

Errata
Public Draft
Placer County Conservation Program
Draft Environmental Impact Statement/Environmental
Impact Report (DEIS/DEIR)

This errata sheet identifies corrections made to the DEIS/DEIR. The corrections identified in this errata sheet will also be included in the final environmental document

Date	DEIS/DEIR Section(s)	Correction
June 25, 2019	<ul style="list-style-type: none"> • Table of Contents • Section 4.3, <i>Biological Resources</i> 	<p>A Microsoft Word-generated error resulted in the deletion of approximately 65 pages of content in Section 4.3, <i>Biological Resources</i>, when this file was finalized for publication. This omission was discovered after the DEIS/DEIR was released for public comment.</p> <p>Alternative 3 impacts beginning in Impact BIO-4 were missing. Alternative 4 impacts through Impact BIO-5 were missing. The impact discussions were restored in the revised file, beginning on page 4.3-112.</p> <p>Because the omission affected pagination, the Table of Contents was also revised: page numbers for Section 4.3.3, <i>Cumulative Analysis</i>, and Section 4.3.4, <i>References Cited</i>, were updated.</p>

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 *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 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 159 acres. These impacts, comprising 47 acres of riverine and 112 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 3 would be offset by the protection and management of 2,133 acres, improving the overall functions and services of these waters, and the restoration/creation of 1,369 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 475 acres and temporary disturbance of 159 acres of riverine/riparian 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 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 3 on riverine/riparian complex in the Plan Area would be less than significant.

CEQA Determination: The permanent loss of 475 acres and temporary disturbance of 159 acres of riverine/riparian 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 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 3 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 3, Reduced Take/Reduced Fill, would result in permanent and temporary impacts on the oak woodland natural community. Permanent impacts on oak woodland would total 6,225 acres. These impacts would result primarily from urban/suburban development,

rural residential development, transportation projects, and infrastructure projects. A total of 1,115 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 3 would be offset by the protection and management of 10,134 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 6,225 acres and temporary disturbance of 180 acres of oak woodland 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 oak woodland in the Plan Area would be less than significant.

CEQA Determination: The permanent loss of 6,225 acres and temporary disturbance of 180 acres of oak woodland 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 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 3 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 3, Reduced Take/Reduced Fill, 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, and conservation activities. 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 3 would be offset by the protection and management of 190 acres and the restoration of 285 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 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 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 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 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 3 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, legenera, 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 3, Reduced Take/Reduced Fill, 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 515 acres of vernal pool-type wetland habitat within 11,150 acres of vernal pool complex (approximately 25% 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 legenera (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 810 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 23 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 3 would be offset by the protection and management of 16,158 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 810 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 3 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 3 could result in the loss of extant occurrences of special-status plants: 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 3 would also permanently remove up to 525 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 3 could result in the loss of extant occurrences of special-status plants: 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 3 would also permanently remove up to 525 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

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 3 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 1,145 acres of oak woodland habitats (approximately 2% 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 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 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 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 3 would be offset by the protection and management of 10,134 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 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 includes urban/suburban development, transportation projects, and infrastructure projects, under Alternative 3 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 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 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 3 could result in the loss of up to two occurrences of big-scale balsamroot, five occurrences of Brandegees clarkia, one potential occurrence of Red Bluff dwarf rush, and one occurrence of dubious pea. Alternative 3 would also result in the permanent removal of up to 6,365 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 3 could result in the loss of up to two occurrences of big-scale balsamroot, five occurrences of Brandegees clarkia, one potential occurrence of Red Bluff dwarf rush, and one occurrence of dubious pea. Alternative 3 would also permanently remove up to 6,365 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 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 CNDDDB 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 3, Reduced Take/Reduced Fill, 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 3,640 acres of grassland habitat (approximately 17% of this community in Plan Area A) and 10,635 acres of vernal pool complex upland (approximately 24% 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. Known occurrences of big-scale balsamroot, and hispid bird's-beak (one of 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.

An unknown amount of vernal pool complex wetland habitat may be permanently altered by the restoration/creation of a portion of the 810 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 134 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 368 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 3 would be offset by the protection and management of 2,796 acres of grassland and up to 15,368 acres of vernal pool complex uplands (estimated flexible conservation acreage), as well as restoration of 1,000 acres of grassland and up to 2,190 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 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 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 3 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 the Plan under Alternative 3 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 3 would also result in the permanent removal of up to 7,040 acres of grassland and the upland portion of the 11,300 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 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 3 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 3 would also permanently remove up to 7,040 acres of grassland and the upland portion of the 11,300 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 CNDDDB-documented occurrences in 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 CNDDDB (Wildlands 2003). No impacts on the mitigation bank would result from Plan implementation.

Covered Activities under Alternative 3, Reduced Take/Reduced Fill, 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 45 acres of fresh emergent marsh habitat (approximately 4% of this community in Plan Area A) and 71 acres of riverine habitat (approximately 7% 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 23 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 27 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 emergent 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 3 would be offset by the protection and management of 244 acres of fresh emergent marsh and up to 284 acres of riverine in Plan Area reserves. In addition, there would be restoration of up to 170 acres of fresh emergent marsh and up to 161 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 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 includes urban/suburban development, transportation projects, and infrastructure projects, under Alternative 3 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, restore, 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 3 could affect currently undiscovered occurrences of special-status plants in freshwater emergent marsh and riverine habitats. Alternative 3 would also result in the permanent removal of up to 100 acres of fresh emergent marsh and 106 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, 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 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 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 3, Reduced Take/Reduced Fill, could affect currently undiscovered occurrences of special-status plants in freshwater emergent marsh and riverine habitats. Alternative 3 would also permanently remove up to 100 acres of fresh emergent marsh and 106 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, 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 3, Reduced Take/Reduced Fill, 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 475 acres: 465 acres in Plan Area A and 10 acres in Plan Area B. Implementation of the Plan and Covered Activities under Alternative 3 would result in temporary direct effects on 159 acres: 139 acres 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 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 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.

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 will improve water quality for covered fish species. The restoration of riparian natural community will 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 475 acres and temporary disturbance of 159 acres of riparian woodland/riverine habitat associated with Alternative 3, 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 3 on covered salmonids would be less than significant.

CEQA Determination: The permanent loss of 475 acres and temporary disturbance of 159 acres of riparian woodland/riverine habitat associated with Alternative 3, 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 3 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 3, Reduced Take/Reduced Fill, would result in permanent and temporary direct effects on hardhead and Pacific lamprey habitat. Permanent direct effects on riparian woodland/riverine habitat would total 475 acres: 465 acres in Plan Area A and 10 acres in Plan Area B. Implementation of the Plan and Covered Activities under Alternative 3 would result in temporary direct effects on 159 acres: 139 acres 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 associated with 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.

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 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 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 475 acres and temporary disturbance of 159 acres of riparian woodland/riverine habitat associated with Alternative 3, 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 3 on hardhead and Pacific lamprey would be less than significant.

CEQA Determination: The permanent loss of 475 acres and temporary disturbance of 159 acres of riparian woodland/riverine habitat associated with Alternative 3, 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 3 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 CNDDDB 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 3, Reduced Take/Reduced Fill, would result in permanent and temporary impacts on valley elderberry longhorn beetle habitat. Permanent impacts would result in the loss of up to 615 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 184 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, infrastructure construction. Plan restoration and enhancement activities 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 2,323 acres and restoration of 1,705 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 615 acres and temporary disturbance of 184 acres of valley elderberry longhorn beetle habitat associated with Alternative 3, 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 3 on valley elderberry longhorn beetle would be less than significant.

CEQA Determination: The permanent loss of 615 acres and temporary disturbance to 184 acres of valley elderberry longhorn beetle habitat associated with Alternative 3, 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 3 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 CNDDDB 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 3, Reduced Take/Reduced Fill, 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 1,300 acres of vernal pool complex supporting 520 acres of vernal pool-type wetlands within 1 (26% and 24% 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 22 acres of vernal pool-type wetlands (1% of this habitat type in the Plan Area) and 404 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, infrastructure construction, and conservation activities. Plan 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 1,979 acres, which is approximately 15% of direct effects (permanent and temporary combined); under Alternative 3, assuming the indirect effects would also be 15% of direct, the

indirect effects would be approximately 1,757 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 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 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 19,158 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 11,300 acres of vernal pool complex supporting 520 acres of vernal pool-type wetlands and temporary disturbance of 404 acres of vernal pool complex supporting 22 acres of vernal pool-type wetlands associated with Alternative 3, 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 3 on aquatic/wetland complex in the Plan Area would be less than significant.

CEQA Determination: The permanent loss of up to 11,300 acres of vernal pool complex supporting 520 acres of vernal pool-type wetlands and temporary disturbance of 404 acres of vernal pool complex supporting 22 acres of vernal pool-type wetlands associated with Alternative 3, 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 3 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 CNDDDB 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 of 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 3, Reduced Take/Reduced Fill, 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, 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 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 Area 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 Area A, B1, B2, B3, nor B4, indirect effects on the species are expected to be negligible, if any.

Under Alternative 3, 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 3, 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 3 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 3, 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 3 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 CNDDDB 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 3, Reduced Take/Reduced Fill, 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, 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, infrastructure construction. Plan conservation actions 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 3, 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 3, 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 3 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 3, 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 3 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 CNDDDB 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 3, 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 19,065 acres of potential western spadefoot habitat in the Plan Area; 11,300 acres of vernal pool complex supporting 525 acres of vernal pool-type wetlands, 7,040 acres of grassland, 250 acres of aquatic/wetland, and 475 acres of riverine/riparian. Most 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 915 acres of potential western spadefoot habitat: 411 acres of vernal pool complex supporting 28 acres of vernal pool-type wetlands, 244 acres of grassland, 101 acres of aquatic/wetland, and 159 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. Plan conservation actions 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 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 3, 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 16,158 acres and the restoration of 3,000 acres of wetland habitat and vernal pool complex. In addition, the protection of 2,796 acres and restoration of 1,000 acres of grassland; the protection of 577 acres and restoration of 395 acres of aquatic/wetlands; and the protection of 2,133 acres and restoration of 1,369 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 3 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 19,065 acres and temporary disturbance of up to 915 acres of potential western spadefoot habitat associated with Alternative 3, 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 3 on western spadefoot would be less than significant.

CEQA Determination: The permanent loss of up to 19,065 acres and temporary disturbance of up to 915 acres of potential western spadefoot habitat associated with Alternative 3, 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 3 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 CNDDDB 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 3 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 1,491 acres of aquatic habitat (8% of a total 19,511 acres of habitat in the Plan Area) and 457 acres of upland habitat (13% 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 (49 acres) in Plan Area B.

Temporary impacts of Covered Activities on giant garter snake habitat would not exceed 210 acres of aquatic habitat in the Plan Area (less than 1% of total aquatic habitat) and 21 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, infrastructure construction. Plan conservation actions 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 3, 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 2,172 acres and restoration of 476 acres of aquatic habitat and the protection of 1,668 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 1,491 acres of aquatic habitat and 457 acres of upland habitat and the temporary disturbance of 210 acres of aquatic habitat and 21 acres of upland habitat associated with Alternative 3, 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 3 on giant garter snake would be less than significant.

CEQA Determination: The permanent loss of 1,491 acres of aquatic and 457 acres of upland habitat and the temporary disturbance of 210 acres of aquatic and 21 acres of upland habitat associated with Alternative 3, 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 3 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 CNDDDB lists four occurrences of western pond turtle in the Plan Area (California Department of Fish and Wildlife 2017).

Covered Activities under Alternative 3, Reduced Take/Reduced Fill, would result in permanent and temporary impacts on aquatic and upland habitat for western pond turtle. Permanent impacts would result in the loss of 735 acres of aquatic habitat (7% of a total 10,244 acres of aquatic habitat) and up to 1,366 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 245 acres of aquatic habitat (2% of total aquatic habitat) and 39 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. Plan conservation actions 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 3, the permanent and temporary loss of western pond turtle aquatic and upland habitat would be offset by the protection of 2,701 acres and restoration of 1,750 acres of aquatic habitat for western pond turtle and the protection of 3,735 acres and restoration of 1,784 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 735 acres of aquatic habitat and 1,366 acres of upland habitat and the temporary disturbance of 245 acres of aquatic habitat and 39 acres of upland habitat associated with Alternative 3, 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 3 as a whole on western pond turtle would be less than significant.

CEQA Determination: The permanent loss of 735 acres of aquatic habitat and 1,366 acres of upland habitat and the temporary disturbance of 245 acres of aquatic habitat and 39 acres of upland habitat associated with Alternative 3, 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 3 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 3 would result in permanent and temporary impacts on coast horned lizard habitat. Permanent impacts would result in the loss of 13,774 acres of natural communities that contain suitable habitat elements for coast horned lizard (e.g., open areas with sandy substrates): 7,040 acres of grasslands (20% of this community in the Plan Area), 6,365 acres of oak and valley oak woodland (12%), and 369 acres of riparian woodland (5%). 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; therefore, 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 561 acres of habitat for coast horned lizard: 244 acres of grassland (1% of this community), 205 acres of valley oak and oak woodland (<1%), and 112 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, 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 3, the permanent loss of coast horned lizard habitat would be offset by the protection of 14,508 acres and restoration of 2,246 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 3

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 13,744 acres and temporary disturbance of 561 acres of potential coast horned lizard habitat associated with Alternative 3, 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 3 on coast horned lizard would be less than significant.

CEQA Determination: The permanent loss of 13,744 acres and temporary disturbance of 561 acres of potential coast horned lizard habitat associated with Alternative 3 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 3, Reduced Take/Reduced Fill, would result in permanent and temporary impacts on Swainson's hawk. Permanent impacts would not exceed 139 acres of nesting habitat (7% of nesting habitat in Plan Area A) and 15,404 acres of foraging habitat (28% 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 9 acres of nesting habitat and 570 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 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 3, the permanent loss of Swainson's hawk nesting habitat would be offset by the protection and management of 1,204 acres and restoration of 664 acres of nesting habitat. The loss of foraging habitat would be offset by the protection and management of up to 16,093 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 139 acres of nesting habitat and 15,404 acres of foraging habitat and the temporary disturbance of 9 acres of nesting habitat and 570 acres of foraging habitat associated with Alternative 3, 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 3 on Swainson's hawk in the Plan Area would be less than significant.

CEQA Determination: The permanent loss of 139 acres of nesting habitat and 15,404 acres of foraging habitat and the temporary disturbance of 9 acres of nesting habitat and 570 acres of foraging habitat associated with Alternative 3, 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 3 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 CNDDDB 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 3, Reduced Take/Reduced Fill, would result in permanent and temporary impacts on California black rail. Permanent impacts would not exceed 100 acres (9% 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 45 acres in the Valley portion of the Plan Area, 50 acres in the Foothill portion, and 5 acres in Plan Area B.

Temporary impacts on California black rail habitat are estimated at 39 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 3, the permanent loss of California black rail habitat would be offset by the protection and management of 256 acres and restoration of 167 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 100 acres and the temporary disturbance of 39 acres of California black rail habitat associated with Alternative 3, 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 3 on California black rail in the Plan Area would be less than significant.

CEQA Determination: The permanent loss of 100 acres and the temporary disturbance of 39 acres of California black rail habitat associated with Alternative 3, 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 3 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 CNDDDB 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 3, Reduced Take/Reduced Fill, would result in permanent and temporary impacts on burrowing owl. Permanent impacts would not exceed 15,559 acres of habitat (28% 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 (200 acres) occurring in Plan Area B.

Temporary impacts on burrowing owl habitat would not exceed 576 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 3, the permanent loss of burrowing owl habitat would be offset by the protection and management of 16,213 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 15,559 acres and the temporary disturbance of 576 acres of burrowing owl habitat associated with Alternative 3, 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 3 on burrowing owl in the Plan Area would be less than significant.

CEQA Determination: The permanent loss of 15,559 acres and the temporary disturbance of 576 acres of burrowing owl habitat associated with Alternative 3, 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 3 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 3, Reduced Take/Reduced Fill, would result in permanent and temporary impacts on tricolored blackbird. Permanent impacts are estimated at 796 acres of nesting habitat (17% of total habitat in Plan Area A) and 21,265 acres of foraging habitat (20% 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 (76% and 81%, respectively) would be in the Valley portion of the Plan Area.

Temporary impacts on tricolored blackbird habitat are estimated at 100 acres of nesting habitat and 794 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 3, the permanent loss of tricolored blackbird nesting habitat would be offset by the protection and management of an estimated 908 acres and restoration of 170 acres of suitable tricolored blackbird nesting habitats. The loss of tricolored foraging habitat would be offset by the protection and management of up to 26,750 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 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 796 acres of nesting habitat and 21,265 acres of foraging habitat and the temporary disturbance of 100 acres of nesting habitat and 794 acres of foraging habitat associated with Alternative 3, 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 3 on tricolored blackbird in the Plan Area would be less than significant.

CEQA Determination: The permanent loss of 796 acres of nesting habitat and 21,265 acres of foraging habitat and the temporary disturbance of 100 acres of nesting habitat and 794 acres of foraging habitat associated with Alternative 3, 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 3 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 CNDDDB 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 3, Reduced Take/Reduced Fill, 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 6,734 acres of tree-roosting habitat for bats (11% of suitable habitat in the Plan Area): 369 acres of riparian woodland, 140 acres of valley oak woodland, and 6,225 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 318 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 3, the permanent and temporary loss of bat roosting habitat would be offset by the protection of 11,712 acres and restoration of 1,624 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 48,720 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 includes urban/suburban development, transportation projects, and infrastructure projects, under Alternative 3 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 6,734 acres and temporary disturbance of 318 acres of potential roosting habitat for special-status bats associated with Alternative 3, 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 6,734 acres and temporary disturbance of 318 acres of potential roosting habitat for special-status bats associated with Alternative 3, 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 CNDDDB records of American badger in the Plan Area (California Department of Fish and Wildlife 2017).

Covered Activities under Alternative 3, Reduced Take/Reduced Fill, would result in permanent and temporary impacts on American badger habitat. Permanent impacts would result in the loss of up to 7,040 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. 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 244 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, 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 3, the permanent and temporary loss of American badger habitat would be partially offset by protection of 2,796 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 3 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 7,040 acres and temporary disturbance of 244 acres of grassland habitat suitable to support American badger 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 and the implementation of Mitigation Measure BIO-4, the overall effects of Alternative 3 on American badger would be less than significant.

CEQA Determination: The permanent loss of 7,040 acres and temporary disturbance of 244 acres of grassland habitat suitable to support American badger associated with Alternative 3, 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 3, Reduced Take/Reduced Fill, would result in permanent and temporary impacts on wetlands and waters protected under state and federal laws and regulations. Alternative 3 would result in approximately 1,249 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 be considered protected wetlands and waters that could be affected under Alternative 3. 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 287 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 that could temporarily affect protected wetlands and waters include grading and vegetation management.

Permanent impacts on protected wetlands and waters under Alternative 3 would be offset through a watershed-based approach as described in the CARP. The CARP requires compensatory mitigation for impacts on aquatic resources to be implemented at a ratio of 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 2,625 acres of constituent habitats that would be considered protected wetlands and waters as described in the Plan, except for a portion of the 1,188 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 1,249 acres and temporary disturbance of 287 acres of constituent habitats that could contain or be considered protected wetlands and waters associated with Alternative 3, 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 Condition 1; 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 3 on wetlands and waters in the Plan Area would be less than significant.

CEQA Determination: The permanent loss of approximately 1,249 acres and temporary disturbance of 287 acres of constituent habitats that could contain or be considered protected wetlands and waters associated with Alternative 3, 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 3 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 Fiddymont 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 under Alternative 3, Reduced Take/Reduced Fill, 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 3 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 3 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 3, Reduced Take/Reduced Fill, 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 3 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 3 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 4—Reduced Permit Term

Alternative 4 would entail implementation of the Plan as under Alternative 2, 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 2-5, *Land Development to Accommodate Growth for the 50-year Permit Term by 10-year Period*, in the Plan were used as the estimate of impacts under Alternative 4. As shown in Table 2-1, land development at year 30 for the Valley and Foothill portions of Plan Area A and Plan Area B would be 55%, 60%, and 95%, respectively, of those 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. The impacts on natural communities, covered species, and streams and salmonid habitat under Alternative 4 are presented in Tables H-11, H-12, and H-13 in Appendix H, respectively. The conservation acreages are presented in Table H-14 and H-15 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 4, Reduced Permit Term, would result in permanent and temporary impacts on vernal pool complex. Permanent impacts on vernal pool complex totaling 6,928 acres 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 (60 acres) and Plan Area B (48 acres).

Existing vernal pool complexes could be permanently altered by the restoration/creation of a portion of the 495 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 255 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 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 approximately 15% of direct effects (permanent and temporary combined), which would be approximately 1,077 acres under Alternative 4. 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 4 would be offset by the protection and management of 9,350 acres, improving the overall functions and services of vernal pools, and the restoration/creation of 1,650 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 11,000 acres of vernal complexes, including enhancement of degraded conditions in existing complexes 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 6,928 acres and temporary disturbance of 255 acres of vernal pool 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 11,000 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 4 on vernal pool complex in the Plan Area would be less than significant.

CEQA Determination: The permanent loss of 6,928 acres and temporary disturbance of 255 acres of vernal pool 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 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 4 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 4, Reduced Permit Term, would result in both permanent and temporary impacts on the grassland natural community. Permanent impacts on grasslands would total 3,945 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., 1,870 and 1,980 acres, respectively), and approximately 95 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 1,650 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 142 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 under Alternative 4 could also temporarily disturb grasslands at grading or vegetation management locations.

Permanent loss of grassland under Alternative 4 would be partially offset by the protection and management of 1,627 acres and the restoration of 550 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 11,000 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 3,945 acres and temporary disturbance of 142 acres of grassland 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 grasslands in the Plan Area would be less than significant.

CEQA Determination: The permanent loss of 3,945 acres and temporary disturbance of 142 acres of grassland associated with Alternative 4, 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 4 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 4, Reduced Permit Term, would result in permanent and temporary impacts on the aquatic/wetland complex natural community. Permanent impacts on aquatic/wetland complex would total 154 acres: 62 acres of fresh emergent marsh, 60 acres of lacustrine, and 31 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., 66 and 78 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 68 acres. These impacts—comprising 32 acres of fresh emergent marsh, 18 acres of lacustrine, and 17 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. Plan conservation actions 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 4 would be offset by the protection and management of 340 acres, improving the overall functions and services of wetlands, and the restoration/creation of 238 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 154 acres and temporary disturbance of 68 acres of aquatic/wetland 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 578 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 4 on aquatic/wetland complex in the Plan Area would be less than significant.

CEQA Determination: The permanent loss of 154 acres and temporary disturbance of 68 acres of aquatic/wetland complex associated with Alternative 4, 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 4 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 4, Reduced Permit Term, would result in permanent and temporary impacts on the riverine/riparian complex natural community. Permanent impacts on riverine/riparian complex would total 290 acres: 67 acres of riverine and 223 acres of riparian. These impacts would result primarily from urban/suburban development, rural residential development, transportation projects, and infrastructure projects. A total of 83 acres would be lost in the Valley portion of Plan Area A, 198 acres in the Foothill portion, and 10 acres in Plan Area B. As discussed in Section 3.4.5, *Riverine/Riparian Complex*, if the Plan, because of limitation in mapping, not all the area mapped as riverine habitat consists of the wetted stream width but includes grasslands, valley oak woodland, fresh emergent wetland, off-channel wetlands, and seasonal wetlands. Unlike land conversion where the natural community would be converted by Covered Activities, 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, 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-