4.13 BOTANY

This section describes the special-status botanical species, sensitive plant communities, and invasive plant species that are known or have the potential to occur in the project study area. Federal, state, and local regulations related to botanical resources are summarized, and the potential for botanical resources to be affected by the action alternatives is assessed.

The following analysis is based partly on information provided in a botanical survey report prepared by EcoSynthesis (EcoSynthesis 2017) and provided in Appendix H. For the project area that includes National Forest System (NFS) lands, this section summarizes detailed analysis and conclusions presented in the following specialist reports prepared for the project:

- Biological Evaluation-Biological Assessment of Botanical Species: Squaw Valley-Alpine Meadows Base-to-Base Gondola Project (U.S. Forest Service 2018a); and
- Non-Native Invasive Plant Risk Assessment: Squaw Valley-Alpine Meadows Base-to-Base Gondola Project (U.S. Forest Service 2018b).

These documents are hereby incorporated by reference, are part of the project record, and available for review at the:

- Tahoe National Forest Truckee Ranger District Office, 10811 Stockrest Springs Road, Truckee, CA 96161;
- Tahoe National Supervisors Office, 631 Coyote Street, Nevada City, CA 95959;
- Placer County Tahoe City Office, 775 North Lake Blvd., Tahoe City, CA 96145; and
- Placer County Auburn Office, 3091 County Center Drive, Suite 190, Auburn, CA 95603.

Tree removal and effects of project implementation on common vegetation types and sensitive natural communities are analyzed in Section 4.12, “Vegetation.” Potential disturbance or loss of habitats that could qualify as waters of the United States, waters of the state, or wetlands are addressed separately in Section 4.15, “Wetlands.”

4.13.1 Affected Environment

4.13.1.1 ENVIRONMENTAL SETTING

To describe and map botanical resources in the project area, existing data were reviewed, and protocol-level botanical surveys and habitat assessments were conducted in the study area by botanist Adrian Juncosa (EcoSynthesis 2017). The surveys were conducted on multiple dates in 2015, 2016, and 2017. Full descriptions of survey methods and results are provided in the Botanical Survey Report prepared for the project (EcoSynthesis 2017) and provided in Appendix H.

In this analysis, the botanical study area for the project corresponds with the survey area identified and mapped in the Botanical Survey Report: 50 feet on each side of the Alternative 2 gondola alignment and 100 feet on each side of the Alternative 3 and Alternative 4 alignments, and 30–50 feet on each side of the proposed Gazex facilities. A wider 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.

Land cover/habitat types in the study area are described in Section 4.12, “Vegetation,” and maps of the locations of the land cover/habitat types are provided in the Botanical Survey Report in Appendix H. The survey report also includes common and scientific names of all botanical species found during the surveys.

The following sections summarize the special-status botanical species, sensitive natural communities, and invasive plants known or with potential to occur in the study area.

Special-Status Botanical Species

Special-status botanical species are vascular plants, lichen, and fungi that are legally protected or otherwise considered sensitive by federal, state, or local resource conservation agencies and organizations. In this analysis, special-status species are defined as botanical species in the following categories:

- listed or proposed for listing as threatened, rare, or endangered under the federal Endangered Species Act (ESA) or California Endangered Species Act (CESA);
- considered as candidates for listing under the ESA or CESA;
- designated as sensitive by the Forest Service Regional Forester in Region 5;
- plants considered by the California Department of Fish and Wildlife (CDFW) to be "rare, threatened, or endangered in California" (California Rare Plant Ranks [CRPR] of 1A, presumed extinct in California and not known to occur elsewhere; 1B, considered rare or endangered in California and elsewhere; 2A, presumed extinct in California, but more common elsewhere and 2B, considered rare or endangered in California but more common elsewhere);
- considered a locally significant species, that is, a species that is not rare from a statewide perspective but is rare or uncommon in a local context such as within a county or region (CEQA Section15125 [c]) or is so designated in local or regional plans, policies, or ordinances (State CEQA Guidelines, Appendix G); and
- otherwise meets the definition of rare or endangered under CEQA Section 15380(b) and (d).

No federally threatened, endangered, or proposed botanical species have potential to occur in the project area because the project area is outside of the known range of these species. There is also no designated critical habitat for listed plant species in the project area.

The project area contains potentially suitable habitat for 28 special-status botanical species: Galena creek rock-cress, three-tip sagebrush, Austin's astragalus (marginal habitat), upswept moonwort (marginal habitat), scalloped moonwort (marginal habitat), common moonwort (marginal habitat), Mingan moonwort (marginal habitat), western goblin, Bolander's bruchia, starved daisy, Davy's sedge, woolly-fruited sedge, mud sedge, Donner Pass buckwheat, Blandow's bog-moss (marginal habitat), Santa Lucia dwarf rush, Kellogg's lewisia, Hutchison's lewisia, broad-nerved hump moss, Hiroshi's flapwort, whitebark pine (marginal habitat), Nuttall's pondweed, Robbins's pondweed, alder buckthorn, marsh skullcap, Munro's desert mallow, slender-leaved pondweed, and felt-leaved violet (marginal habitat). The state and federal regulatory status, scientific names, and habitat associations of these species are provided in tables and narratives in the Botanical Survey Report (EcoSynthesis 2017) and the Botanical Biological Evaluation prepared for the project. See Table 1 in the Botanical Survey Report provided in Appendix H for the scientific name, legal status, and other information for each species listed above. Table 1 also identifies all special-status species considered in the botanical evaluation, including those with no potential habitat in the project area.

Although potential habitat is present in the study area, no special-status botanical species were observed during the protocol-level surveys. Therefore, it is assumed that most of these species are not present in the study area. However, as described in the Botanical Biological Evaluation, the *Botrychium* species with potential to occur (scalloped moonwort, common moonwort, upswept moonwort, Mingan moonwort, and western goblin) are difficult to detect reliably during surveys, because they do not send up aboveground parts (sporophytes) every year. Additionally, although Santa Lucia dwarf-rush, Bolander's bruchia (candle moss), and Blandow's bog-moss were not found in the study area during project-level botanical surveys, these species can be difficult to detect because they are very small and inconspicuous and can grow scattered among grasses and other vegetation. Therefore, although unlikely, these eight species may be present in small numbers, but undetected, in riparian/mesic habitats in the study area. All of these species

are designated as sensitive by Forest Service Region 5, and these species have a CRPR of 1B or 2B, except for Bolander's bruchia (CRPR 4.2).

Invasive Plants

Invasive species are those that are not native to the region, persist without human assistance, and once established, quickly reproduce and spread and have serious impacts on the native environment. The term "invasive" differs from the classification terms "nonnative," "exotic," or "introduced" because it is (when applied correctly) used to describe only those nonnative species that displace native species on a large enough scale to alter habitat functions and values.

Invasive plant species known or with potential to occur in the study area are described in the Botanical Survey Report provided in Appendix H and the Non-Native Invasive Plant Risk Assessment (U.S. Forest Service 2018b) prepared for the project. The following summarizes the known occurrences of invasive plants in the study area.

Three species of invasive weeds were observed in the study area during protocol-level botanical surveys: perennial pepperweed (*Lepidium latifolium*), diffuse knapweed (*Centaurea stoebe*), and hoary cress (*Berteroa incana*).

Perennial pepperweed was found in two locations. One of these occurrences consisted of a very small number of plants observed in 2015 (but is likely many more plants now), in the lower part of the northern segment of the Alternative 2 gondola alignment, within the Squaw Valley Ski Area (Squaw Valley) (see Exhibit 4.13-1). The estimated acreage of this infestation is approximately 0.45 acre. The second occurrence is surrounding and within an abandoned building just west of the KT-22 top terminal, within the Alternative 4 alignment and surrounding study area (see Exhibit 4.13-2). This infestation covers approximately 0.08 acre.

Diffuse knapweed was found in one location just south of the existing Alpine Meadows lodge and within the estimated disturbance footprint for the Alpine meadows base terminal for all three action alternatives (see Exhibit 4.13-3). The total area of this infestation is approximately 0.01 acre.

Hoary cress was found in two locations in moist vegetation adjacent to the Alpine Meadows base area (see Exhibit 4.13-3). One of these locations is outside the project disturbance area. The total acreage of hoary cress infestation area is approximately 0.3 acre. When the botanical survey began in 2015, the southern occurrence consisted of only a few plants extending uphill toward the area behind the maintenance buildings. In 2017, at least 20 plants were present, which were uprooted and removed from the site. However, there is likely now a substantial seed bank in that area, perhaps spreading elsewhere.

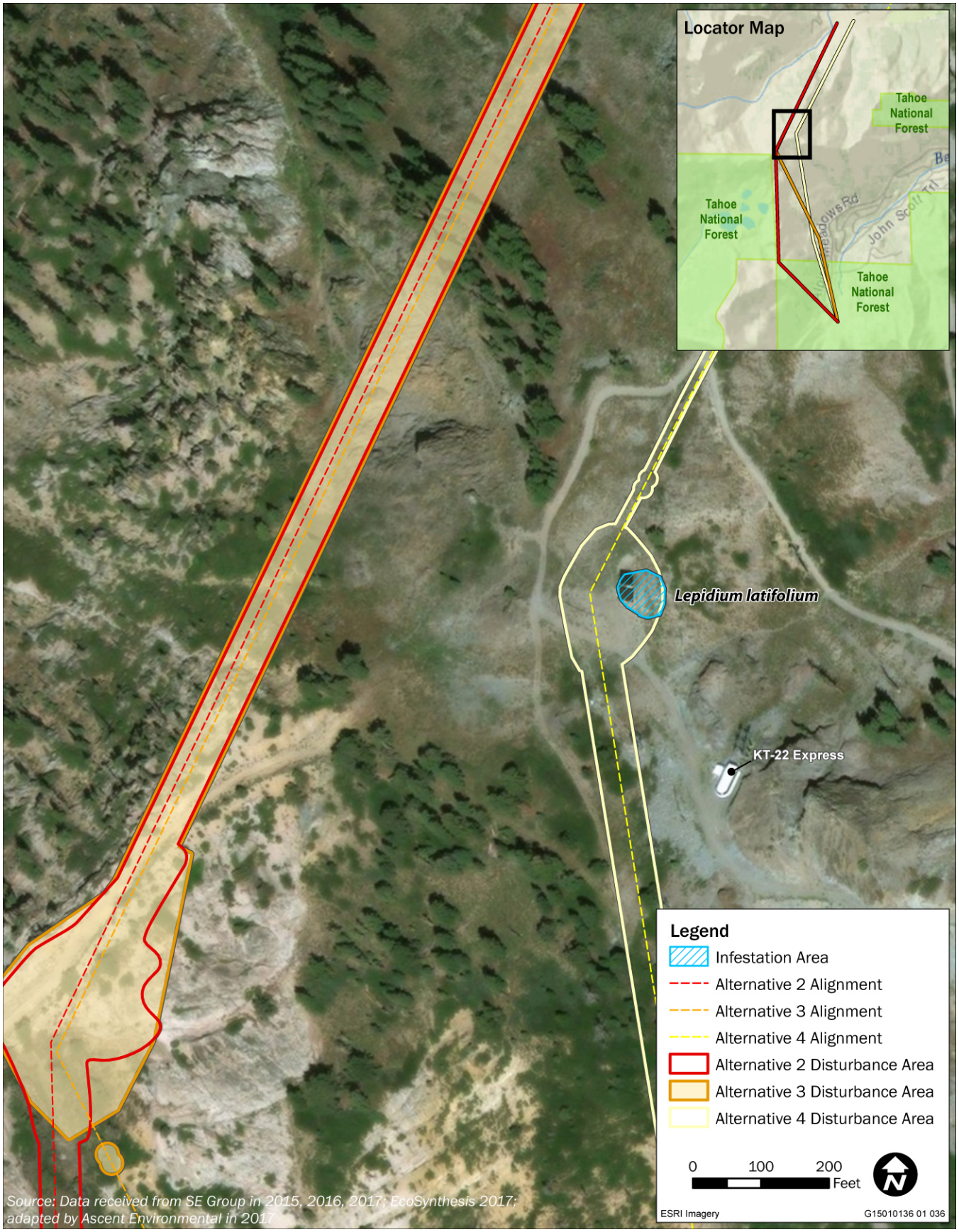
4.13.1.2 REGULATORY SETTING

Federal

Federal Endangered Species Act

The U.S. Fish and Wildlife Service (USFWS) has authority over projects that may result in take of a federally listed species. Under the ESA, "take" is to "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect or to attempt to engage in any such conduct" (Public Law 93-205, as amended by Section 3 of Public Law 107-136 [16 USC 1532]). The loss of habitat can also be considered "take" under the ESA. For projects with a federal nexus (i.e., some element of federal agency authorization or funding) the process for ESA compliance is accomplished through consultation with USFWS under ESA Section 7 (16 USC 1536[a][2]), which produces a biological assessment to describe the impact mechanisms and any adverse effects on the listed population. Information within the biological assessment is used by USFWS to prepare the biological opinion. Federal agencies must ensure that any action authorized, funded, or carried out by the agency is not likely to (a) jeopardize the continued existence of any listed species or (b) result in the destruction or adverse modification of a listed species' designated critical habitat. However, as stated above, no ESA-listed plant species are known or expected to occur in the project area and there is no designated critical habitat for listed plant species in the project area.

Exhibit 4.13-1 Occurrence #1 of Perennial Pepperweed (*Lepidium latifolium*)



Source: Data received from SE Group in 2015, 2016, 2017; EcoSynthesis 2017; adapted by Ascent Environmental in 2017

Exhibit 4.13-2 Occurrence #2 of Perennial Pepperweed (*Lepidium latifolium*)

Source: Data received from SE Group in 2015, 2016, 2017; EcoSynthesis 2017; adapted by Ascent Environmental in 2017

Exhibit 4.13-3 Occurrences of Diffuse Knapweed (*Centaurea stoebe*) and Hoary Cress (*Berteroa incana*)

Executive Order 13112, National Invasive Species Management Plan

Executive Order 13112 directs all federal agencies to prevent the introduction and control the spread of invasive species in a cost-effective and environmentally sound manner to minimize economic, ecological, and human health impacts. It established a national Invasive Species Council made up of federal agencies and departments and a supporting Invasive Species Advisory Committee composed of state, local, and private entities. The Invasive Species Council and advisory committee oversee and facilitate implementation of the executive order.

Tahoe National Forest

Forest Service Manual

Section 2670 of the Forest Service Manual provides policies for the protection of sensitive species and calls for the development and implementation of management practices to ensure that species do not become threatened or endangered because of Forest Service actions. It requires a review of all activities or programs that are planned, funded, executed, or permitted for possible effects on federally listed or Forest Service sensitive species (FSM 2672.4, U.S. Forest Service 2005).

A biological evaluation provides a means to conduct this review, analyze the significance of potential adverse effects, and determine how negative impacts will be minimized or avoided for those species whose viability has been identified as a concern. The objectives of a biological evaluation are to:

- ensure that Forest Service actions do not contribute to loss of viability of any native or desired nonnative plant or animal species;
- ensure that Forest Service actions do not jeopardize or adversely modify critical habitat of Federally listed species; and
- provide a process and standard through which rare plant species receive full consideration throughout the planning process, reducing negative impacts on species and enhancing opportunities for mitigation.

These objectives also align with the impact analysis provided in this joint EIS/EIR prepared in compliance with the requirements of NEPA and CEQA.

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

The Tahoe National Forest (TNF) Land and Resource Management Plan (LRMP) (U.S. Forest Service 1990) directs the TNF to manage the viability of sensitive botanical species and to ensure that these species do not become threatened or endangered because of Forest Service activities. The primary purpose of the direction is to ensure that existing habitat of these species is adequately protected and that additional habitat is provided to perpetuate the species. This direction implements the protections legislated in the National Forest Management Act and the ESA. The Sierra Nevada Forest Plan Amendment Record of Decision (SNFPA) (U.S. Forest Service 2004) amended the LRMP in 2004. The LRMP and SNFPA, collectively referred to as the Forest Plan, established standards and guidelines pertaining to the protection and consideration of sensitive plants, including conducting field surveys, minimizing or eliminating direct and indirect impacts from management activities, and adhering to the regional native plant policy. As part of the analysis conducted for this Draft EIS/EIR, specific standards and guidelines identified in the Forest Plan related to botanical resources were applied and evaluated for consistency. Standards and guidelines related to Riparian Conservation Objectives (RCOs) are evaluated in Section 4.17, “Hydrology and Water Quality.”

State

California Endangered Species Act

CESA prohibits the taking of state-listed endangered or threatened species, as well as candidate species being considered for listing. Applicants may obtain a Section 2081 incidental take permit if the impacts of the take are minimized and fully mitigated and the take would not jeopardize the continued existence of the species. A

"take" of a species, under CESA, is defined as an activity that would directly or indirectly kill an individual of a species. The CESA definition of take does not include "harm" or "harass" as is included in the federal ESA. As stated above, No CESA-listed plant species are known or expected to occur in the project area.

California Native Plant Protection Act

In addition to CESA, the California Native Plant Protection Act provides protection to endangered and rare plant species, subspecies, and varieties of wild native plants in California. The California Native Plant Protection Act definitions of "endangered" and "rare" closely parallel the CESA definitions of endangered and threatened plant species. Special-status botanical species discussed in Section 4.13.1, "Affected Environment," and identified in Table 1 of the Botanical Survey Report (provided in Appendix H of this EIS/EIR) meet the criteria for protection under the California Native Plant Protection Act.

Local

Placer County General Plan

The Natural Resources Section of the *Placer County General Plan* (Placer County 2013) outlines several goals, policies and implementation programs aimed at protecting natural resources, including special-status plants and sensitive habitats. The goals, policies, and programs that are applicable to botanical resources in the project area are summarized below.

GOAL 6.B: To protect wetland communities and related riparian areas throughout Placer County as valuable 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.

GOAL 6.D: To preserve and protect the valuable vegetation resources of Placer County.

- **Policy 6.D.2.** The County shall require developers to use native and compatible nonnative species, especially drought-resistant species, to the extent possible in fulfilling landscaping requirements imposed as conditions of discretionary permits or for project mitigation.

- **Policy 6.D.5.** The County shall establish procedures for identifying and preserving special-status, threatened, and endangered plant species that may be adversely affected by public or private development projects.

- **Policy 6.D.10.** The County shall encourage the planting of native trees, shrubs, and grasslands in order to preserve the visual integrity of the landscape, provide habitat conditions suitable for native wildlife, and ensure that a maximum number and variety of well adapted plants are maintained.

- **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.

Squaw Valley General Plan and Land Use Ordinance

No policies in the *Squaw Valley General Plan and Land Use Ordinance* (Placer County 2006) apply directly to special-status species or their habitat. 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). Setbacks and protections from construction along the stream environment zone (100-year floodplain) are described in Section 115.18 through 115.23. Section 115.18 restricts adverse impacts from development activities within any undisturbed stream environmental zone. Where the floodplain has not been established, the area within 100 feet of the centerline of the stream will be left in its natural state (Section 139.14). There are additional setbacks for buildings and structures (Section 139.16).

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*. There are no policies in the *Alpine Meadows General Plan* that apply directly to special-status species or their habitat.

4.13.2 Analysis Methods

4.13.2.1 METHODS AND ASSUMPTIONS

The analysis of potential impacts on botanical resources resulting from implementation of the action alternatives is based on the data review and project-specific surveys described previously in Section 4.13.1.1, "Environmental Setting," and analyses and conclusions provided in the Botanical Survey Report (EcoSynthesis 2017) and the Botanical Biological Evaluation (U.S. Forest Service 2018a) and Non-Native Invasive Plant Risk Assessment (U.S. Forest Service 2018b) prepared for the project.

Potential impacts of each action alternative on botanical resources were initially identified by overlaying geographic information system (GIS) layers of project components and activities on the land cover maps of the study area and the locations of known invasive plant infestations. Project impact areas identified in the GIS were 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 future gondola operation. Locations for overstory vegetation removal would be around and 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 are 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 and therefore a mechanism for potential adverse effects related to special-status botanical species and invasive plants. 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.

Permanent ground disturbance 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, tower footings, and Gazex exploders and shelters). Temporary ground disturbance 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). Both these activities were considered mechanisms for potential adverse effects related to special-status botanical species and invasive plants.

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.

4.13.2.2 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 special-status botanical species and result in adverse effects related to invasive plant species. The following analytical indicators are used to inform the Forest Service's determination of impacts:

- Identify and disclose impacts to any federally listed threatened and endangered species, Forest Service Region 5 sensitive species, and species of local concern present in the study area (Impact 4.13-1)
- Identify design criteria and BMPs (including noxious weed design features) to avoid the spread of noxious or other undesirable weed species and to manage existing populations toward eradication or acceptable levels when eradication is not realistic (Impact 4.13-2)

CEQA Criteria

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

- have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, polices, or regulations, or by CDFW or USFWS (Impact 4.13-1);
- 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 (Section 4.13.2.3, "Issues Not Discussed Further");
- conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan (Section 4.13.2.3, "Issues Not Discussed Further"); or
- threaten to eliminate a plant community (Section 4.12, "Vegetation") or reduce the number or restrict the range of a rare or endangered plant (Impact 4.13-1).

4.13.2.3 ISSUES NOT DISCUSSED FURTHER

Sensitive natural communities in the study area consist of mesic (wet) and aquatic habitats, including freshwater emergent wetland, aspen grove, riparian, and tributary/stream. Descriptions and analyses of these habitats in the context of their designation as sensitive natural communities are provided in Section 4.12, "Vegetation." Therefore, this issue is not discussed further in this section.

As discussed in the Initial Study prepared for the project (Appendix A), Placer County has applied to receive approval from the federal wildlife agencies (USFWS and National Marine Fisheries Service [NMFS]) for a comprehensive natural community conservation plan known as the *Placer County Conservation Plan* (PCCP). When approved and implemented, the PCCP would establish an interconnected open-space preserve system in western Placer County that is designed specifically to offset impacts on special-status species and protected habitats that are anticipated to occur as a result of the planned growth of Placer County and the City of Lincoln. The project area is not located within the boundary of the PCCP; therefore, the project would not conflict with this plan. No other habitat conservation plans, natural community conservation plans, or similar plans are being considered in the project area. No impact would occur. This issue is not discussed further in this Draft EIS/EIR.

The portion of the CEQA criteria stating "threaten to eliminate a plant community" is addressed in Section 4.12, "Vegetation." As identified in Section 4.12.2.3, 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 Draft EIS/EIR.

4.13.3 Direct and Indirect Environmental Consequences

4.13.3.1 ALTERNATIVE 1 – NO ACTION ALTERNATIVE

Impact 4.13-1 (Alt. 1): Disturbance or Loss of Federally Listed, Forest Service Sensitive, and Other Special-Status Botanical Species

Alternative 1 – No Action Alternative would result in a continuation of existing conditions. There would be no new construction and, therefore, no project-related disturbance to vegetation or special-status botanical species. 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 or Gazex facilities. The outcome would be a continuation of existing conditions, with no new construction and no installation and operation of new facilities. Therefore, there would be no project-related disturbances or loss of special-status botanical species.

NEPA Effects Conclusion

With no project-related disturbances to vegetation or special-status botanical species, there would be **no effect** related to this issue.

CEQA Determination of Effects

With no project-related disturbances to vegetation or special-status botanical species, there would be **no effect** related to this issue.

Mitigation Measures

No mitigation measures are required.

Impact 4.13-2 (Alt. 1): Result in the Introduction or Spread of Invasive Plant Species

Alternative 1 – No Action Alternative would result in a continuation of existing conditions. There would be no new construction and, therefore, no project-related mechanism to introduce or spread invasive plant species. There would be **no effect** under NEPA. This impact analysis is specific to a NEPA analytical indicator and is not responsive to a CEQA criteria. No CEQA determination of effect is provided.

Under Alternative 1 – No Action Alternative, the TNF and Placer County would not provide necessary authorizations to allow construction of a gondola or Gazex facilities. The outcome would be a continuation of existing conditions, with no new construction and no installation and operation of new facilities. Therefore, there would be no project-related mechanism to introduce or spread invasive plant species.

NEPA Effects Conclusion

With no project-related mechanism to introduce or spread invasive plant species, there would be **no effect** related to this issue.

CEQA Determination of Effects

This impact analysis is specific to a NEPA analytical indicator and is not responsive to a CEQA criterion. No CEQA determination of effect is provided.

Mitigation Measures

No mitigation measures are required.

4.13.3.2 ALTERNATIVE 2

Impact 4.13-1 (Alt. 2): Disturbance or Loss of Federally Listed, Forest Service Sensitive, and Other Special-Status Botanical Species

No botanical species listed under ESA or CESA would be affected by implementation of Alternative 2, as none occur in the project area. No special-status plant species of any type were identified in the project area during botanical surveys and most are not expected to occur. Implementation of Alternative 2 could disturb or remove a small amount of potentially suitable habitat for eight special-status species that are difficult to detect during surveys and may be present in mesic (wet) habitats (scalloped moonwort, common moonwort, upswept moonwort, Mingan moonwort, western goblin, Santa Lucia dwarf-rush, Bolander's bruchia, and Blandow's bog-moss). Under NEPA, and considering the NEPA indicators, absent RPMs and/or mitigation, direct and indirect effects related to vegetation removal and ground disturbance would be **adverse** because a small amount of potentially suitable habitat for botanical species could be disturbed or removed under Alternative 2. Implementing Alternative 2 **may impact individuals but is not likely to cause a trend toward federal listing or loss of viability** for any of these eight species. Implementation of RPMs BIO-1, BIO-2, BIO-9 through BIO-11, BIO-25, and BIO-26 would mitigate this effect. Under CEQA, and using the CEQA criteria, the impact would be **less than significant** because of the small potential for these species to be affected. In addition, RPMs BIO-1, BIO-2, BIO-9 through BIO-11, BIO-25, and BIO-26 would require further botanical surveys, resulting in the identification and avoidance of these species if present, implementation of mitigation actions for known plant occurrences that cannot be avoided, and minimization of disturbance in potential habitat for these species. With implementation of these RPMs, this impact would be reduced, although these RPMs are not necessary to reduce a significant impact to a less-than-significant level.

Protocol-level botanical surveys and habitat assessments were conducted in the study area on multiple dates in 2015, 2016, and 2017 (EcoSynthesis 2017). No special-status botanical species were observed during the protocol-level surveys. Further, the project area is outside of the known range of federal or state listed threatened, endangered, or proposed species.

The project area does contain potentially suitable habitat for 28 special-status botanical species, as identified above in Section 4.13.1.1. It is assumed that most of these species are not present in the study area and implementation of Alternative 2 would not affect them. However, as described in Section 4.13.1.1, the *Botrychium* species with potential to occur (scalloped moonwort, common moonwort, upswept moonwort, Mingan moonwort, and western goblin) are difficult to detect reliably during surveys because they do not send up aboveground parts (sporophytes) every year. Additionally, although Santa Lucia dwarf-rush, Bolander's bruchia (candle moss), and Blandow's bog-moss were not found in the study area during project-level botanical surveys, these species can be difficult to detect because they are very small and inconspicuous and can grow scattered among grasses and other vegetation. Therefore, although unlikely, these eight species may be present but undetected in a small amount of riparian/mesic habitats in the study area. As identified in the discussion of Impact 4.12-2 (Alt. 2) in Section 4.12, "Vegetation," less than 0.5 acre of riparian and mesic habitats would be disturbed under Alternative 2. All of these species are designated as sensitive by Forest Service Region 5, and these species have a CRPR of 1B or 2B, except for Bolander's bruchia (CRPR 4.2).

If scalloped moonwort, common moonwort, upswept moonwort, Mingan moonwort, western goblin, Santa Lucia dwarf-rush, Bolander's bruchia, and Blandow's bog-moss are present in the project site for Alternative 2, construction-related disturbances to suitable mesic habitats could result in the disturbance or removal of these species occurrences. However, as stated above, these species were not detected during protocol-level botanical surveys, and potentially suitable habitat is very limited in amount and quality. Therefore, any potential disturbances to these species, if they are present, would be minor locally and regionally. Therefore, implementing Alternative 2 **may impact individuals but is not likely to cause a trend toward federal listing or loss of viability** for any of these eight species. In addition, the project includes RPMs that would further reduce potential project impacts on these species and their habitats. Specifically, RPMs BIO-1, BIO-2, BIO-9 through BIO-11, BIO-25, and BIO-26 require additional botanical surveys in the growing season immediately preceding construction, biological monitors on-site during construction, establishment of protective buffers around special-status plant occurrences, compensation for any unavoidable disturbances to occurrences (e.g., salvaging seed and soil, relocating individuals), avoidance of habitats that may be suitable for these special-status species, and revegetation and restoration following construction. (The full text of all RPMs is provided in Appendix B.) Consequently, implementing Alternative 2 would have a very low potential to affect individuals of scalloped moonwort, common moonwort, upswept moonwort, Mingan moonwort, western goblin, Santa Lucia dwarf-rush, Bolander's bruchia, Blandow's bog-moss, or any other special-status botanical species, and would not substantially affect the abundance or distribution of any of these species, either directly or through habitat modifications.

NEPA Effects Conclusion

No federally listed botanical species would be affected by implementation of Alternative 2. Implementation of Alternative 2 could disturb or remove a small amount (less than 0.5 acre) of potentially suitable habitat for scalloped moonwort, common moonwort, upswept moonwort, Mingan moonwort, western goblin, Santa Lucia dwarf-rush, Bolander's bruchia, and Blandow's bog-moss, which could disturb or remove individuals if they are present. Under NEPA, and considering the NEPA indicators, absent RPMs and/or mitigation, the direct and indirect effects on special-status botanical species would be **adverse** because a small amount of potentially suitable habitat for botanical species could be disturbed or removed under Alternative 2. These effects would be mitigated through implementation of RPMs BIO-1, BIO-2, BIO-9 through BIO-11, BIO-25, and BIO-26.

CEQA Determination of Effects

No federally listed or state-listed botanical species would be affected by implementation of Alternative 2. Implementing Alternative 2 would have a very low potential to affect individuals of scalloped moonwort, common moonwort, upswept moonwort, Mingan moonwort, western goblin, Santa Lucia dwarf-rush, Bolander's bruchia, Blandow's bog-moss, or any other special-status botanical species, and would not substantially affect the local or regional abundance, distribution, or viability, either directly or through habitat modification. Under CEQA, and using the CEQA criteria, this impact would be **less than significant** because of the small potential for these species to be affected. Implementation of RPMs BIO-1, BIO-2, BIO-9 through BIO-11, BIO-25, and BIO-26 would further reduce the potential for adverse effects on special-status botanical species by requiring additional botanical surveys before construction, and subsequent avoidance and compensation for effects on any identified plants that cannot be avoided. With implementation of these

RPMs, this impact would be reduced, although these RPMs are not 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 BIO-1, BIO-2, BIO-9 through BIO-11, BIO-25, and BIO-26 as mitigation measures limits the potential for disturbance of special-status botanical species but is not necessary to reduce a significant effect.

Impact 4.13-2 (Alt. 2): Result in the Introduction or Spread of Invasive Plant Species

Alternative 2 could result in the introduction of invasive plant species in the project area if seeds or other propagules are carried on construction equipment or materials. Vehicle movement and ground disturbance during construction could spread seeds and propagules from existing infestations in the project area. Ground disturbance and habitat modification during construction could make areas more susceptible to invasive plant infestations both during construction and after construction is complete. Under NEPA, and considering the NEPA indicators, absent RPMs and/or mitigation, direct and indirect effects related to the increased potential for the spread of invasive plant species would be **adverse** because project implementation could introduce or spread seeds or propagules of invasive plant species. Implementation of RPMs BIO-2 through BIO-8, BIO-30, and BIO-31 would mitigate this effect. This impact analysis is specific to a NEPA analytical indicator and is not responsive to a CEQA criteria. No CEQA determination of effect is provided.

Under Alternative 2, the construction process would involve the delivery of equipment and materials to the project site. If vehicles, construction equipment, or erosion control materials, for example, carry seeds or propagules of invasive plant species, the construction process could provide a means of introducing invasive plant species to the project area. If construction equipment or personnel enter or disturb existing invasive plant infestations, seeds or propagules from these infestations could be spread to other areas. As identified above in Section 4.13.1.1, “Environmental Setting,” there are four known infestations within, or near (within 500 feet) the identified Alternative 2 disturbance area. Construction would cause ground disturbance both through overstory vegetation removal, installation of permanent project features, and temporary ground disturbance near these features and for access ways and other temporary project elements. Many invasive plant species establish in areas of ground disturbance. Areas of temporary construction disturbance may provide suitable conditions for invasive plant infestations for several years after construction is complete. Topsoil would be salvaged and re-spread following construction and construction sites would be revegetated to help minimize habitat alteration. Depending on the conditions where the topsoil is salvaged and the source of seed for revegetation, both of these activities could result in the introduction or spread of invasive plant seeds or propagules.

Alternative 2 would result in removal or disturbance of approximately 21 acres of combined native land covers, ruderal vegetation, and urban areas. Depending on the type and extent of disturbance, all land cover types could be made more susceptible to invasive species infestations from construction related ground disturbance.

Multiple RPMs are included in the project that would reduce the potential for the introduction and spread of invasive plant species. RPM BIO-2 provides for implementation of pre-construction floristic surveys, which would include identification of invasive plant infestations. RPM BIO-3 requires treatment/eradication of existing invasive plant infestations in the project area and infestations found during and after construction. This RPM also requires that post-construction monitoring for noxious weeds be conducted annually for 3 years after construction is complete. RPM BIO-4 requires that construction equipment arrive to the project site clean and weed free. RPM BIO-5 requires the ongoing cleaning of construction equipment to prevent the spread of invasive plants. RPMs BIO-6 and BIO-7 relate to the use of weed-free materials during project implementation. RPM BIO-8 provides guidance on invasive plant eradication methods. RPMs BIO-30 and BIO-31 address revegetation of temporarily disturbed areas. Prompt and successful revegetation would make disturbed areas less susceptible to invasive plant infestations.

NEPA Effects Conclusion

Under NEPA, and considering the NEPA indicators, absent RPMs and/or mitigation, direct and indirect effects related to the potential introduction and spread of invasive plant species from Alternative 2 would be **adverse** because project implementation could introduce or spread seeds or propagules of invasive plant species. These effects would be mitigated through implementation of RPMs BIO-2 through BIO-8, BIO-30, and BIO-31.

CEQA Determination of Effects

This impact analysis is specific to a NEPA analytical indicator and is not responsive to a CEQA criterion. No CEQA determination of effect is provided.

Mitigation Measures

No mitigation measures are required.

4.13.3.3 ALTERNATIVE 3

Impact 4.13-1 (Alt. 3): Disturbance or Loss of Federally Listed, Forest Service Sensitive, and Other Special-Status Botanical Species

No botanical species listed under ESA or CESA would be affected by implementation of Alternative 3, as none occur in the project area. No special-status plant species of any type were identified in the project area during botanical surveys and most are not expected to occur. Implementation of Alternative 3 could disturb or remove a small amount of potentially suitable habitat for eight special-status species that are difficult to encounter/observe during surveys and may be present in mesic (wet) habitats (scalloped moonwort, common moonwort, upswept moonwort, Mingan moonwort, western goblin, Santa Lucia dwarf-rush, Bolander's bruchia, and Blandow's bog-moss). Under NEPA, and considering the NEPA indicators, absent RPMs and/or mitigation, direct and indirect effects related to disturbance or removal of these species would be **adverse** because a small amount of potentially suitable habitat for botanical species could be disturbed or removed under Alternative 3. Implementing Alternative 3 **may impact individuals but is not likely to cause a trend toward federal listing or loss of viability** for any of these eight species. Implementation of RPMs BIO-1, BIO-2, BIO-9 through BIO-11, BIO-25, and BIO-26 would mitigate this effect. Under CEQA, and using the CEQA criteria, the impact would be **less than significant** because of the small potential for these species to be affected. In addition, RPMs BIO-1, BIO-2, BIO-9 through BIO-11, BIO-25, and BIO-26 would require further botanical surveys, resulting in the identification and avoidance of these species if present, implementation of mitigation actions for known plant occurrences that cannot be avoided, and minimization of disturbance in potential habitat for these species. With implementation of these RPMs, this impact would be reduced, although these RPMs are not necessary to reduce a significant impact to a less-than-significant level.

Impact 4.13-1 (Alt. 3) would be similar to Impact 4.13-1 (Alt. 2). As identified in the discussion of Impact 4.12-2 (Alt. 3) in Section 4.12, "Vegetation," less than 0.5 acre of riparian and mesic habitats would be disturbed under Alternative 3. This is similar to the acreage of effect under Alternative 2.

The project includes RPMs that would further reduce potential project impacts on these species and their habitats. Specifically, RPMs BIO-1, BIO-2, BIO-9 through BIO-11, BIO-25, and BIO-26 require additional botanical surveys in the growing season immediately preceding construction, biological monitors on site during construction, establishment of protective buffers around special-status plant occurrences, compensation for any unavoidable disturbances to occurrences (e.g., salvaging seed and soil, relocating individuals), avoidance of habitats that may be suitable for these special-status species, and revegetation and restoration following construction. Consequently, implementing Alternative 3 would have a very low potential to affect individuals of scalloped moonwort, common moonwort, upswept moonwort, Mingan moonwort, western goblin, Santa Lucia dwarf-rush, Bolander's bruchia, Blandow's bog-moss, or any other special-status botanical species, and would not substantially affect the abundance or distribution of any of these species, either directly or through habitat modifications. Implementing Alternative 3 **may impact individuals but is not likely to cause a trend toward federal listing or loss of viability** for any of these eight species.

NEPA Effects Conclusion

No federally listed botanical species would be affected by implementation of Alternative 3. Implementation of Alternative 3 could disturb or remove a small amount (less than 0.5 acre) of potentially suitable habitat for scalloped moonwort, common moonwort, upswept moonwort, Mingan moonwort, western goblin, Santa Lucia dwarf-rush, Bolander's bruchia, and Blandow's bog-moss, which could disturb or remove individuals if they are present. Under NEPA, and considering the NEPA indicators, absent RPMs and/or mitigation, the direct and indirect effects on special-status botanical species would be **adverse** because a small amount of potentially suitable habitat for botanical species could be disturbed or removed under Alternative 3. These effects would be mitigated through implementation of RPMs BIO-1, BIO-2, BIO-9 through BIO-11, BIO-25, and BIO-26. The RPMs would be equally effective under Alternative 3 as under Alternative 2.

CEQA Determination of Effects

No federally listed or state-listed botanical species would be affected by implementation of Alternative 3. Implementing Alternative 3 would have a very low potential to affect individuals of scalloped moonwort, common moonwort, upswept moonwort, Mingan moonwort, western goblin, Santa Lucia dwarf-rush, Bolander's bruchia, Blandow's bog-moss, or any other special-status botanical species, and would not substantially affect the local or regional abundance, distribution, or viability, either directly or through habitat modifications. Under CEQA, and using the CEQA criteria, this impact would be **less than significant** because of the small potential for these species to be affected. Implementation of RPMs BIO-1, BIO-2, BIO-9 through BIO-11, BIO-25, and BIO-26 would further reduce the potential for adverse effects on special-status botanical species by requiring additional botanical surveys before construction and subsequent avoidance and compensation for effects on any identified plants that cannot be avoided. With implementation of these RPMs, this impact would be reduced, although these RPMs are not necessary to reduce a significant impact to a less-than-significant level. These RPMs would be equally effective under Alternative 3 as under Alternative 2.

Mitigation Measures

All RPMs provided in Appendix B are adopted by Placer County as mitigation measures and are included in the MMRP for the project. The adoption of RPMs BIO-1, BIO-2, BIO-9 through BIO-11, BIO-25, and BIO-26 as mitigation measures limits the potential for disturbance of special-status botanical species but is not necessary to reduce a significant effect.

Impact 4.13-2 (Alt. 3): Result in the Introduction or Spread of Invasive Plant Species

Alternative 3 could result in the introduction of invasive plant species in the project area if seeds or other propagules are carried on construction equipment or materials. Vehicle movement and ground disturbance during construction could spread seeds and propagules from existing infestations in the project area. Ground disturbance and habitat modification during construction could make areas more susceptible to invasive plant infestations both during construction and after construction is complete. Under NEPA, and considering the NEPA indicators, absent RPMs and/or mitigation measures, direct and indirect effects related to the increased potential for the spread of invasive plant species would be **adverse** because project implementation could introduce or spread seeds or propagules of invasive plant species. Implementation of RPMs BIO-2 through BIO-8, BIO-30, and BIO-31 would mitigate this effect. This impact analysis is specific to a NEPA analytical indicator and is not responsive to a CEQA criteria. No CEQA determination of effect is provided.

The mechanisms for the introduction and spread of invasive plant species identified above for Alternative 2 would be the same for Alternative 3.

Alternative 3 would result in removal or disturbance of approximately 18 acres of combined native land covers, ruderal vegetation, and urban areas, which is less than the 21 acres identified for Alternative 2. Depending on the type and extent of disturbance, all land cover types could be made more susceptible to invasive species infestations from construction related ground disturbance.

Multiple RPMs are included in the project that would reduce the potential for the introduction and spread of invasive plant species. RPM BIO-2 provides for implementation of pre-construction floristic surveys, which

would include identification of invasive plant infestations. RPM BIO-3 requires treatment/eradication of existing invasive plant infestations in the project area and infestations found during and after construction. This RPM also requires that post-construction monitoring for noxious weeds be conducted annually for 3 years after construction is complete. RPM BIO-4 requires that construction equipment arrive to the project site clean and weed free. RPM BIO-5 requires the ongoing cleaning of construction equipment to prevent the spread of invasive plants. RPMs BIO-6 and BIO-7 relate to the use of weed free materials during project implementation. RPM BIO-8 provides guidance on invasive plant eradication methods. RPMs BIO-30 and BIO-31 address revegetation of temporarily disturbed areas. Prompt and successful revegetation would make disturbed areas less susceptible to invasive plant infestations.

NEPA Effects Conclusion

Under NEPA, and considering the NEPA indicators, absent RPMs and/or mitigation, direct and indirect effects related to the potential introduction and spread of invasive plant species from Alternative 3 would be **adverse** because project implementation could introduce or spread seeds or propagules of invasive plant species. The potential for these effects would be slightly less than for Alternative 2 because of the reduced disturbance acreage under Alternative 3. These effects would be mitigated through implementation of RPMs BIO-2 through BIO-8, BIO-30, and BIO-31. These RPMs would be equally effective under Alternative 3 as under Alternative 2.

CEQA Determination of Effects

This impact analysis is specific to a NEPA analytical indicator and is not responsive to a CEQA criterion. No CEQA determination of effect is provided.

Mitigation Measures

No mitigation measures are required.

4.13.3.4 ALTERNATIVE 4

Impact 4.13-1 (Alt. 4): Disturbance or Loss of Federally Listed, Forest Service Sensitive, and Other Special-Status Botanical Species

No botanical species listed under ESA or CESA would be affected by implementation of Alternative 4, as none occur in the project area. No special-status plant species of any type were identified in the project area during botanical surveys and most are not expected to occur. Implementation of Alternative 4 could disturb or remove a small amount of potentially suitable habitat for eight special-status species that are difficult to encounter/observe during surveys and may be present in mesic (wet) habitats (scalloped moonwort, common moonwort, upswept moonwort, Mingan moonwort, western goblin, Santa Lucia dwarf-rush, Bolander's bruchia, and Blandow's bog-moss). Under NEPA, and considering the NEPA indicators, absent RPMs and/or mitigation, direct and indirect effects related to disturbance or removal of these species would be **adverse** because a small amount of potentially suitable habitat for botanical species could be disturbed or removed under Alternative 4. Implementing Alternative 4 **may impact individuals but is not likely to cause a trend toward federal listing or loss of viability** for any of these eight species. Implementation of RPMs BIO-1, BIO-2, BIO-9 through BIO-11, BIO-25, and BIO-26 would mitigate this effect. Under CEQA, and using the CEQA criteria, the impact would be **less than significant** because of the small potential for these species to be affected. In addition, RPMs BIO-1, BIO-2, BIO-9 through BIO-11, BIO-25, and BIO-26 would require further botanical surveys, resulting in the identification and avoidance of these species if present, implementation of mitigation actions for known plants that cannot be avoided, and minimization of disturbance in potential habitat for these species. With implementation of these RPMs, this impact would be reduced, although these RPMs are not necessary to reduce a significant impact to a less-than-significant level.

Impact 4.13-1 (Alt. 4) would be similar to Impact 4.13-1 (Alt. 2). As identified in the discussion of Impact 4.12-2 (Alt. 4) in Section 4.12, "Vegetation," slightly less than 2 acres of riparian and mesic habitats would be disturbed under Alternative 4. This is greater than the 0.5 acre of effect under both Alternatives 2 and 3.

The project includes RPMs that would further reduce potential project impacts on these species and their habitats. Specifically, RPMs BIO-1, BIO-2, BIO-9 through BIO-11, BIO-25, and BIO-26 require additional botanical surveys in the growing season immediately preceding construction, biological monitors on site during construction, establishment of protective buffers around special-status plant occurrences, compensation for any unavoidable disturbances to occurrences (e.g., salvaging seed and soil, relocating individuals), avoidance of habitats that may be suitable for these special-status species, and revegetation and restoration following construction). Consequently, implementing Alternative 4 would have a very low potential to affect individuals of scalloped moonwort, common moonwort, upswept moonwort, Mingan moonwort, western goblin, Santa Lucia dwarf-rush, Bolander's bruchia, Blandow's bog-moss, or any other special-status botanical species, and would not substantially affect the abundance or distribution of any of these species, either directly or through habitat modifications. Implementing Alternative 4 **may impact individuals but is not likely to cause a trend toward federal listing or loss of viability** for any of these eight species.

NEPA Effects Conclusion

No federally listed botanical species would be affected by implementation of Alternative 4. Implementation of Alternative 4 could disturb or remove a small amount (less than 2 acres) of potentially suitable habitat for scalloped moonwort, common moonwort, upswept moonwort, Mingan moonwort, western goblin, Santa Lucia dwarf-rush, Bolander's bruchia, and Blandow's bog-moss, which could disturb or remove individuals if they are present. Under NEPA, and considering the NEPA indicators, absent RPMs and/or mitigation, the direct and indirect effects on special-status botanical species would be adverse because a small amount of potentially suitable habitat for botanical species could be disturbed or removed under Alternative 4. These effects would be mitigated through implementation of RPMs BIO-1, BIO-2, BIO-9 through BIO-11, BIO-25, and BIO-26. These RPMs would be equally effective under Alternative 4 as under Alternative 2.

CEQA Determination of Effects

No federally listed or state-listed botanical species would be affected by implementation of Alternative 4. Implementing Alternative 4 would have a very low potential to affect individuals of scalloped moonwort, common moonwort, upswept moonwort, Mingan moonwort, western goblin, Santa Lucia dwarf-rush, Bolander's bruchia, Blandow's bog-moss, or any other special-status botanical species, and would not substantially affect the local or regional abundance, distribution, or viability, either directly or through habitat modifications of any of these species. Under CEQA, and using the CEQA criteria, this impact would be **less than significant** because of the small potential for these species to be affected. Implementation of RPMs BIO-1, BIO-2, BIO-9 through BIO-11, BIO-25, and BIO-26 would further reduce the potential for adverse effects on special-status botanical species by requiring additional botanical surveys before construction and subsequent avoidance and compensation for effects on any identified plants that cannot be avoided. With implementation of these RPMs, this impact would be reduced, although these RPMs are not necessary to reduce a significant impact to a less-than-significant level. These RPMs would be equally effective under Alternative 4 as under Alternative 2.

Mitigation Measures

All RPMs provided in Appendix B are adopted by Placer County as mitigation measures and are included in the MMRP for the project. The adoption of RPMs BIO-1, BIO-2, BIO-9 through BIO-11, BIO-25, and BIO-26 as mitigation measures limits the potential for disturbance of special-status botanical species but is not necessary to reduce a significant effect.

Impact 4.13-2 (Alt. 4): Result in the Introduction or Spread of Invasive Plant Species

Alternative 4 could result in the introduction of invasive plant species in the project area if seeds or other propagules are carried on construction equipment or materials. Vehicle movement and ground disturbance during construction could spread seeds and propagules from existing infestations in the project area. Ground disturbance and habitat modification during construction could make areas more susceptible to invasive plant infestations both during construction, and after construction is complete. Under NEPA, and considering the NEPA indicators, absent RPMs and/or mitigation, the increased potential for the spread of invasive plant species would be **adverse** because project implementation could introduce or spread seeds or propagules of invasive plant species. Implementation of RPMs BIO-2 through BIO-8, BIO-30, and BIO-31 would mitigate this effect. This impact analysis is specific to a NEPA analytical indicator and is not responsive to a CEQA criteria. No CEQA determination of effect is provided.

The mechanisms for the introduction and spread of invasive plant species identified above for Alternative 2 would be the same for Alternative 4.

Alternative 4 would result in removal or disturbance of approximately 15 acres of combined native land covers, ruderal vegetation, and urban areas, which is less than the 21 acres identified for Alternative 2. Depending on the type and extent of disturbance, all land cover types could be made more susceptible to invasive species infestations from construction related ground disturbance.

Multiple RPMs are included in the project that would reduce the potential for the introduction and spread of invasive plant species. RPM BIO-2 provides for implementation of pre-construction floristic surveys, which would include identification of invasive plant infestations. RPM BIO-3 requires treatment/eradication of existing invasive plant infestations in the project area and infestations found during and after construction. This RPM also requires that post-construction monitoring for noxious weeds be conducted annually for 3 years after construction is complete. RPM BIO-4 requires that construction equipment arrive to the project site clean and weed free. RPM BIO-5 requires the ongoing cleaning of construction equipment to prevent the spread of invasive plants. RPMs BIO-6 and BIO-7 relate to the use of weed free materials during project implementation. RPM BIO-8 provides guidance on invasive plant eradication methods. RPMs BIO-30 and BIO-31 address revegetation of temporarily disturbed areas. Prompt and successful revegetation would make disturbed areas less susceptible to invasive plant infestations.

NEPA Effects Conclusion

Under NEPA, and considering the NEPA indicators, absent RPMs and/or mitigation, direct and indirect effects related to the potential introduction and spread of invasive plant species from Alternative 4 would be **adverse** because project implementation could introduce or spread seeds or propagules of invasive plant species. The potential for these effects would be slightly less than for Alternative 2 because of the reduced disturbance acreage under Alternative 4. These effects would be mitigated through implementation of RPMs BIO-2 through BIO-8, BIO-30, and BIO-31 that would minimize the potential for the introduction and spread of seeds and propagules of invasive plant species and require the eradication of invasive plant infestations where they are found. These RPMs would be equally effective under Alternative 4 as under Alternative 2.

CEQA Determination of Effects

This impact analysis is specific to a NEPA analytical indicator and is not responsive to a CEQA criterion. No CEQA determination of effect is provided.

Mitigation Measures

No mitigation measures are required.

4.13.3.5 SUMMARY OF DIRECT AND INDIRECT EFFECTS

Table 4.13-1 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.

For Impact 4.13-1, the effect would be adverse for all action alternatives when considering the NEPA indicators and each action alternative may impact individuals but is not likely to cause a trend toward federal listing or loss of viability for any of the eight special-status botanical species that could be present. Impact 4.13-1 is less than significant under CEQA for all three action alternatives. The potential for adverse effects would be slightly greater for Alternative 4 than for Alternatives 2 and 3 because of greater disturbance of land covers considered potential habitat for the special-status plant species evaluated (slightly less than 2 acres for Alternative 4 versus less than 0.5 acre for Alternatives 2 and 3), but there would be no substantial difference in effects across the action alternatives.

For Impact 4.13-2, the effect would be adverse when considering the NEPA indicator for all three action alternatives. This impact is specific to a NEPA analytical indicator and is not responsive to a CEQA criteria. No CEQA determination of effect is provided. The potential for adverse effects associated with the introduction and spread of invasive plants would be slightly greater for Alternative 2 because of the greater total construction disturbance area, approximately 21 acres, versus approximately 18 acres for Alternative 3 and 15 acres for Alternative 4.

Table 4.13-1 Summary of Direct and Indirect Effects

Impact	Applicable Analytical Indicators and Significance Criteria	Alt. 1	Alt. 2	Alt. 3	Alt. 4
4.13-1: Disturbance or Loss of Federally Listed, Forest Service Sensitive, and Other Special-Status Botanical Species	Identify and disclose impacts to any federally listed threatened and endangered species, Forest Service Region 5 sensitive species, and species of local concern present in the study area	No effect	Adverse under NEPA; may impact individuals but is not likely to cause a trend toward federal listing or loss of viability; less than significant under CEQA	Adverse under NEPA; may impact individuals but is not likely to cause a trend toward federal listing or loss of viability; less than significant under CEQA Similar to Alternative 2	Adverse under NEPA; may impact individuals but is not likely to cause a trend toward federal listing or loss of viability; less than significant under CEQA Greater than under Alternatives 2 and 3
	Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, polices, 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
	Threaten to eliminate a plant community or reduce the number or restrict the range of a rare or endangered plant	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
4.13-2: Result in the Introduction or Spread of Invasive Plant Species	Identify design criteria and BMPs (including noxious weed design features) to avoid the spread of noxious or other undesirable weed species and to manage existing populations toward eradication or acceptable levels when eradication is not realistic	No effect	Adverse under NEPA	Adverse under NEPA Less than under Alternative 2	Adverse under NEPA Less than under Alternatives 2 and 3

4.13.4 Cumulative Effects

4.13.4.1 METHODS AND APPROACH

The list of past, present, and reasonably foreseeable future projects considered in this cumulative effects analysis is provided in Chapter 3 of the Draft EIS/EIR. The spatial scope used for this analysis of cumulative effects on botanical resources is the Bear Creek Watershed, Squaw Creek hydrologic unit code (HUC) 12, and the portion of upper middle Truckee River HUC-12 near where Bear Creek and Squaw Creek flow into the Truckee River. A HUC is a U.S. Geological Survey (USGS) developed designation for watersheds and provides a mechanism to split larger watersheds into smaller units. The larger the HUC number, the smaller the portion of a watershed area included in the HUC. The complete Squaw Creek and middle Truckee River watersheds cover a larger area than would be appropriate for this cumulative impact analysis. Use of the HUC-12 designations encompasses a portion of the larger Squaw Creek and middle Truckee River watersheds appropriate for evaluating past, present, and reasonably foreseeable future projects with a reasonable potential to interact with the action alternatives on a cumulative basis related to effects on botanical resources. This is the same spatial scope used for the analysis of cumulative wetland impacts (see Section 4.15, "Wetlands"), which is appropriate given that the eight special-status botanical species that might occur in the project area are associated with riparian and mesic habitats. This is also a reasonable area to assess the potential for the cumulative spread of invasive plant species. Current resource conditions are used to represent the composite of past actions. The area encompassing the cumulative spatial scope of the analysis includes Olympic Valley and Bear Creek Valley, which both have long histories of human activity ranging from timber harvests over a century ago, to the winter Olympics at Squaw Valley in 1960, to ongoing residential, commercial, and residential development over the last 50 years. A specific temporal timeframe for the identification or analysis of past actions would not provide information not already expressed in the description of current resource conditions and could exclude historic activities that have influenced these current conditions. In general, past activities that have affected the current cumulative condition for botanical resources in cumulative analysis area 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 beginning in late spring 2019) as well as the operational period of the gondola (winter season); however, for botanical resources, the temporal scope for reasonably foreseeable future actions is more broadly defined because disturbance and/or loss of vegetation or special-status botanical species 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 botanical species habitat and landscape patterns that may influence the distribution and abundance of botanical species, including special-status plants and invasive plants, within the gondola project area and surrounding watersheds.

Any present or reasonably foreseeable future projects within the spatial scope of the analysis that have the potential to affect botanical resources are listed below. Potential impacts associated with these projects to botanical resources include disturbance or loss of individuals or populations of special-status botanical species and contributing to the spread of invasive plant species.

Project	Potential impacts
Alpine Meadows Master Development Plan	Possible disturbance/loss of special-status botanical species and contribution to the spread of invasive plant species
Village at Squaw Valley Specific Plan	Possible disturbance/loss of special-status botanical species and contribution to the spread of invasive plant species
Squaw Valley Red Dog Lift Replacement	Possible disturbance/loss of special-status botanical species and contribution to the spread of invasive plant species
Timberline Twister	Possible disturbance/loss of special-status botanical species and contribution to the spread of invasive plant species
Alpine Meadows Hotwheels Lift Replacement	Possible disturbance/loss of special-status botanical species and contribution to the spread of invasive plant species
Caldwell property (White Wolf) development	Possible disturbance/loss of special-status botanical species and contribution to the spread of invasive plant species
General development in Olympic Valley	Possible disturbance/loss of special-status botanical species and contribution to the spread of invasive plant species
General development in Alpine Meadows	Possible disturbance/loss of special-status botanical species and contribution to the spread of invasive plant species
Alpine Sierra subdivision	Possible disturbance/loss of special-status botanical species and contribution to the spread of invasive plant species
Truckee River Corridor Access Plan	Possible disturbance/loss of special-status botanical species and contribution to the spread of invasive plant species

Alternative 1 – No Action Alternative

Under Alternative 1 – No Action Alternative, there would be no new construction, and therefore, no project-related disturbance to vegetation or special-status botanical species. There would be no contribution to an existing cumulative effect on special-status botanical species.

Alternative 2

Given the rarity of many of the special-status botanical species in the region, the existing cumulative condition is adverse. The gondola project only has the potential to affect scalloped moonwort, common moonwort, upswept moonwort, Mingan moonwort, western goblin, Santa Lucia dwarf-rush, Bolander's bruchia, and Blandow's bog-moss. These species are all associated with riparian and mesic habitats and are the only special-status botanical species with potential to occur in the project study area. Therefore, only reasonably foreseeable future projects that would also affect these species or their habitat would have the potential to interact on a cumulative basis with the gondola project. All the reasonably foreseeable future projects listed above, except the two lift replacement projects, have some potential to affect riparian and mesic habitats, and therefore could affect potential habitat for the eight special-status botanical species considered. It is assumed that the lift replacement projects would have sufficient flexibility in project design to avoid effects on riparian and mesic habitats. Implementation of the reasonably foreseeable future

projects considered here would all be subject to environmental review and laws and regulations limiting effects on special-status botanical species. Although past projects may have had an adverse effect on special-status botanical species, as evidenced by the rarity of many of these species and the limited availability of potential habitat, reasonably foreseeable future projects would be subject to laws and regulations such as NEPA, CEQA, ESA, CESA, and Section 404 of the CWA. Reasonably foreseeable future projects would be expected to avoid and/or compensate for effects on special-status botanical species consistent with these laws, minimizing the potential for an ongoing adverse cumulative effect. As described above in the discussions of Impact 4.13-1 (Alt. 2), with implementation of applicable RPMs, Alternative 2 would have little to no effect on special-status botanical species. Therefore, Alternative 2 would not make a considerable contribution to any cumulative effect related to special-status botanical species.

Past projects and activities have resulted in the introduction and spread of various invasive plant species in the project region, resulting in habitat degradation and other adverse effects on biological resources. The current presence and spread of invasive plant species in the project region reflects an adverse cumulative condition resulting from past projects. All of the reasonably foreseeable future projects in the spatial scope of this cumulative analysis have the potential to continue this trend by introducing and spreading invasive plant species during project construction and making project sites more susceptible to invasive plant infestations because of construction related ground disturbance. However, there are current policies, regulations, and programs in place that would minimize the potential for the further spread of invasive plant species and the introduction of new species. Implementing Alternative 2 also has the potential to introduce and spread invasive plant species during project construction and through ground disturbance. Nearby source populations could passively colonize disturbed ground or attach to personnel or equipment and be transported to the site from an infested area. Soil, vegetation, and other materials transported to the project area from off-site sources for BMP, revegetation, or fill for project construction could contain invasive weed seeds or plant material that could become established in the project area. Additionally, invasive plant species currently present in or near the project area have the potential to be spread by construction disturbances. However, RPMs included in the project design would be implemented to avoid and minimize the introduction and spread of invasive species. As described above in the discussions of Impact 4.13-2 (Alt. 2), with implementation of these RPMs, Alternative 2 would have little to no effect on the introduction and spread of invasive plant species. Therefore, Alternative 2 would not make a considerable contribution to any existing cumulative effect related to invasive plant species.

Alternatives 3 and 4

Potential effects of Alternatives 3 and 4 related to special-status botanical species and invasive plant species would be similar to those described for Alternative 2. As described above, the potential for adverse effects would be slightly greater for Alternative 4 than for Alternatives 2 and 3 because of greater disturbance of land covers considered potential habitat for scalloped moonwort, common moonwort, upswept moonwort, Mingan moonwort, western goblin, Santa Lucia dwarf-rush, Bolander's bruchia, and Blandow's bog-moss (slightly less than 2 acres for Alternative 4 versus less than 0.5 acre for Alternatives 2 and 3). The potential for adverse effects associated with the introduction and spread of invasive plants would be slightly greater for Alternative 2 because of the greater total construction disturbance area, approximately 21 acres, versus approximately 18 acres for Alternative 3 and 15 acres for Alternative 4. The potential for adverse effects for each alternative also reflects the degree to which that alternative would contribute to cumulative effects. Overall, for the same reasons discussed for Alternative 2, Alternatives 3 and 4 would not make a considerable contribution to an existing cumulative effect related to special-status botanical species or invasive plant species in the spatial-scope for the cumulative analysis.

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