4.15 WETLANDS

This section describes waters of the United States and waters of the state, including wetlands, within the context of the statutes, regulations, and policies that regulate these resources. Section 4.12, "Vegetation," discusses mesic and aquatic land cover types as vegetation and habitat types and as sensitive natural communities. Section 4.14, "Wildlife and Aquatics," discusses aquatic land cover types as habitats for common and special-status species. Federal, state, and local regulations related to waters are summarized. The potential for waters to be affected by the action alternatives is fully assessed.

4.15.1 Affected Environment

4.15.1.1 ENVIRONMENTAL SETTING

The project area is characterized by high altitude granitic bedrock demarcated by ephemeral headwater drainages, primarily conveying seasonal snowmelt. The survey area for wetlands and other waters consists of a 100-foot-wide area on either side of the centerline of each action alternative. Waters in the survey area were mapped by Hydro Restoration 2016 and 2017 and supplemented by Ascent Environmental during field surveys (Exhibit 4.15-1). Waters in the survey area are categorized as lacustrine, palustrine, and riverine features (Table 4.15-1) (Hydro Restoration 2016, 2017). As described below, the wetlands and waters identified in Exhibit 4.15-1 differ from maps of habitats referenced in other sections, such as Section 4.12, "Vegetation," which classifies vegetation to the group or alliance level according to *A Manual of California Vegetation* (Sawyer et al. 2009) and, for unvegetated and human-modified areas, or vegetation assemblages that could not be refined to the alliance level, classifies habitat types according to the California Wildlife Habitat Relationship system (CDFW 2018). Wetlands were delineated based on wetland indicators of hydrophytic vegetation, hydric soils, and wetland hydrology, and waters were delineated based on their ordinary high-water mark. In accordance with U.S. Army Corps of Engineers (USACE) standards, wetlands and waters are classified according to the national wetland classification system (FGDC 2013). Therefore, the classifications and nomenclature used in Section 4.12, "Vegetation," and this section are not consistent in every instance. Additionally, this section relies on data provided by Hydro Restoration during its wetland assessment, whereas Section 4.12 relies on vegetation mapping data provided by EcoSynthesis. These are different datasets that serve different objectives. Exhibit 4.15-1 identifies locations of aquatic habitats that could fall under the jurisdiction of Section 404 of the Clean Water Act (CWA), the Porter-Cologne Water Quality Control Act, and California Fish and Game Code Section 1602. These laws are described in below in Section 4.15.2.2, "Regulatory Setting." Each of these laws provides various criteria for aquatic habitats that fall under their jurisdiction. In many cases, only a portion of a mesic or aquatic habitat may fall under the jurisdiction of one of these laws. For example, a riparian community may be considered a mesic or aquatic habitat; however, only the aquatic portion of the habitat may meet the criteria of a water, wetland, or streambed included in these laws. Exhibit 4.15-1, and acreage values provided in Table 4.15-1 and elsewhere in this section, correspond to an initial estimate of the portions of aquatic habitats in the survey area that may be subject to Section 404 of the CWA, the Porter-Cologne Water Quality Control Act, and/or California Fish and Game Code Section 1602. A formal delineation of jurisdictional features associated with each action alternative has not been conducted to confirm the precise boundaries of waters and wetlands consistent with the criteria provided in each of these laws. Such a delineation would be conducted after a single alternative is approved to focus the effort on a limited number of aquatic features. The surveys that have been performed provide sufficient information, however, to determine the presence and extent of these features, and to determine whether the action alternatives will significantly affect those features. A formal delineation, and appropriate verification, may result in refinement of the locations of where these features are present.

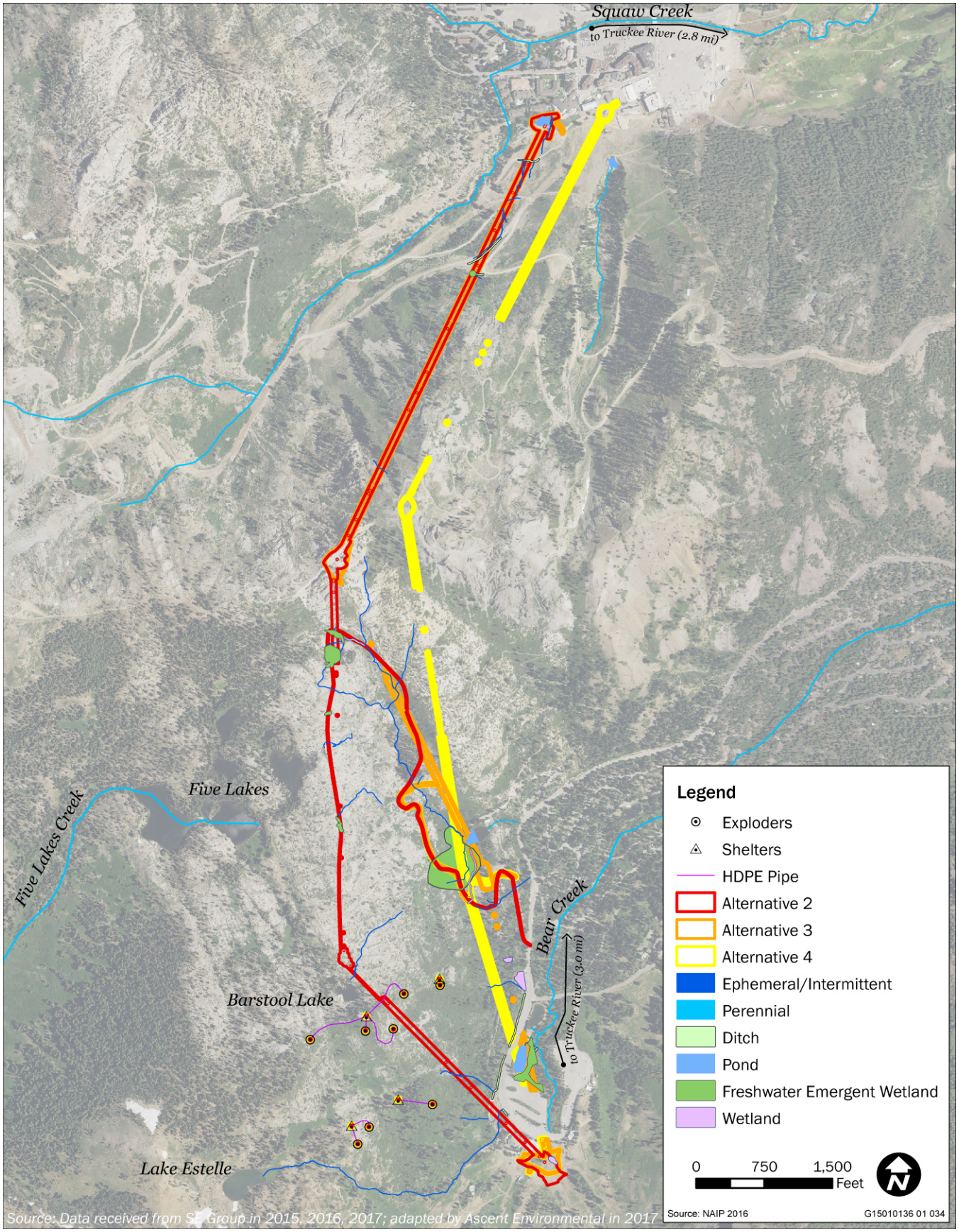

Exhibit 4.15-1 Wetland Habitats

Table 4.15-1 Initial Estimate of Wetlands and Other Waters in the Project Study Area

Action Alternative	Ownership	Feature Type (acre)							Total*
		Riverine			Lacustrine	Palustrine			
		Perennial	Ephemeral	Roadside Ditch	Pond	Mountain Alder Thicket	Wetland	Freshwater Emergent Wetland	
2	Private	0	0.22	0.04	0.25	0	0	0.89	1.40
	Alpine Meadows SUP Area	0.10	0.07	0	0	0.64	0.07	0	0.89
	Total*	0.10	0.30	0.04	0.25	0.64	0.07	0.89	2.29
3	Private	0	0.26	0.04	0.51	0.14	0.88	0.16	1.98
	Alpine Meadows SUP Area	0.35	0.01	0.04	0.52	0	0.16	0.71	1.78
	Total*	0.35	0.27	0.08	1.03	0.14	1.04	0.87	3.76
4	Private	0	0.04	0	0.02	0.48	2.53	0.07	3.14
	Alpine Meadows SUP Area	0.35	0.01	0.02	0.64	0	0.07	0.37	1.47
	Total*	0.35	0.05	0.02	0.66	0.48	2.60	0.44	4.61

*Totals may not sum because of independent rounding.

Sources: Hydro Restoration 2016, 2017; adapted by Ascent Environmental in 2018

Riverine Features

The Squaw Valley Ski Area (Squaw Valley) and Alpine Meadows Ski Area (Alpine Meadows), being separated by a mountainous ridge, are hydrologically separate entities. Streams in the Squaw Valley area drain into Squaw Creek, which is a tributary to the Truckee River. Streams in the Alpine Meadows area drain to either Bear Creek, which is a tributary to the Truckee River, or Ward Creek, which is a tributary to Lake Tahoe. However, no part of the project area is within the Ward Creek watershed.

Riverine features in the survey area consist of ephemeral, intermittent, and perennial streams, and ditches. Several unnamed seasonal (ephemeral and intermittent) tributary streams cross the survey area. They are recognizable primarily from exposures of rounded or subangular (alluvial) gravels, deposits of transported sand and from “water staining” (blackish growth of cyanobacteria, and/or deposition of orangish oxidized iron compounds) on bedrock and boulders, but also occasionally from the presence of hydrophytic plant species. Vegetation of riverine habitat within the survey area includes areas of cover by mosses (and non vascular plants) growing on sand or bedrock, and areas of hydrophytic vascular plants (EcoSynthesis 2017).

Perennial streams cross the lower portion of the northern face of the alignments on Squaw Valley and southern face along Alpine Meadows Road. Several roadside ditches were also mapped as riverine features near existing roadways. Many of the features are ditches dug in uplands that concentrate flow off roadways.

Lacustrine Features

Lacustrine habitats within the study area consist of constructed open water ponds. The constructed ponds include Cushing Pond at Squaw Valley, Caldwell Pond on private property, and a detention pond near the base of Alpine Meadows. Naturally occurring ponds occur adjacent to, but not within the wetlands study area and are not included in Table 4.15-1. Adjacent natural ponds include Barstool Lake, which is located northwest of the base of Alpine Meadows, and just south of the Alpine Meadows mid-station proposed under Alternative 2, and an unnamed pond adjacent to Barstool Lake. Other naturally occurring lacustrine features in the project vicinity include Five Lakes, which is a cluster of five small lakes located west of the Alternative 2 alignment. Naturally occurring ponds are addressed in Section 4.14, “Wildlife and Aquatics,” as habitat for Sierra Nevada yellow-legged frog and long-toed salamander. Lacustrine features are classified as “freshwater ponds” in Section 4.12, “Vegetation.”

Palustrine Features

Palustrine features consist of mountain alder thicket (a palustrine scrub-shrub habitat), freshwater emergent wetland, a generic wetland category that consists of areas where the water source appears to be groundwater seeps, and seasonal wetlands that did not specifically fit into either a palustrine scrub-shrub or freshwater emergent wetland category. Areas mapped as "wetland" in this section are not addressed in Section 4.12, "Vegetation," because they were smaller than the minimum mapping unit used in the vegetation mapping effort and could not be clearly separated into distinct vegetation alliances. Therefore, they were included within the surrounding vegetation type. Palustrine features in the project area are generally located along topographic benches in seasonal streams and at the edges of ponds and perennial streams (Hydro Restoration 2016, 2017).

Palustrine scrub-shrub habitat dominated by mountain alder (*Alnus incana*), adjacent to Bear Creek, was identified within the study area, on the southern segment of the gondola alignments prior to the Alpine Meadows base terminal. This palustrine scrub-shrub habitat is classified as mountain alder thicket shrubland alliance in Section 4.12, "Vegetation." Areas adjacent to Bear Creek exhibit typical alpine riparian floodplain scrub-shrub vegetation dominated by mountain alder with some willow (Hydro Restoration 2016, 2017). Some areas of riparian scrub habitat include vegetation that is intermediate between upland shrubland types, and the mountain alder thickets that are consistently associated with presence of surface water or saturated soil for a portion of the year. These vegetation types occur in riparian habitats but are not wetlands because they lack hydric soils, lack wetland hydrology, and are not dominated by hydrophytic plant species. These areas are identified as mesic and riparian shrubland in Section 4.12, "Vegetation."

Freshwater emergent wetlands are characterized by herbaceous wetland vegetation. Dominant species include sedges (*Carex leporinella* and *heteroneura*), rushes (*Juncus chlorocephalus* or *J. bufonius*), grasses (*Agrostis exarata* and/or *humilis*), and forbs (e.g. *Oreostemma alpigenus*). In one seasonally ponded area, some woody species are also present (*Salix eastwoodiae*, *Vaccinium* sp.). Freshwater emergent wetlands occur in slight topographic depressions in tributary drainages in the study area. A *Carex* wetland is present at the fringe of a perennial pond near the southern end of the central segment.

4.15.1.2 REGULATORY SETTING

Federal

Section 404 of the Clean Water Act

Section 404 of the federal CWA requires a project applicant to obtain a permit before engaging in any activity that involves any discharge of dredged or fill material into waters of the United States, including wetlands. Fill material is material placed in waters of the United States where the material has the effect of replacing any portion of a water of the United States with dry land or changing the bottom elevation of any portion of a water of the United States. Waters of the United States include navigable waters of the United States; interstate waters; all other waters where the use, degradation, or destruction of the waters could affect interstate or foreign commerce; relatively permanent tributaries to any of these waters, and wetlands adjacent to these waters. Wetlands are defined as those areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Potentially jurisdictional wetlands must meet three wetland delineation criteria: hydrophytic vegetation, hydric soil types, and wetland hydrology. Wetlands that meet the delineation criteria may be jurisdictional under Section 404 of CWA pending USACE verification.

Section 401 Water Quality Certification

Under Section 401 of the CWA, an applicant for a Section 404 permit must obtain a certificate from the appropriate state agency stating that the intended dredging or filling activity is consistent with the State's water quality standards and criteria. In California, the authority to grant water quality certification is

delegated by the State Water Resources Control Board to the nine regional water quality control boards (RWQCBs). The project site is within the jurisdiction of the Lahontan RWQCB.

Executive Order 11990, Protection of Wetlands

Executive Order (EO) 11990 established the protection of wetlands and riparian systems as the official policy of the federal government. The order requires all federal agencies to consider wetland protection as an important part of their policies and take action to minimize the destruction, loss, or degradation of wetlands and to preserve and enhance the natural and beneficial values of wetlands.

Tahoe National Forest Land and Resource Management Plan and Sierra Nevada Forest Plan Amendment Record of Decision

The *Tahoe National Forest Land and Resource Management Plan* (LRMP) (U.S. Forest Service 1990) came into effect in 1990 and was amended by the Sierra Nevada Forest Plan Amendment Record of Decision (SNFPA) in 2004 (U.S. Forest Service 2004). The LRMP and SNFPA are collectively referred to as the Forest Plan. Forest-wide direction is presented in goals and objectives and in standards and guidelines (S&Gs) in the Forest Plan. Area-specific direction is detailed in the management direction guides for each of the 106 management areas of TNF. As part of the analysis conducted for this Draft EIS/EIR, specific S&Gs identified in the Forest Plan related to wetlands were applied and evaluated for consistency.

State

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act requires that each of the nine RWQCBs prepare and periodically update basin plans for water quality control. Each basin plan sets forth water quality standards for surface water and groundwater and actions to control nonpoint and point sources of pollution to achieve and maintain these standards. Basin plans offer an opportunity to protect wetlands through the establishment of water quality objectives. The RWQCB's jurisdiction includes waters of the United States as well as areas that meet the definition of "waters of the state." Waters of the state are defined as any surface water or groundwater, including saline waters, within the boundaries of the state. The RWQCB has the discretion to take jurisdiction over areas not federally protected under Section 404 of the CWA provided they meet the definition of waters of the state. Mitigation requiring no net loss of wetlands functions and values of waters of the state is typically required by the RWQCB.

California Fish and Game Code Section 1602 — Streambed Alteration

All diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake in California that supports wildlife resources are subject to regulation by California Department of Fish and Wildlife (CDFW) under Sections 1600 et seq. of the California Fish and Game Code (FGC). Under Section 1602, it is unlawful for any person to substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated by CDFW, or use any material from the streambeds, without first notifying CDFW of such activity and obtaining a final agreement authorizing such activity. "Stream" is defined as a body of water that flows at least periodically or intermittently through a bed or channel having banks and that supports fish or other aquatic life. CDFW's jurisdiction within altered or artificial waterways is based on the value of those waterways to fish and wildlife.

Local

Placer County General Plan

The *Placer County General Plan* (Placer County 2013) contains the following policies that are applicable to the alternatives:

Water Resources

- **Policy 6.A.1.** The County shall require the provision of sensitive habitat buffers which shall, at a minimum, be measured as follows: 100 feet from the centerline of perennial streams, 50 feet from centerline of intermittent streams, and 50 feet from the edge of sensitive habitats to be protected including riparian zones, wetlands, old growth woodlands, and the habitat of rare, threatened or

endangered species. Based on more detailed information supplied as a part of the review for a specific project, the County may determine that such setbacks are not applicable in a particular instance or should be modified based on the new information provided. The County may, however, allow exceptions, such as in the following cases:

a. Reasonable use of the property would otherwise be denied;

b. The location is necessary to avoid or mitigate hazards to the public;

c. The location is necessary for the repair of roads, bridges, trails, or similar infrastructure; or

d. The location is necessary for the construction of new roads, bridges, trails, or similar infrastructure where the County determines there is no feasible alternative and the project has minimized environmental impacts through project design and infrastructure placement.

- **Policy 6.A.3.** The County shall require development projects proposing to encroach into a creek corridor or creek setback to do one or more of the following, in descending order of desirability:

  a. Avoid the disturbance of riparian vegetation;
  b. Replace riparian vegetation (on-site, in-kind);
  c. Restore another section of creek (in-kind); and/or
  d. Pay a mitigation fee for restoration elsewhere (e.g., wetland mitigation banking program).

- **Policy 6.A.5.** The County shall continue to require the use of feasible and practical best management practices (BMPs) to protect streams from the adverse effects of construction activities and urban runoff and to encourage the use of BMPs for agricultural activities.

- **Policy 6.A.6.** The County shall require that natural watercourses are integrated into new development in such a way that they are accessible to the public and provide a positive visual element.

- **Policy 6.A.7.** The County shall discourage grading activities during the rainy season, unless adequately mitigated, to avoid sedimentation of creeks and damage to riparian habitat.

- **Policy 6.A.8.** Where the stream environment zone has previously been modified by channelization, fill, or other human activity, the County shall require project proponents to restore such areas by means of landscaping, revegetation, or similar stabilization techniques as a part of development activities.

Wetland

- **Policy 6.B.1.** The County shall support the “no net loss” policy for wetland areas regulated by the U.S. Army Corps of Engineers, the U.S. Fish and Wildlife Service, and the California Department of Fish and Game. Coordination with these agencies at all levels of project review shall continue to ensure that appropriate mitigation measures and the concerns of these agencies are adequately addressed.

- **Policy 6.B.2.** The County shall require new development to mitigate wetland loss in both regulated and nonregulated wetlands to achieve “no net loss” through any combination of the following, in descending order of desirability: (1) avoidance; (2) where avoidance is not possible, minimization of impacts on the resource; or (3) compensation, including use of a mitigation banking program that provides the opportunity to mitigate impacts to rare, threatened, and endangered species and/or the habitat which supports these species in wetland and riparian areas.

- **Policy 6.B.3.** The County shall discourage direct runoff of pollutants and siltation into wetland areas from outfalls serving nearby urban development. Development shall be designed in such a manner that pollutants and siltation will not significantly adversely affect the value or function of wetlands.

- **Policy 6.B.5.** The County shall require development that may affect a wetland to employ avoidance, minimization, and/or compensatory mitigation techniques. In evaluating the level of compensation to be required with respect to any given project, (a) on-site mitigation shall be preferred to off-site, and in-kind mitigation shall be preferred to out-of-kind; (b) functional replacement ratios may vary to the extent necessary to incorporate a margin of safety reflecting the expected degree of success associated with the mitigation plan; and (c) acreage replacement ratios may vary depending on the relative functions and values of those wetlands being lost and those being supplied, including compensation for temporal losses. The County shall continue to implement and refine criteria for determining when an alteration to a wetland is considered a less than significant impact under CEQA.

Squaw Valley General Plan and Land Use Ordinance

The *Squaw Valley General Plan and Land Use Ordinance* (SVGPLUO) was adopted in 1983 as part of Placer County code.

Section V, "Environmental Resources Element," Subsection F, "Streams and Waterways," establishes goals to restore already disturbed drainage areas and to prevent further disturbance and maintenance of riparian areas that have a direct effect on the ecology of streams, specifically relating to Sections 110, 115, 118, 121, and 139 of the SVGPLUO listed below.

Section 110 of the SVGPLUO addresses protection of watercourses, requiring that development not adversely affect the stream environment zone.

Section 115 of the SVGPLUO addresses drainage/water quality, including Section 115.14 requiring drainage systems to prevent water quality degradation; limiting work within the 100-year floodplain aside from actions to restore areas previously modified by channelization, fill, or other human activities (Section 115.20); and Section 115.23 that adds additional beneficial function requirements on restoration.

Section 118 of the SVGPLUO addresses erosion control and requires a sedimentation and erosion control plan (Section 118.12) including both construction and long-term measures (Section 118.14) as part of grading, drainage, or improvement plans reviewed by the County DPW. It does not specify the types of measures to be used but recommends suitable measures and requires revegetation of all disturbed surfaces that will not be part of the approved final impervious surfaces (Section 118.18).

Section 121 of the SVGPLUO, requires that adequate space be provided for storage of snow, and considers that a functional area be 20 percent of the clearable area not including storage along public roads, and that storage may not be within the 100-year floodplain.

Section 139 of the SVGPLUO addresses setbacks, specifically requiring that all structures be located outside of the stream environment zone and 100-year floodplain, except as provided in Section 115.23. In areas where the floodplain has not been established, structures shall not be located within 100 feet of the center line of a stream or waterway (Section 139.14).

Alpine Meadows General Plan

The *Alpine Meadows General Plan* was approved by the Placer County Board of Supervisors on May 1, 1968. It establishes policies specific to Alpine Meadows that build on the general policies found in the *Placer County General Plan* and *Placer County Zoning Ordinance*, similar to the SVGPLUO. There are no specific objectives in the *Alpine Meadows General Plan* that are applicable to this section.

4.15.2 Analysis Methods

4.15.2.1 METHODS AND ASSUMPTIONS

Potential impacts on wetlands and waters resulting from project construction were determined by evaluating the project plans provided by the applicant in relation to the habitat characteristics of the project site, quantifying potential loss of mapped aquatic resources, and evaluating potential effects on wetlands and waters that could result from this loss.

Potential impacts of each action alternative on wetlands and waters were identified by overlaying GIS layers of proposed project components on the map of aquatic features identified by Hydro Restoration (2016 and 2017) in the study area. Any aquatic feature that overlapped with an area of proposed modification was considered to be directly affected by project construction. Temporary construction impacts would occur where waters would be disturbed, modified, or filled to construct new features but restored after construction to pre-project conditions. Permanent impacts on waters would occur when the project feature involves permanent fill or modification of aquatic features.

As described in Section 2.2.6, "Resource Protection Measures," the project incorporates a number of Resource Protection Measures (RPMs) designed to avoid and minimize environmental effects. These RPMs are considered part of the project by the Forest Service and will be conditions of approval of the Placer County Conditional Use Permit. The text of all RPMs is provided in Appendix B. The potential effects of implementing the action alternatives are analyzed as follows: The effect of the action alternatives was determined, relevant RPMs were applied, and the effectiveness of reducing adverse effects was determined. If additional measures were needed to further reduce effects, they were identified.

As it relates to CEQA, the significance of impacts is determined before RPMs are implemented. The analysis then determines whether the RPMs would reduce significant impacts to a less-than-significant level. If significant impacts would remain, mitigation measures are added, as feasible, to further reduce the significant impact. All RPMs, as well as additional mitigation measures, would be included in the Placer County mitigation monitoring and reporting program (MMRP), and their implementation would be ensured by the Conditional Use Permit's conditions of approval. All RPMs are considered roughly proportional and have an essential nexus to the impacts they reduce.

4.15.2.2 EFFECTS ANALYSIS AND SIGNIFICANCE CRITERIA

NEPA Indicators

An environmental document prepared to comply with NEPA must consider the context and intensity of the environmental effects that would be caused by or result from the action alternatives. Under NEPA, impacts should be addressed in proportion to their significance (40 CFR 1502.2[b]), meaning that severe impacts should be described in more detail than less consequential impacts. This is intended to help decision makers and the public focus on the project's key effects. The evaluation of effects considers the magnitude, duration, and significance of the changes. Changes that would improve the existing condition if they occur are noted and considered beneficial, and detrimental impacts are characterized as adverse. Where there would be no change, a "no effect" conclusion is used. The Forest Service has determined that the action alternatives could affect habitats that may qualify as waters or wetlands. The following analytical indicators are used to inform the Forest Service's determination of impacts:

- Area of wetlands and other waters of the U.S. existent within the project area (acres/linear feet) **(Section 4.15.1.1, "Environmental Setting")**
- Disclosure of wetland functions and values within the project area **(Section 4.15.1.1, "Environmental Setting," and Impact 4.15-1)**

- Narrative description of wetland communities, classifications and disclosure of anticipated temporary and/or permanent impacts (acres/linear feet) **(Section 4.15.1.1, "Environmental Setting," and Impact 4.15-1)**

- Description of compliance with EO 11990, Protection of Wetlands **(Impact 4.15-1)**

CEQA Criteria

Based on the Placer County CEQA checklist and Appendix G of the State CEQA Guidelines, implementing any of the alternatives would result in a significant impact related to waters and wetlands if it would:

- have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means **(Impact 4.15-1)**.

4.15.2.3 ISSUES NOT DISCUSSED FURTHER

All issues related to waters and wetlands are analyzed here.

4.15.3 Direct and Indirect Environmental Consequences

4.15.3.1 ALTERNATIVE 1 – NO ACTION ALTERNATIVE

Impact 4.15-1 (Alt. 1): Loss and Degradation of Wetlands and Other Waters

Alternative 1 – No Action Alternative would result in a continuation of existing conditions. There would be no new construction, and therefore, no direct or indirect effects on wetlands or other waters of the United States, waters of the state, or areas regulated under FGC Section 1602. There would be **no effect** under both NEPA and CEQA.

Under Alternative 1 – No Action Alternative, the Tahoe National Forest (TNF) and Placer County would not provide necessary authorizations to allow construction of a gondola or Gazex facilities. The outcome would be a continuation of existing conditions, with no new construction and no installation and operation of new facilities. Therefore, there would be no fill, modification, or degradation of wetlands or other waters of the United States, waters of the state, or areas subject to FGC Section 1602.

NEPA Effects Conclusion

With no fill or degradation of waters, there would be **no effect** related to this issue.

CEQA Determination of Effects

With no fill or degradation of waters, there would be **no effect** related to this issue.

Mitigation Measures

No mitigation measures are required.

4.15.3.2 ALTERNATIVE 2

Impact 4.15-1 (Alt. 2): Loss and Degradation of Wetlands and Other Waters

Under Alternative 2, project implementation would result in the removal or fill of jurisdictional waters of the United States, including wetlands subject to USACE jurisdiction under the CWA, waters of the state, and areas subject to FGC Section 1602. Under NEPA, and considering the NEPA indicators, absent RPMs and/or mitigation, direct and indirect effects would be **adverse** because loss of federally protected wetlands and waters would occur. Implementation of RPMs BIO-1, BIO-23 through BIO-26, BIO-30, BIO-33 through BIO-36, BIO-39, BIO-40, and WQ-5 would mitigate this effect. Under CEQA, and using the CEQA criteria, this impact would be **significant** prior to consideration of RPMs because loss of federally protected wetlands and waters would occur. RPMs BIO-1, BIO-23 through BIO-26, BIO-30, BIO-34 through BIO-36, BIO-39, and BIO-40 would require that aquatic habitats are avoided to the extent feasible; an aquatic resources delineation report is verified by USACE and CDFW; compensatory mitigation is provided for unavoidable losses of wetlands and riparian habitats; and an MMRP is prepared, approved, and implemented. RPMs BIO-33 and WQ-5 would require that permits are obtained from the appropriate regulatory agency and all permit conditions are implemented. With implementation of these RPMs, this impact would be reduced to a **less-than-significant** level.

Under Alternative 2, construction of the project would result in direct loss (through permanent fill) of approximately 0.05 acre of wetlands (wetlands category in Table 4.15-2), 0.25 acre of pond habitat (Cushing Pond), and 0.13 acre of riverine habitat consisting of perennial and ephemeral stream and roadside ditch (Table 4.15-2). It is important to note that many of the ditch features were originally created to distribute water safely adjacent to roadways (Hydro Restoration 2016, 2017).

Table 4.15-2 Alternative 2 Impacts on Habitats Currently Identified as Wetlands and Other Waters

Ownership	Impact Duration	Feature Type (acre)							Total*
		Riverine			Lacustrine	Palustrine			
		Perennial	Ephemeral	Roadside Ditch	Pond	Mountain Alder Thicket	Wetland	Freshwater Emergent Wetland	
Alpine Meadows SUP Area	Temporary	0.05	0.03	0	0	0.39	0	0	0.46
	Permanent	0.10	<0.01	0	0	0.0	0.05	0	0.15
Private	Temporary	0	0.07	0.01	0.09	0	<0.01	0.45	0.63
	Permanent	0	0.03	0	0.25	0	0	0	0.28
Total	**Temporary**	**0.05**	**0.10**	**0.01**	**0.09**	**0.39**	**<0.00**	**0.45**	**1.09**
	Permanent	**0.10**	**0.03**	**0**	**0.25**	**0**	**0.05**	**0**	**0.43**
	Grand Total*	**0.14**	**0.13**	**0.01**	**0.34**	**0.39**	**0.06**	**0.45**	**1.52**

*Totals may not sum because of independent rounding.

Sources: Hydro Restoration 2016, 2017; adapted by Ascent Environmental in 2018

In addition to these direct losses, approximately 1.09 acres of wetlands and other waters would be temporarily disturbed during construction activities but would be restored to original contour and revegetated after construction, so there would be no loss of wetland functions following restoration. Construction and operation of the Gazex Avalanche Mitigation System would not have direct or indirect effects on wetlands or other waters. Avalanche mitigation would occur only under conditions where wetlands would be covered by snow. Implementation of RPMs to protect water quality, as described in Sections 4.16, “Soils, Geology, and Seismicity,” and 4.17, “Hydrology and Water Quality,” would prevent indirect impacts on wetlands and waters by preventing erosion and runoff into adjacent waters and require any temporarily disturbed areas to be restored and revegetated. RPM BIO-30 also requires a plan that includes long-term erosion and sediment control measures, slope stabilization, and monitoring procedures to prevent indirect effects on wetlands following construction.

RPM BIO-26 requires that aquatic habitats are avoided to the extent feasible, and if they cannot be avoided, a delineation report be prepared to quantify the aquatic habitats in the area to be disturbed. All permanent impacts will be mitigated according to USACE's no-net-loss policy (i.e., no net loss in both function, value, and quantity). RPM BIO-35 also requires that a wetland report is submitted to USACE and CDFW for verification. RPM BIO-36 requires that compensation for loss of wetlands shall be provided by purchase of mitigation credits at a qualified mitigation bank, or constructed and/or restored at an off-site location acceptable to the regulatory agencies, or a combination thereof, and such that the constructed or restored wetland meets the no-net-loss requirement. The success of the replacement of the wetlands and riparian habitat shall be monitored according to RPM BIO-39 and achieve a no-net loss standard (RPM WQ-5). RPM WQ-5 also requires that permits shall be obtained from the appropriate agency and all permit conditions are implemented. A permit for fill of waters of the United States and water quality certification under CWA Sections 404 and 401 shall be obtained before any ground-disturbing activities. Waters that may be considered isolated and not subject to USACE jurisdiction may be regulated under the Porter Cologne Act and subject to water discharge requirement by the RWQCB. In addition, the streams and ponds, as well as the associated wetland and riparian habitats, may be regulated by CDFW under FGC Section 1602. A lake and streambed alteration agreement shall be obtained for any substantial diversion or obstruction to natural flow or alteration of the bed, channel, or bank.

Because the RPMs identified in this analysis consider protections for wetlands and minimize the destruction, loss, or degradation of wetlands to preserve and enhance their natural and beneficial values, Alternative 2 complies with EO 11990.

NEPA Effects Conclusion

Under NEPA, and considering the NEPA indicators, absent RPMs and/or mitigation, direct and indirect effects related to wetlands and other waters under Alternative 2 would be **adverse** because construction activities would permanently fill 0.15 acre of potential waters and wetlands and would temporarily affect 0.46 acre of potential wetlands and waters on NFS lands. These effects would be mitigated through implementation of RPMs BIO-1, BIO-23 through BIO-26, BIO-33 through BIO-36, BIO-39, BIO-40, and WQ-5, which are related to protection of wetlands and riparian habitats, water quality, and soils. These RPMs require avoidance of aquatic habitats to the degree feasible, restoration of temporarily disturbed areas and compensation for unavoidable losses of wetlands and riparian habitats. They also require annual monitoring of restored or replacement habitats for the first 3 years then every 2 years for up to 10 years following revegetation/restoration. RPMs to protect water quality, as described in Sections 4.16, "Soils, Geology, and Seismicity," and 4.17, "Hydrology and Water Quality," (SOILS-1 through SOILS-12, WQ-1 through WQ-20) would prevent indirect impacts on wetlands and waters by preventing erosion and runoff into adjacent waters and require any temporarily disturbed areas to be restored and revegetated. RPM BIO-30 also requires a plan that includes long-term erosion and sediment control measures, slope stabilization, and monitoring procedures to prevent indirect effects on wetlands following construction.

CEQA Determination of Effects

Alternative 2 would result in the permanent fill of 0.43 acre of potential waters and wetlands and would temporarily affect 1.09 acres of potential waters and wetlands. Under CEQA, and considering the CEQA criteria, this would be a significant impact. RPMs BIO-1, BIO-23 through BIO-26, BIO-33 through BIO-36, BIO-39, BIO-40, and WQ-5 would, among other actions, provide compensation at a no-net-loss standard for wetland and riparian habitats and require implementation of an MMRP and coordination with the appropriate regulatory agencies. RPMs to protect water quality, as described in Sections 4.16, "Soils, Geology, and Seismicity," and 4.17, "Hydrology and Water Quality," (SOILS-1 through SOILS-12, WQ-1 through WQ-20) would prevent indirect impacts on wetlands and waters by preventing erosion and runoff into adjacent waters and require any temporarily disturbed areas to be restored and revegetated. RPM BIO-30 also requires a plan that includes long-term erosion and sediment control measures, slope stabilization, and monitoring procedures to prevent indirect effects on wetlands following construction. With implementation of these RPMs, this impact would be reduced to a **less-than-significant** level.

Mitigation Measures

All RPMs provided in Appendix B are adopted by Placer County as mitigation measures and are included in the MMRP for the project. The adoption of RPMs BIO-1, BIO-23 through BIO-26, BIO-30, BIO-33 through BIO-36, BIO-39, BIO-40, SOILS-1 through SOILS-12, and WQ-1 through WQ-20 as mitigation measures reduces this significant impact to a less-than-significant level.

4.15.3.3 ALTERNATIVE 3

Impact 4.15-1 (Alt. 3): Loss and Degradation of Wetlands and Other Waters

Under Alternative 3, project implementation would result in the removal or fill of jurisdictional waters of the United States, including wetlands subject to USACE jurisdiction under the CWA, waters of the state, and areas subject to FGC Section 1602. Under NEPA, and considering the NEPA indicators, absent RPMs and/or mitigation, direct and indirect effects would be **adverse** because loss of federally protected wetlands and waters would occur. Implementation of RPMs BIO-1, BIO-23 through BIO-26, BIO-30, BIO-33 through BIO-36, BIO-39, BIO-40, and WQ-5 would mitigate this effect. Under CEQA, and using the CEQA criteria, this impact would be **significant** prior to consideration of RPMs because loss of federally protected wetlands and waters would occur. RPMs BIO-1, BIO-23 through BIO-26, BIO-30, BIO-34 through BIO-36, BIO-39, and BIO-40 would require that aquatic habitats are avoided to the extent feasible; a wetlands report is verified by USACE and CDFW; compensatory mitigation is provided for unavoidable losses of wetlands and riparian habitats; and an MMRP is prepared, approved, and implemented. RPMs BIO-33 and WQ-5 would require that permits are obtained from the appropriate regulatory agency and all permit conditions are implemented. With implementation of these RPMs, this impact would be reduced to a **less-than-significant** level.

Under Alternative 3, the Alpine Meadows mid-station would be located further to the east, on private lands; this alteration would reduce the length of the gondola lift from approximately 13,000 feet under Alternative 2 to 12,600 feet under Alternative 3. Alternative 3 would result in permanent fill of more acreage of wetlands and waters than Alternative 2 and Alternative 4 (0.53 acre compared to 0.43 acre and 0.46 acre, respectively). Slightly more acreage of potential wetland and perennial stream habitat would be permanently lost because of the change in the project alignment for Alternative 3. Permanent impacts on ephemeral streams and ponds, however, would be the same under Alternative 2 and Alternative 3. Construction of Alternative 3 would result in direct loss (through permanent fill) of approximately 0.12 acre of palustrine wetlands, 0.25 acre of pond (Cushing Pond), and 0.16 acre of riverine habitats consisting of perennial and ephemeral stream and roadside ditch habitats (Table 4.15-3). None of the action alternatives would result in permanent loss of mountain alder thicket.

Table 4.15-3 Alternative 3 Impacts on Habitats Currently Identified as Wetlands and Other Waters

Ownership	Impact Duration	Feature Type (acre)							Total*
		Riverine			Lacustrine	Palustrine			
		Perennial	Ephemeral	Roadside Ditch	Pond	Mountain Alder Thicket	Wetland	Freshwater Emergent Wetland	
Alpine Meadows SUP Area	Temporary	0.06	<0.01	0.01	0.16	0	0	0.17	0.40
	Permanent	0.13	0	0	0	0	0.07	0	0.20
Private	Temporary	<0.01	0.07	0.01	0.17	0	<0.01	0.25	0.50
	Permanent	0	0.03	0	0.25	0	0	0.05	0.33
Total	**Temporary**	**0.06**	**0.07**	**0.02**	**0.33**	**0**	**<0.01**	**0.42**	**0.91**
	Permanent	**0.13**	**0.03**	**0**	**0.25**	**0**	**0.07**	**0.05**	**0.53**
	Grand Total*	**0.19**	**0.10**	**0.02**	**0.58**	**0**	**0.07**	**0.47**	**1.44**

*Totals may not sum because of independent rounding.

Sources: Hydro Restoration 2016, 2017; adapted by Ascent Environmental in 2018

Temporary effects on wetlands and waters would total 0.91 acre under Alternative 3 as compared to 1.09 acres under Alternative 2 and 1.28 acres under Alternative 4. Alternative 3 would temporarily affect a greater amount of pond habitat and a similar amount of freshwater emergent wetland compared to Alternative 2. Alternative 3 would not affect mountain alder thicket, whereas Alternative 2 would temporarily disturb 0.39 acre of mountain alder thicket, and Alternative 4 would temporarily disturb 0.21 acre. Temporarily disturbed wetlands and waters would be restored to original contours and revegetated after construction so there would be no loss of wetland functions following restoration.

The same RPMs identified for Alternative 2 would be applied to Alternative 3 and would reduce the adverse effect of loss and degradation of wetlands and other waters by minimizing indirect effects of runoff and erosion and compensating for direct loss of habitat.

Alternative 3 likewise considers protections for wetlands and minimizes the destruction, loss, or degradation of wetlands to preserve and enhance their natural and beneficial values and, therefore, complies with EO 11990.

NEPA Effects Conclusion

Under NEPA, and considering the NEPA indicators, absent RPMs and/or mitigation, direct and indirect effects related to wetlands and other waters under Alternative 3 would be **adverse** because construction activities would permanently fill approximately 0.53 acre of potential waters and wetlands and would temporarily affect 0.91 acre of potential waters. These effects would be mitigated through implementation of RPMs BIO-1, BIO-23 through BIO-26, BIO-30, BIO-33 through BIO-36, BIO-39, BIO-40, SOILS-1 through SOILS-12, and WQ-1 through WQ-20, which are related to protection of wetlands and riparian habitats, water quality, and soils. These RPMs require avoidance of aquatic habitats to the degree feasible, restoration of temporarily disturbed areas, and compensation for unavoidable losses of wetlands and riparian habitats. They also require annual monitoring of restored or replacement habitats for the first 3 years then every 2 years for up to 10 years following revegetation/restoration.

CEQA Determination of Effects

Alternative 3 would result in the permanent fill of approximately 0.53 acre of potential waters and wetlands and would temporarily affect approximately 0.91 acre of potential waters and wetlands. Under CEQA, and considering the CEQA criteria, this would be a significant impact. This impact is slightly greater than that under Alternative 2, but the impacts are not materially different. RPMs BIO-1, BIO-23 through BIO-26, BIO-30, BIO-33 through BIO-36, BIO-39, BIO-40, and WQ-5 would, among other actions, provide compensation at a no-net-loss standard for wetland and riparian habitats and require implementation of an MMRP and coordination with the appropriate regulatory agencies. With implementation of these RPMs, this impact would be reduced to a **less-than-significant** level. The RPMs would be equally effective under Alternative 3 as under Alternative 2.

Mitigation Measures

All RPMs provided in Appendix B are adopted by Placer County as mitigation measures and are included in the MMRP for the project. The adoption of RPMs BIO-1, BIO-23 through BIO-26, BIO-30, BIO-33 through BIO-36, BIO-39, BIO-40, SOILS-1 through SOILS-12, and WQ-1 through WQ-20 as mitigation measures reduces this significant impact to a less-than-significant level.

4.15.3.4 ALTERNATIVE 4

Impact 4.15-1 (Alt. 4): Loss and Degradation of Wetlands and Other Waters

Under Alternative 4, project implementation would result in the removal or fill of jurisdictional waters of the United States, including wetlands subject to USACE jurisdiction under the CWA, waters of the state, and areas subject to FGC Section 1602. Under NEPA, and considering the NEPA indicators, absent RPMs and/or mitigation, direct and indirect effects would be **adverse** because loss of federally protected wetlands and waters would occur. Implementation of RPMs BIO-1, BIO-23 through BIO-26, BIO-30, BIO-33 through BIO-36, BIO-39, BIO-40, and WQ-5 would mitigate this effect. Under CEQA, and using the CEQA criteria, this impact would be **significant** prior to consideration of RPMs because loss of federally protected wetlands and waters would occur. RPMs BIO-1, BIO-23 through BIO-26, BIO-30, BIO-34 through BIO-36, BIO-39, and BIO-40 would require that aquatic habitats are avoided to the extent feasible; a wetlands report is verified by USACE and CDFW; compensatory mitigation is provided for unavoidable losses of wetlands and riparian habitats; and an MMRP is prepared, approved, and implemented. RPMs BIO-33 and WQ-5 would require that permits are obtained from the appropriate regulatory agency and all permit conditions are implemented. With implementation of these RPMs, this impact would be reduced to a **less-than-significant** level.

Under Alternative 4, the gondola alignment connecting the base areas of Squaw Valley and Alpine Meadows would differ from that under Alternative 2; the Squaw Valley base terminal would be in a different location, and the Squaw Valley and Alpine Meadows mid-stations would be in different locations. Alternative 4 would result in permanent fill of slightly more wetlands and other waters than Alternative 2 and slightly less than Alternative 3. Approximately 0.34 acre of palustrine wetlands and 0.13 acre of other waters would be filled under Alternative 4 (Table 4.12-4). The amount of perennial stream lost under Alternatives 2 and 4 are similar, but Alternative 4 would permanently affect the greatest amount of palustrine habitat (wetland and freshwater emergent wetland) while avoiding pond habitat and affecting less ephemeral stream habitat. None of the action alternatives would result in permanent loss of mountain alder thicket.

Table 4.15-4 Alternative 4 Impacts on Habitats Currently Identified as Wetlands and Other Waters

Ownership	Impact Duration	Feature Type (acre)							Total*
		Riverine			Lacustrine	Palustrine			
		Perennial	Ephemeral	Roadside Ditch	Pond	Mountain Alder Thicket	Wetlands/ Seeps	Freshwater Emergent Wetland	
Alpine Meadows SUP Area	Temporary	0.03	<0.01	<0.01	0.26	0	0	0.11	0.40
	Permanent	0.13	0	0	0	0	0.07	0	0.20
Private	Temporary	0	0.01	0	0	0.21	0	0.65	0.87
	Permanent	0	<0.01	0	0	0	<0.01	0.26	0.27
Total	**Temporary**	**0.03**	**0.01**	**<0.01**	**0.26**	**0.21**	**0**	**0.76**	**1.28**
	Permanent	**0.13**	**<0.01**	**0**	**0**	**0**	**0.08**	**0.26**	**0.46**
	Grand Total*	**0.16**	**0.01**	**<0.01**	**0.26**	**0.21**	**0.08**	**1.02**	**1.75**

*Totals may not sum because of independent rounding.

Sources: Hydro Restoration 2016, 2017; adapted by Ascent Environmental in 2018

Temporary effects on wetlands and waters would total 1.28 acres under Alternative 4 as compared to 1.09 acres under Alternative 2 and 0.91 acre under Alternative 3. Alternative 4 temporarily affects more freshwater emergent wetland compared to Alternatives 2 or 3, and less perennial and ephemeral streams and roadside ditches compared to Alternatives 2 or 3. Alternative 4 would temporarily affect less mountain alder thicket than Alternative 2, but more than Alternative 3, which would have no effects on mountain alder thicket. The temporary effects of Alternative 4 to pond habitat is less than Alternative 3, but more than

Alternative 2. Temporarily disturbed wetlands and waters would be restored to original contours and revegetated after construction, so there would be no loss of wetland functions following restoration.

The same RPMs identified for Alternatives 2 and 3 would be applied to Alternative 4 and would reduce the adverse effect of loss and degradation of wetlands and other waters by minimizing indirect effects of runoff and erosion and compensating for direct loss of habitat.

Similarly, Alternative 4 also considers protections for wetlands and minimizes the destruction, loss, or degradation of wetlands to preserve and enhance their natural and beneficial values and, therefore, complies with EO 11990.

NEPA Effects Conclusion

Under NEPA, and considering the NEPA indicators, absent RPMs and/or mitigation, direct and indirect effects related to wetlands and other waters under Alternative 4 would be **adverse** because construction activities would permanently fill approximately 0.46 acre of potential waters and wetlands and would temporarily affect 1.07 acres of potential waters and wetlands. These effects would be mitigated through implementation of RPMs BIO-1, BIO-23 through BIO-26, BIO-30, BIO-33 through BIO-36, BIO-39, BIO-40, SOILS-1 through SOILS-12, and WQ-1 through WQ-20, which are related to protection of wetlands and riparian habitats, water quality, and soils. These RPMs require avoidance of aquatic habitats to the degree feasible, restoration of temporarily disturbed areas, and compensation for unavoidable losses of wetlands and riparian habitats. They also require annual monitoring of restored or replacement habitats for the first 3 years then every 2 years for up to 10 years following revegetation/restoration.

CEQA Determination of Effects

Alternative 4 would result in the permanent fill of approximately 0.46 acre of potential waters and wetlands and would temporarily affect approximately 1.28 acres of potential waters and wetlands. Under CEQA, and considering the CEQA criteria, this would be a significant impact. This impact is slightly greater than that under Alternative 2 and avoids permanent impacts on pond habitat. RPMs BIO-1, BIO-23 through BIO-26, BIO-30, BIO-33 through BIO-36, BIO-39, BIO-40, SOILS-1 through SOILS-12, and WQ-1 through WQ-20 would, among other actions, provide compensation at a no-net-loss standard for wetland and riparian habitats and require implementation of an MMRP and coordination with the appropriate regulatory agencies. With implementation of these RPMs, this impact would be reduced to a **less-than-significant** level. The RPMs would be equally effective under Alternative 4 as under Alternative 2.

Mitigation Measures

All RPMs provided in Appendix B are adopted by Placer County as mitigation measures and are included in the MMRP for the project. The adoption of RPMs, BIO-1, BIO-23 through BIO-26, BIO-30, BIO-33 through BIO-36, BIO-39, BIO-40, SOILS-1 through SOILS-12, and WQ-1 through WQ-20 as mitigation measures reduces this significant impact to a less-than-significant level.

4.15.3.5 SUMMARY OF DIRECT AND INDIRECT EFFECTS

Table 4.15-5 provides a summary of the effects determinations for the direct and indirect effects evaluated above for each alternative.

For Alternative 1, the No Action Alternative, there would be no effect for all NEPA indicators and CEQA criteria evaluated.

Loss of wetlands and waters (Impact 4.15-1) under all action alternatives is considered an adverse effect that is mitigated with RPMs under NEPA and a less-than-significant impact with the RPMs incorporated under CEQA. Alternatives 2 and 4 have similar total permanent impacts on potential waters of the United States and waters of the state (0.43 and 0.46 acre, respectively). Alternative 3 affects a greater amount of potential waters, with a total of 0.53 acre of permanent fill. The effect on pond habitat is less under Alternative 4, but greater on freshwater emergent wetland habitat than Alternatives 2 and 3.

Table 4.15-5 Summary of Direct and Indirect Effects

Impact	Applicable Analytical Indicators and Significance Criteria	Alt. 1	Alt. 2	Alt. 3	Alt. 4
4.15-1: Loss and Degradation of Wetlands and Other Waters	Disclosure of wetland functions and values within the project area	No effect	Adverse under NEPA; less than significant under CEQA	Adverse under NEPA; less than significant under CEQA Slightly greater impact than under Alternative 2	Adverse under NEPA; less than significant under CEQA Slightly greater impact than under Alternative 2 and slightly lesser impact than under Alternative 3
	Narrative description of wetland communities, classifications and disclosure of anticipated temporary and/or permanent impacts (acres/linear feet)	No effect	Adverse under NEPA; less than significant under CEQA	Adverse under NEPA; less than significant under CEQA Slightly greater impact than under Alternative 2	Adverse under NEPA; less than significant under CEQA Slightly greater impact than under Alternative 2 and slightly lesser impact than under Alternative 3
	Description of compliance with EO 11990, Protection of Wetlands	No effect	Adverse under NEPA; less than significant under CEQA	Adverse under NEPA; less than significant under CEQA Slightly greater impact than under Alternative 2	Adverse under NEPA; less than significant under CEQA Slightly greater impact than under Alternative 2 and slightly lesser impact than under Alternative 3
	Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means	No effect	Adverse under NEPA; less than significant under CEQA	Adverse under NEPA; less than significant under CEQA Slightly greater impact than under Alternative 2	Adverse under NEPA; less than significant under CEQA Slightly greater impact than under Alternative 2 and slightly lesser impact than under Alternative 3

4.15.4 Cumulative Effects

4.15.4.1 METHODS AND APPROACH

The list of past, present, and reasonably foreseeable future projects considered in this Cumulative Analysis is provided in Chapter 3 of the Draft EIS/EIR. The spatial scope used for this analysis of cumulative effects on wetlands and waters is the Bear Creek Watershed, Squaw Creek hydrologic unit code (HUC) 12, and the portion of upper middle Truckee River HUC-12 near where Bear Creek and Squaw Creek flow into the Truckee River. A HUC is a U.S. Geological Survey (USGS) developed designation for watersheds and provides a mechanism to split larger watersheds into smaller units. The larger the HUC number, the smaller the portion of a watershed area included in the HUC. The complete Squaw Creek and middle Truckee River watersheds cover a larger area than would be appropriate for this cumulative impact analysis. Use of the HUC-12 designations encompasses a portion of the larger Squaw Creek and middle Truckee River watersheds appropriate for evaluating past, present, and reasonably foreseeable future projects with a reasonable potential to interact with the action alternatives on a cumulative basis related to effects on wetlands.

Current resource conditions are used to represent the composite of past actions. The area encompassing the cumulative spatial scope of the analysis includes Olympic Valley and Bear Creek Valley, which both have long histories of human activity ranging from timber harvests over a century ago, to the winter Olympics at Squaw Valley in 1960, to ongoing residential, commercial, and residential development over the last 50-years. A specific temporal timeframe for the identification or analysis of past actions would not provide information not already expressed in the description of current resource conditions and could exclude

historic activities that have influenced these current conditions. In general, past activities that have affected the current cumulative condition for wetlands and other waters in the Squaw Creek, Bear Creek, and middle Truckee River watersheds include logging, grazing, fuels management, recreational development and activities, urban and commercial development, and right-of-way maintenance and operation activities.

The temporal scope for present and reasonably foreseeable future actions that could interact on a cumulative basis with the proposed project typically includes the gondola construction period (6–8 months beginning in late spring 2019) as well as the operational period of the gondola (winter season); however, for wetlands and waters, the temporal scope for reasonably foreseeable future actions is more broadly defined because disturbance and/or loss of aquatic habitat and various direct and indirect effects would contribute to the cumulative condition no matter when it occurs. For this analysis, the temporal cumulative effects timeframe for present and future actions is 20 years. This is generally consistent with the longest implementation times for "Cumulative Effects Projects" listed in Table 3-3 and applicable to the spatial scope of this analysis; a 20-year estimated buildout period for the Village at Squaw Valley Specific Plan (Item #2 in Table 3-3) and a projection to 2039 for General Development in Olympic Valley (Item #10 in Table 3-3), This provides a reasonable timeframe to describe changes to wetlands and other waters within the gondola project area and surrounding watersheds.

Any present or reasonably foreseeable future projects within the spatial scope of the analysis that have the potential to affect waters or wetlands are listed below. Potential impacts associated with these projects to waters and wetlands include the potential for direct fill and permanent loss of these features and temporary disturbance or removal.

Project	Potential impacts
Alpine Meadows Master Development Plan	Possible permanent and/or temporary disturbance of waters and wetlands
Village at Squaw Valley Specific Plan	Possible permanent and/or temporary disturbance of waters and wetlands
Squaw Valley Red Dog Lift Replacement	Possible permanent and/or temporary disturbance of waters and wetlands
Timberline Twister	Possible permanent and/or temporary disturbance of waters and wetlands
Alpine Meadows Hotwheels Lift Replacement	Possible permanent and/or temporary disturbance of waters and wetlands
Caldwell property (White Wolf) development	Possible permanent and/or temporary disturbance of waters and wetlands
General development in Olympic Valley	Possible permanent and/or temporary disturbance of waters and wetlands
General development in Alpine Meadows	Possible permanent and/or temporary disturbance of waters and wetlands
Alpine Sierra subdivision	Possible permanent and/or temporary disturbance of waters and wetlands
Truckee River Corridor Access Plan	May contain activities that could result in permanent and/or temporary disturbance of waters and wetlands

4.15.4.2 CUMULATIVE IMPACTS

Alternative 1 – No Action Alternative

Alternative 1 – No Action Alternative would result in a continuation of existing conditions. There would be no direct and indirect effects, and thus by definition no cumulative impacts to wetlands and other waters.

Alternative 2

Decades of growth and development, Comstock-era logging, hydrologic modification, and livestock grazing in the Tahoe-Truckee region in general, and also within the more limited spatial scope of this cumulative impact analysis, have resulted in an overall adverse cumulative effect on wetlands and waters. Past and present actions, taken together, have adversely affected hydrology, water quality, and habitat functions within the local watersheds. These actions have led to soil erosion and sedimentation, increased turbidity of local water bodies, and loss and degradation of aquatic habitats.

The reasonably foreseeable future projects identified above may result in temporary and permanent impacts to wetlands and waters. However, different from the conditions under which many past projects were implemented, there are multiple laws and regulations requiring the avoidance of wetlands, minimization of effects, and compensation for effects when they cannot be fully avoided; these include Sections 404 and 401 of the CWA, the Porter-Cologne Water Quality Control Act, California Fish and Game Code Section 1602 — Lake and Streambed Alteration, and local policies and regulations specifically directed towards these resources. Although the reasonably foreseeable future projects may have varying temporary and permanent effects on wetlands and waters, to comply with applicable laws, these projects must minimize those effects and compensate for effects that cannot be fully avoided in a manner that results in no net loss of aquatic functions, values, and quantity of wetlands and waters. If there is any cumulative reduction in waters or wetlands, or functions and values of these resources of these resources within the spatial scope of this analysis, it would be minor. Projects whose effects on wetlands and waters may overlap in time and space with this project include Alpine Meadows Master Development Plan, Village at Squaw Valley Specific Plan, Northstar Mountain Master Plan, White Wolf Development, Alpine Sierra Subdivision, Martis Valley West Parcel, Big Jack East Forest Restoration Project, and Tahoe West Project.

Impacts on wetlands and waters resulting from implementation of Alternative 2 would be permanent, resulting from direct fill of waters of the United States and waters of the state, and temporary, related to activities during construction. Construction activities would be required to comply with existing federal, state, and local regulations and permitting requirements that protect wetland, riparian, and other waters. RPMs BIO-24 through BIO-26, BIO-34 through BIO-36, and BIO-39 would reduce significant impacts on wetlands and waters because they would require that aquatic habitat is avoided to the extent feasible, and that aquatic habitats that cannot be avoided are restored following construction or compensated for in a manner that results in no net loss of these habitats or loss of ecological function. Based on the no net loss standard required by state and federal laws, Alternative 2 would not have a considerable contribution to the overall adverse cumulative effect on waters and wetlands in the spacial scope of this analysis.

Alternatives 3 and 4

Cumulative impacts resulting from Alternatives 3 and 4 would be essentially the same as those discussed above for Alternative 2, although project-specific contributions to fill of wetlands and other waters would be slightly less for Alternative 4 (0.46 acre) than Alternative 3 (0.53 acre), and Alternatives 3 and 4 would each contribute slightly more to fill of wetlands and other waters than Alternative 2 (0.43 acre). Although there are some differences in the acreages of affect across alternatives, and therefore the level of contribution to cumulative effects, none of the alternatives would make a considerable contribution to a cumulative effect.