alternative 2. This potential conversion of farmland would take place over the 50-year life of the Plan and would be substantially less than the amount of conversion of farmland that would be anticipated to occur in the same time period for other reasons. As described in Section 3.1.2, *Environmental Setting*, 13,140 acres of Important Farmland were converted to nonagricultural uses in the 10 years from 2006 to 2016. This amount of farmland conversion over a long period of time would not be expected to substantially change economic activity in the Plan Area.

NEPA Determination: Implementation of the Plan would have indirect, beneficial impacts on the economy of the Plan Area due to enhanced economic opportunities, visitor spending, and increased efficiency, as detailed in a draft report by Hausrath Economic Group (2005). Conversion of farmland as a result of reserve acquisition could have an effect on economic activity, but the amount of conversion over the life of the Plan would not result in substantial changes.

CEQA Determination: This impact is not subject to analysis under CEQA.

Impact SOC-5: Substantially affect property tax revenue (NEPA: less than significant)

A draft report by Hausrath Economic Group (2005) concluded that the Plan would result in a larger reserve system and more reserve land transactions. Some of the land anticipated to be acquired for the Reserve System is currently being used for agricultural purposes and is expected to be privately owned. Lands would be acquired in fee title or through placement of conservation easements.

Transfer of fee title interest in these properties would result in the full loss of the property tax revenue currently generated by these properties. While the short-term loss may be minimal, the impact would greater over the long term, because the loss of revenue would include any future growth potential on these properties. The Hausrath assessment concluded that the impacts could be offset by leasing the properties or transferring the fee title of a property with a conservation easement to private ownership. However, the analysis also pointed out that implementation of the Plan would have indirect, beneficial impacts on public revenue due to enhanced economic opportunities, visitor spending, and increased efficiency.

NEPA Determination: Although implementation of the Plan could result in beneficial economic impacts, there could potentially be reductions in property tax revenues due to the removal of lands from the tax rolls. The overall effect is not anticipated to be substantial.

CEQA Determination: This impact is not subject to analysis under CEQA.

Impact SOC-6: Substantially disproportionately affect minority or low-income populations (NEPA: less than significant)

To determine whether Alternative 2, the proposed action, would result in a substantially disproportionate effect on minority populations or low-income populations, the significant effects of the proposed action that would affect people were examined to determine if these effects would occur disproportionately in areas with a higher proportion of such demographic populations. As described in Table 3.9-8, Placer County and Lincoln have lower percentages of minority and low-income residents than does the rest of the state. Figure 3.9-1 shows that minority populations are located in the southwest portion of the Plan Area. One census tract in Lincoln has more than 50% minority residents.

Alternative 2, the proposed action, was determined to have significant and unavoidable impacts on air quality, noise, and transportation. These conclusions are summarized below. However, these impacts would be experienced throughout the Plan Area, not disproportionately in the few areas with concentrated minority populations and low-income populations. Impacts on minority and low-income persons would not be disproportionately high and adverse.

Agricultural Resources

Under Alternative 2, the proposed action, up to 8,050 acres of Important Farmland within the RAA could be converted to nonagricultural uses. Accordingly, this impact would be significant and unavoidable.

Air Quality

PCCP conservation measures and Covered Activities would result in air pollutant emissions. Conflicts with applicable air quality plans and violations of applicable air quality standards would be less than significant with implementation of the best management practices (BMPs) described in the Plan. Some construction activity could occur near sensitive receptors in Lincoln, as well as near scattered rural residences and other sensitive receptors throughout the Plan Area. All construction projects in the region must abide by air district rules and regulatory measures adopted to reduce emissions, reducing the potential for substantial pollutant emissions and minimizing air pollution impacts on sensitive receptors. However, there may be instances where project-specific conditions preclude the reduction of health risks from diesel particulate matter to below adopted thresholds.

Therefore, impacts related to the exposure of sensitive receptors during construction would be significant and unavoidable.

Noise

Throughout the Plan Area, it is expected that some construction activity associated with implementation of PCCP conservation measures could occur near noise-sensitive land uses such as rural residences. BMPs and Mitigation Measures NOI-1 and NOI-2 would help reduce effects on sensitive receptors in the vicinity of noise- and vibration-generating work associated with PCCP implementation. However, it would not be possible to reduce the noise impacts associated with Covered Activities to less-than-significant levels, because the Placer Conservation Authority (PCA) would not be the approving authority for these activities. Therefore, this impact would be significant and unavoidable.

Transportation

Construction activities associated with implementation of the PCCP in the Plan Area would be short-term and typically on lightly traveled rural roadways, and they would not result in permanent changes in safety conditions or affect emergency access. As described for Alternative 1, the no action alternative, impacts from reasonably foreseeable activities in the Plan Area associated with urbanization and associated infrastructure development, operation, and maintenance included in the various planning documents of the local jurisdictions as well as future SPRTA and PCWA projects, such as local transportation and water projects, would result in significant impacts that cannot be avoided. Therefore, Alternative 2, the proposed action, would result in a significant effect on traffic and roadway capacity.

NEPA Determination: Alternative 2, impacts would be experienced throughout the Plan Area, not disproportionately in the few areas with concentrated minority and low-income populations. Impacts on minority and low-income persons would not be disproportionately high and adverse. This impact would be less than significant.

CEQA Determination: This impact is not subject to analysis under CEQA.

Alternative 3—Reduced Take/Reduced Fill

Impact SOC-1: Creation of substantial population growth either directly or indirectly (NEPA: less than significant; CEQA: less than significant)

Under Alternative 3, the total extent of land conversion in the Valley Potential Future Growth Area (PFG) would be reduced by 1,000 acres, from that under the proposed action. It is assumed that the extent of the Reserve System in the Valley RAA would probably be reduced by 3,000 acres from that assumed for implementation of the proposed action, and the extent of Reserve System in the Valley PFG would probably be increased by approximately 2,000 acres from that assumed for implementation of the proposed action.

However, these activities would neither result in substantial land use changes nor cause growth-related impacts. Implementation of Covered Activities, as well as the conservation strategy and conservation measures, would not induce population growth.

Within the Plan Area, implementation of this alternative would serve to streamline the development envisioned in the *Placer County General Plan* and *City of Lincoln General Plan* as well as future SPRTA

and PCWA projects. The EIR for the *Placer County General Plan* acknowledged effects resulting from population growth (e.g., traffic, land use changes) but concluded that impacts on population and housing would be less than significant (Placer County 1994). The EIR for the *City of Lincoln General Plan* concluded that impacts associated with growth would be accommodated by the general plan and would be less than significant because the City's growth assumptions are consistent with the land use principles/concepts of the SACOG Blueprint Project and because the general plan discourages undesirable development in areas with sensitive natural resources, critical habitats, and important scenic resources (City of Lincoln 2006). Orderly growth and new development are planned in areas adjacent to existing urban uses and developers are required to provide service extensions. Accordingly, the EIR concluded that although the City's general plan would result in growth, the general plan policies reduce potential negative impacts associated with growth that is a direct consequence of general plan implementation to a less-than-significant level.

NEPA Determination: Alternative 3 would not result in effects on population growth attributable to Plan implementation. Effects resulting from Covered Activities would be less than significant.

CEQA Determination: Alternative 3 would not result in effects on population growth attributable to Plan implementation. Effects resulting from Covered Activities would be less than significant. No mitigation has been identified.

Impact SOC-2: Displacement of a substantial number of existing housing units, necessitating the construction of replacement housing elsewhere (NEPA: less than significant; CEQA: less than significant)

Implementation of Alternative 3 would involve activities such as obtaining conservation easements and performing construction activities related to restoration and habitat enhancement. Covered activities associated with the conservation strategy and measures are not anticipated to displace existing housing because they would involve either placing easements on existing agricultural lands or restoring habitat in rural and open space areas. These activities would not result in the displacement of a substantial number of existing housing units. Although most lands that would be acquired and added to the Reserve System have land use designations for a limited amount of residential development (typically one dwelling unit per 80 acres), the amount of land that would be unavailable for housing as a result of establishing the Reserve System, compared with the inventory of housing that is and will be available, would be inconsequential. Additionally, for some reserve acquisitions, homes would already be present or may be allowed, further reducing the potential to affect the housing supply, particularly in rural areas.

Within the Plan Area, implementation of this alternative would serve to streamline the development envisioned in the *Placer County General Plan* and *City of Lincoln General Plan* as well as future SPRTA and PCWA projects. The EIR for the *Placer County General Plan* concluded that impacts on housing would be less than significant. The EIR for the *City of Lincoln General Plan* does not specifically address housing, but it did conclude that impacts resulting from growth would be accommodated by the general plan and would be less than significant. The City's growth assumptions are consistent with the land use principles/concepts of the SACOG Blueprint Project, and the general plan discourages undesirable development in areas with sensitive natural resources, critical habitats, and important scenic resources. Orderly growth and new development are planned in areas adjacent to existing urban uses and developers are required to provide service extensions. Accordingly, although the City's general plan would result in an increase in growth, the general plan policies reduce potential negative impacts associated with growth to a less-than-significant level.

NEPA Determination: Housing development in accordance with the general plans would be concentrated in areas adjacent to existing urban uses and would not result in a substantial displacement of housing. Therefore Alternative 3, would have a less-than-significant impact on housing.

CEQA Determination: Housing development in accordance with the general plans would be concentrated in areas adjacent to existing urban uses and would not result in a substantial displacement of housing. Therefore, Alternative 3 would have a less than significant impact on housing. No mitigation has been identified.

Impact SOC-3: Displacement of a substantial number of people, necessitating the construction of replacement housing elsewhere (NEPA: less than significant; CEQA: less than significant)

Impacts regarding displacement of people would be the same as those described above for Impact SOC-2. Alternative 3 would not result in the displacement of a substantial amount of people or housing.

NEPA Determination: Alternative 3 would not cause effects that would result in the displacement of a substantial number of people necessitating the construction of replacement housing. This impact would be less than significant.

CEQA Determination: Alternative 3 would not cause effects that would result in the displacement of a substantial number of people, necessitating the construction of replacement housing. This impact would be less than significant. No mitigation has been identified.

Impact SOC-4: Substantially change economic activity in the Plan Area (NEPA: less than significant)

Because the PCCP is programmatic in nature, there is some uncertainty regarding the extent of the proposed action's effects on economic activity in the Plan Area. Indirect economic activity under Alternative 3 would result from development, employment, and industry within the local jurisdictions and the Plan Area. As discussed in Section 4.1, *Agricultural and Forestry Resources*, the Plan could result in conversions of up to 8,050 acres of Important Farmland to nonagricultural uses within the RAA, potentially reducing agricultural productivity. Grazing would still be a compatible use on acquired farmland, but changes in agricultural practices could occur under Alternative 3. This potential conversion of farmland would take place over the 50-year life of the Plan, and would be substantially less than the amount of conversion of farmland that would be anticipated to occur in the same time period for other reasons. As described in Section 3.1.2, *Environmental Setting*, 13,140 acres of Important Farmland were converted to non-agricultural uses in the 10 years from 2006 to 2016. This amount of farmland conversion over a long period of time would not be expected to substantially change economic activity in the Plan Area.

NEPA Determination: Implementation of the Plan would have indirect, beneficial impacts on the economy of the Plan Area due to enhanced economic opportunities, visitor spending, and increased efficiency, as detailed in a draft report by Hausrath Economic Group (2005). Conversion of farmland as a result of reserve acquisition could have an effect on economic activity, but the amount of conversion over the life of the Plan would not result in substantial changes.

CEQA Determination: This impact is not subject to analysis under CEQA.

Impact SOC-5: Substantially affect property tax revenue (NEPA: less than significant)

A draft report by Hausrath Economic Group (2005) concluded that the Plan would result in a larger reserve system and more reserve land transactions. Some of the land anticipated to be acquired for the Reserve System is currently being used for agricultural purposes and is expected to be privately owned. Lands would be acquired in fee title or through placement of conservation easements. Transfer of fee title interest in these properties would result in the full loss of the property tax revenue currently generated by these properties. While the short-term loss may be minimal, the impact would greater over the long term, because the loss of revenue would include any future growth potential on these properties. The Hausrath assessment concluded that the impacts could be offset by leasing the properties or transferring the fee title of a property with a conservation easement to private ownership. However, the analysis also pointed out that implementation of the Plan would have indirect, beneficial impacts on public revenue due to enhanced economic opportunities, visitor spending, and increased efficiency.

NEPA Determination: Although implementation of the Plan under Alternative 3 could result in beneficial economic impacts, there could potentially be reductions in property tax revenues due to the removal of lands from the tax rolls. The overall effect is not anticipated to be substantial.

CEQA Determination: This impact is not subject to analysis under CEQA.

Impact SOC-6: Substantially disproportionately affect minority or low-income populations (NEPA: less than significant)

To determine whether Alternative 3 would result in a substantial disproportionate effect on minority populations or low-income populations, the significant effects of the proposed action that would affect people were examined to determine if these effects would occur disproportionately in areas with a higher proportion of such demographic populations. As described in Table 3.9-8, Placer County and Lincoln have lower percentages of minority and low-income residents than does the rest of the state. Figure 3.9-1 shows that minority populations are located in the southwest portion of the Plan Area. One census tract in Lincoln has more than 50% minority residents.

Alternative 3 was determined to have significant and unavoidable impacts on agricultural resources, air quality, noise, and transportation. These conclusions are summarized below. However, these impacts would be experienced throughout the Plan Area, not disproportionately in the few areas with concentrated minority populations and low-income populations. Impacts on minority and low-income persons would not be disproportionately high and adverse.

Agricultural Resources

Under Alternative 3, up to 8,050 acres of Important Farmland within the RAA could be converted to nonagricultural uses. Accordingly, this impact would be significant and unavoidable.

Air Quality

PCCP conservation measures and Covered Activities would result in air pollutant emissions. As under Alternative 2, conflicts with applicable air quality plans and violations of applicable air quality standards would be less than significant with implementation of the BMPs described in the Plan. Some construction activity could occur near sensitive receptors in Lincoln, as well as near scattered rural residences and other sensitive receptors throughout the Plan Area. All construction projects in the region must abide by air district rules and regulatory measures adopted to reduce emissions,

reducing the potential for substantial pollutant emissions and minimizing air pollution impacts on sensitive receptors. However, there may be instances where project-specific conditions preclude the reduction of health risks from diesel particulate matter to below adopted thresholds. Therefore, impacts related to the exposure of sensitive receptors during construction would be significant and unavoidable.

Noise

Throughout the Plan Area, it is expected that some construction activity associated with implementation of PCCP conservation measures under Alternative 3 could occur near noise-sensitive land uses such as rural residences. BMPs and Mitigation Measures NOI-1 and NOI-2 would help reduce effects on sensitive receptors in the vicinity of noise- and vibration-generating work associated with PCCP implementation. However, it would not be possible to reduce the noise impacts associated with Covered Activities to less-than-significant levels, because the PCA would not be the approving authority for these activities. Therefore, this impact would be significant and unavoidable.

Transportation

Construction activities associated with implementation of the PCCP under Alternative 3 would be short-term and typically on lightly traveled rural roadways, and would not result in permanent changes in safety conditions or affect emergency access. As described for Alternative 1, the no action alternative, impacts from reasonably foreseeable activities in the Plan Area associated with urbanization and associated infrastructure development, operation, and maintenance included in the various planning documents of the local jurisdictions as well as future SPRTA and PCWA projects, such as local transportation and water projects, would result in significant impacts that cannot be avoided. Therefore, Alternative 3 would have a significant and unavoidable impact on traffic and roadway capacity.

NEPA Determination: Under Alternative 3, impacts would be experienced throughout the Plan Area, not disproportionately in the few areas with concentrated minority populations and low-income populations. Impacts on minority and low-income persons would not be disproportionately high and adverse. This impact would be less than significant.

CEQA Determination: This impact is not subject to analysis under CEQA.

Alternative 4—Reduced Permit Term

Impact SOC-1: Creation of substantial population growth either directly or indirectly (NEPA: less than significant; CEQA: less than significant)

Like Alternative 2, the proposed action, Alternative 4 would not cause growth-related impacts.

Within the Plan Area, implementation of this alternative would serve to streamline the development envisioned in the *Placer County General Plan* and *City of Lincoln General Plan* as well as future projects of SPRTA and PCWA. The EIR for the *Placer County General Plan* acknowledged effects resulting from population growth (e.g., traffic, land use changes) but concluded that impacts on population and housing would be less than significant (Placer County 1994). The EIR for the *City of Lincoln General Plan* concluded that impacts associated with growth would be accommodated by the general plan and would be less than significant because the City's growth assumptions are

consistent with the land use principles/concepts of the SACOG Blueprint Project and because the general plan discourages undesirable development in areas with sensitive natural resources, critical habitats, and important scenic resources (City of Lincoln 2006). Orderly growth and new development are planned in areas adjacent to existing urban uses and developers are required to provide service extensions. Accordingly, the EIR concluded that although the City's general plan would result in growth, the general plan policies reduce potential negative impacts associated with growth that is a direct consequence of general plan implementation to a less-than-significant level.

NEPA Determination: Alternative 4 would not result in effects on population growth attributable to Plan implementation. Effects resulting from Covered Activities would be less than significant.

CEQA Determination: Alternative 4 would not result in effects on population growth attributable to Plan implementation. Effects resulting from Covered Activities would be less than significant. No mitigation has been identified.

Impact SOC-2: Displacement of a substantial number of existing housing units, necessitating the construction of replacement housing elsewhere (NEPA: less than significant; CEQA: less than significant)

Implementation of Alternative 4 would involve activities such as obtaining conservation easements and performing construction activities related to restoration and habitat enhancement. PCCP activities associated with the conservation strategy and measures are not anticipated to displace existing housing because they would involve either placing easements on existing agricultural lands or restoring habitat in rural and open space areas. These activities would not result in the displacement of a substantial number of existing housing units. Although most lands that would be acquired and added to the Reserve System have land use designations for a limited amount of residential development (typically one dwelling unit per 80 acres), the amount of land that would be unavailable for housing as a result of establishing the Reserve System, compared with the inventory of housing that is and will be available, would be inconsequential. Additionally, for some reserve acquisitions, homes would already be present or may be allowed, further reducing the potential to affect the housing supply, particularly in rural areas.

Within the Plan Area, implementation of this alternative would serve to streamline the development envisioned in the *Placer County General Plan* and *City of Lincoln General Plan* as well as future projects of SPRTA and PCWA. The EIR for the *Placer County General Plan* concluded that impacts on housing would be less than significant. The EIR for the *City of Lincoln General Plan* does not specifically address housing, but it did conclude that impacts resulting from growth would be accommodated by the general plan and would be less than significant. The City's growth assumptions are consistent with the land use principles/concepts of the SACOG Blueprint Project, and the general plan discourages undesirable development in areas with sensitive natural resources, critical habitats, and important scenic resources. Orderly growth and new development are planned in areas adjacent to existing urban uses and developers are required to provide service extensions. Accordingly, although the City's general plan would result in an increase in growth, the general plan policies reduce potential negative impacts associated with growth to a less-than-significant level.

NEPA Determination: Housing development in accordance with the general plans would be concentrated in areas adjacent to existing urban uses and would not result in a substantial displacement of housing. Covered Activities of SPRTA and PCWA would be unlikely to result in removal of housing. Therefore, Alternative 4 would have a less-than-significant impact on housing.

CEQA Determination: Housing development in accordance with the general plans would be concentrated in areas adjacent to existing urban uses and would not result in a substantial displacement of housing. Covered Activities of SPRTA and PCWA would be unlikely to result in removal of housing. Therefore, Alternative 4 would have a less-than-significant impact on housing. No mitigation has been identified.

Impact SOC-3: Displacement of a substantial number of people, necessitating the construction of replacement housing elsewhere (NEPA: less than significant; CEQA: less than significant)

Impacts regarding displacement of people would be the same as those described above under Impact SOC-2. Alternative 4 would not result in the displacement of a substantial amount of people or housing.

NEPA Determination: Alternative 4 would not result in the displacement of a substantial number of people necessitating the construction of replacement housing. This impact would be less than significant.

CEQA Determination: Alternative 4 would not result in the displacement of a substantial number of people necessitating the construction of replacement housing. This impact would be less than significant. No mitigation has been identified.

Impact SOC-4: Substantially change economic activity in the Plan Area (NEPA: less than significant)

Under Alternative 4, indirect economic activity would result from development, employment, and industry within the jurisdictions of the Permit Applicants and the Plan Area. As discussed in Section 4.1, *Agricultural and Forestry Resources*, the Plan could result in conversions of agricultural land to nonagricultural uses within the RAA, although because of the reduced permit term, a lesser amount of conversion would occur than under the proposed action.

Because the PCCP is programmatic in nature, there is some uncertainty regarding the extent of the proposed action's effects on economic activity in the Plan Area. This potential conversion of farmland would take place over the 30-year life of the Plan under Alternative 4, and would be substantially less than the amount of conversion of farmland that would be anticipated to occur in the same time period for other reasons. As described in Section 3.12, *Environmental Setting*, 13,140 acres of Important Farmland were converted to non-agricultural uses in the 10 years from 2006 to 2016. This amount of farmland conversion over a long period of time would not be expected to substantially change economic activity in the Plan Area.

NEPA Determination: Implementation of the Plan would have indirect, beneficial impacts on the economy of the Plan Area due to enhanced economic opportunities, visitor spending, and increased efficiency, as detailed in a draft report by Hausrath Economic Group (2005). Conversion of farmland as a result of reserve acquisition could have an effect on economic activity, but the amount of conversion over the life of the Plan under Alternative 4 would not result in substantial changes.

CEQA Determination: This impact is not subject to analysis under CEQA.

Impact SOC-5: Substantially affect property tax revenue (NEPA: less than significant)

A draft report by Hausrath Economic Group (2005) concluded that the Plan would result in a larger reserve system and more reserve land transactions. Some of the land anticipated to be acquired for

the Reserve System is currently being used for agricultural purposes and is expected to be privately owned. Lands would be acquired in fee title or through placement of conservation easements. Transfer of fee title interest in these properties would result in the full loss of the property tax revenue currently generated by these properties. While the short-term loss may be minimal, the impact would greater over the long term, because the loss of revenue would include any future growth potential on these properties. The Hausrath assessment concluded that the impacts could be offset by leasing the properties or transferring the fee title of a property with a conservation easement to private ownership. However, the analysis also pointed out that implementation of the Plan would have indirect, beneficial impacts on public revenue due to enhanced economic opportunities, visitor spending, and increased efficiency.

NEPA Determination: Although implementation of the Plan could result in beneficial economic impacts, there could potentially be reductions in property tax revenues due to the removal of lands from the tax rolls. The overall effect is not anticipated to be substantial.

CEQA Determination: This impact is not subject to analysis under CEQA.

Impact SOC-6: Substantially disproportionately affect minority or low-income populations (NEPA: less than significant)

To determine whether Alternative 4 would result in a substantial disproportionate effect on minority populations or low-income populations, the significant effects of the proposed action that would affect people were examined to determine if these effects would occur disproportionately in areas with a higher proportion of such demographic populations. As described in Table 3.9-8, Placer County and Lincoln have lower percentages of minority and low-income residents than does the rest of the state. Figure 3.9-1 shows that minority populations are located in the southwest portion of the Plan Area. One census tract in Lincoln has more than 50% minority residents.

Alternative 4 was determined to have significant and unavoidable impacts on agricultural resources, air quality, noise, and transportation. These conclusions are summarized below. However, these impacts would be experienced throughout the Plan Area, not disproportionately in the few areas with concentrated minority and low-income populations. Impacts on minority populations and low-income persons would not be disproportionately high and adverse.

Agricultural Resources

Under Alternative 4, a considerable but as yet undetermined amount Important Farmland within the RAA could be converted to nonagricultural uses. Accordingly, this impact would be significant and unavoidable.

Air Quality

PCCP conservation measures and Covered Activities under Alternative 4 would result in air pollutant emissions. As under Alternatives 2 and 3, conflicts with applicable air quality plans and violations of applicable air quality standards would be less than significant with implementation of the BMPs described in the Plan. Some construction activity could occur near sensitive receptors in Lincoln, as well as near scattered rural residences and other sensitive receptors throughout the Plan Area. All construction projects in the region must abide by air district rules and regulatory measures adopted to reduce emissions, reducing the potential for substantial pollutant emissions and minimizing air pollution impacts on sensitive receptors. However, there may be instances where

project-specific conditions preclude the reduction of health risks from diesel particulate matter to below adopted thresholds. Therefore, impacts related to the exposure of sensitive receptors during construction would be significant and unavoidable.

Noise

Throughout the Plan Area, it is expected that some construction activity associated with implementation of PCCP conservation measures under Alternative 4 could occur near noise-sensitive land uses such as rural residences. BMPs and Mitigation Measures NOI-1 and NOI-2 would help reduce effects on sensitive receptors in the vicinity of noise- and vibration-generating work associated with PCCP implementation. However, it would not be possible to reduce the noise impacts associated with Covered Activities to less-than-significant levels, because the PCA would not be the approving authority for these activities. Therefore, this impact would be significant and unavoidable.

Transportation

Construction activities associated with implementation of the PCCP under Alternative 4 would be short-term and typically on lightly traveled rural roadways, and would not result in permanent changes in safety conditions or affect emergency access. As described for Alternative 1, the no action alternative, impacts from reasonably foreseeable activities in the Plan Area associated with urbanization and associated infrastructure development, operation, and maintenance included in the various planning documents of the local jurisdictions as well as future SPRTA and PCWA projects, such as local transportation and water projects, would result in significant impacts that cannot be avoided. Therefore, Alternative 4 would have a significant and unavoidable impact on traffic and roadway capacity.

NEPA Determination: Under Alternative 4, impacts would be experienced throughout the Plan Area, not disproportionally in the few areas with concentrated minority populations and low-income populations. Impacts on minority and low-income persons would not be disproportionately high and adverse. This impact would be less than significant.

CEQA Determination: This impact is not subject to analysis under CEQA.

4.9.3 Cumulative Analysis

Alternative 1—No Action

The local jurisdictions determined that population and housing impacts pursuant to their general plans would be less than significant and that there would be no cumulative impact. Under Alternative 1, the no action alternative, population growth and housing development would be accounted for under the general plans. The Plan Area does not contain meaningfully larger populations of minority or low-income residents, and environmental justice impacts would be less than significant.

Alternative 2—Proposed Action

The proposed action would not cause population growth or result in housing development aside from that accounted for under the general plans. The local jurisdictions determined that population and housing impacts would less than significant and there would be no cumulative impact. There are

no known substantial impacts to the economy of the Plan Area that the changes economic activity resulting from implementation of the PCCP and Covered Activities could contribute to. Because the Plan Area does not contain meaningfully larger populations of minority or low-income residents, and because activities under the proposed action would occur throughout the Plan Area, environmental justice impacts resulting from the Proposed Action would not contribute to a cumulative impact.

Alternative 3—Reduced Take/Reduced Fill

Cumulative impacts under Alternative 3 would be similar to those described under Alternative 2. Alternative 3 would not cause population growth or result in housing development aside from that accounted for under the general plans. The local jurisdictions determined that population and housing impacts would less than significant and there would be no cumulative impact. There are no known substantial impacts to the economy of the Plan Area that the changes economic activity resulting from implementation of the PCCP and Covered Activities under Alternative 3 could contribute to. Because the Plan Area does not contain meaningfully larger populations of minority or low-income residents, and because activities under Alternative 3 would occur throughout the Plan Area, environmental justice impacts resulting from Alternative 3 would not contribute to a cumulative impact.

Alternative 4—Reduced Permit Term

Cumulative impacts under Alternative 4 would be similar to those described under Alternative 2. Alternative 4 would not cause population growth or result in housing development aside from that accounted for under the general plans. The local jurisdictions determined that population and housing impacts would less than significant and there would be no cumulative impact. There are no known substantial impacts to the economy of the Plan Area that the changes economic activity resulting from implementation of the PCCP and Covered Activities under Alternative 4 could contribute to. Because the Plan Area does not contain meaningfully larger populations of minority or low-income residents, and because activities under the proposed action would occur throughout the Plan Area, environmental justice impacts resulting from Alternative 4 would not contribute to a cumulative impact.

4.9.4 References Cited

California Resources Agency. 2012. *Environmental Justice Policy, California Resources Agency*. Sacramento, CA.

City of Lincoln. 2006. *City of Lincoln General Plan Draft Environmental Impact Report*. Volume 1. State Clearinghouse No. 2005112003. October.

Council on Environmental Quality. 1997. *Environmental Justice: Guidance under the National Environmental Policy Act.* Washington, DC.

Hausrath Economics Group. 2005. *Local Government Impacts of the Placer County Conservation Plan—A Draft Report to the County of Placer*. April 12. Oakland, CA. Available: https://www.placer.ca.gov. Accessed: March 27, 2018.

Placer County. 1994. *Countywide General Plan Final Environmental Impact Report*. July 26. Prepared by Crawford Multari & Starr, DKS Associates, Psomas and Associates, Jones & Stokes Associates, Recht Hausrath & Associates, J. Laurence Mintier & Associates.

4.10 Recreation

4.10.1 Methods and Significance Criteria

Methods

This section evaluates the effects on recreation that would result from the proposed action and alternatives.

Anticipated changes in land cover/land use for each alternative are described in Chapter 2, *Proposed Action and Alternatives*. See Section 4.0, *Environmental Consequences*, for a description of the methodology used across all resource chapters for the analysis of cumulative effects.

Impacts on recreation are analyzed qualitatively by their relevance to a particular alternative. The qualitative analysis addresses how implementation of the alternatives could potentially affect existing recreational facilities either through implementation of the PCCP or alternatives, or as a result of implementation of the Permit Applicants' long-term plans.

Significance Criteria

According to Appendix G of the State CEQA Guidelines, a proposed action would be considered to have a significant effect if it would result in any of the following.

- Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.
- Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment.

4.10.2 Impacts and Mitigation Measures

Alternative 1—No Action

As described in Section 4.0, *Environmental Consequences*, Alternative 1 includes reasonably foreseeable activities in the Plan Area associated with urbanization and related infrastructure development, operation, and maintenance identified in the various planning documents of the Permit Applicants as well as future projects of the South Placer Regional Transportation Authority (SPRTA) and Placer County Water Agency (PCWA), such as local transportation and water projects; however, future SPRTA and PCWA projects within the Plan Area do not involve constructing recreation facilities or generating demand for recreation facilities through a permanent increase in population.

Impact REC-1: Increased use of existing recreational facilities, resulting in substantial physical deterioration (NEPA: less than significant; CEQA: less than significant)

Public and private development envisioned in the *Placer County General Plan* and *City of Lincoln General Plan* would go forward under the no action alternative. The EIR for the *Placer County General Plan* concluded that impacts on recreation are less than significant (Placer County 1994).

The EIR for the *City of Lincoln General Plan* concluded that impacts related to recreation are less than significant with implementation of mitigation (City of Lincoln 2008). Future projects of SPRTA and PCWA would not include development of housing and would not increase use of recreational facilities.

NEPA Determination: With mitigation as described in the EIR for the *City of Lincoln General Plan,* impacts of growth associated with the *Placer County General Plan* and *City of Lincoln General Plan* would be less than significant, and future projects of SPRTA and PCWA would not increase use of recreational facilities. Accordingly, this impact would be less than significant.

CEQA Determination: With mitigation as described in the EIR for the *City of Lincoln General Plan,* impacts of growth associated with the *Placer County General Plan* and *City of Lincoln General Plan* would be less than significant, and future projects of SPRTA and PCWA would not increase use of recreational facilities. Accordingly, this impact would be less than significant.

Impact REC-2: Construction or expansion of recreational facilities that might have an adverse physical effect on the environment (NEPA: less than significant; CEQA: less than significant)

Public and private development envisioned in the *Placer County General Plan* and *City of Lincoln General Plan* would go forward under Alternative 1, the no action alternative. The EIR for the *Placer County General Plan* concluded that impacts on recreation are less than significant (Placer County 1994). The EIR for the *City of Lincoln General Plan* concluded that construction of new recreational resources would result in impacts on traffic, air quality, light and glare, and conversion of agricultural land. Implementation of the City of Lincoln's general plan policies and mitigation measures would not reduce these impacts to less-than-significant levels (City of Lincoln 2008). These impacts are addressed in the appropriate topical sections of this document. Future projects of SPRTA and PCWA would not include development of recreational facilities.

NEPA Determination: The EIR for the *Placer County General Plan* concluded that impacts on recreation are less than significant (Placer County 1994). Implementation of the City of Lincoln's general plan would result in the potential need for new parks and recreational facilities, which would result in impacts on traffic, air quality, light and glare, and conversion of agricultural land that cannot be mitigated to less-than-significant levels. These impacts are addressed in the appropriate topical sections of this document. No additional significant impacts not addressed in those sections would occur.

CEQA Determination: The EIR for the *Placer County General Plan* concluded that impacts on recreation are less than significant (Placer County 1994). Implementation of the City of Lincoln's general plan would result in the potential need for new parks and recreational facilities, which would result in impacts on traffic, air quality, light and glare, and conversion of agricultural land that cannot be mitigated to less-than-significant levels. These impacts are addressed in the appropriate topical sections of this document. No additional significant impacts not addressed in those sections would occur.

Alternative 2—Proposed Action

Impact REC-1: Increased use of existing recreational facilities, resulting in substantial physical deterioration (NEPA: less than significant; CEQA: less than significant)

Impacts on recreation could result if implementation of the PCCP under Alternative 2, the proposed action, would result in substantial population growth, which would then lead to an increased use of existing recreational facilities and result in physical deterioration. The conservation strategy and conservation measures would not increase growth nor result in changes in population, and they would not increase the use of existing parks or other recreational facilities. Open space would be preserved as part of the PCCP Reserve System, which in some limited cases could enhance outdoor recreation opportunities for the public in the Plan Area.

Within the Plan Area, Alternative 2, the proposed action, would serve to streamline the development envisioned in the *Placer County General Plan* and the *City of Lincoln General Plan* as well as SPRTA and PCWA projects. As described under Impact REC-1 for Alternative 1, the EIR for the *Placer County General Plan* concluded that impacts on recreation are less than significant (Placer County 1994) and the EIR for the *City of Lincoln General Plan* concluded that impacts related to recreation are less than significant with implementation of mitigation identified in the EIR (City of Lincoln 2008).

NEPA Determination: Under Alternative 2, the proposed action, impacts on existing recreational facilities could result from Covered Activities associated with implementation of the *Placer County General Plan,* but those impacts would be less than significant. Mitigation as described in the EIR for the *City of Lincoln General Plan* would reduce impacts from Covered Activities associated with implementation of the general plan on existing recreational facilities to less-than-significant levels. No additional increased use of recreational facilities would be generated. Therefore, this impact would be less than significant.

CEQA Determination Under Alternative 2, the proposed action, impacts on existing recreational facilities could result from Covered Activities associated with implementation of the *Placer County General Plan,* but those impacts would be less than significant. Mitigation as described in the EIR for the *City of Lincoln General Plan* would reduce impacts from Covered Activities associated with implementation of the general plan on existing recreational facilities to less-than-significant levels. No additional increased use of recreational facilities would be generated. Therefore, this impact would be less than significant. No additional mitigation is required.

Impact REC-2: Construction or expansion of recreational facilities that might have an adverse physical effect on the environment (NEPA: less than significant; CEQA: less than significant)

The PCCP under Alternative 2, the proposed action, would support recreational use in specific areas within existing preserves but would not directly authorize construction of new or expanded recreational facilities on existing preserves or new preserves acquired as part of Plan implementation. There are no adopted regional park/trail plans for areas within the Reserve Acquisition Area (RAA) that identify new park and trail facilities. Limited public access and some types of recreation may be allowed on some reserve lands so long as public access and use does not conflict with the biological objectives of the Plan. Up to 70 miles of hiking trails may be developed, and hunting and fishing may be permitted under limited circumstances. The conditions on Covered Activities require public and recreational access to be governed by a public access and recreation plan. Recreation would be prohibited on some reserve lands at all or certain times of year.

Within the Plan Area, Alternative 2, the proposed action, would serve to streamline the development envisioned in the *Placer County General Plan* and the *City of Lincoln General Plan* as well as SPRTA and PCWA projects. As described under Impact REC-2 for Alternative 1, the EIR for the *Placer County General Plan* concluded that impacts on recreation are less than significant (Placer County 1994). The EIR for the *City of Lincoln General Plan* concluded that construction of new recreational resources would result in impacts related to traffic, air quality, light and glare, and conversion of agricultural land. Implementation of the City of Lincoln's general plan policies and mitigation measures would not reduce these impacts to less-than-significant levels (City of Lincoln 2008)). These impacts are addressed in the appropriate topical sections of this document.

NEPA Determination: The PCCP under Alternative 2, the proposed action, would not authorize construction of new recreational facilities. The conditions on PCCP implementation set forth requirements that public and recreational access be governed by a recreation plan that would ensure that recreation activities would be compatible with conservation. Impacts on recreational facilities would result from Covered Activities associated with implementation of the *Placer County General Plan,* but those impacts would be less than significant. Mitigation as described in the EIR for the *City of Lincoln General Plan* would reduce indirect impacts due to the construction of new recreational facilities, but not to less-than-significant levels. However, because Alternative 2 does not involve the construction of new recreational facilities other than those analyzed in the general plan EIRs, this impact would be less than significant.

CEQA Determination: The PCCP under Alternative 2, the proposed action, does not authorize construction of new recreational facilities. The conditions on PCCP implementation set forth requirements that public and recreational access be governed by a recreation plan that would ensure that recreation activities would be compatible with conservation. Impacts on recreational facilities would result from Covered Activities associated with implementation of the *Placer County General Plan,* but those impacts would be less than significant. Mitigation as described in the EIR for the *City of Lincoln General Plan* would reduce indirect impacts due to the construction of new recreational facilities, but not to less-than-significant levels. However, because Alternative 2 does not involve the construction of new recreational facilities other than those analyzed in the general plan EIRs, this impact would be less than significant. No mitigation has been identified.

Alternative 3—Reduced Take/Reduced Fill

Impact REC-1: Increased use of existing recreational facilities, resulting in substantial physical deterioration (NEPA: less than significant; CEQA: less than significant)

Impacts on recreation could result if implementation of the PCCP under Alternative 3 would result in substantial population growth, which would then lead to an increased use of existing recreational facilities and result in physical deterioration. Compared to Alternative 2, the proposed action, Alternative 3 would slightly reduce development within the Potential Future Growth Area (PFG) and would not result in additional development or population growth that would cause an increased use of existing recreational facilities. Under Alternative 3, open space would still be preserved as part of the PCCP Reserve System, which in some limited cases could enhance outdoor recreation opportunities for the public in the Plan Area.

Within the Plan Area, Alternative 3 would serve to streamline the development envisioned in the *Placer County General Plan* and the *City of Lincoln General Plan* as well as SPRTA and PCWA projects. As described under Impact REC-1 for Alternative 1, the EIR for the *Placer County General Plan*

concluded that impacts on recreation are less than significant (Placer County 1994) and the EIR for the *City of Lincoln General Plan* concluded that impacts related to recreation are less than significant with implementation of mitigation (City of Lincoln 2008).

NEPA Determination: Under Alternative 3, impacts on existing recreational facilities would result from Covered Activities associated with implementation of the *Placer County General Plan,* but they would be less than significant. Mitigation as described in the EIR for the *City of Lincoln General Plan* would reduce impacts from Covered Activities associated with implementation of the general plan on existing recreational facilities to less-than-significant levels. Alternative 3 would generate no other increased use of recreational facilities. Therefore, this impact would be less than significant.

CEQA Determination: Under Alternative 3, impacts on existing recreational facilities could result from Covered Activities associated with implementation of the *Placer County General Plan,* but they would be less than significant. Mitigation as described in the EIR for the *City of Lincoln General Plan* would reduce impacts from Covered Activities associated with implementation of the general plan on existing recreational facilities to less-than-significant levels. Alternative 3 would generate no other increased use of recreational facilities. Therefore, this impact would be less than significant. No additional mitigation is required.

Impact REC-2: Construction or expansion of recreational facilities that might have an adverse physical effect on the environment (NEPA: less than significant; CEQA: less than significant)

Impacts of Alternative 3 would be the same as those identified for Impact REC-2 under Alternative 2, the proposed action.

Alternative 3 would support recreational use, including conserving open space areas necessary for access to a variety of outdoor recreation opportunities in specific areas within existing preserves, but would not directly authorize construction of new or expanded recreational facilities on existing preserves or new preserves acquired as part of Plan implementation.

Within the Plan Area, Alternative 3 would serve to streamline the development envisioned in the *Placer County General Plan* and the *City of Lincoln General Plan* as well as SPRTA and PCWA projects. As described under Impact REC-2 for Alternative 1, the EIR for the *Placer County General Plan* concluded that impacts on recreation are less than significant (Placer County 1994). The EIR for the *City of Lincoln General Plan* concluded that construction of new recreational resources would result in impacts related to traffic, air quality, light and glare, and conversion of agricultural land. Implementation of the City of Lincoln's general plan policies and mitigation measures would not reduce these impacts to less-than-significant levels (City of Lincoln 2008). These impacts are addressed in the appropriate topical sections of this document.

NEPA Determination: The PCCP under Alternative 3 would not authorize construction of new recreational facilities. The conditions on PCCP implementation set forth requirements that public and recreational access be governed by a recreation plan that would ensure that recreation activities are compatible with conservation. Impacts related to recreational facilities would result from Covered Activities associated with implementation of the *Placer County General Plan,* but those impacts would be less than significant. Mitigation as described in the EIR for the *City of Lincoln General Plan* would reduce indirect impacts due to the construction of new recreational facilities, but not to less-than-significant levels. However, because no new recreational facilities beyond those analyzed in the general plan EIRs would be constructed under Alternative 3, this impact would be less than significant.

CEQA Determination: The PCCP under Alternative 3 would not authorize construction of new recreational facilities. The conditions on PCCP implementation set forth requirements that public and recreational access be governed by a recreation plan that would ensure that recreation activities would be compatible with conservation. Impacts related to recreational facilities would result from Covered Activities associated with implementation of the *Placer County General Plan,* but those impacts would be less than significant. Mitigation as described in the EIR for the *City of Lincoln General Plan* would reduce indirect impacts due to the construction of new recreational facilities, but not to less-than-significant levels. However, because no new recreational facilities beyond those analyzed in the general plan EIRs would be constructed under Alternative 3, this impact would be less than significant. No mitigation has been identified.

Alternative 4—Reduced Permit Term

Impact REC-1: Increased use of existing recreational facilities, resulting in substantial physical deterioration (NEPA: less than significant; CEQA: less than significant)

Impacts on recreation could result if implementation of the PCCP under Alternative 4 would result in substantial population growth, which would then lead to an increased use of existing recreational facilities that would result in physical deterioration. The conservation strategy and conservation measures would not increase growth or result in changes in population, and they would not increase the use of existing parks or other recreational facilities. Open space would be preserved as part of the PCCP Reserve System, which in some limited cases could enhance outdoor recreation opportunities for the public in the Plan Area.

Within the Plan Area, Alternative 4 would serve to streamline the development envisioned in the *Placer County General Plan* and the *City of Lincoln General Plan* as well as SPRTA and PCWA projects. As described under Impact REC-1 for Alternative 1, the EIR for the *Placer County General Plan* concluded that impacts on recreation are less than significant (Placer County 1994) and the EIR for the *City of Lincoln General Plan* concluded that impacts related to recreation are less than significant with implementation of mitigation identified in the EIR (City of Lincoln 2008).

NEPA Determination: Under Alternative 4, impacts on existing recreational facilities could result from Covered Activities associated with implementation of the *Placer County General Plan,* but they would be less than significant. Mitigation as described in the EIR for the *City of Lincoln General Plan* would reduce impacts from Covered Activities associated with implementation of the general plan on existing recreational facilities to less-than-significant levels. No additional increased use of recreational facilities would be generated. Therefore, this impact would be less than significant.

CEQA Determination: Under Alternative 4, impacts on existing recreational facilities could result from Covered Activities associated with implementation of the *Placer County General Plan,* but they would be less than significant. Mitigation as described in the EIR for the *City of Lincoln General Plan* would reduce impacts resulting from Covered Activities associated with implementation of the general plan on existing recreational facilities to less-than-significant levels. No additional increased use of recreational facilities would be generated. Therefore, this impact would be less than significant. No additional mitigation is required.

Impact REC-2: Construction or expansion of recreational facilities that might have an adverse physical effect on the environment (NEPA: less than significant; CEQA: less than significant)

Under Alternative 4, the PCCP's permit term would be reduced to 30 years. In general, Alternative 4 supports recreational use, including conserving open space areas necessary for access to a variety of outdoor recreation opportunities in specific areas within existing preserves, but it does not directly authorize construction of recreational facilities.

Within the Plan Area, Alternative 4 would serve to streamline development envisioned in the *Placer County General Plan* and the *City of Lincoln General Plan* as well as SPRTA and PCWA projects. The EIR for the *Placer County General Plan* concluded that impacts on recreation are less than significant (Placer County 1994). As described under Impact REC-2 for Alternative 1, the EIR for the *City of Lincoln General Plan* concluded that construction of new recreational resources would result in impacts on traffic, air quality, light and glare and conversion of agricultural land. Implementation of the City of Lincoln's general plan policies and mitigation measures would not reduce these impacts to less-than-significant levels (City of Lincoln 2008).These impacts are addressed in the appropriate topical sections of this document.

NEPA Determination: The PCCP under Alternative 4 would not authorize construction of new recreational facilities. The conditions on PCCP implementation set forth requirements that public and recreational access be governed by a recreation plan that would ensure that recreation activities would be compatible with conservation. Impacts would result from Covered Activities associated with implementation of the *Placer County General Plan,* but those impacts would be less than significant. Mitigation as described in the EIR for the *City of Lincoln General Plan* would reduce impacts resulting from the construction of new recreational facilities, but not to less-than-significant levels. However, because no new recreational facilities beyond those analyzed in the general plan EIRs would be constructed under Alternative 4, this impact would be less than significant.

CEQA Determination: The PCCP under Alternative 4 would not authorize construction of new recreational facilities. The conditions on PCCP implementation set forth requirements that public and recreational access be governed by a recreation plan that would ensure that recreation activities would be compatible with conservation. Impacts from Covered Activities would result from Covered Activities associated with implementation of the *Placer County General Plan,* but those impacts would be less than significant. Mitigation as described in the EIR for the *City of Lincoln General Plan* would reduce impacts resulting from the construction of new recreational facilities, but not to less-than-significant levels. However, because no new recreational facilities beyond those analyzed in the general plan EIRs would be constructed under Alternative 4, this impact would be less than significant. No mitigation has been identified.

4.10.3 Cumulative Analysis

Alternative 1—No Action

Under Alternative 1, the PCCP would not be implemented and there would be no cumulative impact.

Alternative 2—Proposed Action

Alternative 2, the proposed action, would not increase growth or result in changes in population, and it would not increase the use of existing parks or other recreational facilities. Therefore, Alternative 2 would not contribute to a cumulative impact on recreation.

Alternative 3—Reduced Take/Reduced Fill

Alternative 3 would not increase growth or result in changes in population, and it would not increase the use of existing parks or other recreational facilities. Therefore, Alternative 3 would not contribute to a cumulative impact on recreation.

Alternative 4—Reduced Permit Term

Alternative 4 would not increase growth or result in changes in population, and it would not increase the use of existing parks or other recreational facilities. Therefore, Alternative 4 would not contribute to a cumulative impact on recreation.

4.10.4 References Cited

City of Lincoln. 2008. *City of Lincoln General Plan Update Final Environmental Impact Report*. State Clearinghouse No. 2005112003. February.

Placer County. 1994. *Countywide General Plan Final Environmental Impact Report*. July 26. Prepared by Crawford Multari & Starr, DKS Associates, Psomas and Associates, Jones & Stokes Associates, Recht Hausrath & Associates, J. Laurence Mintier & Associates.

4.11 Transportation and Circulation

4.11.1 Methods and Significance Criteria

Methods

This section evaluates the effects on transportation and circulation that would result from the proposed action and alternatives.

Anticipated changes in land cover/land use for each alternative are described in Chapter 2, *Proposed Action and Alternatives*. See Section 4.0, *Environmental Consequences*, for a description of the methodology used across all resource chapters for the analysis of cumulative effects.

In this evaluation, transportation impacts have been evaluated based on duration (temporary or permanent) and their relevance to a particular alternative. Potential impacts were assessed by reviewing the local standards and plans and by consulting environmental reviews of those plans.

Temporary impacts result during construction, while permanent impacts (such as long-term changes in traffic patterns or goods movement) result from land use changes. Generally, the PCCP does not involve transportation projects or large transportation demand–generating projects. However, all action alternatives would result in impacts because the alternatives would serve to streamline development envisioned by the Permit Applicants' long-term plans (e.g., the *Placer County General Plan* and the *City of Lincoln General Plan* as well as future projects of the South Placer Regional Transportation Authority (SPRTA) and Placer County Water Agency (PCWA), such as local transportation and water projects, that would also occur under the no action alternative, and some Covered Activities could involve trip generation or changes to roadways, all of which could have substantial temporary and permanent impacts.

It is assumed that all Covered Activities would be consistent with the policies of the Permit Applicants' general plans and other long-term plans and would be mitigated as identified in the environmental review documents for those plans. It is further assumed that Permit Applicants would incorporate standard best management practices (BMPs) required by the California Department of Transportation (Caltrans) and other public agencies during construction of transportation projects, Covered Activities, and conservation measures that could affect transportation systems.

Significance Criteria

According to Appendix G of the State CEQA Guidelines, a proposed project would be considered to have a significant effect if it would result in any of the following conditions.

- Conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation, including mass transit and non-motorized travel and relevant components of the circulation system, including intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit.

- Conflict with an applicable congestion management program, including level-of-service (LOS) standards and travel demand measures or other standards established by the county congestion management agency for designated roads or highways.
- Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks.
- Substantially increase hazards because of a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
- Result in inadequate emergency access.
- Conflict with adopted policies, plans, or programs regarding public transit or bicycle or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

4.11.2 Impacts and Mitigation Measures

Alternative 1—No Action

As described in Section 4.0, *Environmental Consequences*, Alternative 1 includes reasonably foreseeable activities in the Plan Area associated with urbanization and related infrastructure development, operation, and maintenance identified in the various planning documents of the Permit Applicants as well as future projects of the South Placer Regional Transportation Authority (SPRTA) and Placer County Water Agency (PCWA), such as local transportation and water projects.

Impact TRA-1: Result in a substantial increase in traffic and affect capacity of the roadway system (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

Public and private development envisioned in the *Placer County General Plan*, *City of Lincoln General Plan*, and the *Placer County 2036 Regional Transportation Plan* (Placer County RTP), as well as SPRTA and PCWA projects would go forward under the no action alternative. The EIR for the *Placer County General Plan* identified significant impacts related to traffic congestion and roadway capacity by 2040 (Placer County 1994:Chapter 4). The EIR for the *City of Lincoln General Plan* determined that general plan implementation, even while incorporating mitigation measures, would result in LOS at unacceptable levels at numerous intersections in the region (City of Lincoln 2006:Chapter 5; City of Lincoln 2008:Table ES-5). As stated in the EIRs for these general plans, there are no feasible mitigation measures that would reduce impacts to less-than-significant levels.

The EIR for the Placer County RTP concluded that, although regional development would have significant and unavoidable impacts related to traffic congestion, adoption of the Placer County RTP would itself have a less-than-significant impact (Placer County Transportation Planning Commission 2015:3.13-19).

Implementation of PCWA projects may require water system construction work on and near roadways, which could result in short-term impacts on traffic and roadway capacity due to lane closures and detours. As a standard BMP, PCWA requires contractors to prepare and implement a traffic management plan that reduces traffic congestion caused by construction activities.

NEPA Determination: Under Alternative 1, the impacts associated with the *Placer County General Plan* and *City of Lincoln General Plan* would occur. The impact would be significant and unavoidable.

CEQA Determination: Under Alternative 1, the impacts associated with the *Placer County General Plan* and *City of Lincoln General Plan* would occur. The impact would be significant and unavoidable.

Impact TRA-2: Result in safety hazards due to design features, incompatible uses (e.g., hazards to vehicular, air, pedestrian, or bicycle travel), or inadequate emergency access (NEPA: less than significant; CEQA: less than significant)

The EIR for the Placer County RTP found that implementation of the RTP would not result in significant impacts on safety or emergency access so long as a traffic control plan for construction projects is adopted and put into effect (Placer County Transportation Planning Commission 2015:3.13-20, 21). Implementation of a traffic control plan is a standard BMP or mitigation measure for projects in the RTP. Any highway project would need to comply with Caltrans regulations that address road design safety and maintaining emergency access during construction.

The EIRs for the Placer County and City of Lincoln general plans do not directly address impacts on transportation safety and emergency access. However, goals in both general plans are intended to encourage development of safe transportation systems and to ensure development would not have air safety consequences.

Implementation of PCWA projects may require water system construction work on and near roadways, which could result in short-term impacts on roadways due to lane closures and detours. As a standard BMP, PCWA requires contractors to prepare and implement a traffic management plan that mandates coordination with Placer County to ensure the provision of emergency access.

NEPA Determination: Implementation of the Placer County RTP, *Placer County General Plan*, and the *City of Lincoln General Plan* is intended to address travel safety issues and prevent development incursions into airport safety zones. Therefore, the impact would be less than significant.

CEQA Determination: Implementation of the Placer County RTP, *Placer County General Plan*, and the *City of Lincoln General Plan* is intended to address travel safety issues and prevent development incursions into airport safety zones. Therefore, the impact would be less than significant.

Impact TRA-3: Conflict with transportation plans, programs, and planned projects (NEPA: no impact; CEQA: no impact)

Implementation of Alternative 1 would change none of the transportation plans, programs, and projects identified in the Placer County RTP nor the general plans for Placer County and the City of Lincoln. All of those plans, programs, and projects could move forward under Alternative 1.

NEPA Determination: Implementation of Alternative 1 would have no impact on transportation plans and projects.

CEQA Determination: Implementation of Alternative 1 would have no impact on transportation plans and projects.

Alternative 2—Proposed Action

Impact TRA-1: Result in a substantial increase in traffic and affect capacity of the roadway system (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

Impacts on traffic could result from implementation of proposed PCCP conservation activities that require construction activities, such as earthmoving for and re-contouring of vernal pools and excavating ponds and channels. These activities would require use of roadways by trucks and, possibly, construction equipment and by automobiles transporting workers. Some construction activity may be necessary on and near roads. However, these construction activities would be short-term and implemented in rural areas where traffic is typically uncongested. Once construction activities are completed, all roadways would be restored to their previous condition, and subsequent activities associated with the implementation of PCCP (e.g., monitoring) would result in little additional traffic on Plan Area roadways.

Alternative 2, the proposed action, would serve to streamline the processing for land and infrastructure development in the Plan Area envisioned in the *Placer County General Plan*, *City of Lincoln General Plan*, Placer County RTP, and long-term PCWA plans. The EIR for the *Placer County General Plan* identified significant impacts related to traffic congestion and roadway capacity, finding that 27% of the county's lane miles, including roads in the Plan Area, would operate at LOS F by 2040, a condition far more congested than under the general plan standards of LOS C and LOS D. Various road and transit improvements and travel demand management measures could reduce the amount of roads operating at an unacceptable LOS, but congestion would still be at levels greater than Placer County's standard by 2040 (Placer County 1994:Chapter 4). The EIR for the *City of Lincoln General Plan* determined that general plan implementation, even while incorporating mitigation measures, would result in LOS at unacceptable levels at intersections in unincorporated Placer County, Rocklin, Loomis, and Roseville, and on SR 65 (City of Lincoln 2006:Chapter 5; City of Lincoln 2008:Table ES-5). As stated in the EIRs for these general plans, there are no feasible mitigation measures that would reduce impacts to less-than-significant levels.

The EIR for the Placer County RTP uses vehicle miles traveled (VMT) as a metric, rather than LOS. The EIR concludes that although regional development would have significant and unavoidable impacts related to traffic congestion, adoption of the Placer County RTP would itself have a less-than-significant impact (Placer County Transportation Planning Commission 2015:3.13-19).

Implementation of PCWA projects may require water system construction work on and near roadways, which could result in short-term impacts on traffic and roadway capacity due to lane closures and detours. As a standard BMP, PCWA requires contractors to prepare and implement a traffic management plan that reduces traffic congestion caused by construction activities.

NEPA Determination: PCCP implementation under Alternative 2, the proposed action, could result in effects on traffic and roadways as a result of construction activities and traffic. Because these activities would be short-term and typically on lightly traveled rural roadways, the effects would not be adverse. This alternative also would result in impacts from Covered Activities associated with implementation of agency plans and projects. Specifically, implementation of general plans for Placer County and the City of Lincoln would result in significant impacts that cannot be avoided. Therefore, Alternative 2, the proposed action, would result in a significant impact on traffic and roadway capacity.

CEQA Determination: PCCP implementation under Alternative 2, the proposed action, could result in impacts on traffic and roadways as a result of construction activities and traffic. Because these activities would be short-term and typically on lightly traveled rural roadways, the effects would be less than significant. This alternative also would result in impacts from Covered Activities associated with implementation of agency plans and projects. Specifically, implementation of general plans for Placer County and the City of Lincoln would result in significant and unavoidable impacts. Therefore, Alternative 2, the proposed action, would result in a significant and unavoidable impact on traffic and roadway capacity.

Impact TRA-2: Result in safety hazards due to design features, incompatible uses (e.g., hazards to vehicular, air, pedestrian, or bicycle travel), or inadequate emergency access (NEPA: less than significant; CEQA: less than significant)

Implementation of proposed PCCP conservation activities would require construction activities, such as earthmoving for and re-contouring of vernal pools and excavating ponds and channels. These activities would require use of roadways by trucks and, possibly, construction equipment and by automobiles transporting workers. Some construction activity may be necessary on and near roads. However, these construction activities would be short-term and would not result in permanent changes to existing safety conditions for motor vehicles, pedestrians, or bicyclists. Construction activities would not prevent emergency access. PCCP construction activities would not involve tall structures that could affect air traffic patterns.

The EIR for the Placer County RTP found that implementation of the RTP would not result in significant impacts on safety or emergency access so long as a traffic control plan for construction projects is adopted and put into effect, which is a standard BMP or mitigation measure for projects in the RTP (Placer County Transportation Planning Commission 2015:3.13-20, 21). Any highway project would need to comply with Caltrans regulations that address road design safety and maintaining emergency access during construction.

The EIRs for the Placer County and City of Lincoln general plans do not directly address impacts on transportation safety and emergency access. However, *Placer County General Plan* Goal 3.A is to provide for the "safe and efficient movement of people and goods," and Policies 8.D.1 through 8.D.3 limit development for safety reasons near airports and within airport approach and departure zones. *City of Lincoln General Plan* Goal T-2 is to ensure a "safe and efficient system of streets," and Policy HS-4.1 requires development around Lincoln Regional Airport to comply with the *Placer County Airport Land Use Compatibility Plans*, which prohibit development that would have air safety consequences (Placer County Airport Land Use Commission 2014).

Implementation of PCWA projects may require water system construction work on and near roadways, which could result in short-term impacts on roadways due to lane closures and detours. As a standard BMP, PCWA requires contractors to prepare and implement a traffic management plan that mandates coordination with Placer County to ensure the provision of emergency access.

NEPA Determination: PCCP construction activities on and near roads would be short-term and would not result in permanent changes in safety conditions or affect emergency access. Implementation of the Placer County RTP, *Placer County General Plan*, and the *City of Lincoln General Plan* is intended to address travel safety issues and prevent development incursions into airport safety zones. Therefore, the effect would be less than significant.

CEQA Determination: PCCP construction activities on and near roads would be short-term and would not result in permanent changes in safety conditions or affect emergency access. Implementation of the Placer County RTP, *Placer County General Plan*, and the *City of Lincoln General Plan* is intended to address travel safety issues and prevent development incursions into airport safety zones. Therefore, the impact would be less than significant. No mitigation has been identified.

Impact TRA-3: Conflict with transportation plans, programs, and planned projects (NEPA: no impact; CEQA: no impact)

As discussed in Section 3.11.1, *Regulatory Setting*, the Placer County Transportation Planning Agency (PCTPA)—which administers the SPRTA—as well as Placer County and the City of Lincoln have numerous transportation plans, programs, and projects for the Plan Area. The proposed action would serve to streamline implementation of those plans, programs, and projects by providing a method for complying with federal and state regulations that protect rare species.

NEPA Determination: Alternative 2, the proposed action, would serve to streamline implementation of transportation plans, programs, and projects. There would be no effect.

CEQA Determination: Alternative 2, the proposed action, would serve to streamline implementation of transportation plans, programs, and projects. There would be no impact. No mitigation has been identified.

Alternative 3—Reduced Take/Reduced Fill

Impact TRA-1: Result in a substantial increase in traffic and affect capacity of the roadway system (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

Impacts on traffic resulting from implementation of proposed PCCP conservation activities that require construction activities would be the same under Alternative 3 as those identified for Impact TRA-1 under Alternative 2, the proposed action—specifically, short-term effects on lightly traveled rural roads.

Because Alternative 3 would have the potential to only slightly reduce development within the Potential Future Growth Area (PFG), the impacts on traffic and roadways would be similar to those identified for Impact TRA-1 under Alternative 2. Public and private development would go forward under the *Placer County General Plan*, *City of Lincoln General Plan*, the Placer County RTP, and PCWA plans. The EIR for the *Placer County General Plan* identified significant impacts related to traffic congestion and roadway capacity by 2040 (Placer County 1994:Chapter 4). The EIR for the *City of Lincoln General Plan* determined that general plan implementation, even while incorporating mitigation measures, would result in LOS at unacceptable levels at numerous intersections in the region (City of Lincoln 2006:Chapter 5; City of Lincoln 2008:Table ES-5). As stated in the EIRs for these general plans, there are no feasible mitigation measures that would reduce impacts to less-than-significant levels.

The EIR for the Placer County RTP concluded that, although regional development would have significant and unavoidable impacts related to traffic congestion, adoption of the Placer County RTP would itself have a less-than-significant impact (Placer County Transportation Planning Commission 2015:3.13-19).

Implementation of PCWA projects would have a short-term impact on traffic and roadway capacity due to lane closures and detours.

NEPA Determination: The impact determination for Alternative 3 is the same as for Alternative 2, the proposed action. Implementation of Alternative 3 could cause effects on traffic and roadways as a result of construction activities and traffic. In addition, effects associated with the *Placer County General Plan* and *City of Lincoln General Plan* would result under both alternatives. The impact would be significant and unavoidable.

CEQA Determination: The impact determination for Alternative 3 is the same as for Alternative 2, the proposed action. Implementation of Alternative 3 could cause effects on traffic and roadways as a result of construction activities and traffic. In addition, effects associated with the *Placer County General Plan* and *City of Lincoln General Plan* would result under both alternatives. The impact would be significant and unavoidable.

Impact TRA-2: Result in safety hazards due to design features, incompatible uses (e.g., hazards to vehicular, pedestrian, or bicycle travel), or inadequate emergency access (NEPA: less than significant; CEQA: less than significant)

Impacts on traffic resulting from implementation of proposed PCCP conservation activities that require construction activities would be the same under Alternative 3 as those identified for Impact TRA-2 under Alternative 2, the proposed action—specifically, short-term effects on lightly traveled rural roads. Impacts resulting from growth under the general plans as identified for Impact TRA-2 under Alternative 2 also would be the same under Alternative 3.

The EIR for the Placer County RTP found that implementation of the RTP would not result in significant impacts on safety or emergency access so long as a traffic control plan for construction projects is adopted and put into effect (Placer County Transportation Planning Commission 2015:3.13-20, 21). Implementation of a traffic control plan is a standard BMP or mitigation measure for projects in the RTP. Any highway project would need to comply with Caltrans regulations that address road design safety and maintaining emergency access during construction.

The EIRs for the Placer County and City of Lincoln general plans do not directly address impacts on transportation safety and emergency access. However, goals in both plans are intended to encourage development of safe transportation systems and to ensure development would not have air safety consequences.

Implementation of PCWA projects may require water system construction work on and near roadways, which could result in short-term impacts on roadways due to lane closures and detours. As a standard BMP, PCWA requires contractors to prepare and implement a traffic management plan that mandates coordination with Placer County to ensure the provision of emergency access.

NEPA Determination: Implementation of the Placer County RTP, *Placer County General Plan*, and *City of Lincoln General Plan* is intended to address travel safety issues and prevent development incursions into airport safety zones. Therefore, the impact would be less than significant.

CEQA Determination: Implementation of the Placer County RTP, *Placer County General Plan*, and *City of Lincoln General Plan* is intended to address travel safety issues and prevent development incursions into airport safety zones. Therefore, the impact would be less than significant. No mitigation has been identified.

Impact TRA-3: Conflict with transportation plans, programs, and planned projects (NEPA: no impact; CEQA: no impact)

As discussed in Section 3.11.1, *Regulatory Setting*, PCTPA, Placer County, and the City of Lincoln have numerous transportation plans, programs, and projects within the Plan Area. Like Alternative 2, the proposed action, Alternative 3 would serve to streamline implementation of those plans, programs, and projects by providing a method for complying with federal and state regulations that protect rare species.

NEPA Determination: Implementation of Alternative 3 would have no impact on transportation plans and projects.

CEQA Determination: Implementation of Alternative 3 would have no impact on transportation plans and projects. No mitigation has been identified.

Alternative 4—Reduced Permit Term

Impact TRA-1: Result in a substantial increase in traffic and affect capacity of the roadway system (NEPA: significant and unavoidable; CEQA: significant and unavoidable)

Because the Plan would have a term of 30 years rather than 50 years as under Alternative 2, the proposed action, the scope of conservation may be reduced, resulting in fewer impacts on traffic and roadways as a result of PCCP implementation. However, short-term impacts of conservation measure construction activities on rural, lightly traveled roadways would be similar to those described for Impact TRA-1 under Alternative 2. Effects resulting from Covered Activities also would be similar, even with a 30-year development window.

Public and private development envisioned in the *Placer County General Plan*, *City of Lincoln General Plan*, the Placer County RTP, and PCWA plans would go forward under Alternative 4. The EIR for the *Placer County General Plan* identified significant impacts related to traffic congestion and roadway capacity by 2040, which would be well inside the 30-year window of Alternative 4 (Placer County 1994:Chapter 4). The *City of Lincoln General Plan* directs growth through 2050, which would be roughly within the 30-year window. The EIR for the *City of Lincoln General Plan* determined that general plan implementation, even while incorporating mitigation measures, would result in LOS at unacceptable levels at numerous intersections in the region (City of Lincoln 2006:Chapter 5; City of Lincoln 2008:Table ES-5). As stated in the EIRs for these general plans, there are no feasible mitigation measures that would reduce impacts to less-than-significant levels.

The EIR for the Placer County RTP concluded that, although regional development would have significant and unavoidable impacts related to traffic congestion, adoption of the Placer County RTP would itself have a less-than-significant impact (Placer County Transportation Planning Commission 2015:3.13-19).

Implementation of PCWA projects may require water system construction work on and near roadways, which could result in short-term impacts on traffic and roadway capacity due to lane closures and detours. As a standard BMP, PCWA requires contractors to prepare and implement a traffic management plan that reduces traffic congestion caused by construction activities.

NEPA Determination: The impact determination for Alternative 4 is the same as for Alternative 2, the proposed action. Implementation of the PCCP under Alternative 4 could cause effects on traffic and roadways as a result of construction activities and traffic. In addition, effects associated with the

Placer County General Plan and *City of Lincoln General Plan* would result under both alternatives. The effect would be significant and unavoidable.

CEQA Determination: The impact determination for Alternative 4 is the same as for Alternative 2, the proposed action. Implementation of the PCCP under Alternative 4 could cause effects on traffic and roadways as a result of construction activities and traffic. In addition, impacts associated with the *Placer County General Plan* and *City of Lincoln General Plan* would result under both alternatives. The impact would be significant and unavoidable.

Impact TRA-2: Result in safety hazards due to design features, incompatible uses (e.g., hazards to vehicular, pedestrian, or bicycle travel), or inadequate emergency access (NEPA: less than significant; CEQA: less than significant)

Implementation of the PCCP under Alternative 4 would result in same impacts as those of Alternative 2, the proposed action, that are identified in the discussion of Impact TRA-2 under Alternative 2. Impacts of Covered Activities identified for Impact TRA-2 under Alternative 2 also would be the same under Alternative 4.

The EIR for the Placer County RTP found that implementation of the RTP would not result in significant impacts on safety or emergency access so long as a traffic control plan for construction projects is adopted and put into effect (Placer County Transportation Planning Commission 2015:3.13-20, 21). Implementation of a traffic control plan is a standard BMP or mitigation measure for projects in the RTP. Any highway project would need to comply with Caltrans regulations that address road design safety and maintaining emergency access during construction.

The EIRs for the Placer County and City of Lincoln general plans do not directly address impacts on transportation safety and emergency access. However, goals in both plans are intended to encourage development of safe transportation systems and to ensure development would not have air safety consequences.

Implementation of PCWA projects may require water system construction work on and near roadways, which could result in short-term impacts on roadways due to lane closures and detours. As a standard BMP, PCWA requires contractors to prepare and implement a traffic management plan that mandates coordination with Placer County to ensure the provision of emergency access.

NEPA Determination: Implementation of the Placer County RTP, *Placer County General Plan,* and *City of Lincoln General Plan* is intended to address travel safety issues and prevent development incursions into airport safety zones. Therefore, the impact would be less than significant.

CEQA Determination: Implementation of the Placer County RTP, *Placer County General Plan,* and *City of Lincoln General Plan* is intended to address travel safety issues and prevent development incursions into airport safety zones. Therefore, the impact would be less than significant. No mitigation has been identified.

Impact TRA-3: Conflict with transportation plans, programs, and planned projects (NEPA: no impact; CEQA: no impact)

As discussed in Section 3.11.1, *Regulatory Setting*, PCTPA, Placer County, and the City of Lincoln have numerous transportation plans, programs, and projects for the Plan Area. Like Alternative 2, the proposed action, Alternative 4 would serve to streamline implementation of those plans, programs,

and projects by providing a method for complying with federal and state regulations that protect rare species.

NEPA Determination: Implementation of Alternative 4 would have no impact on transportation plans and projects.

CEQA Determination: Implementation of Alternative 4 would no impact on transportation plans and projects. No mitigation has been identified.

4.11.3 Cumulative Analysis

Alternative 1—No Action

Conclusions in the EIRs for the *Placer County General Plan*, the *City of Lincoln General Plan*, and the Placer County RTP are based on analysis of past, present, and reasonably foreseeable future projects. Although the EIR for the Placer County RTP found that implementation of the RTP would not have a cumulatively considerable impact on the transportation system, regional development would result in increased traffic congestion (Placer County Transportation Planning Commission 2015:4.0-9). Furthermore, the EIRs for the general plans determined that implementation of those general plans would result in cumulatively considerable impacts related to transportation. Because general plan implementation and regional development would go forward under the no action alternative, the alternative would contribute to a cumulatively considerable impact on transportation and circulation.

Alternative 2—Proposed Action

Conclusions in the EIRs for the *Placer County General Plan*, the *City of Lincoln General Plan*, and the Placer County RTP are based on analysis of past, present, and reasonably foreseeable future projects. Although the EIR for the Placer County RTP found that implementation of the RTP would not have a cumulatively considerable impact on the transportation system, regional development would result in increased traffic congestion (Placer County Transportation Planning Commission 2015:4.0-9). Furthermore, the EIRs for the general plans determined that implementation of those general plans would result in cumulatively considerable impacts related to transportation. Because implementation of Alternative 2, the proposed action, would streamline general plan implementation, the proposed action would contribute to a cumulatively considerable impact on transportation and circulation.

Alternative 3—Reduced Take/Reduced Fill

Conclusions in the EIRs for the *Placer County General Plan*, the *City of Lincoln General Plan*, and the Placer County RTP are based on analysis of past, present, and reasonably foreseeable future projects. Although the EIR for the Placer County RTP found that implementation of the RTP would not have a cumulatively considerable impact on the transportation system, regional development would result in increased traffic congestion (Placer County Transportation Planning Commission 2015:4.0-9). Furthermore, the EIRs for the general plans determined that implementation of those general plans would result in cumulatively considerable impacts related to transportation. Because implementation of Alternative 3 would streamline general plan implementation, the alternative would contribute to a cumulatively considerable impact on transportation and circulation.

Alternative 4—Reduced Permit Term

Conclusions in the EIRs for the *Placer County General Plan*, the *City of Lincoln General Plan*, and the Placer County RTP are based on analysis of past, present, and reasonably foreseeable future projects. Although the EIR for the Placer County RTP found that implementation of the RTP would not have a cumulatively considerable impact on the transportation system, regional development would result in increased traffic congestion (Placer County Transportation Planning Commission 2015:4.0-9). Furthermore, the EIRs for the general plans determined that implementation of those general plans would result in cumulatively considerable impacts related to transportation. Because implementation of Alternative 4 would streamline general plan implementation, the alternative would contribute to a cumulatively considerable impact on transportation and circulation.

4.11.4 References Cited

City of Lincoln. 2006. *City of Lincoln General Plan Draft Environmental Impact Report*. Volume 1. State Clearinghouse No. 2005112003. October.

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Chapter 5
Other Required CEQA and NEPA Analyses

NEPA requires an EIS and CEQA requires an EIR to provide a number of other types of environmental analyses. The analysis required under NEPA and CEQA is in many cases similar; therefore, the NEPA and CEQA required analyses in this section are combined, as appropriate.

5.1 Cumulative Impacts

As described in Section 4.0, *Environmental Consequences*, under CEQA cumulative impacts are "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts" (State CEQA Guidelines Section 15355; Public Resources Code Section 21083[b]).

U.S. Council on Environmental Quality's regulations for implementing NEPA define a cumulative effect as:

> the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or nonfederal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. (40 Code of Federal Regulations [CFR] Section 1508.7.)

The background for the cumulative analysis is presented in Section 4.0, and each resource section in Chapter 4, *Environmental Consequences*, contains an analysis of the cumulative effects specific to that resource that would potentially result due to implementation of the proposed action or alternatives.

5.2 Significant and Unavoidable Impacts

Tables ES-1, ES-2, and ES-3 summarize significant and unavoidable impacts, as disclosed in Chapter 4, *Environmental Consequences*, of this EIS/EIR, for all alternatives considered. Resources with significant and unavoidable impacts associated with the proposed action are listed below.

- **Agricultural Resources** as a result of converting agricultural lands to urban land uses or native habitat within the Plan Area.
- **Air Quality, Greenhouse Gases, and Climate Change** as a result of conflicts with applicable Placer County Air Pollution Control District air quality plans due to Covered Activities (i.e., urban land uses identified in the general plans of Placer County and the City of Lincoln); violations of air quality standards as a result of Covered Activities; causing cumulatively considerable net increases in criteria pollutants as a result of Covered Activities; exposing sensitive receptors to substantial pollutant concentrations as a result of Covered Activities; generation of greenhouse gas (GHG) emissions as a result of Covered Activities and implementation of the Plan; and conflict with GHG emissions reduction targets codified in California Assembly Bill 32.

- **Cultural and Paleontological Resources** as a result of risk of direct or indirect destruction of paleontological or previously identified and unknown cultural resources resulting from Covered Activities (i.e., ground-disturbing development activities) associated with implementation of the *Placer County General Plan*.
- **Hydrology and Water Quality** as a result of exposing structures and people to loss, injury, death involving flooding due to Covered Activities within the city of Lincoln (i.e., urban land uses identified in *City of Lincoln General Plan*).
- **Noise and Vibration** as a result of substantial and permanent increase in noise levels above levels currently existing due to Covered Activities (i.e., urban land uses identified in general plans of Placer County and the City of Lincoln, as well as public infrastructure projects) and construction and operations and maintenance activities associated with implementation of the Plan; substantial temporary or periodic increase in ambient noise levels; and increases in excessive groundborne vibrations and groundborne noise levels associated with Covered Activities and construction activities associated with implementation of Plan conservation measures.
- **Transportation and Circulation** as a result of a substantial increase in traffic compared to existing traffic volumes and the capacity of the roadway system due to Covered Activities within the local jurisdictions (i.e., urban land uses and associated planned growth).

5.3 Short-Term Uses of the Environment versus Maintenance and Enhancement of Long-Term Productivity

In accordance with NEPA, Section 102 (42 United States Code [USC] 4332), an EIS must include a discussion of the relationship between the short-term uses of the environment and the maintenance and enhancement of long-term productivity. The proposed action is fundamentally designed to ensure that the long-term productivity of the environment is ensured, despite the short-term uses of the environment. In the short-term, a wide range of urban development and infrastructure projects would be carried out under the terms and conditions of the proposed action. Although these activities would result in a loss of habitat and the take of sensitive species, these activities would be undertaken pursuant to the terms of the proposed action. The proposed action provides for a comprehensive mechanism to avoid, minimize, and mitigate for impacts on sensitive species and natural communities from Covered Activities.

5.4 Irreversible and Irretrievable Commitments to Resources/Significant Irreversible Environmental Changes

In accordance with NEPA, Section 102 (42 USC 4332), an EIS must explain which environmental impacts of the proposed action are irreversible or would result in an irreversible commitment of resources, such as consumption of fossil fuels. CEQA similarly requires an EIR to discuss uses of

nonrenewable resources that would occur during the initial phases and the continued operation of a project (State CEQA Guidelines Section 15126.2[c]).

The proposed action would result in an irreversible commitment of fossil fuel resources for habitat restoration and enhancement activities, as well as irreversible commitment of fossil fuels to perform surveys, manage the administrative functions of the proposed action, and maintain and operate the preserve system. Preserves would be established under the proposed action to provide for ecosystem viability and species enhancement; however, establishment of preserves, whether purchased in-fee or through easements, would not be considered an irreversible physical commitment of resources since this use would not preclude modifications or adjustments in the use in the future.

No specific development activities are authorized under the proposed action that would result in the irreversible commitment of resources; however, urban, suburban, and rural residential development as described by the local jurisdictions' general plans is included as a Covered Activity. The conversion of existing agricultural or other land to urban and other uses is considered an irreversible environmental commitment. Conversion of land to urban uses is a Covered Activity by the proposed action, but such conversion is not specifically authorized by the proposed action as described in Section 1.2.3, *Joint Documentation*.

5.5 Growth-Inducing Impacts

CEQA requires that an EIR discuss the extent to which a proposed action would directly or indirectly foster economic or population growth or the construction of new housing, including removing obstacles to growth that may result in significant environmental effects (State CEQA Guidelines Section 15126.2[d]). The proposed action includes Covered Activities that would have direct growth-inducing impacts. The proposed action also includes Covered Activities that would not directly cause growth to occur, but rather would accommodate growth that is already planned in the general plans of Placer County and the City of Lincoln (Placer County 2013; City of Lincoln 2008a).

Future development that is covered under the proposed action and assessed as part of the proposed action impact analysis is considered planned development because it is derived directly from the local jurisdictions' general plans. The proposed action would streamline the development envisioned in the *Placer County General Plan* and *City of Lincoln General Plan* as well as and long-term South Placer Regional Transportation Authority and Placer County Water Agency plans. The direct and indirect impacts of this planned growth and any mitigation requirements are provided under the general plans for the City of Lincoln and Placer County, as well as under project-specific environmental compliance that would be required for specific developments in the future.

The 50-year term of the proposed action and incidental take permits and natural community conservation plan permit would extend beyond the time periods addressed in projections for the City of Lincoln and Placer County's general plans. The proposed action does not induce future growth since other factors (e.g., updates to the general plans) would be more accommodating to growth than the attainment of take authorization.

The proposed action would provide a streamlined mechanism for specific projects to comply with federal Endangered Species Act and California Endangered Species Act. An improved permitting mechanism would not remove a barrier to growth but would perhaps lower it. Under the proposed

action, permit approval would be easier for development applicants to secure, resulting in improved development efficiencies and potential development cost savings.

The efficiencies and cost savings under the proposed action would affect different types of development projects differently. For example, development of lands where there are few species concerns would not be substantially affected by the proposed action since permitting without the proposed action would be a minor issue. Projects with a greater level of species concerns would be most affected by implementation of the proposed action since these projects would benefit most by streamlined permit approvals. Nevertheless, without the proposed action, these projects would presumably still be able to proceed under the existing case-by-case permit approval process. Given the current rate of development and growth being experienced in the Plan Area, the cost of issuing permit approvals on a project-by-project basis does not appear to be a noticeable disincentive to development. Thus, the proposed action may influence the speed with which development could proceed, but not the extent of development. The speed of development would be more substantially influenced by larger economic conditions, population growth, housing stocks, as well as local land use and growth-management controls.

5.6 Environmentally Superior/Preferable Alternative

The State CEQA Guidelines (Section 15126.6[e][2]) require that an environmentally superior alternative be identified from the alternatives considered. The *environmentally superior alternative* is generally defined as the alternative that would result in the least adverse environmental impacts on the project site and the surrounding area. If the no-project alternative is the environmentally superior alternative, then CEQA requires an EIR to identify which of the other alternatives is the environmentally superior alternative. Under CEQA, the proposed project is not considered an alternative, and for this reason, identification of one of the other alternatives as the *environmentally superior alternative* is required.

Tables ES-1, ES-2, and ES-3 in the *Executive Summary* of this EIS/EIR provide an overview of the potential differences in the levels of impact under the alternatives considered.

NEPA regulations require that when an agency has concluded an EIS and the decision is recorded in a public Record of Decision (ROD) (40 CFR Section 1505.2), the ROD needs to "identify all alternatives considered by the agency in reaching its decision, specifying the alternative or alternatives which were considered to be environmentally preferable" (40 CFR Section 1505.2[b]). The agency must discuss all factors essential to the agency decision and discuss how those factors influenced the agency's decision (40 CFR Section 1505.2[b]). The *environmentally superior/environmentally preferable alternative* is the alternative that would result in the least damage to the environment. For the federal agencies, the determination of the environmentally preferable alternative will be made in that agency's ROD.

For the purposes of CEQA, based on the analysis presented in Chapter 4, *Environmental Consequences*, the environmentally superior alternative is the proposed action. The proposed action would provide the most comprehensive approach to habitat conservation among the alternatives, with the greatest potential to provide long-term benefits to the Covered Species. However, because under CEQA the proposed action is not considered an alternative, the alternative other than the proposed action that would result in the least environmental impacts would be Alternative 3—Reduced Take/Reduced Fill.

5.7 Executive Orders

Executive orders (EOs) that are relevant to the proposed action are described below.

5.7.1 Executive Order 11988—Floodplain Management

EO 11988, Floodplain Management, requires federal agencies to prepare floodplain assessments for proposed projects located in or affecting floodplains. An agency proposing to conduct an action in a floodplain must consider alternatives to avoid adverse effects and incompatible development in the floodplain. If the only practicable alternative involves siting in a floodplain, the agency must minimize potential harm to or development in the floodplain and explain why the action is proposed in the floodplain.

All action alternatives include Covered Activities that may occur in floodplains within the city of Lincoln. This development is planned development that has been evaluated, and mitigation measures have been identified in the local jurisdictions' general plan EIRs and incorporated in Section 4.5, *Hydrology, Water Resources, and Water Quality*.

5.7.2 Executive Order 11990—Protection of Wetlands

Signed May 24, 1977, EO 11990, Protection of Wetlands, requires federal agencies to prepare wetland assessments for projects located in or affecting wetlands. Agencies must avoid undertaking new construction in wetlands unless no practicable alternative is available and the proposed action includes all practicable measures to minimize harm to wetlands.

The EO directs federal agencies to refrain from assisting in or giving financial support to projects that encroach on publicly or privately owned wetlands. It further requires that federal agencies support a policy to minimize the destruction, loss, or degradation of wetlands. Such a project (that encroaches on wetlands) may not be undertaken unless the agency has determined that (1) there are no practicable alternatives to such construction, (2) the project includes all practicable measures to minimize harm to wetlands that would be affected by the project, and (3) the impact will be minor.

All action alternatives have been designed to address impacts on federal and state jurisdictional waters, including wetlands, and on state jurisdictional streams and lakes. Specific biological goals and objectives for wetlands and streams have been developed, and the conservation strategy would include a range of specific measures to avoid and mitigate for impacts on these resources. Specific measures can be found in Table 4-2 in the CARP, which would be a part of all action alternatives.

These measures, implemented in concert, would provide adequate protection for existing wetlands, as well as restore and create additional wetlands in the Plan Area.

5.7.3 Executive Order 12898—Environmental Justice

Environmental justice is rooted in the Civil Rights Act of 1964, which prohibited discrimination in federally assisted programs, and in EO 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, issued February 11, 1994. EO 12898 was intended to ensure that federal actions and policies do not result in disproportionately high adverse effects on minority or low-income populations. It requires each federal agency to take "appropriate

and necessary" steps to identify and address any such disproportionate effects resulting from its programs, policies, or activities, including those it implements directly, as well as those for which it provides permitting or funding. Potential impacts related to environmental justice are discussed in Section 4.9, *Population and Housing, Socioeconomics, and Environmental Justice.*

5.7.4 Executive Order 13112—Prevention and Control of Invasive Species

EO 13112, signed February 3, 1999, directs all federal agencies to prevent and control the introduction of invasive species in a cost-effective and environmentally sound manner. The EO established the National Invasive Species Council (NISC), which is composed of federal agencies and departments, and a supporting Invasive Species Advisory Committee composed of state, local, and private entities. In 2008, NISC released an updated *National Invasive Species Management Plan* that recommends objectives and measures to implement the EO and prevent the introduction and spread of invasive species. The EO requires consideration of invasive species in NEPA analyses, including their identification and distribution, their potential impacts, and measures to prevent or eradicate them. Potential impacts related to invasive species are discussed in Section 4.3, *Biological Resources.*

5.7.5 Executive Order 13175—Consultation and Coordination with Indian Tribal Governments

EO 13175 reaffirms the federal government's commitment to tribal sovereignty, self-determination, and self-government. Its purpose is to ensure that all executive departments and agencies consult with Indian tribes and respect tribal sovereignty as they develop policy on issues that impact Indian communities. Consultation with Indian Tribal Governments is described in Chapter 1, *Introduction*.

5.7.6 Executive Order 13186—Responsibilities of Federal Agencies to Protect Migratory Birds

EO 13186, signed January 10, 2001, directs each federal agency taking actions that would have or would likely have a negative impact on migratory bird populations to work with the U.S. Fish and Wildlife Service to develop a memorandum of understanding (MOU) to promote the conservation of migratory bird populations. Protocols developed under the MOU must include the following agency responsibilities: (1) avoid and minimize, to the extent practicable, adverse impacts on migratory bird resources when conducting agency actions, (2) restore and enhance habitat of migratory birds, as practicable; and (3) prevent or abate the pollution or detrimental alteration of the environment for the benefit of migratory birds, as practicable. Potential impacts related to migratory birds are discussed in Section 4.3, *Biological Resources.*

5.8 Public Interest Review Special Topics

As a part of issuing permits, the U.S. Army Corps of Engineers (USACE) is required to perform a Public Interest Review (PIR) as described in 33 CFR 320.4. Under the PIR, USACE must address the direct, indirect, and cumulative effects of the proposed activity and its intended use on the public interest. USACE may only issue a permit for a proposed activity if it is determined the proposed

activity is not contrary to the public interest. In addition to the requirement for a PIR, as required by the Section 404(b)(1) guidelines at 40 CFR 230.10(c), USACE may not issue a permit for a discharge of dredged and/or fill material that will cause or contribute to significant degradation of the waters of the United States. The findings of significant degradation related to a proposed discharge are based upon appropriate factual determination, evaluations, and tests required by the Section 404(b)(1) guidelines. As identified in 40 CFR 230.11, the factual determination is made by USACE by determining, in writing, the potential short-term or long-term effects of a proposed discharge of dredged or fill material on the physical, chemical, and biological components of the aquatic environment. Subparts C through G of the Section 404(b)(1) guidelines (40 CFR 230.20 through 230.60) provide the specific factors evaluated by USACE in making the required factual determinations and a final decision on whether a proposed discharge will result in significant degradation of the waters of the United States. Under the USACE regulatory program, there is substantial overlap between the PIR factors and the Section 404(b)(1) factors. However, the evaluation of effects under the PIR and Section 404(b)(1) guidelines differ in that, under the PIR review, USACE analyzes the effects of the proposed action and its intended use, and under the Section 404(b)(1) review, USACE analyzes the effects of the proposed discharge into waters of the United States.

As identified in Appendix C of this EIS/EIR, USACE intends to use this EIS/EIR to develop a permit strategy, consisting of evaluation of a programmatic general permit (PGP), regional general permit (RGP), letter of permission procedures (LOP), and abbreviated standard permit procedures. USACE also intends to use this EIS/EIR in the review and development of an in-lieu fee program for the Permit Applicants. USACE will complete the final PIR and Section 404(b)(1) analysis for the permit strategy in the ROD.

Individual activities authorized under the proposed PGP/RGPs would result in no more than minimal individual and cumulative effects on the environment, including the PIR and Section 404(b)(1) factors identified below. For activities authorized under the proposed LOP/abbreviated standard permit process, USACE would make a case-specific determination on the individual and cumulative effects on the environment, including the effects to any of the PIR or Section 404(b)(1) factors identified below. For activities that would result in potentially significant impacts on the human environment, including potentially significant impacts on the PIR/Section 404(b)(1) (if included) factors identified below, USACE would prepare a supplemental EIS, in accordance with NEPA.

Table 5-1 is intended to facilitate the USACE PIR and Section 404(b)(1) analysis for the permit strategy, and identifies where in this EIS/EIR the topics required to be considered in the PIR and Section 404(b)(1) are addressed or, for those topics not specifically addressed in this EIS/EIR, presents specific information for the use of the USACE in its PIR and Section 404(b)(1) analysis for the permit strategy.

Table 5-1. Topics for Consideration in the U.S. Army Corps of Engineers' Public Interest Review and Section 404(b)(1) Analysis

Factor	Where Addressed
Conservation (PIR)	Sections 3.3 and 4.3, *Biological Resources*, of this EIS/EIR
Economics (PIR)	Sections 3.9 and 4.9, *Population, Housing, Socioeconomics and Environmental Justice*, of this EIS/EIR
Aesthetics (PIR/Section 404(b)(1))	The environmental effects of the Covered Activities related to aesthetics are covered in the EIRs for the *Placer County General Plan* and the *City of Lincoln General Plan*. The EIR for the *Placer County General Plan* concluded that impacts related to aesthetics would be less than significant, while the EIR for the *City of Lincoln General Plan* concluded that buildout of the general plan would result in significant and unavoidable impacts related to aesthetics. Policies related to aesthetics are found in the general plans.
General environmental concerns (PIR)	Sections 3.2 and 4.2, A*ir Quality, Greenhouse Gases, and Climate Change*; Sections 3.8 and 4.8, *Noise and Vibration*; and Sections 3.11 and 4.11, *Transportation and Circulation,* of this EIS/EIR
Wetlands (PIR/404(b)(1))	Sections 3.3 and 4.3, *Biological Resources*, of this EIS/EIR
Sanctuaries and refuges; coral reefs (Section 404(b)(1))	N/A; there are no sanctuaries and refuges or coral reefs within the Plan Area.
Mud flats; vegetated shallows; riffle and pool complexes (Section 404(b)(1))	The extent of mud flats, vegetated shallows, and riffle and pool complexes within the Plan Area are not known, and therefore these effects are not specifically addressed in the EIS/EIR. As described above, USACE would determine the extent of impacts on mud flats on a project-by-project basis.
Historic properties (PIR)	Sections 3.4 and 4.4, *Cultural and Paleontological Resources,* of this EIS/EIR
Fish and wildlife values, threatened and endangered species; fish, crustaceans, mollusks, and other aquatic organisms in the food web; other wildlife (PIR/Section 404(b)(1))	Sections 3.3 and 4.3, *Biological Resources*, of this EIS/EIR
Flood hazards (PIR)	Sections 3.5 and 4.5, *Hydrology and Water Quality*, of this EIS/EIR
Floodplain values (PIR)	Sections 3.5 and 4.5, *Hydrology and Water Quality*, of this EIS/EIR
Land use (PIR)	Sections 3.6 and 4.6, *Land Use and Planning*, of this EIS/EIR
Navigation (PIR)	In-water activities affected by the action alternatives analyzed in this document would include operation and maintenance of water supply and drainage facilities and storm water conveyance systems, low impact development facilities, nonpoint source reduction, detention/retention facilities, outfall structures, and other drainage improvements. Approval of the proposed PCCP, including the permits issuance of incidental take permits by the U.S.

Factor	Where Addressed
	Fish and Wildlife Service and the National Marine Fisheries Service, pursuant to Section 10(a)(1)(B) of the Endangered Species Act and the CARP would not authorize such projects but would provide for compensation and mitigation for the effects on Covered Species of such activities. Impacts on navigation are not expected.
Shore erosion and accretion	Sections 3.5 and 4.5, *Hydrology and Water Quality*, of this EIS/EIR
Recreation; recreational and commercial fisheries; water-related recreation; parks, national and historical monuments, national seashores, wilderness areas, research sites, and similar preserves (PIR/Section 404(b)(1))	Sections 3.10 and 4.10, *Recreation*, of this EIS/EIR for the effects to recreation and parks. There are no national and historical monuments, national seashores, wilderness areas, or research sites within the Plan Area, and therefore there would be no effect from any activity.
Water supply and conservation; Municipal and Private Water Supplies (PIR/Section 404(b)(1))	The proposed PCCP would not result in a demand for water. The Covered Activities could result in an increased demand for water, and the environmental effects of such an increased demand are covered in the EIRs for the *Placer County General Plan* and the *City of Lincoln General Plan*; these EIRs concluded that impacts related to water supply would be less than significant. In addition, the Placer County Water Agency, a Permit Applicant and the primary water purveyor in the Plan Area, has prepared an Urban Water Management Plan to address continued provision of water to its service area. Water conservation policies are included in the general plans and the Placer County Water Agency Urban Water Management Plan.
Water quality; suspended particulates/turbidity; water (PIR/Section 404(b)(1))	Sections 3.5 and 4.5, *Hydrology and Water Quality*, of this EIS/EIR
current patterns and water circulation; normal water level fluctuations (Section 404(b)(1))	Sections 3.5 and 4.5, *Hydrology and Water Quality*, of this EIS/EIR
Energy Needs (PIR)	33 CFR 320.4(n) states that District Engineers will give high priority to the processing of permit actions involving energy projects. None of the Covered Activities are energy projects.
Safety (PIR)	The environmental effects of the Covered Activities related to safety are covered in the EIRs for the *Placer County General Plan* and the *City of Lincoln General Plan*; these EIRs concluded that impacts related to safety would be less than significant, with the exception of potential effects related to emergency access during construction in Lincoln. Policies ensuring safety are found in the general plans and the Placer County Water Agency safety manual.
Food and fiber production (PIR)	Sections 3.1 and 4.1, *Agricultural and Forestry Resources,* of this EIS/EIR
Mineral needs (PIR)	Sections 3.7 and 4.7, *Mineral Resources*, of this EIS/EIR

Factor	Where Addressed
Consideration of property ownership (PIR)	Potential effects on the property of others would need to be addressed on a permit by permit basis. None of the action alternatives would grant any rights to the property of others to a project applicant or a Permit Applicant.
Needs and welfare of the people (PIR)	Throughout this EIS/EIR
Salinity Gradients (Section 404(b)(1))	There are no salinity gradients within the Plan Area, and therefore there would be no effect.

Sources: City of Lincoln 2008b; Placer County 1994; Placer County Water Agency 2015; Gibson pers. comm.; National Park Service 2018; Wilderness.net 2018.

5.9 References Cited

5.9.1 Printed References

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5.9.2 Personal Communications

Gibson, Lisa. U.S. Army Corps of Engineers. June 6, 2018—Email.

Chapter 6
Consultation and Coordination

This chapter provides an overview of the agency consultation and other regulatory requirements and the scoping and public involvement process for the proposed action and alternatives.

6.1 Consultation Requirements

6.1.1 Federal Endangered Species Act

Threatened and endangered species are listed under the provisions of Section 4 of Endangered Species Act (ESA); prohibitions in Section 9 provide for substantial protection of these listed species. Through Section 7 and Section 10 processes, U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS) ensure that activities undertaken by federal agencies and nonfederal entities do not result in jeopardy of listed species or adverse modification of critical habitat.

If federally listed species may be affected, the federal lead agency must informally consult with USFWS and/or NMFS to assess the consequences of its actions and to determine whether formal consultation is warranted. USFWS and NMFS are proposing to issue Section 10 incidental take permits, a federal action that triggers Section 7 consultation requirements under the proposed action. As the federal action agency for the proposed action and permit, USFWS will consult internally pursuant to Section 7. USFWS and NMFS will initiate internal consultation following the submission of the Section 10 permit application package by the Permit Applicants. If USFWS and/or NMFS conclude that the proposed action is not likely to adversely affect a listed species, then no formal consultation will be conducted and no Biological Opinion (BO) will be prepared. If the proposed action is likely to result in adverse effects on a listed species, then USFWS and NMFS will prepare BOs that describe how the proposed action will affect the listed species. Each opinion will either be a *jeopardy opinion* or a *no-jeopardy opinion*. A jeopardy opinion concludes that the proposed action would jeopardize the continued existence of a federally listed species or would adversely modify designated critical habitat. Under this finding, the BO must suggest "reasonable and prudent alternatives" that would avoid jeopardy. If USFWS and/or NMFS issue a no-jeopardy opinion, this opinion may include "reasonable and prudent measures" to minimize adverse effects on listed species and an "incidental take statement" that specifies the allowable amount of take that may occur as a result of the proposed action.

6.1.2 Magnuson-Stevens Fishery Conservation and Management Act

The Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) establishes a management system for national marine and estuarine fishery resources. This legislation requires that all federal agencies consult with NMFS regarding all actions or proposed actions permitted, funded, or undertaken that may adversely affect essential fish habitat (EFH). *EFH* is defined as "waters and substrate necessary to fish for spawning, breeding, feeding, or growth to

maturity." The legislation states that migratory routes to and from anadromous fish spawning grounds are considered EFH. The term *adversely affect* refers to the creation of any effect that reduces the quality or quantity of EFH. Federal activities that occur outside of an EFH but may nonetheless have an effect on EFH waters and substrate must also be considered in the consultation process.

Under the Magnuson-Stevens Act, effects on habitat managed under the *Pacific Coast Salmon Fishery Management Plan* must also be considered. The Magnuson-Stevens Act states that consultation regarding EFH should be consolidated, where appropriate, with the interagency consultation, coordination, and environmental review procedures required by other federal statutes, such as NEPA, Fish and Wildlife Coordination Act, Clean Water Act, and ESA. EFH consultation requirements can be satisfied through concurrent environmental compliance if the lead agency provides NMFS with timely notification of actions that may adversely affect EFH and the notification meets requirements for EFH assessments.

6.1.3 National Historic Preservation Act

Section 106 of the National Historic Preservation Act (NHPA) requires federal agencies to inventory historic properties and evaluate the eligibility of those properties for listing in the National Register of Historic Places (NRHP). The potential effects of the proposed action or action alternatives on cultural resources, including properties listed or eligible for the NRHP, and any necessary measures to avoid or reduce impacts on these resources, are described in Section 4.4, *Cultural and Paleontological Resources,* of this EIS/EIR. As presented in that section, the proposed action is not expected to result in any significant effects on cultural resources. A cultural resources management plan would be developed as a basis for establishing a programmatic memorandum of agreement between U.S. Army Corps of Engineers (USACE), State Historic Preservation Officer, and Advisory Council on Historic Preservation for compliance with the requirements of the NHPA Section 106 process such that no NRHP-listed eligible or potentially eligible resources would be affected.

6.1.4 Farmland Protection Policy Act

The Farmland Protection Policy Act (FPPA) of 1981 requires federal agencies to consider project alternatives that minimize or avoid adverse impacts on important farmland. As described in Section 4.1, *Agricultural and Forestry Resources,* of this EIS/EIR, the FPPA does not apply to federal permitting (7 Code of Federal Regulations Section 658.2[a][1][i]).

6.1.5 Clean Air Act

Section 176(c) of the Clean Air Act (CAA) requires federal agencies to ensure that their actions are consistent with the CAA and with federally enforceable state implementation plans (air quality management plans). The conformity review process is intended to ensure that federal agency actions will not cause or contribute to new violations of any federal ambient air quality standards; will not increase the frequency or severity of any existing violations of federal ambient air quality standards; and will not delay the timely attainment of federal ambient air quality standards.

The proposed action is within an area designated by U.S. Environmental Protection Agency as a nonattainment area for ozone and particulate matter less than or equal to 2.5 microns in diameter (PM2.5) and a maintenance area for carbon monoxide. Consequently, to fulfill General Conformity requirements, a General Conformity evaluation would be required to identify whether the total

ozone, carbon monoxide, and PM2.5 emissions for the proposed action alternatives are subject to the General Conformity rule.

As described in Section 4.2, *Air Quality, Greenhouse Gases, and Climate Change*, of this EIS/EIR, a General Conformity determination is not required, as it was concluded emissions would likely not exceed the *de minimis* thresholds. However, if emissions would exceed *de minimis* thresholds, offsets would reduce emissions to net zero.

6.1.6 Migratory Bird Treaty Act

Migratory birds are protected by USFWS under the provisions of the Migratory Bird Treaty Act (MBTA) of 1916 as amended (16 U.S.C. Chapter 7, 703-712), which governs the taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, and nests. The take of all migratory birds is governed by the MBTA's regulation of taking migratory birds for educational, scientific, and recreational purposes and requiring harvest to be limited to levels that prevent overutilization. Section 704 of the MBTA states that the Secretary of the Interior is authorized and directed to determine if, and by what means, the take of migratory birds should be allowed and to adopt suitable regulations permitting and governing take. The Secretary of the Interior, in adopting regulations, is to consider such factors as distribution and abundance to ensure that take is compatible with the protection of the species. This guidance would be utilized in informal consultation on any such activities within the Plan Area for the proposed action.

6.2 Lead and Cooperating Agencies and Stakeholders

The PCCP EIS/EIR was prepared under the combined efforts of the following partners.

- USFWS
- NMFS
- USACE
- Placer County

The County is the lead agency and the other Permit Applicants, the City of Lincoln, SPRTA, and PCWA, and CDFW are responsible agencies for the CEQA portion of this environmental document. USFWS is the lead agency and NMFS is a cooperating agency for the NEPA portion of this environmental document. California Department of Fish and Wildlife (CDFW), in addition to being a CEQA responsible agency, is a CEQA trustee agency. The Central Valley Regional Water Quality Control Board is also a responsible agency under CEQA. USACE and NMFS are cooperating agencies pursuant to NEPA. To comply with both NEPA and CEQA, these agencies combined efforts to notify stakeholders, the public, agencies, and tribes of the proposed permits and intent to prepare a joint EIS/EIR.

The PCCP was prepared under the combined efforts of the following partners (collectively known as the *Permit Applicants*).

- Placer County
- City of Lincoln

- South Placer Regional Transportation Authority (SPRTA)
- Placer County Water Agency (PCWA)

An organizational structure that allowed for input from stakeholders and the general public was created to develop the PCCP. This organizational structure consisted of an Interagency Working Group, a Biological Working Group, a Finance Subcommittee, and an Ad Hoc Committee composed of county, agency, and consulting staff. These groups worked together to address a broad range of interests in the Plan Area. These interests include biological resources, agriculture, land use and development, education, transportation, resource management, and water delivery. USFWS, NMFS, and CDFW provided input throughout the development of the PCCP and participated in technical working groups and committee meetings as well as in separate meetings with Placer County and the consultant team who helped draft the PCCP. Public involvement was encouraged through open stakeholder committee meetings, public workshops and hearings, newsletters, and a regularly updated website.

6.3 Scoping

The notice of intent (NOI) for the purposes of NEPA and the notice of preparation (NOP) for the purposes of CEQA served to inform the public of scoping meetings and the public comment period regarding the scope of the EIS/EIR (Appendix D). Additional details regarding meeting locations and times and the public comment period were provided in the NOI/NOP.

In compliance with the requirements set forth in NEPA, USFWS prepared an NOI describing its intent to prepare an EIS, the proposed action, the possible alternatives, and relevant scoping meeting and contact information. The NOI was posted in the Federal Register, the U.S. Government's official noticing and reporting publication, on March 7, 2005. The official comment period for the NOI was March 7, 2005, to April 8, 2005.

In compliance with the requirements set forth in CEQA, Placer County prepared an NOP. The NOP contained a brief description of the proposed action; the anticipated timeframe; probable environmental effects; the date, time, and place of the public scoping meeting; and contact information. The NOP solicited participation in determining the scope and content of the environmental content of the EIR. In March 2005, the NOP was sent to responsible and trustee agencies and involved federal agencies, to the State Clearinghouse, and to parties previously requesting notice in writing. The comment period on the NOP was March 7, 2005, to April 8, 2005.

Three scoping meetings were held during the NOI/NOP public comment period. They were held on March 15, 16, and 17, 2005, at the following locations:

Roseville

Monday, March 15, 2005
6:00 p.m. to 8:00 p.m.
City of Roseville Corporation Yard, Rooms 2 and 3
2005 Hilltop Circle
Roseville, CA 95747

Auburn

Tuesday, March 16, 2005
6:00 p.m. to 8:00 p.m.
Placer County Planning Commission Chambers
11414 B Avenue
Auburn, CA 95603

Lincoln

Wednesday, March 17, 2005
7:30 p.m. to 9:30 p.m.
City of Lincoln McBean Pavilion
65 McBean Park Drive
Lincoln, CA 95648

Comments were received from the following stakeholders.

- Placer County Flood Control and Water Conservation District
- Placer County Department of Facility Services
- California Department of Fish and Game (now CDFW)
- California Department of Conservation, Division of Land Resource Protection
- California Department of Transportation, District 3, Sacramento Area Office
- City of Lincoln

Comments identified the following areas to be analyzed in the EIS/EIR.

- Assess effects related to peak flows at downstream locations, effects on stormwater facilities, and whether there would be alterations of 100-year floodplains.
- Baseline and existing environmental conditions in and around the Plan Area should be used to analyze direct and reasonably foreseeable indirect changes to existing conditions resulting from implementation of the PCCP.
- Covered Activities associated with approval and implementation of the PCCP, including conservation and restoration activities, and urban development activities, should be clearly described.
- Land use analysis should clearly characterize agricultural land resources and identify conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance as potentially significant. Important Farmland and Williamson Act land maps should be included and effects on Williamson Act lands presented.

Chapter 7
Report Authors and Preparers

7.1 Federal, State and Local Agencies

7.1.1 Lead Agencies

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