

4.12 VEGETATION

This section includes a discussion of the vegetation and habitat types known to occur on the project site; a summary of the applicable federal, state, and local regulations; and an analysis of potential impacts on vegetation resources that could result with implementation of the project.

It addresses the effects of ground disturbance on common and sensitive habitat and vegetation types, overstory vegetation (i.e., trees), and sensitive natural communities as defined by California Department of Fish and Wildlife (CDFW) and described further below. Effects on other aspects of biological resources are addressed in subsequent sections of this EIS/EIR. Special-status plants and invasive plant species are evaluated in Section 4.13, "Botany." Wildlife species are evaluated in Section 4.14, "Wildlife and Aquatics." Section 4.15, "Wetlands," addresses waters of the United States and waters of the state, including wetlands, in the context of the statutes, regulations, and policies that regulate these resources.

4.12.1 Affected Environment

4.12.1.1 ENVIRONMENTAL SETTING

Terrestrial Vegetation and Habitat Types

The elevation of the project site ranges from approximately 6,235 feet above mean sea level (AMSL) at the Squaw Valley terminal area to approximately 7,800 feet AMSL atop the ridgeline where the Squaw Valley mid-station locations are being considered, to approximately 6,920 feet above AMSL at the Alpine Meadows Ski Area (Alpine Meadows) base terminal location (see Exhibit 2-1). The project site is a mix of private and public land. Ground disturbance in the area consists mainly of ski resort infrastructure, including buildings, roads, ski trails, and hiking trails.

The site includes long linear alignments crossing small patches of mixed Sierra Nevada coniferous woodland, a mosaic of mixed shrub vegetation (e.g., montane chaparral, bitter cherry thickets, mountain sagebrush/forb vegetation), extensive areas of rock outcrop and talus, ruderal erosion control revegetation, mountain alder thicket, part of a native quaking aspen grove, and very small areas of freshwater emergent wetland and riverine habitat. These features make up the upland habitats, mesic to aquatic habitats, and human-modified habitats that occur on the project site, and general characteristics of these habitats are described in the paragraphs below. Vegetation types were mapped and classified to the group or alliance level, where possible, according to *A Manual of California Vegetation* (Sawyer et al. 2009). Unvegetated and human-modified areas were classified according to the California Wildlife Habitat Relationship (CWHR) system (CDFW 2018a). In addition, some vegetation types were lumped into larger CWHR system habitat categories where vegetation alliances were highly intermixed and difficult to map as separate units (e.g., several conifer tree-dominated vegetation alliances are included in the Sierra Nevada coniferous woodland habitat type). Surveys of the project site, which includes all action alternatives, where vegetation and habitat information was collected were performed in 2015, 2016, and 2017 by staff from EcoSynthesis Scientific & Regulatory Services (EcoSynthesis) (EcoSynthesis 2017), Ascent Environmental, and Hydro Restoration. The results of vegetation/habitat surveys are described in Table 4.12-1, focusing on the occurrence of each habitat/vegetation type in the disturbance area for each action alternative. Where applicable, the corresponding wetland/water category as applied in Section 4.15, "Wetlands," is listed in the vegetation/habitat type description in Table 4.12-1. The locations of the habitat/land cover types are shown in exhibits included in the EcoSynthesis botanical survey report (EcoSynthesis 2017) provided in Appendix H.

Table 4.12-1 Habitat and Vegetation in the Study Area

Habitat/ Vegetation Type	Summary Description	Acres Mapped Within Study Area ^{1,3}								
		Alpine Meadows Special Use Permit Area			Private			Total ²		
		Alternative 2	Alternative 3	Alternative 4	Alternative 2	Alternative 3	Alternative 4	Alternative 2	Alternative 3	Alternative 4
Sierra Nevada Coniferous Woodland	This land cover types occurs in small patches within the study area. For many of these small patches, it was not possible to assign them to one or another forest alliance as described in <i>A Manual of California Vegetation</i> . Species associated with this land cover type include mountain juniper (<i>Juniperus communis</i> var. <i>saxatilis</i>), Sierra juniper (<i>Juniperus grandis</i>), white fir (<i>Abies concolor</i>), California red fir (<i>Abies magnifica</i>), lodgepole pine (<i>Pinus contorta</i> ssp. <i>murrayana</i>), Jeffrey pine (<i>Pinus jeffreyi</i>), western white pine (<i>Pinus monticola</i>), and mountain hemlock (<i>Tsuga mertensiana</i>). Identifiable woodland types included lodgepole pine near the Alpine Meadows base area; Jeffrey pine scattered at mostly moderate elevations; and red fir – white fir in one or two very small patches at middle-upper elevations of the slopes. Coniferous trees were also encountered as scattered individuals within nonforest vegetation types, and, in one area within the Rock Outcrop land cover type, the woodland understory was generally sparse to nonexistent, and, due to the small size of forest patches, no one or several herbs or shrubs could be identified as being consistently dominant or as being characteristic associates of the coniferous woodland.	0.79	2.33	1.72	2.25	4.89	1.19	3.03	7.22	2.91
Montane Chaparral	Montane Chaparral is mostly limited to the nondeciduous, coriaceous-leaved community. Deciduous and soft-leaved shrub vegetation is described in other land cover types. Montane Chaparral includes areas that correspond to more than one vegetation alliance described in Sawyer et al. (2009). For example, <i>Quercus vaccinifolia</i> shrubland alliance and <i>Arctostaphylos patula</i> shrubland alliance often occur intermixed, so a single, more inclusive cover type is appropriate for the present project. This vegetation type is found most continuously on south- and southeast-facing rocky slopes, especially in the southern segment of all the action alternatives. Many of the mapped polygons of Montane Chaparral are nearly pure huckleberry oak (<i>Quercus vaccinifolia</i>); other areas are mostly greenleaf manzanita (<i>Arctostaphylos patula</i>) or rarely pinemat manzanita (<i>A. nevadensis</i>); some areas are a mixture of those species and/or mixed with snowbush (<i>Ceanothus cordulatus</i>) or rarely tobacco brush (<i>C. velutinus</i>). The distinguishing ecological characteristics of this vegetation type as mapped are dense “hard-leaved” shrub canopy with leaves that are not deciduous. This vegetation occurs on steep rocky slopes. There is often no herbaceous understory at all, due to the dense shrub canopy which prevents sufficient light from reaching the ground surface for herbaceous or subshrubby plants to be sustained. Where there are gaps or thin shrub canopy, lower stratum plant species may occur, most often ones that are typical of Rock Outcrop areas (see below), such as species of wild buckwheat (<i>Eriogonum</i> spp.) or penstemon (<i>Penstemon</i> spp.).	4.56	2.34	2.34	1.81	8.80	11.75	6.37	11.14	14.09

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Bitter Cherry Thickets	<i>Prunus emarginata</i> Provisional Alliance - This shrubland type is distinguished from montane chaparral by the deciduous habit of the majority of the dominant species within it. It is found extensively but not exclusively on the lower elevation slopes of the southern segments of Alternatives 3 and 4. MCV2 and direct field observation suggest that there is likely to be a somewhat more mesic soil moisture regime in bitter cherry thickets than chaparral areas, but they are still quite dry in summertime. The most dominant species is bitter cherry; also codominant in many areas is Sierra coffeeberry (<i>Frangula rubra</i>). In some areas, there is a minor to codominant component of some nondeciduous species such as tobacco brush. Wildlife values of the deciduous and nondeciduous shrubland types may differ somewhat. This map unit term is also applied to the patchwork of mostly shrub- and subshrub-dominated woody vegetation found in the northern segment of the alignment, which varies widely in species composition (bitter cherry; oceanspray, <i>Holodiscus discolor</i> var. <i>microphyllus</i> ; and snowberry, <i>Symphoricarpos rotundifolius</i>). These mixed species communities may also include a substantial component of subshrub or forb species.	0	2.28	3.64	4.91	7.30	3.34	4.91	9.58	6.98
Mountain Sagebrush/ Forb Vegetation	<i>Artemisia tridentata</i> shrubland alliance - These communities occur on slopes and ridges with all aspects and of all gradients from gentle to steeply sloping. Soil moisture regimes vary from relatively dry to much more mesic. Mountain sagebrush is the distinguishing shrub species, but many others occur within the alliance. Cover is highly variable from sparse to nearly 100 percent canopy including associated forbs and grasses. Overall species diversity tends to be much higher than in Montane Chaparral or Bitter Cherry Thickets. Although the U.S. National Vegetation Classification has formerly mentioned "Forb Meadow" in Macrogroup descriptions of montane vegetation, there is no alliance for the mixed subshrub/forb communities that occur commonly throughout the northern Sierra Nevada. Since those are ecologically more similar to the Mountain Sagebrush community at the present project site, and cannot always be mapped separately, they are included under this heading. Common species of the montane forb communities on the Interconnect study site include coyote mint (<i>Monardella odoratissima</i>), Brewer's angelica (<i>Angelica breweri</i>), woolly mule's-ears (<i>Wyethia mollis</i>), Brewer's aster (<i>Eucephalus breweri</i>), paint-brush (<i>Castilleja</i> spp.), penstemon (<i>Penstemon</i> spp.), sulfur buckwheat (<i>Eriogonum umbellatum</i> var. <i>nevadense</i> and var. <i>modocense</i>), lupines (<i>Lupinus</i> spp.), and others.	0	0	0	0	0	5.23	0	0	5.23

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		Alternative 2	Alternative 3	Alternative 4	Alternative 2	Alternative 3	Alternative 4	Alternative 2	Alternative 3	Alternative 4
Rock outcrop/ Rock and Talus	These land cover types do not technically constitute vegetation: except for small patches, there is usually much less than 10 percent vegetative cover. Nearly all of the area within Rock and Talus is exposed bedrock, with areas of talus (broken rock from large boulders down to angular cobbles) and sparsely vegetated gravel and coarse sand. Within the study area, talus may occur in large exposures of 1 acre to many acres, or in small patches within otherwise extensive bedrock. For this reason, they were mapped together for this report. Notwithstanding the low vegetation cover, many plant species occur in rock and talus. In small depressions or flat areas within the rock, tiny pockets of finer grained soil have accumulated and support a great diversity if not much cover of vegetation. Commonly encountered species include frosted buckwheat (<i>Eriogonum incanum</i>), Lobb's buckwheat (<i>E. lobbii</i>), mountain pride (<i>Penstemon newberryi</i>), stonecrop (<i>Sedum obtusatum</i>), jewel weed (<i>Streptanthus tortuosus</i>), and various sedges and grasses. Rock outcrops and small accumulations of sandy soil within them provide potentially suitable habitat for a variety of special-status plant species. Talus is typically fractured along pre-existing zones of weakness and are lying at diverse angles, there is usually nowhere for soil to accumulate, and no crevices in which species such as starved daisy (<i>Erigeron miser</i>) could grow. However, talus provides refuge for wildlife species that forage on herbaceous species supported by nearby soil patches.	3.77	2.45	2.45	12.76	8.81	13.13	16.53	11.26	15.58
Mesic to Aquatic Habitats										
Mesic and Riparian Shrubland	This land cover types include <i>Acer glabrum</i> provisional shrubland alliance and <i>Rubus (parviflorus)</i> shrubland alliance. This land cover type includes vegetation that is intermediate between the upland shrubland types described above, and truly riparian woody vegetation that is consistently associated with presence of surface water or saturated soil for a portion of the year (see below under mountain alder thicket). It occurs almost exclusively on moderate slopes (for this project study area) with shallow to deep, sometimes loamy soils. Aspect is generally north or east. The vegetation is characterized by having deciduous leaves that are much thinner and more susceptible to desiccation than those of the species that are characteristic of montane chaparral or bitter cherry thickets. Common plant species in mesic and riparian shrubland vary spatially but include one or more of the following: mountain maple (<i>Acer glabrum</i>), Scouler's willow (<i>Salix scouleriana</i>), thimbleberry (<i>Rubus parviflorus</i>), currants/gooseberries (<i>Ribes nevadensis</i> , <i>R. roezlii</i> , <i>R. viscosissimum</i>), elderberry (<i>Sambucus</i> spp.), creeping snowberry (<i>Symphoricarpos mollis</i>), and serviceberry (<i>Amelanchier</i> spp.). Although these riparian vegetation types generally do not meet the parameters to qualify as wetlands as defined under the Clean Water Act, they are subject to state jurisdiction under California Fish and Game Code Section 1602, and <i>Acer glabrum</i> and <i>Rubus parviflorus</i> shrubland alliances are sensitive natural communities as defined by CDFW.	0	0.48	0.40	0	0.45	6.17	0	0.93	6.57

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Mountain Alder Thicket	<i>Alnus incana</i> shrubland alliance - This woody riparian vegetation type occurs in the lower elevation portion of the southern segment, on lower slopes adjoining a snowmaking pond at Alpine Meadows Ski Area, and in several other small exposures. Aspect is variable, and slopes vary from steep ones that are fed by groundwater emerging at a point-source or diffuse spring to near level ones. The water source is generally entirely, or supplemented by, groundwater, though for convenience the small areas of streamflow supported riparian vegetation are included in this land cover type. The distinguishing physical characteristic of Mountain Alder Thicket is the presence of saturated soil at or near the ground surface through most or all of the year. The dominant species is mountain alder (<i>Alnus incana</i>), but scattered groups of willow species (<i>Salix</i> spp.) may also occur. A small patch of Eastwood's willow (<i>S. eastwoodiae</i>) near the pond where Alternatives 3 and 4 cross was mapped within adjacent alder thicket for simplicity. There is little or no understory in most of the alder thickets, but some openings are vegetated by wetland or facultative herbaceous species. In the present study area, these herbaceous areas are dominated mostly by forbs (specifically fireweed, <i>Chamerion angustifolium</i> , and corn lily, <i>Veratrum californicum</i>) but may also include species of <i>Juncus</i> and/or <i>Carex</i> . Mountain alder thickets generally meet the parameters to qualify as wetlands as defined under the Clean Water Act and are included within the palustrine category discussed in Section 4.15, "Wetlands." Mountain alder thickets are also recognized by CDFW as a sensitive natural community.	0.64	0	0	0	0.14	0.48	0.64	0.14	0.48
Aspen Grove	<i>Populus tremuloides</i> Forest Alliance - A very small portion of the study area passes through an aspen grove in the lower part of the southern segment of Alternative 2 study area. Quaking aspen (<i>Populus tremuloides</i>) is a tree with rhizomes (underground stems) or near-surface roots with adventitious shoots, which thereby form small to large (100-acre) clones of separate-appearing trees. These groves persist for long periods of time; some, at least, are believed to date from the last glacial period, 10,000 years ago. Most aspen groves occur on upland slopes, but also occur in lower parts of riparian valleys. Aspen groves provide some ecological values that are similar to those of riparian forest and are a sensitive natural community as defined by CDFW. Aspen groves typically do not meet the parameters to qualify as wetlands as defined under the Clean Water Act.	0.13	0	0	0	0	0	0.13	0	0

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Freshwater Emergent Wetland ³	Herbaceous wetland vegetation occurs in slight topographic depressions within tributary drainages within the study area. Dominant species include sedges (<i>Carex leporinella</i> and <i>C. heteroneura</i>), rushes (<i>Juncus chlorocephalus</i> or <i>bufonius</i>), grasses (<i>Agrostis exarata</i> and/or <i>humilis</i>), and forbs (e.g., <i>Oreostemma alpigenuus</i>). In one seasonally ponded area, some woody species are also present (<i>Salix eastwoodiae</i> , <i>Vaccinium</i> sp.). A <i>Carex</i> wetland is present at the fringe of a perennial pond near the southern end of the central segment. Small areas of freshwater emergent wetland vegetation occur near the Alpine Meadows base lodge, in patches too small to be effectively mapped for the present vegetation study. Freshwater emergent wetlands generally meet the parameters to qualify as wetlands as defined under the Clean Water Act and are included within the palustrine freshwater emergent wetland category discussed in Section 4.15, "Wetlands."	0.07	0.87	0.44	0.89	0.17	0.08	0.96	1.04	0.52
Freshwater Pond ³	Two types of freshwater ponds occur in the study area: human constructed ponds and naturally occurring ponds. The constructed ponds include Cushing Pond, Caldwell Pond, and three detention ponds near the base of Alpine Meadows. The naturally occurring ponds are Barstool Pond and an unnamed pond by <i>The Buttress</i> . Note: Barstool Pond (0.87 acre) and the unnamed pond (0.22 acre) acreages are added since they were included in the study area surveys. Freshwater ponds may qualify as waters of the state and potential waters of the United States and are addressed in Section 4.15, "Wetlands," under the lacustrine category. Ponds constructed in uplands may not fall within federal jurisdiction but could still qualify as waters of the state.	0	0.52	0.64	0.25	0.51	0.02	0.25	1.03	0.66
Riverine ³	Several unnamed seasonal tributaries cross the site, in all three segments of the study 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 study site includes areas of cover by mosses (and no vascular plants) growing on sand or bedrock, and areas of hydrophytic vascular plants. Riverine habitats qualify as waters of the state and potential waters of the United States and are addressed in Section 4.15, "Wetlands," under the riverine category, which includes perennial and ephemeral streams and roadside ditches.	0.17	0.40	0.38	0.26	0.30	0.04	0.44	0.70	0.42

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Ruderal Grassland	“Ruderal” refers to vegetation growing in areas disturbed by human activities, usually grading but also applicable to other anthropogenic disturbances. Within the study area, this occurs primarily within the developed ski areas, both at the base facilities and on road embankments and ski runs. Ruderal vegetation occurs on all aspects and slope gradients from nearly level to steeply sloping. Soil textures and moisture regimes are also highly variable. Within the study area, Ruderal vegetation includes small areas of landscaping and lawn turf near the ski area base facilities; erosion control revegetation on ski slopes and other constructed features such as roads and their embankments; and substantially disturbed soil profiles that support weedy plants. The ruderal erosion control vegetation within the Squaw Valley and Alpine Meadows base areas is generally dominated by grasses, especially wheatgrass (<i>Elymus hispidus</i> = <i>Thinopyrum intermedium</i>), squirreltail (<i>Elymus elymoides</i>), and hard fescue (<i>Festuca</i> sp.) but also including (and being locally dominated by) a variety of forbs and low shrubs (yarrow, <i>Achillea millefolium</i> ; rabbitbrush, <i>Ericameria nauseosa</i> ; and many others). As is typical of ruderal vegetation, dominance varies greatly by microsite. Weedy ruderal vegetation includes a wide variety of both native and nonnative species.	1.39	1.82	2.05	2.86	2.93	3.41	4.25	4.75	5.46
Urban Land Cover	This land cover type includes primarily pavement (asphalt or gravel), buildings including ski lift towers, and some other structures such as pond weirs and outfalls. Most of the lift towers and some other constructed features have very small footprints and were not mapped separately, but some of the terminals with associated paved or otherwise unvegetated surface were mapped as Urban polygons.	2.28	4.44	4.53	1.59	2.72	2.86	3.87	7.16	7.39

Note: CDFW = California Department of Fish and Wildlife.

¹ “Study area” refers to the survey area identified and mapped in the Botanical Survey Report (EcoSynthesis 2017): 50 feet on each side of the centerline of the Alternative 2 gondola alignment and 100 feet on each side of the centerline of the Alternative 3 and Alternative 4 alignments, and 30–50 feet on each side of the locations previously proposed for Gazex facilities. Although the Gazex facilities have been removed from the project (see the first page of Chapter 1, “Introduction,” Volume 1), the entire area surveyed is reflected to indicate all locations where field data were collected. A wider gondola survey corridor was implemented for Alternatives 3 and 4 as there is a higher potential than for Alternative 2 for slight adjustments in the alignment if one of these alternatives is selected and more detailed engineering and design is conducted. With a wider survey corridor, it is less likely that any future adjustments would cause the alignment to leave the survey corridor.

² Totals may not sum due to independent rounding.

³ Wetland acreages based on mapping by Hydro Restoration (2016, 2017) and Ascent Environmental for a study area of 100 feet on each side of the alternative alignments and around the locations previously proposed for Gazex facilities.

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

Sierra Nevada Coniferous Woodland

This habitat is an assemblage of conifer and hardwood species that forms a multilayered forest. Forested stands form closed, multilayered canopies with nearly 100 percent overlapping cover. When openings occur, shrubs are common in the understory. Closed canopy stand distribution is both extensive and patchy depending on scale, site, slope, soils, microclimate, and history. Species associated with this land cover type include mountain juniper (*Juniperus communis* var. *saxatilis*), Sierra juniper (*Juniperus grandis*), white fir (*Abies concolor*), red fir (*Abies magnifica*), lodgepole pine (*Pinus contorta* ssp. *murrayana*), Jeffrey pine (*Pinus jeffreyi*), western white pine (*Pinus monticola*), and mountain hemlock (*Tsuga mertensiana*).

Montane Chaparral

Montane Chaparral is mostly limited to the nondeciduous, coriaceous-leaved (i.e., leathery leaf texture) community. Deciduous and soft-leaved shrub vegetation is described in other land cover types. Montane Chaparral includes areas that correspond to two vegetation alliances, *Quercus vacciniifolia* (huckleberry oak) Shrubland Alliance and *Arctostaphylos patula* (greenleaf manzanita) Shrubland Alliance; however, these often occur intermixed, so a single more inclusive cover type is appropriate. The distinguishing ecological characteristics of this community type as mapped are dense “hard-leaved” shrub canopy with leaves that are not deciduous. This vegetation occurs on steep rocky slopes. There is often no herbaceous understory at all because the dense shrub canopy prevents sufficient light from reaching the ground surface for herbaceous or subshrubby plants to be sustained. Where there are gaps or thin shrub canopy, lower stratum plant species may occur, most often ones that are typical of Rock Outcrop areas (see below), such as species of wild buckwheat (*Eriogonum* spp.) or penstemon (*Penstemon* spp.).

Bitter Cherry Thickets

This shrubland type, *Prunus emarginata* (bitter cherry) Provisional Alliance, is distinguished from Montane Chaparral by the deciduous habit of the majority of the dominant species within it. The most dominant species is bitter cherry; also codominant in many areas is Sierra coffeeberry (*Frangula rubra*). In some areas, there is a minor codominant component of some nondeciduous species such as tobacco brush (*Ceanothus velutinus*). These mixed species communities may also include a substantial component of subshrub or forb species.

Mountain Sagebrush/Forb Vegetation

This community, *Artemisia tridentata* ssp. *vaseyana* (mountain sagebrush) Shrubland Alliance, occurs on slopes and ridges with all aspects and of all gradients from gentle to steeply sloping. Soil moisture regimes vary from relatively dry to much more mesic. Mountain sagebrush is the distinguishing shrub species, but many others occur within the alliance. Cover is highly variable from sparse to nearly 100 percent canopy including associated forbs and grasses. Overall species diversity tends to be much higher than in Montane Chaparral or Bitter Cherry Thickets. Although the U.S. National Vegetation Classification has formerly mentioned “Forb Meadow” in Macrogroup descriptions of montane vegetation, there is no alliance for the mixed subshrub/forb communities that occur commonly throughout the northern Sierra Nevada.

Rock Outcrop/Rock and Talus

These land cover types do not technically constitute vegetation: except for small patches, there is usually much less than 10 percent vegetative cover. Nearly all of the area within rock and talus is exposed bedrock, with areas of talus (broken rock from large boulders down to angular cobbles) and sparsely vegetated gravel and coarse sand. Talus is typically fractured along pre-existing zones of weakness and are lying at diverse angles, there is usually nowhere for soil to accumulate, and no crevices in which plant species could grow. However, talus provides refuge for wildlife species that forage on herbaceous species supported by nearby soil patches.

Mesic and Riparian Shrubland

This land cover types includes *Acer glabrum* (mountain maple) Provisional Shrubland Alliance and *Rubus (parviflorus)* (thimbleberry) Shrubland Alliance and consists of vegetation that is intermediate between the upland shrubland types described above, and truly riparian woody vegetation that is consistently associated with presence of surface water or saturated soil for a portion of the year (see below under Mountain Alder

Thicket). This land cover type occurs almost exclusively on moderate slopes with shallow to deep, sometimes loamy soils. Aspect is generally north or east. The vegetation is characterized by having deciduous leaves that are much thinner and more susceptible to desiccation than those of the species that are characteristic of Montane Chaparral or Bitter Cherry Thickets.

Mountain Alder Thicket

The distinguishing physical characteristic of Mountain Alder Thicket, *Alnus incana* (mountain alder) Shrubland Alliance, is the presence of saturated soil at or near the ground surface throughout most or all of the year. The water source is generally entirely, or supplemented by, groundwater, though for convenience the small areas of streamflow supported riparian vegetation are included in this land cover type. The dominant species is mountain alder (*Alnus incana*), but scattered groups of willow species (*Salix* spp.) may also occur.

Aspen Grove

Mature aspen groves, *Populus tremuloides* (quaking aspen) Forest Alliance, usually have relatively open canopies, often shared with other deciduous trees and a few conifer species, typically pines. Quaking aspen is a tree with rhizomes (underground stems) or near-surface roots with adventitious shoots, which thereby form small to large (100-acre) clones of separate-appearing trees. These groves persist for long periods of time; some are believed to date from the last glacial period, 10,000 years ago. Most aspen groves occur on upland slopes, but also occur in lower parts of riparian valleys. Aspen groves provide some ecological values that are similar to those of riparian forest and are a sensitive biological resource, even though aspen itself is a facultative-upland (mesic but not generally hydrophytic) plant species.

Freshwater Emergent Wetland

Freshwater emergent wetland habitats may occur in association with terrestrial habitats or aquatic habitats including riverine, lacustrine, and wet meadows. This habitat type can occur on virtually all exposures and slopes, provided a basin or depression is saturated or at least periodically flooded. However, they are most common on level to gently rolling topography. They are found in various landscape depressions or at the edge of rivers or lakes. Freshwater emergent wetlands are characterized by erect, rooted herbaceous hydrophytes. All emergent wetlands are flooded frequently, enough so that the roots of the vegetation prosper in an anaerobic environment.

Freshwater Pond

Freshwater ponds can consist of human-constructed ponds and naturally occurring ponds.

Riverine

The riverine habitat can occur in association with many terrestrial habitats. Riparian habitats are found adjacent to rivers and streams and features vary from ephemeral (flowing only during major snowmelt or rain events) to seasonal (flow continuing through summer, with increasing extent of reaches without surface flow as the season proceeds). Riverine habitats are also found contiguous to lacustrine and fresh emergent wetland habitats.

Ruderal Grassland

“Ruderal” refers to vegetation growing in areas disturbed by human activities, usually grading but also applicable to other anthropogenic disturbances. Ruderal vegetation occurs on all aspects and slope gradients from nearly level to steeply sloping. Soil textures and moisture regimes are also highly variable. Weedy ruderal vegetation includes a wide variety of both native and nonnative species.

Urban Land Cover

The structure of urban vegetation varies, with five types of vegetative structure defined: tree grove, street strip, shade tree/lawn, lawn, and shrub cover. Land cover also includes pavement (asphalt or gravel), buildings including ski lift stations and towers, and some other structures such as pond weirs and outfalls.

Sensitive Natural Communities

The California Department of Fish and Wildlife (CDFW) maintains a list of natural communities that are native to California. Within that list, CDFW identifies sensitive natural communities, which they define as communities that are of limited distribution statewide or within a county or region and often vulnerable to environmental effects of projects. Natural communities are ranked at the state and global level on a scale of 1 (very rare and threatened) to 5 (demonstrably secure) based on their rarity and the level of threats to the community. Natural communities with a state rarity ranking of 1–3 are considered sensitive and should be addressed during the CEQA environmental review process (CDFW 2018b). Sensitive natural communities occurring on the project site include aspen grove, *Acer glabrum* and *Rubus parviflorus* shrubland alliances, and mountain alder thickets. Riparian habitats that are not specifically designated as sensitive natural communities by CDFW and are not federally protected wetlands or waters of the state are still protected under California Fish and Game Code Section 1602 as discussed below.

Riparian Habitats

Riparian habitats are in transitional areas between aquatic and upland habitats and consist of vegetation that is dominated by deciduous trees or shrubs and intermediate between upland shrubland types, and the wetland vegetation types that are consistently associated with presence of surface water or saturated soil for a portion of the year. Riparian vegetation grows in areas where groundwater is near to the surface, such as on the banks of streams, lakes, and ponds or in flood plains, meadows, seeps, and springs, but surface water or saturated soils are generally not present for extended periods during the growing season. Riparian habitats are considered sensitive because there is a limited amount of riparian habitat in California and it is declining regionally, and riparian habitats are highly productive and provide important habitat values to common and special-status wildlife species. Although some riparian habitats may meet the CWA definition of wetlands, many do not. Riparian habitats that do not meet the parameters to qualify as federally protected wetlands under the CWA or waters of the state under the Porter-Cologne Act are still considered sensitive habitats and are regulated under Section 1602 of the California Fish and Game Code. Aquatic habitats that meet the definition of waters of the United States and waters of the state, including wetlands, under the CWA and Porter-Cologne Act are addressed in Section 4.15, “Wetlands.”

Tree Survey

A survey for each of the three action alternatives was conducted by a Registered Professional Forester (RPF) to identify species, location, and evaluate current condition of all the native trees over 6 inches diameter at breast height (dbh) or greater (Under the Trees 2015, 2016, 2017). The survey area consisted of a corridor of 100 feet from each side of centerline for each gondola action alternative. All evaluated trees within the survey area were geo-referenced by using a Global Positioning System unit; tagged and numbered; and evaluated on health and physical appearance.

Alternative 2

A total of 476 trees over 6 inches dbh were identified within the survey area for Alternative 2. Of the 476 trees surveyed, 14 percent were California red fir (*Abies magnifica*), 37 percent were white fir (*Abies concolor*), 5 percent were Jeffrey pine (*Pinus jeffreyi*), 8 percent were western white pine (*Pinus monticola*), 16 percent were lodgepole pine (*Pinus contorta* ssp. *murrayana*), 4 percent were mountain hemlock (*Tsuga mertensiana*), 2 percent were quaking aspen (*Populus tremuloides*), 11 percent were Sierra juniper (*Juniperus grandis*), and 2 percent were black cottonwood (*Populus trichocarpa*).

Alternative 3

A total of 1,090 trees over 6 inches dbh were identified within the survey area for Alternative 3. Of the 1,090 trees surveyed, 33 percent were California red fir, 23 percent white fir, 4 percent Jeffrey pine, 30 percent lodgepole pine, 1 percent mountain hemlock, 5 percent western white pine, 4 percent Sierra juniper, and less than 1 percent quaking aspen.

Alternative 4

A total of 947 trees over 6 inches dbh were identified within the survey area for Alternative 4. Of the 947 trees surveyed, 31 percent were California red fir, 27 percent white fir, 13 percent Jeffrey pine, 25 percent

lodgepole pine, less than 1 percent mountain hemlock, 2 percent western white pine, less than 1 percent Sierra juniper, and less than 1 percent quaking aspen.

Species Descriptions

California red fir dominates large areas of high-elevation country, especially in California. For this reason, it has long been an important forest tree. California red fir is a climax species (i.e., once established, the plant community will remain essentially unchanged in terms of species composition for as long as a site remains undisturbed) nearly everywhere it is found. It shares climax status with white fir at the upper limit of the white fir zone.

White fir extends from the mountainous regions of the Pacific coast to central Colorado, and from central Oregon and south-eastern Idaho to northern Mexico. White fir is a large, native, coniferous tree. In the Sierra Nevada, white fir is a major component of mixed conifer forests occurring between 4,100 and 7,200 feet.

Jeffrey pine is a very large pine that lives for up to 500 years. It grows to a height of 180 feet with a trunk up to 7 feet in diameter. Primarily a California species, Jeffrey pine ranges north through the Klamath Mountains into southwestern Oregon, across the Sierra Nevada into western Nevada, and south in the Transverse and Peninsular Ranges into northern Baja California.

Western white pine can reach a height of 150–180 feet and diameter of 30–42 inches at maturity. The tree has a slightly tapering stem that often is free of branches for 70–100 feet. Normally, the species is long lived, frequently reaching ages of 300–400 years. Western white pine is present in a number of habitat types, associations, and communities.

Lodgepole pine is a two-needled pine; it is also called Sierra lodgepole pine or tamarack pine. Lodgepole pine is a ubiquitous species with the ability to survive in a variety of areas. It grows throughout the Rocky Mountain and Pacific coast regions, extending north to the Yukon Territory and south to Baja California, west to the Pacific Ocean, and east to the Black Hills of South Dakota.

Mountain hemlock is usually found on cold, snowy sub-alpine sites where it grows slowly, sometimes attaining more than 800 years in age. Areas occupied by mountain hemlock generally have a cool to cold climate that includes mild to cold winters; a short, warm to cool growing season; and moderate to high precipitation.

Quaking aspen is valued for its white bark and brilliant fall color, especially when clustered. This is a native tree that grows 15–90 feet high, but typically less than 45 feet, with a rounded crown; bark is typically smooth, greenish-white to gray-white, often thin and peeling, becoming thicker and furrowed with age. Quaking aspen is the most widely distributed tree species in North America.

Sierra juniper is found from central California to southeastern Washington. In the Sierra Nevada, Sierra juniper may be found on shallow soils with Jeffrey pine, California red fir, mountain hemlock, or lodgepole pine. This species commonly develops full crowns and heavy limbs at maturity. Sierra juniper is a long-lived species, reaching ages estimated to be more than 1,000 years.

Black cottonwood, also known as western balsam poplar or California poplar, is native to western North America. Black cottonwood is a very fast growing and potentially large tree, easy to establish, and useful for shade and ornament. The aggressive root systems of black cottonwood are effective soil stabilizers and make the species useful in restoration of riparian areas.

Health Assessment

The tree survey included a health assessment. Each tree was inspected, rated one (dead) through five (excellent health); and tree size and form, signs of defect, signs of insect and disease, and mechanical damage were recorded. The findings of the health assessment are summarized in Table 4.12-2.

Table 4.12-2 Tree Health Rating and Frequency of Occurrence for Each Action Alternative

Species	Health Rating						Number of Trees
	1 Dead	2 Poor	3D or 3I Poor to Fair	3 Fair	4 Good	5 Excellent	
California red fir <i>Abies magnifica</i>	Alt. 2: 8 Alt. 3: 14 Alt. 4: 0	Alt. 2: 10 Alt. 3: 82 Alt. 4: 7	Alt. 2: 29 Alt. 3: 77 Alt. 4: 225	Alt. 2: 20 Alt. 3: 173 Alt. 4: 63	Alt. 2: 0 Alt. 3: 60 Alt. 4: 2	Alt. 2: 1 Alt. 3: 1 Alt. 4: 0	Alt. 2: 68 Alt. 3: 407 Alt. 4: 297
White fir <i>Abies concolor</i>	Alt. 2: 8 Alt. 3: 21 Alt. 4: 0	Alt. 2: 14 Alt. 3: 54 Alt. 4: 15	Alt. 2: 31 Alt. 3: 46 Alt. 4: 204	Alt. 2: 82 Alt. 3: 42 Alt. 4: 34	Alt. 2: 37 Alt. 3: 5 Alt. 4: 1	Alt. 2: 3 Alt. 3: Alt. 4: 0	Alt. 2: 175 Alt. 3: 168 Alt. 4: 254
Jeffrey pine <i>Pinus jeffreyi</i>	Alt. 2: 1 Alt. 3: 0 Alt. 4: 0	Alt. 2: 1 Alt. 3: 5 Alt. 4: 1	Alt. 2: 1 Alt. 3: 4 Alt. 4: 51	Alt. 2: 10 Alt. 3: 18 Alt. 4: 66	Alt. 2: 9 Alt. 3: 3 Alt. 4: 1	Alt. 2: 3 Alt. 3: 0 Alt. 4: 0	Alt. 2: 25 Alt. 3: 30 Alt. 4: 119
Western white pine <i>Pinus monticola</i>	Alt. 2: 9 Alt. 3: 8 Alt. 4: 0	Alt. 2: 12 Alt. 3: 19 Alt. 4: 0	Alt. 2: 9 Alt. 3: 9 Alt. 4: 12	Alt. 2: 8 Alt. 3: 24 Alt. 4: 11	Alt. 2: 1 Alt. 3: 7 Alt. 4: 1	Alt. 2: 0 Alt. 3: 0 Alt. 4: 0	Alt. 2: 39 Alt. 3: 67 Alt. 4: 24
Lodgepole pine <i>Pinus contorta</i> ssp. <i>murrayana</i>	Alt. 2: 1 Alt. 3: 30 Alt. 4: 0	Alt. 2: 5 Alt. 3: 65 Alt. 4: 4	Alt. 2: 2 Alt. 3: 67 Alt. 4: 124	Alt. 2: 59 Alt. 3: 204 Alt. 4: 97	Alt. 2: 11 Alt. 3: 23 Alt. 4: 4	Alt. 2: 0 Alt. 3: 1 Alt. 4: 0	Alt. 2: 78 Alt. 3: 390 Alt. 4: 229
Mountain hemlock <i>Tsuga mertensiana</i>	Alt. 2: 0 Alt. 3: 1 Alt. 4: 0	Alt. 2: 6 Alt. 3: 2 Alt. 4: 1	Alt. 2: 0 Alt. 3: 3 Alt. 4: 2	Alt. 2: 8 Alt. 3: 2 Alt. 4: 6	Alt. 2: 6 Alt. 3: 0 Alt. 4: 0	Alt. 2: 0 Alt. 3: 0 Alt. 4: 0	Alt. 2: 20 Alt. 3: 8 Alt. 4: 9
Quaking aspen <i>Populus tremuloides</i>	Alt. 2: 0 Alt. 3: 0 Alt. 4: 0	Alt. 2: 0 Alt. 3: 0 Alt. 4: 0	Alt. 2: 5 Alt. 3: 0 Alt. 4: 0	Alt. 2: 4 Alt. 3: 2 Alt. 4: 6	Alt. 2: 0 Alt. 3: 0 Alt. 4: 0	Alt. 2: 0 Alt. 3: 0 Alt. 4: 0	Alt. 2: 9 Alt. 3: 2 Alt. 4: 6
Sierra juniper <i>Juniperus grandis</i>	Alt. 2: 0 Alt. 3: 0 Alt. 4: 0	Alt. 2: 17 Alt. 3: 2 Alt. 4: 0	Alt. 2: 2 Alt. 3: 2 Alt. 4: 4	Alt. 2: 28 Alt. 3: 10 Alt. 4: 5	Alt. 2: 5 Alt. 3: 4 Alt. 4: 0	Alt. 2: 1 Alt. 3: 0 Alt. 4: 0	Alt. 2: 53 Alt. 3: 18 Alt. 4: 9
Black cottonwood <i>Populus trichocarpa</i>	Alt. 2: 0 Alt. 3: 0 Alt. 4: 0	Alt. 2: 1 Alt. 3: 0 Alt. 4: 0	Alt. 2: 0 Alt. 3: 0 Alt. 4: 0	Alt. 2: 8 Alt. 3: 0 Alt. 4: 0	Alt. 2: 0 Alt. 3: 0 Alt. 4: 0	Alt. 2: 0 Alt. 3: 0 Alt. 4: 0	Alt. 2: 9 Alt. 3: 0 Alt. 4: 0
Total	Alt. 2: 27 Alt. 3: 74 Alt. 4: 0	Alt. 2: 66 Alt. 3: 229 Alt. 4: 28	Alt. 2: 79 Alt. 3: 208 Alt. 4: 622	Alt. 2: 227 Alt. 3: 475 Alt. 4: 288	Alt. 2: 69 Alt. 3: 102 Alt. 4: 9	Alt. 2: 8 Alt. 3: 2 Alt. 4: 0	Alt. 2: 476 Alt. 3: 1,090 Alt. 4: 947

Notes:

5 - Healthy (Excellent): No apparent defects

4 - Healthy (Good): Minor defects such as small trunk wounds or broken branches that do not compromise the overall health of the tree.

3 - Healthy pending (Fair): There is physical evidence of injuries agents.

2 - Unhealthy (Poor): Significant defects such as crown, trunk or root decay.

1 - Dead or Dying.

D - Diseased/Rot - A harmful deviation from the normal functioning of physiological processes - usually pathogenic or abiotic in origin, often causing an advanced and obvious stage of decay.

I - Insect Damage - A tree showing signs of insect attack (bore holes, pitch tubes, top kill, etc.)

Sources: Under the Trees 2015, 2016, 2017

Alternative 2

The health assessment concluded that: the average tree diameter within the survey area for Alternative 2 is 18 inches, with a minimum of 6 inches and a maximum of 102 inches; 27 trees are standing dead; 304 trees have health codes of 3 (fair health) or higher; 145 trees have health codes of 3D/3I (fair with disease/insect damage) or 2 (poor) and are recommended for removal by the RPF.

Alternative 3

The health assessment concluded that: the average tree diameter within the survey area for Alternative 3 is 17 inches, with a minimum of 6 inches and a maximum of 64 inches; 74 trees are standing dead; 579 trees have health codes of 3 (fair health) or higher; 437 trees have health codes of 3D/3I (fair with disease/insect damage) or 2 (poor) and are recommended for removal by the RPF.

Alternative 4

The health assessment concluded that: the average tree diameter within the survey area for Alternative 4 is 16 inches, with a minimum of 6 inches and a maximum of 62 inches; 0 trees are standing dead; 297 trees have health codes of 3 (fair health) or higher; 650 trees have health codes of 3D/3I (fair with disease/insect damage) or 2 (poor) and are recommended for removal by the RPF.

4.12.1.2 REGULATORY SETTING

Federal

Tahoe National Forest Land and Resource Management Plan and Sierra Nevada Forest Plan Amendment Record of Decision Squaw Valley Ski Holdings' operations carried out on National Forest System (NFS) lands must comply with management direction provided in the Tahoe National Forest Land and Resource Management Plan (LRMP) (U.S. Forest Service 1990) and in the Sierra Nevada Forest Plan Amendment Record of Decision (SNFPA), which amended the LRMP to improve protection of old forests, wildlife habitats, watersheds, and communities (U.S. Forest Service 2004). The LRMP and SNFPA, collectively referred to as the Forest Plan, provide two levels of management direction: (1) forestwide direction and (2) area-specific direction. Forestwide standards and guidelines (S&Gs) apply to the entire national forest, whereas management prescriptions and management area S&Gs are narrower in scope, applying only to specific resources, activities, or areas within the forest. Portions of all action alternatives on NFS lands are located in the Scott Management Area. The Forest Plan includes the following direction for development in the Scott Management Area:

Development of private sector ski area maintenance, operation, and planning will be emphasized during the planning period. This may include development of bed space at the ski base facility. Project-level planning will coordinate increased capacities with off-site capabilities.

As part of the analysis conducted for this Final EIS/EIR, the project alternatives and purpose and need were evaluated for consistency with specific S&Gs identified in the Forest Plan related to vegetation, including S&Gs for the Scott Management Area.

State

California Forest Practice Rules

The California Forest Practice Rules of 2012 define the timber harvest activities that are regulated under Title 14, CCR, Chapters 4, 4.5, and 10, and under the Z'Berg-Nejedly Forest Practice Act, Division 4, Chapter 8, PRC. The California Department of Forestry and Fire Protection (CAL FIRE) is the primary enforcing agency responsible for ensuring that logging and other forest harvesting activities on private and nonfederal public lands in California are conducted in a manner that preserves and protects fish, wildlife, forests, and streams.

Prior to any harvesting activities occurring on private lands or nonfederal public lands, landowners must prepare a timber harvest plan, which outlines the timber proposed for harvesting, the methods of harvesting, and the steps that will be taken to prevent damage to the environment. Timber harvest plans are required to be prepared by RPFs. When a timberland owner proposes to carry out a project that would result in timberland being converted to a nontimber growing use, the owner must secure a Timberland Conversion Permit from CAL FIRE. Projects that would result in the conversion of less than 3 acres of timberland may qualify for an exemption from this provision.

Section 1602 of the California Fish and Game Code

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 CDFW under Sections 1600 et seq. of the California Fish and Game Code. 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) provides an overall framework for the development of Placer County (County) and protection of its natural and cultural resources. A total of 23 community plans have been adopted under the *Placer County General Plan* to provide a more detailed focus on specific geographic areas within the unincorporated County. Two of them—the *Squaw Valley General Plan and Land Use Ordinance* (SVGPLUO) and *Alpine Meadows General Plan*—are relevant to the project and are discussed below. The goals and policies included within the community plans supplement, but do not supersede, the goals and policies contained within the *Placer County General Plan*.

The Agricultural and Forestry Resources Element contains the following policies that are applicable to the project:

- ▲ **Policy 7.E.1.** The County shall encourage the sustained productive use of forest land as a means of providing open space and conserving other natural resources.
- ▲ **Policy 7.E.2.** The County shall discourage development that conflicts with timberland management.

The Natural Resources Section of the *Placer County General Plan* (Placer County 2013) outlines policies aimed at protecting natural resources;

- ▲ **Policy 6.B.2.** The County shall require new development to mitigate wetland loss in both federal jurisdictional and non-jurisdictional wetlands to achieve "no net loss" through any combination of the following, in descending order of desirability: (1) avoidance; (2) where avoidance is not possible, minimization of impacts on the resource; or (3) compensation, including use of a mitigation and conservation banking program that provides the opportunity to mitigate impacts to special status, threatened, and endangered species and/or the habitat which supports these species in wetland and riparian areas. Non-jurisdictional wetlands may include riparian areas that are not federal “waters of the United States” as defined by the Clean Water Act.
- ▲ **Policy 6.D.1.** The County shall encourage landowners and developers to preserve the integrity of existing terrain and natural vegetation in visually-sensitive areas such as hillsides, ridges, and along important transportation corridors.
- ▲ **Policy 6.D.3.** The County shall support the preservation of outstanding areas of natural vegetation, including, but not limited to, oak woodlands, riparian areas, and vernal pools.
- ▲ **Policy 6.D.4.** The County shall ensure that landmark trees and major groves of native trees are preserved and protected. In order to maintain these areas in perpetuity, protected areas shall also include younger vegetation with suitable space for growth and reproduction.
- ▲ **Policy 6.D.8.** The County shall require that new development preserve natural woodlands to the maximum extent possible.

- ▲ **Policy 6.D.13.** The County shall support the preservation of native trees and the use of native, drought-tolerant plant materials in all revegetation/landscaping projects.
- ▲ **Policy 6.D.14.** The County shall require that new development avoid ecologically-fragile areas (e.g., areas of special status, threatened, or endangered species of plants, and riparian areas). Where feasible, these areas should be protected through public or private acquisition of fee title or conservation easements to ensure protection.

Placer County Code of Ordinances Article 12.16. Tree Preservation Generally (Countywide)

Article 12.16 of the Placer County Code of Ordinances was established to preserve and protect the remaining native oak and other species of trees within Placer County. The countywide provisions of this article apply to all projects where discretionary permit approvals are required by the County and are applicable to all native, landmark trees, riparian zone trees, and certain commercial firewood operations, except as exempted. Below are elements of this ordinance potentially applicable to the action alternatives:

- ▲ **Riparian Zone Requirements:** (1) Within any riparian zone, in all areas of the county in conjunction with any discretionary project and in any tree preservation zone for all development activity, compliance with this article for any development activity in the protected zone of a protected tree shall be required; (2) No tree permit or discretionary approval for any development activity within a riparian zone shall be approved until environmental impacts within the riparian zone are identified, an environmental determination is made and the mitigation measures identified. Additionally, no development activity shall be permitted until any stream alteration agreement or mitigation agreements required by the California Department of Fish and Wildlife have been completed; (3) Advisory Comment. This is not a categorical prohibition on any tree removal within a riparian zone but rather a requirement for review of proposed development activity and approval of a tree permit or discretionary project prior to such disturbance occurring.
- ▲ **Removal of More Than Fifty Percent of Trees.** Except for developed, single-family residential lots that cannot be subdivided, the removal of more than fifty (50) percent of existing native trees, 6 inches dbh or greater, shall be subject to the issuance of a tree permit. Failure to obtain a permit prior to the removal of more than fifty (50) percent of the existing native trees in these areas may result in the denial or deferral of any application for development of that property for a period of up to ten (10) years.

Placer County Code of Ordinances Article 12.20. Tree Preservation in Area East of Sierra Summit

Article 12.20 of the Placer County Code of Ordinances was established to prevent the wanton and unnecessary cutting of healthy trees in the developed and developable areas of the area east of the Sierra summit, to provide for the conservation of as many healthy trees in the area east of the Sierra summit as possible consistent with permissible development, and to provide for the control of disease and insect infestation in the area east of the Sierra summit. The ordinance provides for the issuance of permits; minimum standards and conditions of approval of permits including restrictions on attachment of appurtenances; provides for removal of diseased, infested or hazardous trees; provides for variances; provides for stop orders; and provides that violations of the provisions of this ordinance shall constitute a misdemeanor.

Squaw Valley General Plan and Land Use Ordinance

The SVGPLUO is the community plan for the approximately 4,700-acre Squaw Valley. Future development in Squaw Valley is required under the SVGPLUO to comply with applicable guidelines (Placer County 2006). The Environmental Resources Element requires minimizing adverse impacts on the unique resources of the area. Vegetation policies require any planning to minimize damage to existing vegetation and to revegetate all areas disturbed by construction. Revegetation of any cover temporarily removed or altered through construction activities is required (Section 118.16). To protect against erosion and sedimentation and loss of vegetation, a detailed erosion control, drainage, and revegetation plan would need to be submitted for any project (Section 118).

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. The following basic goals, objectives, and procedures outlined in the *Alpine Meadows General Plan* are applicable to the action alternatives:

- ▲ Maintain the open, natural, mountain-recreation character. All aspects of the vast, unique, and outstanding physical beauty of the area must be consciously and continuously preserved.
- ▲ Establish and protect various land uses in relation to the estimated need of future populations and economies.
- ▲ Create a balanced selection of living environments and recreational outlets, sensitive to the terrain and undisturbed by trafficways, pollution, excessive slopes, scarring, and other deleterious effects.

4.12.2 Analysis Methods

4.12.2.1 METHODS AND ASSUMPTIONS

Potential impacts on vegetation and habitats resulting from implementation of the alternatives were determined by evaluating the project plans in relation to the habitat characteristics of the project site. Vegetation and habitat locations are based on a compilation of data collected during surveys of the alternative alignments conducted in 2015, 2016, and 2017 by Ascent Environmental, EcoSynthesis, and Hydro Restoration. The vegetation and habitat data were entered in a geographic information system (GIS). Potential impacts of each action alternative on vegetation and habitats were identified by overlaying GIS layers of project components and activities on the land cover maps of the study area and the locations of individual trees mapped as part of the tree survey.

Impact acreages are divided into three categories, overstory vegetation removal and permanent and temporary ground disturbance. Overstory vegetation removal is the removal of trees or other vegetation to prevent conflicts with the gondola operations. Locations for overstory vegetation removal would be between gondola towers where trees and other vegetation that could conflict with the gondola travelling overhead would be removed or trimmed. The areas where overstory vegetation removal is anticipated were provided by the applicant and entered into a GIS. Any habitat type that occurred in a location identified for overstory vegetation removal was considered disturbed. Vegetation management (e.g., tree removal or trimming) would continue in these corridors after construction is complete to prevent trees or other vegetation growing tall enough to conflict with the gondola, thereby resulting in a permanent change in the vegetation community from existing conditions as long as the gondola is in operation. For some habitat types, such as a pond, there would not be trees within the habitat type itself that would be removed. However, it was assumed that any trees in the immediate vicinity would be removed, and the removal of the trees could disturb the other nearby habitats. Therefore, a conservative approach was taken, and all acreage of each habitat type within an area designated for overstory vegetation removal was considered disturbed, although actual disturbance would typically be less than indicated in the impact analysis.

Permanent impacts result from a permanent change in land cover under the footprint of a project facility (i.e., conversion of natural vegetation to base stations, mid-stations, and tower footings). Temporary impacts would occur where natural vegetation would be removed during the construction process; however, the disturbance is temporary, and the location would be restored to pre-disturbance vegetation consistent with Resource Protection Measures (RPMs). Any vegetation that overlapped with an area of proposed construction activity was typically considered removed and included in the permanent or temporary impact category based on the construction activity identified for the site.

The tree survey study area (50–100 feet each side of the gondola alignment centerline for each alternative) extends beyond the actual construction disturbance and overstory vegetation removal footprint. Therefore, the actual number of trees removed will be substantially less than the number of trees identified in the tree survey study area. The number of trees removed was calculated by overlaying the tree locations provided in the RPF reports with the overstory vegetation removal, permanent ground disturbance, and temporary ground disturbance GIS layers. Any trees within these project activity areas were considered removed. In addition, if the tree canopy extended into any of the project activity layers, the tree was identified for potential removal or trimming. As identified in Chapter 2, “Description of Alternatives,” removal of trees on NFS lands would be authorized using a timber settlement contract where the Forest Service is compensated for the value of removed timber incidental to some lawful use of NFS land. In this case, if one of the gondola alternatives is approved, tree removal is not the intent of the project, but is an outcome incidental to installation of the gondola. The project applicant would then compensate the Forest Service for the value of the trees that are removed on NFS land based on the number, size, type, and quality of the actual trees removed as part of project construction and operation. On private lands, a tree permit would be obtained from Placer County, and the conditions of tree removal, including replacement trees would be established in the tree permit based on the requirements of Articles 12.16 and 12.20 of the Placer County Code of Ordinances.

As described in Section 2.2.6, “Resource Protection Measures,” the project incorporates a number of 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.

4.12.2.2 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 vegetation and habitats. The following analytical indicator is used to inform the Forest Service’s determination of impacts:

- ▲ Quantification (acreage) of proposed ground disturbance and overstory vegetation removal effects by vegetation type (**Impacts 4.12-1 and 4.12-2**)

As stated previously, effects on other aspects of biological resources are addressed in subsequent sections of this EIS/EIR. Special-status plants and invasive plant species are evaluated in Section 4.13, “Botany.” Wildlife species are evaluated in Section 4.14, “Wildlife and Aquatics.” Section 4.15, “Wetlands,” addresses 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. NEPA indicators applicable to the impact analysis for each of these resources are identified in each of these sections.

CEQA Criteria

Based on the Placer County CEQA checklist, Appendix G of the State CEQA Guidelines, and vegetation policies and standards in the *Placer County General Plan*, implementing any of the alternatives would result in a significant impact related to vegetation if it would:

- ▲ have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by CDFW or the U.S. Fish and Wildlife Service (USFWS) (**Impact 4.12-2**);
- ▲ conflict with any local policies or ordinances protecting biological resources, such as tree preservation policy or ordinance (**Impact 4.12-3**); or
- ▲ threaten to eliminate a plant community (**Section 4.12.2.3**) or reduce the number or restrict the range of a rare or endangered plant (**Section 4.13, "Botany"**).

4.12.2.3 ISSUES NOT DISCUSSED FURTHER

Ground disturbance and removal of vegetation and habitats from project implementation will affect relatively small areas (fractions of an acre) in dispersed locations. No plant communities are so limited in extent in the project vicinity that project implementation could threaten to eliminate a plant community. This issue is not discussed further in this section of the Final EIS/EIR.

4.12.3 Direct and Indirect Environmental Consequences

4.12.3.1 ALTERNATIVE 1 – NO ACTION ALTERNATIVE

Impact 4.12-1 (Alt. 1): Ground Disturbance and Overstory Vegetation Removal Effects

Alternative 1 – No Action Alternative would result in a continuation of existing conditions. There would be no new construction and, therefore, no ground disturbance or overstory vegetation removal. There would be **no effect** under both NEPA and CEQA.

Under Alternative 1 – No Action Alternative, the TNF and Placer County would not provide necessary authorizations to allow construction of a gondola. 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 ground disturbance or overstory vegetation removal.

NEPA Effects Conclusion

With no ground disturbance or overstory vegetation removal, there would be **no effect** related to this issue.

CEQA Determination of Effects

With no ground disturbance or overstory vegetation removal, there would be **no effect** related to this issue.

Mitigation Measures

No mitigation measures are required.

Impact 4.12-2 (Alt. 1): Adverse Effect on Any Riparian Habitat or Other Sensitive Natural Community

Alternative 1 – No Action Alternative would result in a continuation of existing conditions. There would be no new construction and, therefore, no effect on any riparian habitat or other sensitive natural community. There would be **no effect** under both NEPA and CEQA.

Under Alternative 1 – No Action Alternative, the TNF and Placer County would not provide necessary authorizations to allow construction of a gondola. 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 effect on any riparian habitat or other sensitive natural community.

NEPA Effects Conclusion

With no effect on any riparian habitat or other sensitive natural community, there would be **no effect** related to this issue.

CEQA Determination of Effects

With no effect on any riparian habitat or other sensitive natural community, there would be **no effect** related to this issue.

Mitigation Measures

No mitigation measures are required.

Impact 4.12-3 (Alt. 1): Conflict with Any Local Policies or Ordinances Protecting Biological Resources

Alternative 1 – No Action Alternative would result in a continuation of existing conditions. There would be no new construction and, therefore, no conflict with any local policies or ordinances protecting biological resources. There would be **no effect** under both NEPA and CEQA.

Under Alternative 1 – No Action Alternative, the TNF and Placer County would not provide necessary authorizations to allow construction of a gondola. 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 conflict with any local policies or ordinances protecting biological resources.

NEPA Effects Conclusion

With no conflict with any local policies or ordinances protecting biological resources, there would be **no effect** related to this issue.

CEQA Determination of Effects

With no conflict with any local policies or ordinances protecting biological resources, there would be **no effect** related to this issue.

Mitigation Measures

No mitigation measures are required.

4.12.3.2 ALTERNATIVE 2

Impact 4.12-1 (Alt. 2): Ground Disturbance and Overstory Vegetation Removal Effects

Alternative 2 would result in the removal or disturbance of up to 13.37 acres of common vegetation and habitat types. These vegetation and habitat types are locally and regionally common and Alternative 2 would not substantially reduce the size, continuity, or integrity of any common vegetation or habitat type. Under NEPA, and considering the NEPA indicators, absent RPMs and/or mitigation, direct and indirect effects related to vegetation removal would be **adverse** because there would be a reduction in habitat acreage. Implementation of RPMs MUL-2, MUL-3, BIO-24, BIO-30 through BIO-32, BIO-34, BIO-38, TREE-1, and TREE-11 would mitigate this effect. Under CEQA, and using the CEQA criteria, the effect would be **less than significant** because Alternative 2 would not substantially reduce the size, continuity, or integrity of any common vegetation or habitat type. In addition, RPMs MUL-2, MUL-3, BIO-24, BIO-30 through BIO-32, BIO-34, BIO-38, TREE-1, and TREE-11 would minimize vegetation disturbance and removal and require habitat restoration. This impact would be further reduced with implementation of applicable RPMs, although they are not necessary to reduce the impact to a less-than-significant level.

Aspen grove, mesic and riparian shrubland, and mountain alder thickets are classified as riparian habitats or sensitive natural communities and are discussed below under Impact 4.12-2. Removal of individual trees is addressed under Impact 4.12-3. Ruderal grassland and urban land cover have been disturbed by human development and are not considered in this analysis of project disturbance to natural land covers. Mountain alder thicket, freshwater emergent wetland, some freshwater ponds, and riverine habitats are wetlands or waters, as defined under state or federal statute, and are addressed in Section 4.15, "Wetlands." The remainder of the vegetation and habitat types (Sierra Nevada coniferous woodland, montane chaparral, bitter cherry thickets, mountain sagebrush/forb vegetation, rock outcrop/rock and talus) are considered to be common and are evaluated below.

Construction of Alternative 2 would disturb 2.68 acres of common vegetation/habitat types located in the Alpine Meadows special use permit (SUP) area (on NFS lands) and 10.60 acres of common vegetation communities on private land, for a total of 13.28 acres (see Table 4.12-3). These acreages are divided into disturbance from overstory vegetation removal and permanent and temporary ground disturbance. In areas disturbed by overstory vegetation removal, trees would be removed, but vegetation that does not grow tall enough to interfere with gondola operation would remain. Permanent disturbance areas would be the locations of project facilities where vegetation is removed prior to construction and will not be restored. Temporary disturbance areas would be restored after construction is complete, consistent with applicable RPMs. Total (both NFS and private lands) overstory vegetation removal is anticipated to be 8.73 acres; total permanent vegetation removal is anticipated to be 1.88 acres; and total temporary vegetation removal is anticipated to be 2.68 acres. Acreages of vegetation/habitat loss are relatively small and these vegetation/habitat types are locally and regionally common. Alternative 2 would not substantially reduce the size, continuity, or integrity of any common vegetation or habitat type.

In addition, various RPMs identified in Appendix B would either minimize adverse effects from vegetation removal, prevent effects from exceeding the acreages identified, or require revegetation of temporarily disturbed areas. RPMs MUL-2 and BIO-34 require that work areas and construction exclusion areas are clearly marked in the field to prevent construction disturbance from exceeding designated areas. RPM MUL-3 requires the use of existing roads for access to the maximum extent possible, which would minimize ground disturbance and vegetation removal. RPM BIO-24 requires that the project minimize ground disturbance and vegetation and tree removal to only the areas necessary for construction, especially in riparian areas. RPMs BIO-30 through BIO-32 require preparation and implementation of a restoration plan resulting in the revegetation of temporarily disturbed areas. RPMs BIO-38 and TREE-11 require replacement of native trees that fall under the Placer County Code of Ordinances tree preservation articles. RPM TREE-1 requires that tree removal methods minimize potential effects on nearby aquatic habitats.

Table 4.12-3 Acres of Maximum Common Vegetation Community and Habitat Disturbance Under Alternative 2

Disturbance Type	Vegetation/Land Cover Type						
	Bitter Cherry Thicket	Coniferous Woodland	Montane Chaparral	Mountain Sagebrush Forb	Rock and Talus	Rock Outcrop	Grand Total
Alpine Meadows Special Use Permit Area							
Overstory vegetation removal	0	0.05	1.32	0	0.51	0	1.88
Permanent ground disturbance	0	0.03	0.23	0	0.31	0	0.57
Temporary ground disturbance	0	0.03	0.05	0	0.16	0	0.24
Alpine Meadows special use permit area total	0	0.11	1.59	0	0.98	0	2.68
Private Lands							
Overstory vegetation removal	2.87	1.28	0.44	0	1.82	0.44	6.85
Permanent ground disturbance	0.06	0.01	0.30	0	0.91	0.03	1.31
Temporary ground disturbance	0	0.13	0.51	0	1.80	0	2.44
Private lands total	2.93	1.42	1.25	0	4.53	0.47	10.60
Alternative 2 total	2.93	1.53	2.84	0	5.51	0.47	13.28

Sources: EcoSynthesis 2017; data provided by SE Group in 2015, 2016, 2017; adapted by Ascent Environmental in 2018

NEPA Effects Conclusion

Under NEPA, and considering the NEPA indicators, absent RPMs and/or mitigation, direct and indirect effects on common vegetation types would be **adverse** because although total acreage losses are relatively small and these vegetation/habitat types are locally and regionally, there would still be a net loss of habitat acreage. These effects would be mitigated through implementation of RPMs MUL-2, MUL-3, BIO-24, BIO-30 through BIO-32, BIO-34, BIO-38, TREE-1, and TREE-11.

CEQA Determination of Effects

Total acreages of disturbance and losses of common vegetation resulting from Alternative 2 are relatively small compared to total extent and distribution of these vegetation types in the project area and region. Under CEQA and using the CEQA criteria, the effect of ground disturbance on common vegetation types and overstory vegetation would be **less than significant** because Alternative 2 would not substantially reduce the size, continuity, or integrity of any common vegetation or habitat type. RPMs MUL-2, MUL-3, BIO-24, BIO-30 through BIO-32, BIO-34, BIO-38, TREE-1, and TREE-11 would minimize adverse effects from vegetation removal, prevent effects from exceeding the acreages identified, and require revegetation of temporarily disturbed areas. However, these RPMs would not be necessary to reduce a significant impact 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 MUL-2, MUL-3, BIO-24, BIO-30 through BIO-32, BIO-34, BIO-38, TREE-1, and TREE-11 as mitigation measures would minimize the effects of ground disturbance but is not necessary to reduce a significant effect.

Impact 4.12-2 (Alt. 2): Adverse Effect on Any Riparian Habitat or Other Sensitive Natural Community

Alternative 2 would result in the loss or disturbance of aspen grove, freshwater emergent wetland, mesic and riparian shrubland, mountain alder thickets, and riverine. Under NEPA, and considering the NEPA indicators, absent RPMs and/or mitigation, direct and indirect effects related to sensitive natural communities would be **adverse** because project construction would result in the loss or disturbance of these sensitive natural communities. Implementation of RPMs MUL-2, MUL-3, BIO-24, BIO-30 through BIO-32, BIO-34, BIO-38 through BIO-40, and TREE-11 would mitigate this effect. Under CEQA, and using the CEQA criteria, this impact would be **significant** prior to consideration of RPMs because Alternative 2 would result in the loss or disturbance of sensitive natural communities, Implementation of RPMs MUL-2, MUL-3, BIO-24, BIO-30 through BIO-32, BIO-34, BIO-38 through BIO-40, and TREE-11, which minimize vegetation disturbance and removal and require habitat restoration and replacement, would reduce the impact to a **less-than-significant** level.

Sensitive natural communities and riparian habitats occurring in the project site include aspen grove, mesic and riparian shrubland, and mountain alder thicket. Mountain alder thicket, freshwater emergent wetland, some freshwater ponds, and riverine habitats are wetlands or waters, as defined under state or federal statute, and are addressed in Section 4.15, "Wetlands." Mountain alder thicket is also addressed here because, in addition to meeting the federal definition of a wetland, it is a riparian habitat and is specifically identified by CDFW as a sensitive natural community.

As shown in Table 4.12-4, there would be approximately 0.08 acre of aspen grove affected by overstory vegetation removal and 0.01 acre removed as part of a result of permanent ground disturbance. Approximately 0.39 acre of mountain alder thicket would be affected by a overstory vegetation. No mesic and riparian shrubland would be affected.

Table 4.12-4 Acres of Riparian Habitat and Sensitive Natural Community Disturbance Under Alternative 2

Disturbance Type	Vegetation/Habitat Type			
	Aspen Grove	Mountain Alder Thicket	Mesic and Riparian Shrubland	Grand Total
Alpine Meadows Special Use Permit Area				
Overstory vegetation removal	0.08	0.39	0	0.47
Permanent ground disturbance	0.01	0	0	0.01
Temporary ground disturbance	0	0	0	0
Alpine Meadows special use permit area total	0.09	0.39	0	0.48
Private Lands				
Overstory vegetation removal	0	0	0	0
Permanent ground disturbance	0	0	0	0
Temporary ground disturbance	0	0	0	0
Private lands total	0	0	0	0
Alternative 2 total	0.09	0.39	0	0.48
Sources: EcoSynthesis 2017; data provided by SE Group in 2015, 2016, 2017; adapted by Ascent Environmental in 2018				

Various RPMs identified in Appendix B would either minimize adverse effects from vegetation removal, prevent effects from exceeding the acreages identified, or require revegetation of temporarily disturbed areas. As identified above in the discussion of Impact 4.12-1 (Alt. 2), RPMs MUL-2 and BIO-34 require that work areas and construction exclusion areas are clearly marked in the field to prevent construction disturbance from exceeding designated areas. RPM MUL-3 requires the use of existing roads for access to the maximum extent possible, which would minimize ground disturbance and vegetation removal. RPM BIO-24 requires that the project minimize ground disturbance, and vegetation and tree removal, to only the areas necessary for construction, especially in riparian areas. RPMs BIO-30 through BIO-32 require preparation and implementation of restoration plan resulting in the revegetation of temporarily disturbed areas. RPMs BIO-38 and TREE-11 require replacement of native trees that fall under the Placer County Code of Ordinances tree preservation articles. RPM TREE-1 requires that tree removal methods minimize potential effects on nearby aquatic habitats. In addition, RPMs BIO-39 and BIO-40 require the replacement either on-site, or through compensatory mitigation elsewhere, for losses of wetland and riparian habitats.

NEPA Effects Conclusion

Under NEPA, and considering the NEPA indicators, absent RPMs and/or mitigation, the direct and indirect effects on riparian habitat would be **adverse** because although the disturbance area is small, less than 0.5 acre, the communities affected have limited distribution and are particularly vulnerable to environmental effects. These effects would be mitigated through implementation of RPMs MUL-2, MUL-3, BIO-24, BIO-30 through BIO-32, BIO-34, BIO-38, TREE-1, and TREE-11.

CEQA Determination of Effects

Total disturbance and losses of riparian habitat and sensitive natural communities resulting from Alternative 2 would be relatively small (less than 0.5 acre). However, the communities affected have limited distribution and are particularly vulnerable to environmental effects. Under CEQA, and using the CEQA criteria, the effect of ground disturbance on riparian habitat and sensitive natural communities would be significant. However, RPMs MUL-2, MUL-3, BIO-24, BIO-30 through BIO-32, BIO-34, BIO-38, TREE-1, and TREE-11 would minimize adverse effects from vegetation removal, prevent effects from exceeding the acreages identified, require revegetation of temporarily disturbed areas, and require replacement of lost wetland and riparian habitats. 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 MUL-2, MUL-3, BIO-24, BIO-30 through BIO-32, BIO-34, BIO-38, TREE-1, and TREE-11 as mitigation measures reduces this significant impact to a less-than-significant level.

Impact 4.12-3 (Alt. 2): Conflict with Any Local Policies or Ordinances Protecting Biological Resources

Alternative 2 would result in the removal or damage of individual trees for project facilities. Under CEQA, and using the CEQA criteria, this impact would be **significant** prior to consideration of RPMs because project construction would remove a resource valued by the County and could conflict with County Ordinances 12.16 and 12.20. Implementation of RPMs REV-3, TREE-10, and TREE-11 would require County tree permits, tree removal in a manner that would preserve and protect surrounding natural resources, and compensation for removal of qualifying trees. With implementation of these RPMs, this impact would be reduced to a **less-than-significant** level. This impact analysis is specific to a CEQA criteria and is not responsive to a NEPA analytical indicator. No NEPA determination of effect is provided.

As identified above in Table 4.12-2, 476 trees greater than 6 inches dbh were recorded within the tree survey study area for Alternative 2. This total includes trees of various species and health classes as well as 27 dead or dying trees.

Construction of Alternative 2 is estimated to result in the removal of 42 trees (approximately 10 percent) for installation of project facilities and as part of overstory vegetation removal to prevent trees from conflicting with gondola operations. Additionally, approximately 286 trees were identified with the canopy extending over project activity areas. These trees could be subject to removal if they conflict with project construction or operation. These trees could also experience soil compaction and damage to the root zone from nearby construction activities, potentially leading to declining tree health or mortality. However, some of the trees that would be removed would be among those identified as being in poor health by the RPF and recommended for removal. Removal of these trees could provide an overall benefit to forest health.

A tree removal permit is required by Placer County under the County Tree Preservation Ordinance 12.16 for removal of trees within riparian zones and trees greater than 6 inches dbh in areas where more than 50 percent of trees are removed. A tree cutting permit is also required per County Tree Preservation East of Sierra Summit Ordinance 12.20 for those trees greater than 6 inches dbh removed. If tree removal on private lands is not conducted consistent with these permit requirements, this would result in a conflict with local ordinances protecting a biological resource.

RPMs REV-3, TREE-10, and TREE-11 would reduce impacts resulting from potential conflicts with County ordinances because County tree permits would be obtained consistent with the County ordinances, tree removal would be conducted in a manner that would preserve and protect surrounding natural resources, and qualifying removed trees would be compensated for through new plantings or payment of tree replacement mitigation fees.

NEPA Effects Conclusion

This impact analysis is specific to a CEQA criterion and is not responsive to a NEPA analytical indicator. No NEPA effects conclusion is provided.

CEQA Determination of Effects

Implementation Alternative 2 would result in the removal of 42 trees and the possible removal, damage, or mortality to approximately 286 trees. Under CEQA, and using the CEQA criteria, this would conflict with County ordinances protecting biological resources and the effect would be significant. RPMs REV-3, TREE-10, and TREE-11 would reduce effects on trees protected by local ordinances because they would require that County tree permits be obtained consistent with the County ordinances, tree removal would be conducted in a manner that would preserve and protect surrounding natural resources, and qualifying removed trees would be compensated for through new plantings or payment of tree replacement mitigation fees. 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 REV-3, TREE-10, and TREE-11 as mitigation measures reduces this significant impact to a less-than-significant level

4.12.3.3 ALTERNATIVE 3**Impact 4.12-1 (Alt. 3): Ground Disturbance and Overstory Vegetation Removal Effects**

Alternative 3 would result in the removal or disturbance of up to 11.18 acres of common vegetation and habitat types. These habitats are locally and regionally common, and Alternative 3 would not substantially reduce the size, continuity, or integrity of any common vegetation or habitat type. Under NEPA, and considering the NEPA indicators, absent RPMs and/or mitigation, direct and indirect effects related to vegetation removal would be **adverse** because there would be a reduction in habitat acreage. Implementation of RPMs MUL-2, MUL-3, BIO-24, BIO-30 through BIO-32, BIO-34, BIO-38, TREE-1, and TREE-11 would mitigate this effect. Under CEQA, and using the CEQA criteria, the effect would be **less than significant** because Alternative 3 would not substantially reduce the size, continuity, or integrity of any common vegetation or habitat type. This impact would be further reduced with implementation of RPMs MUL-2, MUL-3, BIO-24, BIO-30 through BIO-32, BIO-34, BIO-38, TREE-1, and TREE-11, which would minimize vegetation disturbance and removal and require habitat restoration, although these RPMs are not necessary to reduce the impact to a less-than-significant level.

With this alternative, the Alpine Meadows mid-station, would be located further to the east, on private lands; this alteration would reduce the gondola lift from approximately 13,000 feet in length under Alternative 2 to 12,600 feet in length under Alternative 3. For this reason, ground disturbance effects on common vegetation and habitat types under Alternative 3 would be slightly less than those described above for Alternative 2.

As shown in Table 4.12-5, construction of Alternative 3 would disturb 0.41 acre of common vegetation located in the Alpine Meadows SUP area (on NFS lands) and 10.75 acres of common vegetation and habitat types on private land, for a total of 11.16 acres (compared to 2.68, 10.60, and 13.28, respectively, for Alternative 2) of common vegetation types. These acreages are divided into disturbance from overstory vegetation removal and permanent and temporary ground disturbance. In areas disturbed by overstory vegetation removal, trees would be removed, but vegetation that does not grow tall enough to interfere with gondola operation would remain. Permanent disturbance areas would be the locations of project facilities where vegetation is removed prior to construction. Temporary disturbance areas would be restored after construction is complete consistent with applicable RPMs. Total (both NFS and private lands) overstory vegetation removal is anticipated to be 7.76 acres; total permanent vegetation removal is anticipated to be 2.02 acres; and total temporary vegetation removal is anticipated to be 1.07 acres (compared to 8.73, 1.88, and 2.68 acres,

respectively, for Alternative 2). Acreages of habitat loss are relatively small, and these habitats are locally and regionally common. Alternative 3 would not substantially reduce the size, continuity, or integrity of any common vegetation or habitat type.

In addition, various RPMs identified in Appendix B would minimize adverse effects from vegetation removal, prevent effects from exceeding the acreages identified, or require revegetation of temporarily disturbed areas. RPMs MUL-2 and BIO-34 require that work areas and construction exclusion areas are clearly marked in the field to prevent construction disturbance from exceeding designated areas. RPM MUL-3 requires the use of existing roads for access to the maximum extent possible, which would minimize ground disturbance and vegetation removal. RPM BIO-24 requires that the project minimize ground disturbance and vegetation and tree removal to only the areas necessary for construction, especially in riparian areas. RPMs BIO-30 through BIO-32 require preparation and implementation of a restoration plan, resulting in the revegetation of temporarily disturbed areas. RPMs BIO-38 and TREE-11 require replacement of native trees that fall under the Placer County Code of Ordinances tree preservation articles. RPM TREE-1 requires that tree removal methods minimize potential effects on nearby aquatic habitats.

Table 4.12-5 Acres of Maximum Common Vegetation and Habitat Disturbance Under Alternative 3

Disturbance Type	Vegetation/Land Cover Type						
	Bitter Cherry Thicket	Coniferous Woodland	Montane Chaparral	Mountain Sagebrush Forb	Rock and Talus	Rock Outcrop	Grand Total
Alpine Meadows Special Use Permit Area							
Overstory vegetation removal	0	0.16	0	0		0	0.16
Permanent ground disturbance	0	0.01	0.05	0	0.01	0	0.07
Temporary ground disturbance	0	0	0	0		0	0
Alpine Meadows special use permit area total	0	0.17	0.05	0	0.01	0	0.41
Private Lands							
Overstory vegetation removal	2.81	1.71	1.08	0	2.00	0	7.60
Permanent ground disturbance	0.08	0.56	0.38	0	0.93	0	1.95
Temporary ground disturbance	0	0.03	0.29	0	0.75	0	1.07
Private lands total	2.90	2.30	1.74	0	3.69	0	10.75
Alternative 2 total	2.90	2.47	1.4	0	3.70	0	11.16

Sources: EcoSynthesis 2017; data provided by SE Group in 2015, 2016, 2017; adapted by Ascent Environmental in 2018

NEPA Effects Conclusion

Under NEPA, and considering the NEPA indicators, absent RPMs and/or mitigation, direct and indirect effects on common vegetation communities would be **adverse**, because, although total acreage losses are relatively small, and these habitats are locally and regionally common, there would still be a net loss of habitat acreage. These effects would be mitigated through implementation of RPMs MUL-2, MUL-3, BIO-24, BIO-30 through BIO-32, BIO-34, BIO-38, TREE-1, and TREE-11.

CEQA Determination of Effects

Total acreages of disturbance and losses of common plant communities resulting from Alternative 3 are relatively small compared to total extent and distribution of these communities in the area and region. Under CEQA, and using the CEQA criteria, the effect of ground disturbance on common vegetation communities and overstory vegetation would be **less than significant** because Alternative 3 would not substantially reduce the size, continuity, or integrity of any common vegetation community or habitat type. RPMs MUL-2, MUL-3, BIO-24, BIO-30 through BIO-32, BIO-34, BIO-38, TREE-1, and TREE-11 would minimize adverse effects from vegetation removal, prevent effects from exceeding the acreages identified, or require revegetation of temporarily disturbed areas. However, these RPMs would not be necessary to reduce a significant impact to

a less-than-significant level. This impact would not differ materially from that under Alternative 2 because both alternatives would result in the same, or very similar, types of vegetation disturbance.

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 MUL-2, MUL-3, BIO-24, BIO-30 through BIO-32, BIO-34, BIO-38, TREE-1, and TREE-11 as mitigation measures would minimize the effects of ground disturbance but is not necessary to reduce a significant effect.

Impact 4.12-2 (Alt. 3): Adverse Effect on Any Riparian Habitat or Other Sensitive Natural Community

Alternative 3 would result in the loss or disturbance of mesic and riparian shrubland. Under NEPA, and considering the NEPA indicators, absent RPMs and/or mitigation, direct and indirect effects related to sensitive natural communities would be **adverse** because project construction would result in the loss or disturbance of these riparian habitats. Implementation of RPMs MUL-2, MUL-3, BIO-24, BIO-30 through BIO-32, BIO-34, BIO-38 through BIO-40, and TREE-11 would mitigate this effect. Under CEQA, and using the CEQA criteria, this impact would be **significant** prior to consideration of RPMs because Alternative 3 would result in the loss or disturbance of riparian habitat and sensitive natural communities. Implementation of RPMs MUL-2, MUL-3, BIO-24, BIO-30 through BIO-32, BIO-34, BIO-38 through BIO-40, and TREE-11, which minimize vegetation disturbance and removal and require habitat restoration and replacement, would reduce the impact to a **less-than-significant** level.

With this alternative, the Alpine Meadows mid-station, would be located further to the east, on private lands; this alteration would reduce the gondola lift from approximately 13,000 feet under the Alternative 2 to 12,600 feet in length under Alternative 3. Effects on riparian habitat or other sensitive natural communities under Alternative 3 would be similar to those described above for Alternative 2.

As shown in Table 4.12-6, there would be 0.09 acre of mesic and riparian shrubland (zero acres under Alternative 2) affected by overstory vegetation removal. No aspen grove or mountain alder thicket would be affected (0.09 and 0.39 acre, respectively, under Alternative 2).

Table 4.12-6 Acres of Riparian Habitat and Sensitive Natural Community Disturbance Under Alternative 3

Disturbance Type	Vegetation/Habitat Type			Grand Total
	Aspen Grove	Mountain Alder Thicket	Mesic and Riparian Shrubland	
Alpine Meadows Special Use Permit Area				
Overstory vegetation removal	0	0	0	0
Permanent ground disturbance	0	0	0	0
Temporary ground disturbance	0	0	0	0
Alpine Meadows special use permit area total	0	0	0	0
Private Lands				
Overstory vegetation removal	0	0	0.09	0
Permanent ground disturbance	0	0	0	0
Temporary ground disturbance	0	0	0	0
Private lands total	0	0	0.09	0
Alternative 2 total	0	0	0.09	0

Sources: EcoSynthesis 2017; data provided by SE Group in 2015, 2016, 2017; adapted by Ascent Environmental in 2018

Various RPMs identified in Appendix B would minimize adverse effects from vegetation removal, prevent effects from exceeding the acreages identified, or require revegetation of temporarily disturbed areas. As identified above in the discussion of Impact 4.12-1 (Alt. 2), RPMs MUL-2 and BIO-34 require that work areas and construction exclusion areas are clearly marked in the field to prevent construction disturbance from exceeding designated areas. RPM MUL-3 requires the use of existing roads for access to the maximum extent possible, which would minimize ground disturbance and vegetation removal. RPM BIO-24 requires that the project minimize ground disturbance, and vegetation and tree removal, to only the areas necessary for construction, especially in riparian areas. RPMs BIO-30 through BIO-32 require preparation and implementation of a restoration plan resulting in the revegetation of temporarily disturbed areas. RPMs BIO-38 and TREE-11 require replacement of native trees that fall under the Placer County Code of Ordinances tree preservation articles. RPM TREE-1 requires that tree removal methods minimize potential effects on nearby aquatic habitats. In addition, RPMs BIO 39 and BIO-40 require the replacement either on-site, or through compensatory mitigation elsewhere, for losses of wetland and riparian habitats.

NEPA Effects Conclusion

Under NEPA, and considering the NEPA indicators, absent RPMs and/or mitigation, the direct and indirect effects on sensitive natural communities would be **adverse** because although the disturbance area is small (approximately 0.09 acre), the communities affected have limited distribution and are particularly vulnerable to environmental effects. These effects would be mitigated through implementation of RPMs MUL-2, MUL-3, BIO-24, BIO-30 through BIO-32, BIO-34, BIO-38 through BIO-40, and TREE-11.

CEQA Determination of Effects

Total disturbance and losses of riparian habitat or sensitive natural communities resulting from Alternative 3 would be relatively small (approximately 0.09 acre). However, the communities affected have limited distribution and are particularly vulnerable to environmental effects. Under CEQA and using the CEQA criteria, the effect of ground disturbance on sensitive natural communities would be significant. RPMs MUL-2, MUL-3, BIO-24, BIO-30 through BIO-32, BIO-34, BIO-38 through BIO-40, and TREE-11 would minimize adverse effects from vegetation removal, prevent effects from exceeding the acreages identified, require revegetation of temporarily disturbed areas, and require replacement of lost wetland and riparian habitats. With implementation of these RPMs, this impact would be reduced to a **less-than-significant** level. This impact would not differ materially from that under Alternative 2 because both alternatives would result in very similar types of disturbance and losses of sensitive natural communities; however, Alternative 3 would result in lesser acreage of disturbance and losses of sensitive natural communities (0.09 acre under Alternative 3 compared with 0.48 acre 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 MUL-2, MUL-3, BIO-24, BIO-30 through BIO-32, BIO-34, BIO-38 through BIO-40, and TREE-11 as mitigation measures reduces this significant impact to a less-than-significant level.

Impact 4.12-3 (Alt. 3): Conflict with Any Local Policies or Ordinances Protecting Biological Resources

Alternative 3 would result in the removal or damage of individual trees for project facilities. Under CEQA, and using the CEQA criteria, this impact would be **significant** prior to consideration of RPMs because project construction would remove a resource valued by the County and could conflict with County Ordinances 12.16 and 12.20. Implementation of RPMs REV-3, TREE-10, and TREE-11 would require County tree permits that would be consistent with the County ordinances, tree removal in a manner that would preserve and protect surrounding natural resources, and compensation for removal of qualifying trees. With implementation of these RPMs, this impact would be reduced to a **less-than-significant** level. This impact analysis is specific to a CEQA criteria and is not responsive to a NEPA analytical indicator. No NEPA determination of effect is provided.

With this alternative, the Alpine Meadows mid-station, would be located further to the east, on private lands; this alteration would reduce the gondola lift from approximately 13,000 feet in length under the Alternative 2 to 12,600 feet in length under Alternative 3. Effects on individual trees protected under County ordinances under Alternative 3 would be greater than those described above for Alternative 2.

As identified above in Table 4.12-2, 1,090 trees greater than 6 inches dbh were recorded within the tree survey study area for Alternative 3. This total includes trees of various species and health classes as well as 74 dead or dying trees.

Construction of Alternative 3 is estimated to result in the removal of 104 trees (approximately 10 percent) for installation of project facilities and as part of overstory vegetation removal to prevent trees from conflicting with gondola operations. Additionally, approximately 133 trees (approximately 12 percent) were identified with the canopy extending over project activity areas. These trees could be subject to removal if they conflict with project construction or operation. These trees could also experience soil compaction and damage to the root zone from nearby construction activities, potentially leading to declining tree health or mortality. However, some of the trees that would be removed would be among those identified as being in poor health by the RPF and recommended for removal. Removal of these trees could provide an overall benefit to forest health.

A tree removal permit is required by the Placer County under the County Tree Preservation Ordinance 12.16 for removal of trees within riparian zones and trees greater than 6 inches dbh in areas where more than 50 percent of trees are removed. A tree cutting permit is also required per County Tree Preservation East of Sierra Summit Ordinance 12.20 for those trees greater than 6 inches dbh removed. If tree removal on private lands is not conducted consistent with these permit requirements, this would result in a conflict with local ordinances protecting a biological resource.

RPMs REV-3, TREE-10, and TREE-11 would reduce impacts resulting from potential conflicts with County ordinances because County tree permits would be obtained consistent with the County ordinances, tree removal would be conducted in a manner that would preserve and protect surrounding natural resources, and qualifying removed trees would be compensated for through new plantings or payment of tree replacement mitigation fees.

NEPA Effects Conclusion

This impact analysis is specific to a CEQA criterion and is not responsive to a NEPA analytical indicator. No NEPA effects conclusion is provided.

CEQA Determination of Effects

Implementation of Alternative 3 would result in the removal of 104 trees and the possible removal, damage, or mortality to approximately 133 trees. Under CEQA, and using the CEQA criteria, this would conflict with County ordinances protecting biological resources and the effect would be significant. RPMs REV-3, TREE-10, and TREE-11 would reduce effects on trees protected by local ordinances because they would require that County tree permits be obtained consistent with the County ordinances, tree removal would be conducted in a manner that would preserve and protect surrounding natural resources, and qualifying removed trees would be compensated for through new plantings or payment of tree replacement mitigation fees. With implementation of these RPMs, this impact would be reduced to a **less-than-significant** level. This impact would not differ materially from that under Alternative 2 because both alternatives would result in tree removal and the possible removal, damage, or mortality and losses of sensitive natural communities. More trees would be removed under Alternative 3 (104 trees) compared with Alternative 2 (42 trees); however, under Alternative 2, more trees would be at risk of possible removal, damage, or mortality (286 trees) compared with Alternative 3 (133 trees).

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 REV-3, TREE-10, and TREE-11 as mitigation measures reduces this significant impact to a less-than-significant level.

4.12.3.4 ALTERNATIVE 4

Impact 4.12-1 (Alt. 4): Ground Disturbance and Overstory Vegetation Removal Effects

Alternative 4 would result in the removal or disturbance of up to 7.89 acres of common vegetation communities and habitats. These habitats are locally and regionally common, and Alternative 4 would not substantially reduce the size, continuity, or integrity of any common vegetation community or habitat type. Under NEPA, and considering the NEPA indicators, absent RPMs and/or mitigation, direct and indirect effects related to vegetation removal would be **adverse** because there would be a reduction in habitat acreage. Implementation of RPMs MUL-2, MUL-3, BIO-24, BIO-30 through BIO-32, BIO-34, BIO-38, TREE-1, and TREE-11 would mitigate this effect. Under CEQA, and using the CEQA criteria, the effect would be **less than significant** because Alternative 4 would not substantially reduce the size, continuity, or integrity of any common vegetation community or habitat type. This impact would be further reduced with implementation of RPMs MUL-2, MUL-3, BIO-24, BIO-30 through BIO-32, BIO-34, BIO-38, TREE-1, and TREE-11, which would minimize vegetation disturbance and removal and require habitat restoration, although they are not necessary to reduce the impact to a less-than-significant level.

Alternative 4 includes a gondola connecting the base areas of Squaw Valley and Alpine Meadows following a different alignment than 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. This alteration would reduce the gondola lift from approximately 13,000 feet in length under the Alternative 2 to 11,700 feet in length under Alternative 4. Effects on riparian habitat or other sensitive natural communities under Alternative 4 would be slightly less than those described above for Alternative 2.

As shown in Table 4.12-7, construction of Alternative 4 would disturb 1.45 acres of common vegetation communities located in the Alpine Meadows SUP area (on NFS lands) and 6.24 acres of common vegetation communities on private land, for a total of 7.69 acres (compared to 2.68, 10.60, and 13.28, respectively, for Alternative 2) of common vegetation and habitat types. These acreages are divided into disturbance from overstory vegetation removal and permanent and temporary ground disturbance. In areas disturbed by overstory vegetation removal, trees would be removed, but vegetation that does not grow tall enough to interfere with gondola operation would remain. Permanent disturbance areas would be the locations of project facilities where vegetation is removed prior to construction and would not be restored. Temporary disturbance areas would be restored after construction is complete consistent with applicable RPMs. Total (both NFS and private lands) overstory vegetation removal is anticipated to be 4.49 acres; total permanent vegetation removal is anticipated to be 1.00 acre; and total temporary vegetation removal is anticipated to be 2.37 acres (compared to 8.73, 1.88, and 2.68 acres, respectively, for Alternative 2). Acreages of habitat loss are relatively small and these habitats are locally and regionally common. Alternative 4 would not substantially reduce the size, continuity, or integrity of any common vegetation community or habitat type.

Table 4.12-7 Acres of Maximum Common Vegetation and Habitat Disturbance Under Alternative 4

Disturbance Type	Vegetation/Land Cover Type						
	Bitter Cherry Thicket	Coniferous Woodland	Montane Chaparral	Mountain Sagebrush Forb	Rock and Talus	Rock Outcrop	Grand Total
Alpine Meadows Special Use Permit Area							
Overstory vegetation removal	0.83	0.18	0	0	0	0	1.01
Permanent ground disturbance	0.01	<0.01	0.09	0	0.03	0	0.13
Temporary ground disturbance	0.27	0.04	0	0	0	0	0.31
Alpine Meadows special use permit area total	1.11	0.22	0.09	0	0.03	0	1.45

Table 4.12-7 Acres of Maximum Common Vegetation and Habitat Disturbance Under Alternative 4

Disturbance Type	Vegetation/Land Cover Type						
	Bitter Cherry Thicket	Coniferous Woodland	Montane Chaparral	Mountain Sagebrush Forb	Rock and Talus	Rock Outcrop	Grand Total
Private Lands							
Overstory vegetation removal	0.65	0.26	1.15	0.63	0.79	0	3.48
Permanent ground disturbance	0.11	0.18	0.03	0.42	0.13	0	0.87
Temporary ground disturbance	0.13	0.23	0.33	0.28	0.92	0	2.06
Private lands total	0.89	0.67	1.51	1.33	1.84	0	6.24
Alternative 2 total	2.0	0.89	1.60	1.33	1.87	0	7.69

Sources: EcoSynthesis 2017; data provided by SE Group in 2015, 2016, 2017; adapted by Ascent Environmental in 2018

NEPA Effects Conclusion

Under NEPA, and considering the NEPA indicators, absent RPMs and/or mitigation, direct and indirect effects on common vegetation communities would be **adverse** because although total acreage losses are relatively small and these habitats are locally and regionally, there would still be a net loss of habitat acreage. These effects would be mitigated through implementation of RPMs MUL-2, MUL-3, BIO-24, BIO-30 through BIO-32, BIO-34, BIO-38, TREE-1, and TREE-11.

CEQA Determination of Effects

Total acreages of disturbance and losses of common vegetation and habitat types resulting from Alternative 4 are relatively small compared to total extent and distribution of these communities in the area and region. Under CEQA, and using the CEQA criteria, the effect of ground disturbance on common vegetation or habitat types and overstory vegetation would be **less than significant** because Alternative 4 would not substantially reduce the size, continuity, or integrity of any common vegetation or habitat type. RPMs MUL-2, MUL-3, BIO-24, BIO-30 through BIO-32, BIO-34, BIO-38, TREE-1, and TREE-11 would minimize adverse effects from vegetation removal, prevent effects from exceeding the acreages identified, or require revegetation of temporarily disturbed areas. However, these RPMs would not be necessary to reduce a significant impact to a less-than-significant level. This impact would not differ materially from that under Alternative 2 because both alternatives would result in the same, or very similar, types of vegetation disturbance.

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 MUL-2, MUL-3, BIO-24, BIO-30 through BIO-32, BIO-34, BIO-38, TREE-1, and TREE-11 as mitigation measures would minimize the effects of ground disturbance but is not necessary to reduce a significant effect.

Impact 4.12-2 (Alt. 4): Adverse Effect on Any Riparian Habitat or Other Sensitive Natural Community

Alternative 4 would result in the loss or disturbance of mesic and riparian shrubland and mountain alder thicket. Under NEPA, and considering the NEPA indicators, absent RPMs and/or mitigation, direct and indirect effects related to sensitive natural communities would be **adverse** because project construction would result in the loss of these sensitive natural communities. Implementation of RPMs MUL-2, MUL-3, BIO-24, BIO-30 through BIO-32, BIO-34, BIO-38 through BIO-40, and TREE-11 would mitigate this effect. Under CEQA, and using the CEQA criteria, this impact would be **significant** prior to consideration of RPMs because Alternative 4 would result in the loss or disturbance of riparian habitats and sensitive natural communities. Implementation of RPMs MUL-2, MUL-3, BIO-24, BIO-30 through BIO-32, BIO-34, BIO-38 through BIO-40, and TREE-11, which minimize vegetation disturbance and removal and require habitat restoration and replacement, would reduce the impact to a **less-than-significant** level.

Alternative 4 includes a gondola connecting the base areas of Squaw Valley and Alpine Meadows following a different alignment than 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. Effects on riparian habitat or other sensitive natural communities under Alternative 4 would be greater than those described above for Alternative 2.

As shown in Table 4.12-8, there would be approximately 0.21 acre of mountain alder thicket (0.39 acre under Alternative 2) affected by overstory vegetation removal. Approximately 1.67 acres of mesic and riparian shrubland (zero acres under Alternative 2) would be affected by a combination of overstory vegetation removal, and permanent and temporary ground disturbance. No aspen grove would be affected (0.09 acre under Alternative 2).

Table 4.12-8 Acres of Riparian Habitat and Sensitive Natural Community Disturbance Under Alternative 4

Disturbance Type	Vegetation/Habitat Type			
	Aspen Grove	Mountain Alder Thicket	Mesic and Riparian Shrubland	Grand Total
Alpine Meadows Special Use Permit Area				
Overstory vegetation removal	0	0	0	0
Permanent ground disturbance	0	0	0	0
Temporary ground disturbance	0	0	0	0
Alpine Meadows special use permit area total	0	0	0	0
Private Lands				
Overstory vegetation removal	0	0.15	1.47	1.62
Permanent ground disturbance	0	0	0.03	0.03
Temporary ground disturbance	0	0.06	0.06	0.12
Private lands total	0	0.21	1.56	1.77
Alternative 2 total	0	0.21	1.56	1.77

Sources: EcoSynthesis 2017; data provided by SE Group in 2015, 2016, 2017; adapted by Ascent Environmental in 2018

Various RPMs identified in Appendix B would minimize adverse effects from vegetation removal, prevent effects from exceeding the acreages identified, or require revegetation of temporarily disturbed areas. As identified above in the discussion of Impact 4.12-1 (Alt. 2), RPMs MUL-2 and BIO-34 require that work areas and construction exclusion areas are clearly marked in the field to prevent construction disturbance from exceeding designated areas. RPM MUL-3 requires the use of existing roads for access to the maximum extent possible, which would minimize ground disturbance and vegetation removal. RPM BIO-24 requires that the project minimize ground disturbance and vegetation and tree removal to only the areas necessary for construction, especially in riparian areas. RPMs BIO-30 through BIO-32 require preparation and implementation of a restoration plan resulting in the revegetation of temporarily disturbed areas. RPMs BIO-38 and TREE-11 require replacement of native trees that fall under the Placer County Code of Ordinances tree preservation articles or payment of in-lieu fees, with such payment to be used for replacement trees, including the cost of installation, paid to the Placer County Tree Preservation Fund. RPM TREE-1 requires that tree removal methods minimize potential effects on nearby aquatic habitats. In addition, RPMs BIO 39 and BIO-40 require the replacement either on-site, or through compensatory mitigation elsewhere, for losses of wetland and riparian habitats.

NEPA Effects Conclusion

Under NEPA, and considering the NEPA indicators, absent RPMs and/or mitigation, the direct and indirect effects on sensitive natural communities would be **adverse** because although the disturbance area is small (approximately 1.8 acres), the communities affected have limited distribution and are particularly vulnerable

to environmental effects. These effects would be mitigated through implementation of RPMs MUL-2, MUL-3, BIO-24, BIO-30 through BIO-32, BIO-34, BIO-38 through BIO-40, and TREE-11.

CEQA Determination of Effects

Total disturbance and losses of riparian habitats and sensitive natural communities resulting from Alternative 4 would be relatively small (approximately 1.8 acres). However, the communities affected have limited distribution and are particularly vulnerable to environmental effects. Under CEQA, and using the CEQA criteria, the effect of ground disturbance on riparian habitats and sensitive natural communities would be significant. RPMs MUL-2, MUL-3, BIO-24, BIO-30 through BIO-32, BIO-34, BIO-38 through BIO-40, and TREE-11 would minimize adverse effects from vegetation removal, prevent effects from exceeding the acreages identified, require revegetation of temporarily disturbed areas, and require replacement of lost wetland and riparian habitats. With implementation of these RPMs, this impact would be reduced to a **less-than-significant** level. This impact would not differ materially from that under Alternative 2 because both alternatives would result in very similar types of disturbance and losses of sensitive natural communities; however, Alternative 4 would result in a greater acreage of disturbance and loss (approximately 1.8 acres under Alternative 4 compared with 0.48 acre 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 MUL-2, MUL-3, BIO-24, BIO-30 through BIO-32, BIO-34, BIO-38 through BIO-40, and TREE-11 as mitigation measures reduces this significant impact to a less-than-significant level.

Impact 4.12-3 (Alt. 4): Conflict with Any Local Policies or Ordinances Protecting Biological Resources

Alternative 4 would result in the removal or damage of individual trees for project facilities. Under CEQA, and using the CEQA criteria, this impact would be **significant** prior to consideration of RPMs because project construction would remove a resource valued by the County and could conflict with County Ordinances 12.16 and 12.20. Implementation of RPMs REV-3, TREE-10, and TREE-11 would require County tree permits that would be consistent with the County ordinances, tree removal in a manner that would preserve and protect surrounding natural resources, and compensation for removal of qualifying trees. With implementation of these RPMs, this impact would be reduced to a **less-than-significant** level. This impact analysis is specific to a CEQA criteria and is not responsive to a NEPA analytical indicator. No NEPA determination of effect is provided.

Alternative 4 includes a gondola connecting the base areas of Squaw Valley and Alpine Meadows following a different alignment than 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. This alteration would reduce the gondola lift from approximately 13,000 feet under the Alternative 2 to 11,700 feet in length under Alternative 4. Effects on individual trees protected under County ordinances under Alternative 4 would be slightly less than those described above for Alternative 2.

As identified above in Table 4.12-2, 947 trees greater than 6 inches dbh were recorded within the tree survey study area for Alternative 4. This total includes trees of various species and health classes, and zero dead or dying trees.

Construction of Alternative 4 is estimated to result in the removal of 38 trees (approximately 4 percent) for installation of project facilities and as part of overstory vegetation removal to prevent trees from conflicting with gondola operations. Additionally, approximately 176 trees (approximately 19 percent) were identified with the canopy extending over project activity areas. These trees could be subject to removal if they conflict with project construction or operation. These trees could also experience soil compaction and damage to the root zone from nearby construction activities, potentially leading to declining tree health or mortality.

A tree removal permit is required by the Placer County under the County Tree Preservation Ordinance 12.16 for removal of trees within riparian zones and trees greater than 6 inches dbh in areas where more than 50 percent of trees are removed. A tree cutting permit is also required per County Tree Preservation East of Sierra Summit Ordinance 12.20 for those trees greater than 6 inches dbh removed. If tree removal on private lands is not conducted consistent with these permit requirements, this would result in a conflict with local ordinances protecting a biological resource.

RPMs REV-3, TREE-10, and TREE-11 would reduce impacts resulting from potential conflicts with County ordinances because County tree permits would be obtained consistent with the County ordinances, tree removal would be conducted in a manner that would preserve and protect surrounding natural resources, and qualifying removed trees would be compensated for through new plantings or payment of tree replacement mitigation fees which would be used for new plantings (as discussed in Impact 4.12-2).

NEPA Effects Conclusion

This impact analysis is specific to a CEQA criterion and is not responsive to a NEPA analytical indicator. No NEPA effects conclusion is provided.

CEQA Determination of Effects

Implementation of Alternative 4 would result in the removal of 38 trees and the possible removal, damage, or mortality to approximately 176 trees. Under CEQA, and using the CEQA criteria, proposed tree removal under Alternative 4 would conflict with County ordinances protecting biological resources and the effect would be significant. RPMs REV-3, TREE-10, and TREE-11 would reduce effects on trees protected by local ordinances because they would require that County tree permits be obtained consistent with the County ordinances, tree removal would be conducted in a manner that would preserve and protect surrounding natural resources, and qualifying removed trees would be compensated for through new plantings or payment of tree replacement mitigation fees. With implementation of these RPMs, this impact would be reduced to a **less-than-significant** level. This impact would not differ materially from that under Alternative 2 because both alternatives would result in tree removal and the possible removal, damage, or mortality and losses of sensitive natural communities). Slightly fewer trees would be removed under Alternative 4 (38 trees) compared with Alternative 2 (42 trees) and fewer trees would be at risk of possible removal, damage, or mortality under Alternative 4 (176 trees) compared with Alternative 2 (286 trees).

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 REV-3, TREE-10, and TREE-11 as mitigation measures reduces this significant impact to a less-than-significant level.

4.12.3.5 SUMMARY OF DIRECT AND INDIRECT EFFECTS

Table 4.12-9 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.

Addressing the action alternatives, for Impact 4.12-1, the effect would be adverse when considering the NEPA indicator for all three action alternatives. This effect would be less than significant under CEQA for all three action alternatives. Having said that, removal or disturbance of common vegetation communities and habitats would be greatest under Alternative 2 (13.28 acres) compared to Alternative 3 (11.16 acres) and Alternative 4 (7.69 acres). See Tables 4.12-3, 4.12-5, and 4.12-7 for a breakdown of these acreages.

For Impact 4.12-2, the effect would be adverse when considering the NEPA indicator for all three action alternatives. Under CEQA, the effect would be significant, but applicable RPMs would reduce the impact to a less-than-significant level for all three action alternatives. Loss or disturbance of riparian habitat or other

sensitive natural community would be greatest under Alternative 4 (1.77 acres) compared to Alternative 2 (0.48 acre) and Alternative 3 (0.09 acre). See Tables 4.12-4, 4.12-6, and 4.12-8 for a breakdown of these acreages. The action alternatives would differ slightly in terms of the types of sensitive natural communities that they would disturb (e.g., aspen grove, mountain alder thicket, and mesic and riparian shrubland).

For Impact 4.12-3, under CEQA, the effect would be significant, but applicable RPMs would reduce the impact to a less-than-significant level, for all three action alternatives. The analysis provided for Impact 4.12-3 is specific to a CEQA criteria and is not responsive to a NEPA analytical indicator. No NEPA determination of effect is provided. Removal of individual trees would be greatest under Alternative 3 (104 trees) compared to Alternative 2 (42 trees) and Alternative 4 (38 trees); however, more trees would be at risk of possible removal, damage, or mortality under Alternative 2 (286 trees) compared to Alternative 3 (133 trees) and Alternative 4 (176 trees).

Table 4.12-9 Summary of Direct and Indirect Effects

Impact	Applicable Analytical Indicators and Significance Criteria	Alt. 1	Alt. 2	Alt. 3	Alt. 4
4.12-1: Ground Disturbance and Overstory Vegetation Removal Effects	Quantification (acreage) of proposed ground disturbance and overstory vegetation removal effects by vegetation type	No effect	Adverse under NEPA; less than significant under CEQA	Adverse under NEPA; less than significant under CEQA Slightly less than under Alternative 2	Adverse under NEPA; less than significant under CEQA Slightly less than under Alternatives 2 and 3
4.12-2: Adverse Effect on Any Riparian Habitat or Other Sensitive Natural Community	Quantification (acreage) of proposed ground disturbance and overstory vegetation removal effects by vegetation type	No effect	Adverse under NEPA; less than significant under CEQA	Adverse under NEPA; less than significant under CEQA Slightly less than Alternative 2	Adverse under NEPA; less than significant under CEQA Greater than under Alternatives 2 and 3
	Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by CDFW or USFWS	No effect	Adverse under NEPA; less than significant under CEQA	Adverse under NEPA; less than significant under CEQA Similar to Alternative 2	Adverse under NEPA; less than significant under CEQA Greater than under Alternatives 2 and 3
4.12-3: Conflict with Any Local Policies or Ordinances Protecting Biological Resources	Conflict with any local policies or ordinances protecting biological resources, such as tree preservation policy or ordinance	No effect	Less than significant under CEQA	Less than significant under CEQA Greater than under Alternative 2	Less than significant under CEQA Slightly less than under Alternative 2 and less than under Alternative 3

4.12.4 Cumulative Effects

4.12.4.1 METHODS AND APPROACH

The spatial scope of cumulative impacts for vegetation, sensitive natural communities, and tree resources that occur in the project area is generally the Tahoe-Truckee region. This spatial scope is sufficient to include potential effects of the gondola project to the vegetation and habitat types considered and is sufficient to encompass the past, present, and reasonably foreseeable future activities that may combine with effects of the proposed project to result in cumulative effects on these vegetation and habitat types.

Current resource conditions are used to represent the composite of past actions. The area encompassing the cumulative spatial scope of the analysis (i.e., the Tahoe-Truckee Region) 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 vegetation in the Tahoe-Truckee Region include logging, grazing, fuels management, recreational development and activities, urban and commercial development, and right-of-way maintenance and operation activities.

The temporal scope typically includes the construction period (6–8 months) as well as the operational period of the gondola (winter season); however, for vegetation, the temporal scope for reasonably foreseeable future actions is more broadly defined because disturbance and/or loss of groundcover, overstory vegetation, sensitive natural communities, and tree resources 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 vegetation and habitat and landscape patterns that may influence the distribution and abundance of vegetation within the gondola project area and surrounding region.

The common vegetation community issues relevant to cumulative impacts, where the project has the potential to contribute to impacts generated by other projects, are effects related to groundcover, overstory vegetation, sensitive natural communities, and tree resources. Past and present activities have already altered common vegetation communities in the project area. Past, present, and foreseeable future activities that have affected or may affect biological resources in the project area include logging, grazing, fuels management, recreational development and activities, urban and commercial development, and right-of-way maintenance and operation activities. The list of past, present, and reasonably foreseeable future projects considered in this cumulative analysis is provided in Chapter 3 of this Final EIS/EIR (Table 3-3). With the exception of the transportation-related projects, all of the present and reasonably foreseeable future projects listed in Chapter 3 could affect common vegetation communities. Potential impacts associated with these projects include ground disturbance, overstory vegetation removal, loss or disturbance of riparian habitat or other sensitive natural community, and tree removal.

4.12.4.2 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 impacts, and thus by definition no cumulative impacts on vegetation.

Alternative 2

Implementation of Alternative 2 would result in removal and disturbance of the aspen grove and mountain alder thicket sensitive natural communities. Decades of growth and development, Comstock-era logging, hydrologic modification, livestock grazing, and fire suppression activities in the project area have resulted in an overall adverse cumulative condition for riparian habitat and sensitive natural communities. Considering only past and present projects, the cumulative condition is adverse. However, different from the conditions under which many past projects were implemented, there are multiple laws and regulations requiring the avoidance of sensitive habitats, minimization of effects, and compensation for effects when they cannot be fully avoided.

Impacts of Alternative 2 on sensitive natural communities would be permanent, resulting from direct removal and disturbance of sensitive habitats during construction activities. Projects whose effects on

sensitive natural communities would 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. The project proponent would be required to comply with existing federal, state, and local regulations and permitting requirements that protect wetland, riparian, and other sensitive habitats. Various RPMs identified in Appendix B would reduce significant impacts on sensitive natural communities because they would ensure that sensitive habitat is avoided to the extent feasible, and that sensitive habitats that cannot be avoided are restored following construction or compensated for in a manner that results in no net loss of these habitats. 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 sensitive habitats in the project area.

Past and existing projects in the project area have resulted in the conversion of forest land to nonforest uses, as well as small scale removal of individual trees, through activities such as residential and commercial development, utility and infrastructure development, and habitat conversions. Other compounding factors, such as lack of forest regeneration, wildfire, pressures from invasive species, and pest and disease infestations have contributed to a further decline in forest extent. Due to these combined factors, there is an existing adverse cumulative condition associated with loss of trees and forest land.

Depending on their location, construction of reasonably foreseeable future projects listed in Table 3-3 may require tree removal to clear areas for construction and/or to promote the establishment of defensible space and reduction of hazardous fuels. However, tree removal proposed as part of these projects would typically require assessment and mitigation, including compliance with the Placer County Tree Preservation Ordinance, which requires compensation through new plantings or payment of tree replacement mitigation fees for qualifying removed trees, reducing the project's overall contribution to cumulative tree removal effects.

Construction of Alternative 2 would result in the removal of trees and the possible removal, damage, or mortality of trees, some of which are protected by local ordinances and state regulations. However, RPMs REV-3, TREE-10, and TREE-11 would reduce significant impacts on trees to a less-than-significant level because impacts on trees requiring County tree permits would be minimized consistent with the County ordinances, tree removal would be conducted in a manner that would preserve and protect surrounding natural resources, and qualifying removed trees would be compensated for through new plantings or payment of tree replacement mitigation fees. Because the magnitude of tree removal is expected to be low relative to the distribution and availability of forest land in the region; most tree removal would be limited to common vegetation types; many of the trees that would be removed are within, or along the edges of existing developed areas; and compensation for removed trees would be implemented; tree removal as a result of Alternative 2 is not expected to contribute to changes in the composition, abundance, or regional patterns of forest resources in the region. Therefore, Alternative 2 would not make a considerable contribution to any cumulative effect related to tree removal in the region.

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 riparian habitats and sensitive natural communities and tree removal would be slightly less because of the difference in the proposed gondola alignments. Removal or disturbance of common vegetation communities and habitats would be greatest under Alternative 2 (13.28 acres) compared to Alternative 3 (11.16 acres) and Alternative 4 (7.69 acres). Therefore, Alternative 2 would make the greatest contribution to the cumulative effect. With regard to sensitive natural communities, Alternative 3 would affect mesic and riparian shrubland as opposed to aspen grove and mountain alder thicket. Alternative 4 would affect mountain alder thicket and mesic and riparian shrubland, but not aspen grove. Adverse effects to riparian habitats and sensitive natural communities would be greatest under Alternative 4 (1.77 acres) compared to Alternative 2 (0.48 acre) and Alternative 3 (0.09 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.