

Appendix D. Special-Status Species Evaluations

A total of 94 special-status species were considered in the evaluation of the Morro Bay to Cayucos Connector project (see Tables C-1 and C-2). The purpose of this document appendix is to evaluate whether special-status species or their critical habitat are known to be or could be present within the project area and to determine the need for consultation and conference with the U.S. Fish and Wildlife Service or other resource agencies. For the purposes of this evaluation, special-status species are defined as plants and animals that are:

- Afforded protection under the Federal Endangered Species Act (FESA) and/or California Endangered Species Act (CESA);
- Proposed for listing under the FESA and/or CESA;
- Afforded protection under sections of the California Fish and Game Code;
- Afforded protection under the Migratory Bird Treaty Act of 1918;
- Considered either Federal Species of Concern or California Special Concern Species;
- That meet the definitions of rare or endangered species under CEQA;
- Considered sensitive by the California Native Plant Society (CNPS); and,
- Considered sensitive by local resource groups/agencies or the scientific community.

Each species in the following tables was evaluated to determine (1) the known or likely occurrence of a species or its preferred habitat in the vicinity of the project area, and the possibility of a species or its preferred habitat types occurring in areas expected to be affected; (2) the direct physical loss of habitat; (3) the loss of habitat from its modification; and (4) the effective loss of habitat due to construction activity, noise, trampling, or other types of direct and indirect effects. Habitat fragmentation was also considered. Special-status species are considered further in the body of the Environmental Impact Report (in Chapter 3, Biological Resources) if the proposed project could have direct, indirect, or cumulative impacts on the species.

As a result of this evaluation, including an analysis of distribution and abundance, habitat requirements of each species, and habitat characteristics of the project site, and existing human disturbances at the site, it was determined that 8 of the 94 special-status species listed in the tables warrant further consideration in the body of the Environmental Impact Report (EIR) and are discussed below the tables. The remaining 86 special-status species do not occur in the project area and there would be no direct, indirect, or cumulative effect on these species from the proposed project. These species are not evaluated further in this EIR.

Table D-1. Special-Status Plant Species Investigated for Potential Occurrence

Species Name	Habitat and Distribution	Flower Season	Legal Status Federal/ State/ CNPS	Rationale for Expecting Presence or Absence
red sand verbena <i>Abronia maritima</i>	Perennial herb that occurs in coastal dunes. 0-100 meters	February-November	--/--/4.2	Suitable Conditions Present: Several occurrences were observed in the BSA.
Arroyo de la cruz manzanita <i>Arctostaphylos cruzensis</i>	Broadleaf upland forest, coastal scrub, closed cone coniferous forest, chaparral and grassland. On sandy soils. 60-310 meters	December-March	--/--/1B.2	Suitable Conditions Absent: The BSA is at a lower elevation than this species documented range. No <i>Arctostaphylos</i> species were observed in the BSA.
Santa Lucia manzanita <i>Arctostaphylos luciana</i>	Evergreen shrub; occurs on Chaparral with shale outcrops. 350-850 meters	February-March	--/--/1B.2	Suitable Conditions Absent: The BSA is at a lower elevation than this species documented range. No <i>Arctostaphylos</i> species were observed in the BSA.
Morro manzanita <i>Arctostaphylos morroensis</i>	Chaparral, cismontane woodland, coastal scrub, on stabilized coastal dunes. 5-205 meters	December-March	FT/--/1B.1	Suitable Conditions Absent: The BSA is north of this species range and does not support stabilized dunes. No <i>Arctostaphylos</i> species were observed in the study area.
Oso Manzanita <i>Arctostaphylos osoensis</i>	Evergreen shrub; occurs in chaparral and cismontane woodland associated with dacite porphyry (purple/red igneous volcanic rock) on buttes. 300-500 meters	February-March	--/--/1B.2	Suitable Conditions Absent: The BSA is at a lower elevation than this species documented range and does not contain dacite soils or the appropriate community. No <i>Arctostaphylos</i> species were observed in the study area.
Pecho manzanita <i>Arctostaphylos pechoensis</i>	Closed coniferous forest, chaparral, and coastal scrub on siliceous shale. 125–850 meters	November to March	--/--/1B.2	Suitable Conditions Absent: The BSA is at a lower elevation than this species documented range. No <i>Arctostaphylos</i> species were observed in the study area.
Santa Margarita manzanita <i>Arctostaphylos pilosula</i>	Evergreen shrub; occurs in closed coniferous forest, chaparral, and cismontane woodland on shale soils. 170-1100 meters	December - March	--/--/1B.2	Suitable Conditions Absent: The BSA is at a lower elevation than this species documented range and does not contain shale soils or the appropriated community. No <i>Arctostaphylos</i> species were observed

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Species Name	Habitat and Distribution	Flower Season	Legal Status Federal/ State/ CNPS	Rationale for Expecting Presence or Absence
				in the study area.
dacite manzanita <i>Arctostaphylos tomentosa</i> ssp. <i>daciticola</i>	Evergreen shrub occurs in chaparral and cismontane woodland associated with dacite porphyry (purple/red igneous volcanic rock) on buttes. 100-300 meters	March	--/--/1B.1	Suitable Conditions Absent: The BSA is at a lower elevation than this species documented range and does not contain dacite soils or the appropriate community. No <i>Arctostaphylos</i> species were observed in the BSA.
Well's manzanita <i>Arctostaphylos wellsii</i>	Sandstone outcrops in chaparral, closed-cone coniferous forest. 30-400 meters	December-May	--/--/1B.1	Suitable Conditions Absent: The BSA does not contain sandstone outcrops, sandstone soils, or the appropriate communities. No <i>Arctostaphylos</i> species were observed in the BSA.
marsh sandwort <i>Arenaria paludicola</i>	Marshes and swamps. Grows through dense mats of <i>Typha</i> , <i>Juncus</i> , <i>Scirpus</i> , etc. in freshwater marsh. 10-170 meters	May-August	FE/CE/1B.1	Suitable Conditions Absent: Shallow portions of Toro Creek provide suitable habitat; however, Toro Creek is located north of marsh sandwort's range. The nearest occurrence are planted specimens located six miles south of the project site. Species not observed during surveys conducted in the appropriate season.
Mile's milk vetch <i>Astragalus didymocarpus</i> var. <i>milesianus</i>	Annual herb; Occurs in coastal scrub on clay soils. 20-90 meters	March-June	--/--/1B.2	Suitable Conditions Present: Species not observed during survey conducted in the appropriate period.
San Joaquin spearscale <i>Atriplex joaquiniana</i>	Shrub occurs in chenopod scrub, meadows, seeps, playas, and valley and foothill grassland. Often in alkaline soils. 1 - 835 meters	April-October	--/--/1B.2	Suitable Conditions Absent: The BSA does not contain alkali soils. The last recorded occurrence in the Morro Bay area was 1899. Species not observed during surveys conducted in the appropriate season.

Table D-1. Special-Status Plant Species Investigated for Potential Occurrence

Species Name	Habitat and Distribution	Flower Season	Legal Status Federal/ State/ CNPS	Rationale for Expecting Presence or Absence
round-leaved filaree <i>California macrophylla</i>	Annual herb occurs in cismontane woodland and valley and foothill grassland with clay soils. 15-1200 meters	March-May	--/--/1B.1	Suitable Conditions Absent: The BSA is located east of this species documented range. The one documented occurrence was observed in the Creston area in 1952. Species not observed during surveys conducted in the appropriate season.
La Panza mariposa-lily <i>Calochortus obispoensis</i>	Chaparral, coastal scrub, valley and foothill grassland. Often in serpentine grassland. 75-665 meters	May-July	--/--/1B.2	Suitable Conditions Absent: The BSA is at a lower elevation than this species documented range. No serpentine soils are present. Species not observed during surveys conducted in the appropriate season.
San Luis Obispo mariposa lily <i>Calochortus simulans</i>	Chaparral, cismontane woodlands, lower montane coniferous forest, valley and foothill grassland; often in sandy, granitic, or serpentine soils. 395-1100 Meters	April-May	--/--/1B.3	Suitable Conditions Absent: The BSA is at a lower elevation than this species documented range. Sandy, granitic, or serpentine soils do not occur on the site. Species not observed during surveys conducted in the appropriate season.
Cambria morning-glory <i>Calystegia subacaulis</i> ssp. <i>episcopalis</i>	Grassland and rocky areas associated with chaparral and cismontane woodland. 60-500 meters	April-May	--/--/1B.2	Suitable Conditions Present: Several individuals observed in the BSA. These occurrences are located in two drainages directly west of the proposed alignment, near Segment 4 The proposed alignment will avoid the individuals.
San Luis Obispo sedge <i>Carex obispoensis</i>	Closed cone coniferous forests, chaparral, coastal prairie, coastal scrub, and valley and foothill grassland. Usually adjacent to seeps, springs, stream sides or other water source with sand, clay or serpentine. 5-790 meters	April-June	--/--/1B.2	Suitable Conditions Present: Clay and sand interface at the mouth of Toro Creek provides suitable habitat. The proposed project has been designed to avoid this area. Species not observed during surveys conducted in the appropriate season.

Table D-1. Special-Status Plant Species Investigated for Potential Occurrence

Species Name	Habitat and Distribution	Flower Season	Legal Status Federal/ State/ CNPS	Rationale for Expecting Presence or Absence
San Luis Obispo owls clover <i>Castilleja densiflora</i> ssp. <i>obispoensis</i>	Valley and foothill grassland. 10-215 meters	April	--/--/1B.2	Suitable Conditions Present: Numerous individuals observed east of Highway 1 during the 2005 surveys. The preferred western alignment will avoid these individuals; however, the eastern alternative would impact them.
Lemmon's jewelflower <i>Caulanthus coulteri</i> var. <i>lemmonii</i>	Occurs on dry exposed slopes in pinyon and juniper woodland and valley and foothill grassland. 80 - 1220 meters	March-May	--/--/1B.2	Suitable Conditions Absent: The BSA is located at a lower elevation and west of the species documented range. Species not observed during surveys conducted in the appropriate season.
Condon's tarplant <i>Centromadia parryi</i> ssp. <i>congdonii</i>	Depressional areas within valley and foothill grassland. 1-230 meters	June- November	--/--/1B.2	Suitable Conditions Present: Species not observed during surveys conducted in the appropriate season.
dwarf soaproot <i>Chlorogalum pomeridianum</i> var. <i>minus</i>	Chaparral habitats with serpentine soils. 305-1000 meters	May-August	--/--/1B.2	Suitable Conditions Absent: The BSA does not contain serpentine soils and is located at a lower elevation than the species documented range. Species not observed during surveys conducted in the appropriate season.
Brewer's spineflower <i>Chorizanthe breweri</i>	Chaparral, cismontane woodland, coastal scrub, closed-cone coniferous forest; rocky or gravelly serpentine sites; usually in barren areas. 45-800 meters	May -August	--/--/1B.3	Suitable Conditions Absent: The BSA is at a lower elevation than this species documented range. Soils on site are not suitable for this species. Species not observed during surveys conducted in the appropriate season.
straight-awned spineflower <i>Chorizanthe rectispina</i>	Chaparral, cismontane woodland, coastal scrub. Often on granite in chaparral. 355-1035 meters	April-July	--/--/1B.3	Suitable Conditions Absent: The BSA is at a lower elevation than this species documented range. Soils on site are not conducive to this species. Species not observed during surveys conducted in the appropriate season.

Table D-1. Special-Status Plant Species Investigated for Potential Occurrence

Species Name	Habitat and Distribution	Flower Season	Legal Status Federal/ State/ CNPS	Rationale for Expecting Presence or Absence
San Luis Obispo fountain thistle <i>Cirsium fontinale</i> var. <i>obispoense</i>	Chaparral, cismontane woodlands; serpentine seeps or bogs. 35-380 meters	February-July	FE/SE/1B.2	Suitable Conditions Absent: The BSA does not contain serpentine soils. Species not observed during surveys conducted in the appropriate season.
compact cobwebby thistle <i>Cirsium occidentale</i> var. <i>compactum</i>	A perennial herb that occurs in chaparral, coastal dunes, coastal prairie and coastal scrub. 5 - 150 meter	April-June	--/1B.2	Suitable Conditions Present: Species not observed during surveys conducted in the appropriate season.
la graciosa thistle <i>Cirsium loncholepis</i>	Coastal dunes, brackish marsh, riparian scrub. Sandy wet areas .5-185 meters.	May-August	FE/ST/1B.1	Suitable Conditions Present: Sandy wet areas in the BSA could support the species; however, the BSA is located north of most occurrences. Species not observed during surveys conducted in the appropriate season.
surf thistle <i>Cirsium rathophilum</i>	Coastal dunes, coastal bluff scrub. Open areas in central dune scrub; usually in coastal dunes. 3-60 meters	April-June	--/CT/1B.2	Suitable Conditions Present: BSA supports suitable conditions but is located north of most occurrences. Species not observed during surveys conducted in the appropriate season.
salt marsh bird's-beak <i>Cordylanthus maritimus</i> ssp. <i>maritimus</i>	Annual herb; occurs in marshes and swamps on coastal dunes. 0-30 meters	May-October	FE/SE/1B.2	Suitable Conditions Present: Species not observed during surveys conducted in the appropriate season.
beach spectaclepod <i>Dithyrea maritima</i>	Coastal dunes, coastal scrub. Sea shores, on sand dunes, and sandy places near the shore. 3-50 meters	March-May	--/ST/1B.1	Suitable Conditions Present: Species not observed during surveys conducted in the appropriate season. Impacts to suitable habitat would be limited to equipment access areas.
Betty's dudleya <i>Dudleya abramsii</i> ssp. <i>bettinae</i>	Coastal scrub, valley and foothill grassland, chaparral; rocky barren serpentine exposures. 20-180 meters	May-July	--/1B.2	Suitable Conditions Absent: BSA does not contain serpentine outcrops. Species not observed during surveys conducted in the appropriate season.

Table D-1. Special-Status Plant Species Investigated for Potential Occurrence

Species Name	Habitat and Distribution	Flower Season	Legal Status Federal/ State/ CNPS	Rationale for Expecting Presence or Absence
mouse-gray dudleya <i>Dudleya abramsii</i> ssp. <i>murina</i>	Serpentine outcrops in chaparral, cismontane woodland. 90-300 meters.	May-June	--/--/1B.3	Suitable Conditions Absent: BSA does not contain serpentine outcrops and is at a lower elevation than the species documented range. Species not observed during surveys conducted in the appropriate season.
Blochman's dudleya <i>Dudleya blochmaniae</i> ssp. <i>blochmaniae</i>	Coastal scrub, chaparral, and valley and foothill grassland habitats on rocky outcrops in clay or serpentine soils. 5-450 meters.	April-June	--/--/1B.1	Suitable Conditions Present: Species was not observed during surveys conducted in the appropriate flowering season.
Yellow-flowered eriastrum <i>Eriastrum luteum</i>	Annual herb occurs in broadleaved upland forest, chaparral, and cismontane woodland on sandy or gravelly soils. 290-1000 meters	May-June	--/--/1B.2	Suitable Conditions Absent: The BSA does not support the appropriate communities and is located at a lower elevation than the species documented range. Species not observed during surveys conducted in the appropriate season.
Blochman's leafy daisy <i>Erigeron blochmaniae</i>	Perennial rhizomatous herb. Occurs in coastal dunes and coastal scrub on sandy soils. 3-45 meters.	July–August	--/--/1B.2	Suitable Conditions Present: Species not observed during surveys conducted in the appropriate season.
Indian knob mountainbalm <i>Eriodictyon altissimum</i>	Evergreen shrub. Occurs in maritime chaparral, cismontane woodland, and coastal scrub with sandstone substrates. 80-270 meters	March-June	FE/SE/1B.1	Suitable Conditions Absent: The BSA does not contain sandstone substrates and is located at a lower elevation than this species documented range. Species was not observed during surveys conducted in the appropriate season.
Hoover's button-celery <i>Eryngium aristulatum</i> var. <i>hooveri</i>	Vernal pools in alkaline depressions near the coast. 5-45 meters.	July	--/--/1B.1	Suitable Conditions Present: Species not observed during surveys conducted in the appropriate season. Similar species <i>E. armatum</i> occurs in the BSA.

Table D-1. Special-Status Plant Species Investigated for Potential Occurrence

Species Name	Habitat and Distribution	Flower Season	Legal Status Federal/ State/ CNPS	Rationale for Expecting Presence or Absence
San Benito fritillary <i>Fritillaria viridea</i>	Chaparral on serpentine slopes; elev. 200-1525 meters.	March-May	--/--/1B.2	Suitable Conditions Absent: BSA does not support chaparral or serpentine substrate. BSA is at a lower elevation than this species documented range. Species not observed during surveys conducted in the appropriate season.
Hardhams bedstraw <i>Galium hardhamiae</i>	A perennial herb that occurs in closed-cone coniferous forest and chaparral with serpentinite. 395 - 975 meters	April-October	--/--/1B.3	Suitable Conditions Absent: BSA does not support the appropriate communities or serpentine soils. BSA is located at a lower elevation than this species documented range. Species not observed during surveys conducted in the appropriate season.
mesa horkelia <i>Horkelia cuneata</i> ssp. <i>puberula</i>	Perennial herb that occurs in chaparral, cismontane woodlands, coastal scrub; in sandy or gravelly sites. 70-810 meters	February-September	--/--/1B.1	Suitable Conditions Absent: Beach sand and clay soils in BSA are not conducive to this species. The BSA is located at a lower elevation than the species documented range. Species was not observed during surveys conducted in the appropriate flowering season.
Santa Lucia dwarf rush <i>Juncus luciensis</i>	Annual herb that occurs in chaparral, Great Basin scrub, lower montane coniferous forest, meadows and seeps, and vernal pools. 300 -2040 meters	April-July	--/--/1B.2	Suitable Conditions Absent: BSA does not support the appropriate communities and is located at a lower elevation than this species documented range.
Coulter's goldfields <i>Lasthenia glabrata</i> ssp. <i>coulteri</i>	Annual herb occurs in freshwater wetlands coastal salt marshes, wetland-riparian habitat, alkali sink, playas, vernal-pools, and swamps. 1-1220 meters	February-June	--/--/1B.1	Suitable Conditions Present: Species not observed during surveys conducted in the appropriate season.
Jones's layia <i>Layia jonesii</i>	Chaparral and valley and foothill grassland on clay or serpentine outcrops. 5-400 meters.	March-May	--/--/1B.2	Suitable Conditions Present: Species not observed during surveys conducted in the appropriate season.

Table D-1. Special-Status Plant Species Investigated for Potential Occurrence

Species Name	Habitat and Distribution	Flower Season	Legal Status Federal/ State/ CNPS	Rationale for Expecting Presence or Absence
Carmel Valley bush-mallow <i>Malacothamnus palmeri</i> var. <i>involutus</i>	Perennial shrub; occurs in chaparral, cismontane woodland, and coastal scrub. 30 - 1100 meters	May-August	--/--/1B.2	Suitable Conditions Absent: BSA is located at a lower elevation than the species documented range and does not support the appropriate communities. Species not observed during surveys conducted in the appropriate season.
Santa Lucia bush-mallow <i>Malacothamnus palmeri</i> var. <i>palmeri</i>	Deciduous shrub occurs in chaparral with rocky substrates. 60 - 360 meters	May-July	--/--/1B.2	Suitable Conditions Absent: BSA is located at a lower elevation than the species documented range and does not support the appropriate communities. Species not observed during surveys conducted in the appropriate season.
crisp monardella <i>Monardella crispa</i>	Rhizomatous herb occurs on coastal dunes and with coastal scrub and sandy soils. 10-120 meters	April-August	--/--/1B.2	Suitable Conditions Present: Species not observed during surveys conducted in the appropriate season.
San Luis Obispo monardella <i>Monardella frutescens</i>	Rhizomatous herb occurs on coastal dunes and with coastal scrub and sandy soils. 10-200 meters	May-September	--/--/1B.2	Suitable Conditions Present: Species not observed during surveys conducted in the appropriate season.
Palmer's monardella <i>Monardella palmeri</i>	Chaparral and cismontane woodland on serpentine slopes. 200-800 meters.	June-August	--/--/1B.2	Suitable Conditions Absent: BSA is located at a lower elevation than the species documented range and does not support the appropriate communities or substrate. Species not observed during surveys conducted in the appropriate season.
shinning navarretia <i>Navarretia nigelliformis</i> ssp. <i>radians</i>	Annual herb that occurs in vernal pools within cismontane woodland and valley and foothill grassland. 76 - 1000 meters	April-July	--/--/1B.2	Suitable Conditions Absent: BSA is located at a lower elevation than the species documented range. Species not observed during surveys conducted in the appropriate season.

Table D-1. Special-Status Plant Species Investigated for Potential Occurrence

Species Name	Habitat and Distribution	Flower Season	Legal Status Federal/ State/ CNPS	Rationale for Expecting Presence or Absence
hooked popcorn-flower <i>Plagiobothrys uncinatus</i>	Annual herb occurs in chaparral, cismontane woodland, and valley and foothill grassland with sandy soils. 300 - 760 meters	April-May	--/--/1B.1	Suitable Conditions Absent: BSA is located at a lower elevation than the species documented range and does not support the appropriate communities. Species not observed during surveys conducted in the appropriate season.
Diablo Canyon blue grass <i>Poa diaboli</i>	Rhizomatous herb occurs in closed-cone coniferous forest, chaparral, cismontane woodland, and coastal scrub with shale substrates. 120 - 400 meters	March-April	--/--/1B.2	Suitable Conditions Absent: BSA is located at a lower elevation than the species documented range and does not support shale substrates. Species not observed during surveys conducted in the appropriate season.
adobe sanicle <i>Sanicula maritima</i>	Moist seeps within coastal prairie, chaparral, meadows, and valley and foothill grassland habitats in clay or serpentine soils. 30-240 meters	February-May	--/SR/1B.1	Suitable Conditions Present: Species not observed during surveys conducted in the appropriate season.
rayless (chaparral) ragwort <i>Senecio aphanactis</i>	Chaparral, cismontane woodlands; coastal scrub/alkaline. 15-800 meters	January-April	--/--/2.2	Suitable Conditions Absent: BSA is located at a lower elevation than the species documented range and does not contain alkaline soils. Species not observed during surveys conducted in the appropriate season.
most beautiful jewel-flower <i>Streptanthus albidus</i> ssp. <i>peramoenus</i>	Chaparral, cismontane woodlands, valley and foothill grasslands on serpentine soil. 110-1000 meters	April-June	--/--/1B.2	Suitable Conditions Absent: BSA is located at a lower elevation than the species documented range and does not support the appropriate soils. Species not observed during surveys conducted in the appropriate season.
California seablite <i>Suaeda californica</i>	Low growing evergreen shrub occurs in coastal salt marshes and swamps. 0 - 15 meters	July-October	FE/--/1B.1	Suitable Conditions Present: Species observed near Segment 5. The individuals will not be impacted by project activities.

Table D-1. Special-Status Plant Species Investigated for Potential Occurrence

Species Name	Habitat and Distribution	Flower Season	Legal Status Federal/ State/ CNPS	Rationale for Expecting Presence or Absence
saline clover <i>Trifolium depauperatum</i> var. <i>hydrophilum</i>	Marshes and swamps, valley and foothill grassland, vernal pools; alkaline sites. 0-300 meters	April-June	--/--/1B.2	Suitable Conditions Present: Species not observed during surveys conducted in the appropriate season.
Cook's triteleia <i>Triteleia ixiodes</i> ssp. <i>cookii</i>	Bulbiferous herb that occurs in serpentinite seeps within closed-cone coniferous forest and cismontane woodland. 150 - 700 meters	May-June	--/--/1B.3	Suitable Conditions Absent: BSA is located at a lower elevation than the species documented range and does not support the appropriate soils. Species not observed during surveys conducted in the appropriate season.
Natural Communities of Concern				
central dune scrub	A back dune plant community characterized by low growing, drought tolerant shrubs that develop considerable cover. Diagnostic species include <i>Ericameria ericoides</i> and <i>Lupinus chamissonis</i> .			BSA does not support this community.
central foredunes	A foredune plant community characterized by scattered low growing perennial plants including <i>Abronia</i> sp. <i>Ambrosia</i> sp. and <i>Cackile</i> sp. Usually occurring in areas exposed to tidal action.			XX acres of central foredunes are located in the western portion of the BSA.
central maritime chaparral	A variable scrub community of moderate to high cover dominated by various <i>Arctostaphylos</i> sp. Found on well drained sandy soils in areas subject to summer fog.			BSA does not support this community.
coastal brackish marsh	Marsh habitat dominated by perennial, emergent, herbaceous monocots such a <i>Scirpus</i> sp. Salinity varies but is brackish from freshwater input. Usually located at interior edges of coastal bays and estuaries or in coastal lagoons.			BSA does not support this community.
coastal and valley freshwater marsh	A wetland community that is found in areas of permanently or prolonged freshwater saturation without significant current or flow. Vegetation is dominated by perennial emergent monocots including cattails and rushes.			Several occurrences of coastal and valley freshwater marsh are located in the Toro Creek Channel and the eastern portion of the BSA.

Table D-1. Special-Status Plant Species Investigated for Potential Occurrence

Species Name	Habitat and Distribution	Flower Season	Legal Status Federal/ State/ CNPS	Rationale for Expecting Presence or Absence
northern coastal salt marsh	Marsh habitat supporting herbaceous, suffrutescent, salt tolerant hydrophytes often active in summer and dormant in winter. Characteristic species include <i>Jaumea carnosa</i> , <i>Limonium californicum</i> , and <i>Frankenia salina</i> . Developed around Humboldt Bay, Tomales Bay, San Francisco Bay, Elkhorn Slough, and Morro Bay.			Several occurrences of northern coastal salt marsh are located at the mouths of the ephemeral drainages.
northern interior cypress forest	An open serotinous forest that is often found on dry, rocky soils. Often associated with serpentine soils. Vegetation consists of dense to sparse stands of <i>Cupressus</i> species.			BSA does not support this community.
serpentine bunchgrass	An open grassland community that is dominated by perennial bunch grasses. Typically, total cover is low but native species' dominate the composition. Associated species include <i>Nassella cernua</i> , <i>N. lepida</i> , <i>N. pulchra</i> , and <i>Melica californica</i> . Always occurring on serpentine substrates.			BSA does not support this community.

General references: CDFG 2008, Hickman (ed.) 1993, Munz 1974, CNDDDB 2008

Status Codes

--= No status

Federal: FE = Federal Endangered; FT=Federal Threatened

State: SE=State Endangered; ST= State Threatened; SR= State Rare

California Native Plant Society (CNPS):

List 1B = rare, threatened, or endangered in California and elsewhere.

List 2 = rare, threatened, or endangered in California, but more common elsewhere.

List 3 = plants that about which more information is needed.

List 4 = a watch list plants of limited distribution.

Threat Code:

.1 = Seriously endangered I California (over 80% of occurrences threatened / high degree and immediacy of threat)

.2 = Fairly endangered in California (20-80% occurrences threatened)

.3 = Not very endangered I California (<20% of occurrences threatened or no current threats known)

Table D-2. Special-Status Wildlife Species Investigated for Potential Occurrence

Species Name	Habitat and Distribution	Legal Status Federal/State/CDFG	Rationale for Expecting Presence or Absence
Gastropods			
Morro shoulderband snail <i>Helminthoglypta walkeriana</i>	The Morro shoulderband snail (MSS) is restricted to Baywood fine sand in coastal dune and coastal sage scrub communities near Morro Bay. MSS often occurs under shrubs that exhibit dense, low growth and have ample contact with the ground. Mock heather, seaside golden yarrow, deerweed, sand almond, and ice plant include some species the MSS utilize.	FE/--/--	Suitable Conditions Absent: Soils within the BSA consist of clay and will not support MSS. MSS will not utilize sand on the beaches and foredunes. The BSA is located north of the known MSS range. Species not observed during surveys.
Insects			
Monarch butterfly <i>Danaus plexippus</i>	Occurs along the coast from northern Mendocino to Baja California, Mexico. Winter roosts in wind protected tree groves (eucalyptus, Monterey pine and cypress), with nectar and water sources nearby.	--/SA/--	Suitable Conditions Absent: The BSA does not contain eucalyptus, Monterey pine and cypress trees suitable for winter roosting. Species not observed during surveys.
Morro Bay blue butterfly <i>Plebejus icarioides moroensis</i>	Locally common from March to July, this species flies only along the immediate coast of San Luis Obispo and western Santa Barbara counties. Feeds on <i>Lupinus chamissonis</i> . This variety is restricted to the dunes at Vandenberg Air Force Base, Pismo/Guadalupe dune system and the dunes of Morro Bay.	--/SA/--	Suitable Conditions Present: The coastal scrub in the BSA provides suitable conditions for Morro blue butterfly. Species not observed during surveys.
Branchiopods			
Vernal pool fairy shrimp <i>Branchinecta lynchi</i>	Endemic to grasslands of the Central Valley, Central Coast Mountains, and South Coast Mountains. Occurs in vernal pool habitats including depressions in sandstone, to small swale, earth slump, or basalt-flow depressions with a grassy or, occasionally, muddy bottom in grassland (Eriksen and Belk, 1999).	FT/--/--	Suitable Conditions Absent: The BSA is located west of the documented range for vernal pool fairy shrimp and not within any of the counties vernal pool regions.

Table D-2. Special-Status Wildlife Species Investigated for Potential Occurrence

Species Name	Habitat and Distribution	Legal Status Federal/State/CDFG	Rationale for Expecting Presence or Absence
California linderiella <i>Linderiella occidentalis</i>	Seasonal ponds in grasslands, sandstone depressions and alluvial flats with hardpan beneath.	--/--/--	Suitable Conditions Absent: The BSA is located west of the documented range for California linderiella and not within any of the counties vernal pool regions.
Fish			
Tidewater goby <i>Eucyclogobius newberryi</i>	Occurs in brackish shallow lagoons and lower stream reaches where water is fairly still, but not stagnant.	FE/--/CSC	Suitable Conditions Present: The lower reach of Toro Creek provides suitable habitat. Tidewater goby was observed in Toro Creek in 1995. Subsequent surveys conducted in 2004 and 2008 produced negative findings. The proposed project has been designed to avoid impacts to the aquatic portions of Toro Creek.
South-central California coast steelhead ESU <i>Oncorhynchus mykiss irideus</i>	Clear, cool water with abundant in-stream cover, well-vegetated stream margins, relatively stable water flow, and a 1:1 pool-to-riffle ratio.	FT, PCH /-- /CSC	Suitable Conditions Present: Toro Creek provides suitable habitat. Steelhead was documented in Toro Creek in 1988. Species not observed during surveys. The proposed project has been designed to avoid impacts to the aquatic portions of Toro Creek.
Amphibians			
California tiger salamander <i>Ambystoma californiense</i>	Occurs in grasslands or oak woodlands that support natural ephemeral pools or ponds that mimic them. This species requires seasonal water for breeding and small mammal burrows, crevices in logs, piles of lumber, and shrink-swell cracks in the ground for refuges. To be suitable, aquatic sites must retain at least 30 centimeters of water for a minimum of ten weeks in the winter.	FT/--/CSC	Suitable Conditions Absent: The BSA supports grassland habitat and mammal burrows; however, lacks suitable breeding ponds for tiger salamander. Species not observed during surveys.
California red-legged frog <i>Rana draytonii</i>	Aquatic habitats with little or no flow and surface water depths to at least 2.3 feet. Presence of fairly sturdy underwater supports such as cattails.	FT /-- /CSC	Suitable Conditions Present: Suitable aquatic habitat occurs within Toro Creek. CNDDB documents one occurrence in Toro Creek in 1996. Red legged frog was not observed during the surveys, but is assumed

Table D-2. Special-Status Wildlife Species Investigated for Potential Occurrence

Species Name	Habitat and Distribution	Legal Status Federal/State/CDFG	Rationale for Expecting Presence or Absence
			to inhabit the creek. The proposed project has been designed to avoid impacts to the aquatic portions of Toro Creek.
western spadefoot <i>Spea hammondi</i>	Inhabits vernal pools in primarily grassland, but also in valley and foothill hardwood woodlands.	--/--/CSC	Suitable Conditions Absent: The BSA supports grassland habitat; however, lacks suitable breeding ponds for western spadefoot. Species not observed during surveys.
Coast range newt <i>Taricha torosa torosa</i>	Breed in ponds, reservoirs, and slow-moving streams. Frequents terrestrial habitats such as oak woodlands.	--/--/CSC	Suitable Conditions Present: The Toro Creek riparian corridor may support coast range newt. However, project impacts would be limited to portions of the Creek banks lacking suitable cover. Species not observed during surveys.
Reptiles			
southwestern pond turtle <i>Actinemys marmorata pallida</i>	Quiet waters of ponds, lakes, streams, and marshes. Typically in the deepest parts with an abundance of basking sites.	-- /-- /CSC	Suitable Conditions Present: Suitable aquatic habitat occurs within Toro Creek. The proposed project has been designed to avoid impacts to the aquatic portions of Toro Creek.
silvery legless lizard <i>Anniella pulchra pulchra</i>	Sandy or loose loamy soils with high moisture content under sparse vegetation.	--/--/CSC	Suitable Conditions Absent: Soil type and moisture content does not provide suitable habitat for silvery legless lizard. Species not observed.
black legless lizard <i>Anniella pulchra nigra</i>	Sandy or loose loamy soils with high moisture content under sparse vegetation.	--/--/CSC	Suitable Conditions Absent: Soil type and moisture content does not provide suitable habitat for black legless lizard. Species not observed.
Coast horned lizard <i>Phrynosoma coronatum</i> (blainvillii population)	Frequents a wide variety of habitats, commonly occurring in lowlands along sandy washes, coastal sage scrub and chaparral in arid and semi-arid climate conditions. Species prefers friable, rocky or shallow	--/--/CSC	Suitable Conditions Present: Foredunes provide suitable habitat. One occurrence documented in similar habitat located approximately 1.2 miles south of the BSA.

Table D-2. Special-Status Wildlife Species Investigated for Potential Occurrence

Species Name	Habitat and Distribution	Legal Status Federal/State/CDFG	Rationale for Expecting Presence or Absence
	sandy soils.		Pre-disturbance capture and relocation efforts are proposed.
Birds			
Cooper's hawk <i>Accipiter cooperii</i>	Deciduous riparian woodland habitat throughout California. Cooper's Hawks nest in deciduous, mixed-deciduous, and evergreen forests, as well as in suburban and urban environments. Cooper's Hawks tend to nest in more open areas that have older and larger trees.	MBTA/--/--	Suitable Conditions Present: The Toro Creek riparian corridor supports suitable perching and foraging habitat; however, nesting habitat is limited. Species not observed during the surveys.
tricolored blackbird <i>Agelaius tricolor</i>	(Nesting colony); requires open water, protected nesting substrate such as cattails or tall rushes, and foraging area with insect prey.	MBTA/--/CSC	Suitable Conditions Absent: Toro Creek provides open water habitat; however, lacks suitable nesting substrate.
burrowing owl <i>Athene cunicularia</i>	Open, dry grasslands, deserts and scrublands. Subterranean nester, dependent upon burrowing mammals.	MBTA/-- /CSC	Suitable Conditions Absent: Proposed project is located outside of breeding range for burrowing owl and does not support suitable burrow sites for wintering burrowing owls. Species not observed during the surveys.
ferruginous hawk <i>Buteo regalis</i>	(Wintering) open grasslands, sagebrush flats, desert scrub, low foothills, and fringes of pinyon-juniper habitats; eats lagomorphs, ground squirrels, and mice.	MBTA/--/--	Suitable Conditions Present: Grasslands on the eastern portion of the BSA provides suitable foraging habitat for ferruginous hawks. Any occurrence during project activities would be a "flyby" and would not adversely impact the individual. Species not observed during the surveys.
western snowy plover <i>Charadrius alexandrinus nivosus</i>	Occurs on sandy beaches, salt pond levees, and shores of large alkali lakes. Needs sandy, gravelly or friable soils for nesting.	MBTA, FT/ --/CSC	Suitable Conditions Present: The sandy beach habitat supports suitable nesting substrate. Pre-activity nesting bird surveys are recommended.

Table D-2. Special-Status Wildlife Species Investigated for Potential Occurrence

Species Name	Habitat and Distribution	Legal Status Federal/State/CDFG	Rationale for Expecting Presence or Absence
western yellow-billed cuckoo <i>Coccyzus americanus</i>	Forests to open riparian woodlands with thick under story.	FC, MBTA/SE/ --	Suitable Conditions Present: The upper portions of the Toro Creek riparian corridor could support western yellow-billed cuckoo. However, project activities would not impact suitable riparian habitat. Species not observed during surveys.
white-tailed kite <i>Elanus leucurus</i>	Open grasslands, meadows, or marshlands for foraging close to isolated trees for nesting and perching.	MBTA / -- / FP	Suitable Conditions Present: Grasslands on the eastern portion of the BSA may provide suitable foraging habitat for white-tailed kite. Toro Creek riparian corridor may provide suitable nesting habitat; however, the proposed project would not impact trees suitable for nesting. Any occurrence during project activities would be a “flyby” and would not adversely impact the individual. Species not observed during the surveys.
California horned lark <i>Eremophila alpestris actia</i>	Occurs in short grass prairies, coastal plains, fallow grain fields and alkali flats. Found in coastal regions from Sonoma to San Diego county, and west to the San Joaquin Valley. .	MBTA/--/--	Suitable Conditions Present: Grasslands on the eastern portion of the BSA could support the species; however, the project is located outside the species typical range. Pre-disturbance nesting bird surveys are proposed to avoid impacts to nesting birds. Species not observed during the surveys.
California black rail <i>Laterallus jamaicensis coturniculus</i>	California black rail are shore birds known to frequent tidal salt marshes. These birds utilize densely vegetated mud flats and the high tide line in salt water marsh systems.	--/ST/--	Suitable Conditions Absent: The patches of salt marsh vegetation in the BSA are subject to regular disturbance and are too small to support this species. The BSA does not contain densely vegetated mudflats. Species not observed during the surveys.
California brown pelican <i>Pelecanus occidentalis californicus</i>	Nests on coastal islands in colonies; forages throughout coastal California ocean waters.	FE/SE/--	Suitable Conditions Present: Sandy beaches and near-shore open water habitat located adjacent to the project area supports resting and foraging habitat. Any occurrence during project activities would be a “flyby” and

Table D-2. Special-Status Wildlife Species Investigated for Potential Occurrence

Species Name	Habitat and Distribution	Legal Status Federal/State/CDFG	Rationale for Expecting Presence or Absence
			would not adversely impact the individual. Several pelicans were observed flying over the study area during the surveys.
purple martin <i>Progne subis</i>	Occupies valley foothill and montane hardwood forests, conifer forests, and riparian habitats. May nest in old woodpecker cavities or in human-made structures such as bridges and culverts. Feeds on insects.	--/--/CSC	Suitable Conditions Present: Toro Creek riparian corridor provides suitable nesting habitat; however, the proposed project would not impact trees suitable for nesting. Pre-disturbance nesting bird surveys are proposed to avoid impacts to nesting birds. Species not observed during the surveys.
California clapper rail <i>Rallus longirostris obsoletus</i>	Occurs within salt and brackish marshes dominated by pickleweed and Pacific cordgrass. Currently, this species is restricted to marsh areas within the vicinity of San Francisco Bay. The last California clapper rail to be sighted in Morro Bay was documented in 1939.	FE/SE/--	Suitable Conditions Absent: The BSA does not contain brackish marsh. Species not observed during the surveys.
California least tern <i>Sterna antillarum brownie</i>	Largely a coastal species that feed on fish and nest on sandy dunes or beaches. Once a common species in California; currently nesting colonies are isolated to Southern California and scattered Bay Area beaches.	FE/SE/--	Suitable Conditions Present: Sandy beaches and near-shore open water supports resting and foraging habitat. However, the constant recreational use of the adjacent beaches renders this area unsuitable for nesting colonies. The closest documented nesting area is in the Oso Falco Lake area. Any occurrence during project activities would be a “flyby” and would not adversely impact the individual.
Class Aves Other migratory bird species (nesting)	Annual grasslands, coastal scrub, chaparral, and oak woodlands may provide nesting habitat.	MBTA/--/--	Suitable Conditions Present: Potential nesting habitat occurs throughout the BSA. Pre-disturbance nesting bird surveys are proposed to avoid impacts to nesting birds.
Mammals			
pallid bat <i>Antrozous pallidus</i>	Prefers rocky outcrops, cliffs, and crevices with access to open habitats for foraging. Day roosts are in caves,	--/--/CSC	Suitable Conditions Present: The Toro Creek Bridge and various trees could support

Table D-2. Special-Status Wildlife Species Investigated for Potential Occurrence

Species Name	Habitat and Distribution	Legal Status Federal/State/CDFG	Rationale for Expecting Presence or Absence
	crevices, mines, and occasionally in hollow trees and buildings. Night roosts may be in more open sites, such as porches and buildings.		roosting bats. Project activities will not impact the bridge or remove large trees; therefore, no actions are necessary. Species not observed during surveys.
Townsend's big-eared bat <i>Corynorhinus townsendii</i>	Occurs in a wide variety of habitats; most common in mesic (wet) sites. May use trees for day and night roosts; however, requires caves, mines, rock faces, bridges or buildings for maternity roosts. Maternity roosts are in relatively warm sites.	--/--/CSC	Suitable Conditions Present: The Toro Creek Bridge and various trees could support roosting bats. Project activities will not impact the bridge or remove large trees; therefore, no actions are necessary. Species not observed during surveys.
Morro Bay kangaroo rat <i>Dipodomys heermanni morroensis</i>	Typically occurs in habitats associated with stabilized dunes and coastal dune scrub communities with dominant vegetation including mock heather, buck brush, and deer weed.	SE/FE/--	Suitable Conditions Absent: The BSA is approximately 5.2 miles north of this species historic range and does not contain appropriate habitat. Species not observed during surveys.
western mastiff bat <i>Eumops perotis</i>	Found in many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, grasslands, chaparral, etc.; roosts in crevices in cliff faces, high buildings, trees, and tunnels.	--/--/CSC	Suitable Conditions Present: The Toro Creek Bridge and various trees could support roosting bats. Project activities will not impact the bridge or remove large trees; therefore, no actions are necessary. Species not observed during surveys.
San Diego desert woodrat <i>Neotoma lepida intermedia</i>	Ranges from Baja California northward to northern San Luis Obispo County. Typically occurs in woodlands and coastal scrub habitats. Desert woodrats build nests within cracks and rock crevices, or in clumps of cactus.	--/--/CSC	Suitable Conditions Absent: The BSA does not support woodland communities with significant rock crevices. Species not observed during surveys.
big free-tailed bat <i>Nyctinomops macrotis</i>	Rare vagrant in California, probable resident in Texas, New Mexico, and southern Arizona. Probably does not breed in California. Prefers rugged, rocky canyons but will roost on buildings or in caves and trees.	--/--/CSC	Suitable Conditions Present: The BSA does not contain suitable rock cliffs; however, the bridge provides marginal roosting habitat. Considering the species rarity in California, lack of preferred roosting habitat, and that project activities will not impact the bridge or remove large trees, impacts to this species are not expected.

Table D-2. Special-Status Wildlife Species Investigated for Potential Occurrence

Species Name	Habitat and Distribution	Legal Status Federal/State/CDFG	Rationale for Expecting Presence or Absence
American badger <i>Taxidea taxus</i>	Occurs in open stages of shrub, forest, and herbaceous habitats; needs uncultivated ground with friable soils.	--/--/CSC	Suitable Conditions Absent: Clay soils in the BSA are not conducive to badger burrows.
San Joaquin kit fox <i>Vulpes macrotis munita</i>	The historic range of the San Joaquin kit fox included most of the San Joaquin Valley from San Joaquin County southward to southern Kern County (USFWS, 1998). Currently, kit foxes occur in the remaining native valley and foothill grasslands and saltbush scrub communities of the valley floor and surrounding foothills from southern Kern County north to Merced County.	FE/ST/--	Suitable Conditions Absent: The proposed project is not within the documented range of San Joaquin kit fox.

Status Codes

--= No status

Federal:

FE = Federal Endangered

FT= Federal Threatened

FC= Federal Candidate

CH= Federal Critical Habitat

PCH= Proposed Federal Critical Habitat

MBTA= Protected by Federal Migratory Bird Treaty Act

State:

SE= State Endangered

ST= State Threatened

California Department of Fish and Game:

CSC= California Special Concern Species

FP= Fully Protected Species

SA= Not formally listed but included in CDFG "Special Animal" List.

SPECIAL STATUS PLANT SPECIES

Red sand verbena

Red sand verbena (*Abronia maritima*) is a perennial herb that occurs in coastal dunes at elevations ranging from zero to 100 meters. Several occurrences of red sand verbena were observed in the foredunes within the BSA (refer to Figure 4-3.2). Red sand verbena is included in the CNPS list 4.2, which is a “watch list” that indicates that this species has a limited distribution and is “fairly endangered in California.” Generally, species included on List 4 do not meet the definitions of Sec. 1901, Chapter 10 (Native Plant Protection Act) or Secs. 2062 and 2067 (California Endangered Species Act) of the CDFG Code (CNPS, 2008). However, CNPS recommends special considerations for List 4 species if the individuals are located near the periphery of the species range, in areas where the species is uncommon, or the species has sustained heavy losses in its locality.

Cambria morning-glory

Cambria morning-glory (*Calystegia subacaulis* ssp. *episcopalism*) is a perennial herb in the Convolvulaceae family that is endemic to California and found only in San Luis Obispo County. It occurs in chaparral and woodland habitats (CNPS, 2005; Hickman, 1993), but is also known to occur in grasslands on clay soils (Hoover, 1970) and in coastal scrub. This species blooms from April through May. The CNPS includes this species on List 1B.2 and considers it to be “rare, threatened, or endangered in California and elsewhere” with 20-80% of its occurrences threatened. Several Cambria morning-glory individuals were observed in two drainages directly west of the proposed western alignment. The proposed alignment will avoid these individuals.

San Luis Obispo owl’s clover

San Luis Obispo owl’s clover (*Castilleja densiflora* ssp. *obispoensis*) is an annual herb in the Scrophulariaceae family that is a California and San Luis Obispo County endemic. It occurs in valley and foothill grassland habitats. The CNPS includes this species on List 1B.2 and considers it to be “rare, threatened, or endangered in California and elsewhere” with 20-80% of its occurrences threatened. A large population of San Luis Obispo owl’s clover was observed in the grasslands at the eastern portion of the BSA. The proposed western alignment would avoid the population; however, the eastern alternative would impact it.

California seablite

California seablite (*Suaeda californica*) is a low growing evergreen shrub that occurs in coastal salt marshes and swamps, with an elevation ranging from zero to fifteen meters. California seablite is federally endangered under the FESA and included on the CNPS List 1B.1. Several individuals were observed near Segments 3 and 5 of the proposed project. The individual located in Segment 3 is located adjacent to proposed activities and would need to be avoided during construction of the project. The individuals located near Segment 5 are in a drainage just west of the existing Studio Drive. Development of Segment 5 is located on the existing road surface and would not impact the drainage or the seablite individuals.

SPECIAL STATUS WILDLIFE SPECIES

Tidewater goby

The tidewater goby (*Eucyclogobius newberryi*) is a small (to 50 mm) fish found along coastal California from Humboldt County to San Diego County (Moyle 1976). While most gobies are marine fishes, the tidewater goby occupies fresh or brackish waters for a significant portion of its life. In coastal streams, gobies usually occur in slow moving reaches or within pools away from excessive current. USFWS has designated Critical Habitat for tidewater goby in Villa Creek and San Geronimo Creek in northern Cayucos (approximately 6.0 miles from the BSA). The lower reach of Toro Creek provides suitable habitat for this species. Tidewater goby was observed in Toro Creek in 1995; however, subsequent surveys conducted in 2004 and 2008 produced negative findings (CNDDDB 2009). The proposed project has been designed to avoid impacts to the aquatic portions of Toro Creek; therefore, no impacts to this species are anticipated.

South-central California coast steelhead ESU

South-central California coast steelhead (*Oncorhynchus mykiss irideus*) is the anadromous form of rainbow trout. Steelhead historically ranged from Alaska to the California-Mexico border, though current data suggest that the Ventura River is presently the southernmost drainage supporting substantial steelhead runs. Optimal habitat for steelhead is characterized by clear, cool water with abundant instream cover (i.e., submerged branches, rocks, logs), well-vegetated stream margins, relatively stable water flow, and a 1:1 pool-to-riffle ratio (Raleigh et al., 1984). Steelhead is occasionally found in streams containing less than optimal habitat. All populations of steelhead occurring within the south-central California coast ESU region were listed as federally threatened in 1997 (USFWS, 1998), and are also considered a California Special Concern (CSC) species by CDFG. Toro Creek supports suitable habitat for steelhead and NOAA Fisheries considers Toro creek to be critical habitat for the species. CNDDDB documents a steelhead occurrence in Toro Creek in 1988. It is assumed that the species is still occupying the Creek.

The following impact assessment evaluates five project attributes to determine if installing the proposed bridge over Toro Creek would adversely affect steelhead in Toro Creek. Based on the following evaluation and the proposed project design it was determined that installation of the bridge would not adversely affect steelhead.

- 1) Would the project alter aquatic habitat in Toro Creek? Alterations to aquatic habitat could include changing the topography of the channel, changing the hydrology of the creek, removing debris or aquatic vegetation, or adding/removing shade. Due to the constant fluctuations in the tidal influences, the topography and hydrology of this portion of Toro Creek is highly variable. Based on the conditions observed during the survey and past observations, this area can be completely inundated during high tides and rain events, or lack open water habitat during the summer months. Due to the constant fluctuations and beach sand substrate, this area typically lacks aquatic vegetation. In addition, debris is regularly brought in and washed out by creek and tidal flows. Since the mouth of Toro Creek is highly variable and the proposed bridge has been designed to avoid impacts in the channel, the project would not cause significant physical alterations to the creek topography, hydrology, substrate or aquatic vegetation. Placement of the bridge would increase the amount of shade at the mouth of the creek, which could alter water temperatures when water is present.

- 2) Would the project require capture and relocation of steelhead? The bridge has been designed to avoid all impacts to the creek channel. The proposed construction methods would not require dewatering any portion of the creek; therefore, capture and relocation of steelhead would not be necessary.
- 3) Would the project result in the loss of aquatic insects? Aquatic insects are typically associated with creek systems that have cobble substrates and semi permanent water. The substrate in the location of the proposed bridge consists of beach sand and only supports flowing water during storm events. This indicates the aquatic insect population is likely variable. The proposed bridge would not alter the hydrology, topography, substrate, or chemical composition of the creek. Therefore, a loss of aquatic insects is not anticipated.
- 4) Would the project disturb streamside vegetation? The vegetation located on the banks of Toro Creek in the location of the proposed bridge consists of ruderal species, sporadic coyote brush, and foredune species. This composition does not constitute riparian vegetation or provide suitable shade or cover habitat for steelhead. Considering the existing vegetation in the area, significant disturbance to streamside vegetation is not anticipated.
- 5) Would the project alter water quality? Access to the creek channel would not be necessary for bridge installation; therefore, increased turbidity is not expected. However, the use of equipment adjacent to the creek would increase the potential for accidental release of hazardous substances into the creek channel.

California red-legged frog

The California red-legged frog (*Rana draytonii*) historically ranged from Marin County southward to northern Baja California. Presently, Monterey, San Luis Obispo, and Santa Barbara counties support the largest remaining California red-legged frog populations within the state. California red-legged frog was listed as federally threatened by the USFWS in 1996 (USFWS, 1996), and is also considered a CSC species by CDFG. California red-legged frogs prefer aquatic habitats with little or no flow, the presence of surface water to at least early June, surface water depths to at least 0.7 meters (2.3 feet), and the presence of fairly sturdy underwater supports such as cattails (*Typha* spp.). Breeding areas include lagoons, streams and ponds; however, the species is often found traversing upland areas while traveling between breeding sites. Toro Creek supports suitable habitat for this species; CNDDDB documents one occurrence in Toro Creek in 1996. California red-legged frog was not observed during the surveys, but is assumed to inhabit the creek at least on a sporadic basis. The proposed project has been designed to avoid impacts to the aquatic portions of Toro Creek; therefore, no impacts to this species are anticipated.

Western Snowy Plover

The western snowy plover (*Charadrius alexandrinus nivosus*) is a small pale colored shorebird. The Pacific coast population of western snowy plovers frequents sandy beaches and estuarine shores, and requires sandy, gravelly, or friable soil substrates for nesting. Nests are typically built in flat, open areas, with sandy or saline substrates and sparse vegetation. Nesting season extends from early March through late September. Western snowy plovers feed on invertebrates in the intertidal zone. The coastal snowy plover population is federally threatened under the FESA and is considered a California Special Concern species by the CDFG. Both

resident and migratory individuals compose the coastal snowy plover population. Several nesting occurrences of western snowy plover are documented on the foredunes and beaches at the mouth of Toro Creek. The occurrence records indicate that the recreational uses of the area have decreased the sites nesting productivity; however, the site is utilized by plovers to some capacity. SWCA biologists have observed western snowy plover foraging in the intertidal zone in the BSA. Although the proposed project alignment will not permanently impact plover habitat, temporary impacts could occur from accessing the work areas via the beach.

**Table D-3. Plant Species Observed on the Morro Bay to Cayucos Bike Path Site
May 22, 2009 and July 2, 2009**

Scientific Name	Common Name	Native	Species Status / Notes
Vascular Plants nomenclature follows " The Jepson Manual" and http://ucjeps.berkeley.edu/interchange.html			
GYMNOSPERMS			
Cupressaceae	Cypress Family		
<i>Cupressus macrocarpa</i>	Monterey cypress	Yes	Planted Specimens
ANGIOSPERMS (DICOTS)			
Aizoaceae	Fig-marigold family		
<i>Aptenia cordifolia</i>	red apple	No	
<i>Carpobrotus chilensis</i>	ice plant	No	
<i>Tetragonia tetragonioides</i>	New Zealand spinach	No	
Apiaceae	Carrot family		
<i>Eryngium armatum</i>	armed coyote thistle	Yes	
<i>Foeniculum vulgare</i>	sweet fennel	No	
<i>Lomatium californicum</i>	California lomatium	Yes	
<i>Sanicula arguta</i>	sharp toothed sanicle	Yes	
Asteraceae	Sunflower family		
<i>Ambrosia chamissonis</i>	beach bur	Yes	
<i>Anthemis cotula</i>	mayweed	No	
<i>Artemisia californica</i>	California sagebrush	Yes	
<i>Artemisia douglasiana</i>	mugwort	Yes	
<i>Baccharis pilularis var. consanguinea</i>	coyote brush	Yes	
<i>Baccharis salicifolia</i>	mule fat	Yes	
<i>Carduus pycnocephalus</i>	Italian thistle	No	
<i>Centaurea calcitrapa</i>	purple star thistle	No	
<i>Centaurea melitensis</i>	tocolote	No	
<i>Chamomilla suaveolens</i>	pineapple weed	No	
<i>Cirsium vulgare</i>	bull thistle	No	Invasive weed

Scientific Name	Common Name	Native	Species Status / Notes
<i>Cotula coronopifolia</i>	brass buttons	No	
<i>Cynara cardunculus</i>	artichoke thistle	No	
<i>Delairea odorata</i>	Cape Ivy	No	
<i>Eriophyllum staechadifolium</i>	seaside golden yarrow	Yes	
<i>Gnaphalium stramineum</i>	everlasting cudweed	Yes	
<i>Grindelia stricta</i> var. <i>platyphylla</i>	Pacific gumplant	Yes	
<i>Helianthus annuus</i>	sunflower	Yes	
<i>Hemizonia congesta</i> ssp. <i>congesta</i>	hayfield tarweed	Yes	
<i>Hemizonia congesta</i> ssp. <i>luzulifolia</i>	hayfield tarweed	Yes	
<i>Isocoma menziesii</i>	Menzies' goldenbush	Yes	
<i>Jaumea carnosa</i>	fleshy jaumea	Yes	
<i>Lessingia glandulifera</i> var. <i>pectinata</i>	valley Lessingia	Yes	
<i>Picris echioides</i>	bristly ox-tongue	No	
<i>Silybum marianum</i>	milk thistle	No	
<i>Sonchus oleraceus</i>	sow thistle	No	
<i>Taraxacum officinale</i>	dandelion	No	
Boraginaceae	Borage family		
<i>Heliotropium curassavicum</i>	salt heliotrope	Yes	
Brassicaceae	Mustard family		
<i>Abronia maritima</i>	red sand verbena	Yes	List 4.2
<i>Brassica nigra</i>	black mustard	No	
<i>Cakile maritima</i>	sea rocket	No	Invasive Weed
<i>Cardaria draba</i>	heart-podded hoary cress	No	Invasive Weed
<i>Hirschfeldia incana</i>	summer mustard	No	
<i>Lobularia maritima</i>	sweet alyssum	No	
<i>Raphanus sativus</i>	wild radish	No	
Caryophyllaceae	Pink family		
<i>Spergularia bocconi</i>	Boccone's sandspurrey	No	

Scientific Name	Common Name	Native	Species Status / Notes
Chenopodiaceae	Goosefoot family		
<i>Atriplex californica</i>	California saltbush	Yes	
<i>Atriplex leucophylla</i>	beach saltbush	Yes	
<i>Atriplex semibaccata</i>	Australian saltbush	No	Invasive Weed
<i>Chenopodium album</i>	pigweed	No	
Convolvulaceae	Morning glory family		
<i>Calystegia macrostegia</i>	coast morning glory	Yes	
<i>Convolvulus arvensis</i>	bindweed	No	
Crassulaceae	Stonecrop family		
<i>Dudleya lanceolata</i>	southern California dudleya	Yes	
Euphorbiaceae	Spurge family		
<i>Euphorbia peplus</i>	petty spurge	No	
Fabaceae	Pea family		
<i>Acacia longifolia</i>	golden wattle	No	
<i>Astragalus nuttallii</i> var. <i>nuttallii</i>	Loco weed	Yes	
<i>Lotus corniculatus</i>	bird's foot trefoil	No	
<i>Lupinus succulentis</i>	succulent lupine	Yes	
<i>Melilotus indica</i>	sourclover	No	
<i>Vicia sativa</i>	spring vetch	No	
Frankenaceae	Frankenia family		
<i>Frankenia salina</i>	Alkali heath	Yes	
Geraniaceae	Geranium family		
<i>Erodium cicutarium</i>	red-stemmed filaree	No	
Malvaceae	Mallow family		
<i>Malva neglecta</i>	common mallow	No	
Myoporaceae	Myoporum family		
<i>Myoporum laetum</i>	myoporum	No	
Onagraceae	Evening primrose family		

Scientific Name	Common Name	Native	Species Status / Notes
<i>Camissonia cheiranthifolia</i>	beach Primrose	Yes	
Oxalidaceae	Woodsorrel family		
<i>Oxalis corniculata</i>	creeping wood sorrel	No	
<i>Oxalis pes-caprae</i>	Bermuda buttercup	No	
Papaveraceae	Poppy family		
<i>Eschscholzia californica</i>	California poppy	Yes	
Plantaginaceae	Plantain family		
<i>Plantago erecta</i>	California plantain	Yes	
<i>Plantago lanceolata</i>	English plantain	No	
<i>Plantago coronopus</i>	cut leaf plantain	No	
Polygonaceae	Buckwheat family		
<i>Rumex acetosella</i>	sheep sorrel	No	
<i>Rumex crispus</i>	curly dock	No	
Primulaceae	Primrose family		
<i>Anagalis arvensis</i>	scarlet pimpernel	No	
Rhamnaceae	Buckthorn family		
<i>Ceanothus gloriosus</i> 'heart's desire'	Heart's desire	No	Ornamental Variety
Rosaceae	Rose family		
<i>Potentilla anserina</i> ssp. <i>pacifica</i>	Pacific potentilla	Yes	
<i>Rubus ursinus</i>	California blackberry	Yes	
Scrophulariaceae	Figwort family		
<i>Mimulus aurantiacus</i>	sticky monkey flower	Yes	
Solanaceae	Nightshade family		
<i>Solanum xanti</i>	white nightshade	Yes	
Tropaeolaceae	Nasturtium family		
<i>Tropaeolum majus</i>	garden nasturtium	No	
Verbenaceae	Verbena family		
<i>Verbena lasiostachys</i>	common vervain	No	

Scientific Name	Common Name	Native	Species Status / Notes
ANGIOSPERMS (MONOCOTS)			
Cyperaceae	Sedge family		
<i>Scirpus pungens</i>	three-square	Yes	
Iridae	Iris family		
<i>Sisyrinchium bellum</i>	blue-eyed-grass	Yes	
Liliaceae	Lily family		
<i>Asparagus asparagoides</i>	African asparagus fern	No	Invasive Weed
Poaceae	Grass family		
<i>Avena barbata</i>	slender wild oats	No	
<i>Bromus catharticus</i>	Rescue grass	No	
<i>Bromus diandrus</i>	ripgut brome	No	
<i>Bromus hordeaceus</i>	soft chess brome	No	
<i>Bromus madritensis ssp. madritensis</i>	Spanish brome	No	
<i>Cynodon dactylon</i>	Bermuda grass	No	
<i>Distichlis spicata</i>	saltgrass	Yes	
<i>Hordeum brachyantherum</i>	meadow barley	Yes	
<i>Hordeum marinum ssp. gussoneanum</i>	Mediterranean barley	No	
<i>Lolium multiflorum</i>	Italian ryegrass	No	
<i>Nassella pulchra</i>	purple needle-grass	Yes	
<i>Pennisetum clandestinum</i>	kikuyu grass	No	
<i>Polypogon monspeliensis</i>	annual beard grass	No	
<i>Sisyrinchium bellum</i>	blue-eyed grass	Yes	

**Table D-4. Wildlife Species Observed on the Morro Bay to Cayucos Bike Path Site
May 22, 2009 and July 2, 2009**

Scientific Name	Common Name
Birds	
<i>Aechmophorus occidentalis</i>	Western grebe
<i>Pelecanus occidentalis</i>	Brown pelican
<i>Ardia herodias</i>	great blue heron
<i>Ardea alba</i>	great egret
<i>Cathartes aura</i>	turkey vulture
<i>Buteo lineatus</i>	red-shouldered hawk
<i>Larus occidentalis</i>	Western gull
<i>Zenaidura macroura</i>	Morning dove
<i>Sayornis nigricans</i>	Black phoebe
<i>Corvus brachyrhynchos</i>	American crow
<i>Hirundo rustica</i>	barn swallow
<i>Mimus polyglottos</i>	Northern mockingbird
<i>Agelaius phoeniceus</i>	Red-winged blackbird
<i>Euphagus cyanocephalus</i>	Brewer's blackbird
Mammals	
<i>Spermophilus beecheyii</i>	California ground squirrel
<i>Oryctolagus cuniculus</i>	cotton-tail rabbit
Reptiles	
<i>Sceloporus occidentalis</i>	Western fence lizard
<i>Pituophis melanoleucus</i>	Gopher snake
Gastropods	
<i>Helminthoglypta umbilicata</i>	Big sur shoulderband snail
<i>Helix aspersa</i>	common garden snail