

## APPENDIX C

### Special-Status Species Evaluated

**TABLE C-1**

Special-status plants evaluated for the likelihood to occur in the proposed project area.

Species name	Status <sup>1</sup> Federal/ State/ CRPR	Habitat associations (blooming period)	Source	Likelihood of occurrence (none, low, moderate, high)
<i>Abronia umbellata</i> ssp. <i>breviflora</i> (pink sand-verbena)	-/-/1B.1 <sup>2</sup>	Coastal dunes; 0–10 m (0–33 ft) (June–October)	CNDDDB; CNPS	<b>None:</b> No habitat present.
<i>Angelica lucida</i> (sea watch)	-/-/4.2	Coastal bluff scrub, coastal dunes, coastal scrub, and coastal salt marshes and swamps; 0–150 m (0–492 ft) (May–September)	CNPS	<b>Low:</b> Suitable habitat is present in the Buhne Slough salt marsh, Duck Pond, and Intake Canal
<i>Anomobryum julaceum</i> (slender silver moss)	-/-/4.2	Damp rock and soil on outcrops, usually on roadcuts in broadleaved upland forest, lower montane coniferous forest, and North Coast coniferous forest; 100–1000 m (328–3,281 ft) (n/a—moss)	CNDDDB; CNPS	<b>None:</b> Outside of elevation range.
<i>Astragalus pycnostachyus</i> var. <i>pycnostachyus</i> (coastal marsh milk-vetch)	-/-/1B.2 <sup>2</sup>	Mesic coastal dunes, coastal scrub, coastal salt marshes and swamps, wetlands and streamsides; 0–30 m (0–98 ft) (April–October)	CNDDDB; CNPS	<b>Low:</b> Suitable habitat is present in the Buhne Slough salt marsh, Duck Pond, and Intake Canal
<i>Bryoria pseudocapillaris</i> (false gray horsehair lichen)	-/-/3.2	Usually on conifers in coastal dunes and North Coast coniferous forest within the immediate coast; 0–90 m (0–295 ft); (n/a—lichen)	CNPS	<b>Low:</b> Suitable habitat is present in the Buhne Point Vista, Tsunami Assembly Area, Shoreline Trail, and Bayview Heights
<i>Bryoria spiralifera</i> (twisted horsehair lichen)	-/-/1B.1	North Coast coniferous forest within the immediate coast. Found on conifers in coastal dune forest; 0–30m (0–98 ft) (n/a—lichen)	CNDDDB; CNPS	<b>Low:</b> Suitable habitat is present in the Buhne Point Vista, Tsunami Assembly Area, Shoreline Trail, and Bayview Heights. One of the two largest populations occurs in coastal dunes of Samoa/Manila peninsula in Humboldt County, CA
<i>Cardamine angulata</i> (seaside bittercress)	-/-/2B.1	Wet areas, streambanks in redwood forests and mixed evergreen forests; 65–915 m (213–3,002 ft) (April–June)	CNDDDB; CNPS	<b>None:</b> Outside of elevation range.
<i>Carex arcta</i> (northern clustered sedge)	-/-/2B.2	Bogs and fens, North Coast coniferous forest; 60–1,400 m (197–4,593 ft) (June–September)	CNDDDB; CNPS	<b>None:</b> Outside of elevation range.

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<i>Carex leptalea</i> (bristle-stalked sedge)	-/-/2B.2	Bogs and fens, mesic meadows and seeps, marshes and swamps; 0–700 m (0–229 ft) (March–July)	CNDDDB; CNPS	<b>Low:</b> Suitable habitat is present in the Buhne Slough salt marsh, Duck Pond, and Intake Canal
<i>Carex lyngbyei</i> (Lyngbye's sedge)	-/-/2B.2	Brackish or freshwater marshes and swamps; 0–10 m (0–33 ft) (April–August)	CNDDDB; CNPS	<b>Low:</b> Suitable habitat is present in the Buhne Slough salt marsh, Duck Pond, and Intake Canal
<i>Carex praticola</i> (northern meadow sedge)	-/-/2B.2	Moist to wet meadows and seeps, coastal prairie, and North Coast coniferous forest; 0–3,200 m (0–10,499 ft) (May–July)	CNDDDB; CNPS	<b>Low:</b> Suitable habitat is present in the Buhne Slough salt marsh, Duck Pond, Intake Canal, Buhne Point Vista, Tsunami Assembly Area, Shoreline Trail, and Bayview Heights.
<i>Castilleja affinis</i> ssp. <i>litoralis</i> (Oregon coast paintbrush)	-/-/2B.2	Coastal bluff scrub, coastal dunes, coastal scrub/sandy; 15–100 m (49–328 ft) (June)	CNDDDB; CNPS	<b>Low:</b> Suitable habitat is present in the Buhne Slough salt marsh and Duck Pond
<i>Castilleja ambigua</i> ssp. <i>humboldtiensis</i> (Humboldt Bay owl's-clover)	-/-/1B.2 <sup>2</sup>	Marshes and swamps; 0–3 m (0–10 ft) (April–August)	CNDDDB; CNPS	<b>Moderate:</b> Suitable habitat is present in the Buhne Slough salt marsh, Duck Pond, and Intake Canal; historically documented occurrence within 1 mile of project along King Salmon Slough
<i>Chloropyron maritimum</i> ssp. <i>palustre</i> (Point Reyes bird's-beak)	-/-/1B.2 <sup>2</sup>	Marshes and swamps; 0–10 m (0–33 ft) (June–October)	CNDDDB; CNPS	<b>Moderate:</b> Suitable habitat is present in the Buhne Slough salt marsh, Duck Pond, and Intake Canal; known CNDDDB occurrence within 1 mile of project along King Salmon Slough
<i>Clarkia amoena</i> ssp. <i>whitneyi</i> (Whitney's farewell-to-spring)	-/-/1B.1	Coastal bluff scrub, coastal scrub; 10–100 m (33–328 ft) (June–August)	CNDDDB; CNPS	<b>Low:</b> Suitable habitat is present in the Buhne Slough salt marsh and Duck Pond
<i>Collomia tracyi</i> (Tracy's collomia)	-/-/4.3	Lower montane coniferous forest; 300–2,100 m (984–6,890 ft) (June–July)	CNPS	<b>None:</b> Outside of elevation range.
<i>Erysimum menziesii</i> ssp. <i>eurekaense</i> (Humboldt Bay wallflower)	FE/CE/1B.1	Coastal dunes; 0–10 m (0–33 ft) (March–October)	CNDDDB; CNPS	<b>None:</b> No habitat present.

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<i>Erythronium revolutum</i> (coast fawn lily)	-/-/2B.2	Bogs and fens, broadleaved upland forest, mesic North Coast coniferous forest, streambanks; 0–1,600 m (0–5,249 ft) (March–August)	CNDDDB; CNPS	<b>Low:</b> Suitable habitat is present in the Buhne Point Vista, Tsunami Assembly Area, Shoreline Trail, and Bayview Heights
<i>Fissidens pauperculus</i> (minute pocket moss)	-/-/1B.2 <sup>3</sup>	North Coast coniferous forest with damp soil; 10–1,024 m (33–3,360 ft) (n/a—moss)	CNDDDB; CNPS	<b>Low:</b> Suitable habitat is present in the Buhne Point Vista, Tsunami Assembly Area, Shoreline Trail, and Bayview Heights
<i>Gilia capitata</i> ssp. <i>pacifica</i> (Pacific gilia)	-/-/1B.2	Coastal bluff scrub, chaparral, coastal prairie, valley and foothill grassland; 5–869 m (16–2,851 ft) (April–August)	CNDDDB; CNPS	<b>Low:</b> Suitable habitat is present in Buhne Slough salt marsh and Duck Pond
<i>Gilia millefoliata</i> (dark-eyed gilia)	-/-/1B.2 <sup>2</sup>	Coastal dunes; 2–20 m (7–66 ft) (April–July)	CNDDDB; CNPS	<b>None:</b> No habitat present.
<i>Glehnia littoralis</i> ssp. <i>leiocarpa</i> (American glehnia)	-/-/4.2	Coastal dunes; 0–20 m (0–66 ft) (May–August)	CNPS	<b>None:</b> No habitat present.
<i>Hesperervax sparsiflora</i> var. <i>brevifolia</i> (short-leaved evax)	-/-/1B.2 <sup>2</sup>	Coastal bluff scrub, coastal dunes; 0–215 m (0–705 ft) (March–June)	CNDDDB; CNPS	<b>Low:</b> Suitable habitat is present in the Buhne Slough salt marsh and Duck Pond
<i>Hesperolinon adenophyllum</i> (glandular western flax)	-/-/1B.2	Chaparral, valley grassland, foothill woodland, affinity to serpentine soil; 150–1,315 m (492–4,314 ft) (May–August)	CNPS	<b>None:</b> Outside of elevation range.
<i>Lathyrus japonicus</i> (seaside pea)	-/-/2B.1	Coastal dunes; 1–30 m (3–98 ft) (May–August)	CNDDDB; CNPS	<b>None:</b> No habitat present.
<i>Lathyrus palustris</i> (marsh pea)	-/-/2B.2	Bogs and fens, marshes and swamps, coastal prairies, coastal scrub; 1–100 m (3–328 ft) (March–August)	CNDDDB; CNPS	<b>Low:</b> Suitable habitat is present in the Buhne Slough salt marsh, Duck Pond, and Intake Canal
<i>Layia carnosa</i> (beach layia)	FE/CE/1B.1	Coastal dunes, Coastal scrub (sandy); 0–60 m (0–197 ft.) (March–July)	CNDDDB; CNPS	<b>Low:</b> Suitable habitat is present in the Buhne Slough salt marsh and Duck Pond
<i>Lilium kelloggii</i> (Kellogg's lily)	-/-/4.3	Openings and roadsides in lower montane coniferous forest and North Coast coniferous forest; 3–1,300 m (10–4,265 ft) (May–August)	CNPS	<b>Low:</b> Suitable habitat is present in the Buhne Point Vista, Tsunami Assembly Area, Shoreline Trail, and Bayview

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				Heights
<i>Lilium occidentale</i> (western lily)	FE/CE/1B.1	Marshes and swamps, bogs and fens, coastal scrub, and coastal prairie; edges of sphagnum bogs and forest openings along margins of ephemeral ponds and stream channels; 2–185 m (7–607 ft) (June–July)	CNDDDB; CNPS	<b>Low:</b> Suitable habitat is present in the Buhne Slough salt marsh, Duck Pond, and Intake Canal
<i>Lilium rubescens</i> (redwood lily)	–/–/4.2	Sometimes serpentinite and roadsides broadleafed upland forest, chaparral, lower montane coniferous forest, North Coast coniferous forest, and upper montane coniferous forest; 30–1,910 m (98–6,266 ft) (April–September)	CNPS	<b>None:</b> Outside of elevation range.
<i>Listera cordata</i> var. <i>nephrophylla</i> (heart-leaved twayblade)	–/–/4.2	Bogs and fens, lower montane coniferous forest, North Coast coniferous forest; 5–1,370 m (16–4,495 ft) (February–July)	CNPS	<b>Low:</b> Suitable habitat is present in the Buhne Point Vista, Tsunami Assembly Area, Shoreline Trail, and Bayview Heights
<i>Lycopodium clavatum</i> (running pine)	–/–/4.1	Openings, edges, and roadsides of mesic lower montane coniferous forest, marshes and swamps, and mesic North Coast coniferous forest; 45–1,225 m (148–4,019 ft) (June–September)	CNDDDB; CNPS	<b>None:</b> Outside of elevation range.
<i>Mitellastrum caulescens</i> (leafy-stemmed miterwort)	–/–/4.2	Mesic, sometimes roadsides in broadleafed upland forest, lower montane coniferous forest, meadows and seeps, and North Coast coniferous forest; 5–1,700 m (16–5,577 ft) (March–October)	CNDDDB; CNPS	<b>Low:</b> Suitable habitat is present in the Buhne Point Vista, Tsunami Assembly Area, Shoreline Trail, and Bayview Heights
<i>Monotropa uniflora</i> (ghost-pipe)	–/–/2B.2	Broadleaf upland forest, North Coast coniferous forest; 10–550 m (33–1,804 ft) (June–September)	CNDDDB; CNPS	<b>Low:</b> Suitable habitat is present in the Buhne Point Vista, Tsunami Assembly Area, Shoreline Trail, and Bayview Heights

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<i>Montia howellii</i> (Howell's montia)	-/-/2B.2	Meadows and seeps, North Coast coniferous forest, mesic vernal pools, and roadsides; 0–730 m (0–2,395 ft) (March–May)	CNDDDB; CNPS	<b>Low:</b> Suitable habitat is present in the Buhne Point Vista, Tsunami Assembly Area, Shoreline Trail, and Bayview Heights
<i>Oenothera wolfii</i> (Wolf's evening-primrose)	-/-/1B.1 <sup>2</sup>	Coastal bluff scrub, coastal dunes, coastal prairie, lower montane coniferous forest/sandy, usually mesic; 3–800 m (10–2,625 ft) (May–October)	CNDDDB; CNPS	<b>Low:</b> Suitable habitat is present in the Buhne Slough salt marsh and Duck Pond
<i>Packera bolanderi</i> var. <i>bolanderi</i> (seacoast ragwort)	-/-/2B.2	Coastal scrub, North Coast Coniferous forest/sometimes along roadsides; 30–915 m (98–3,002 ft) (April–May)	CNDDDB; CNPS	<b>None:</b> Outside of elevation range.
<i>Pityopus californica</i> (California pinefoot)	-/-/4.2	Mesic broadleafed upland forest, lower montane coniferous forest, North Coast coniferous forest, upper montane coniferous forest; 15–2,225 m (49–7,300 ft) (March–August)	CNPS	<b>Low:</b> Suitable habitat is present in the Buhne Point Vista, Tsunami Assembly Area, Shoreline Trail, and Bayview Heights
<i>Pleuropogon refractus</i> (nodding semaphore grass)	-/-/4.2	Mesic lower montane coniferous forest, meadows and seeps, North Coast coniferous forest, riparian forest; 0–1,600 m (0–5,249 ft) (March–August)	CNPS	<b>Low:</b> Suitable habitat is present in the Buhne Point Vista, Tsunami Assembly Area, Shoreline Trail, and Bayview Heights
<i>Polemonium carneum</i> (Oregon polemonium)	-/-/2B.2	Coastal prairie, coastal scrub, lower montane coniferous forest; 0–1,830 m (0–6,004 ft) (April–September)	CNDDDB; CNPS	<b>Low:</b> Suitable habitat is present in the Buhne Slough salt marsh and Duck Pond
<i>Puccinellia pumila</i> (dwarf alkali grass)	-/-/2B.2	Coastal salt marshes and swamps; 1–10 m (3–33 ft) (July)	CNDDDB; CNPS	<b>Low:</b> Suitable habitat is present in the Buhne Slough salt marsh, Duck Pond, and Intake Canal
<i>Ribes laxiflorum</i> (trailing black currant)	-/-/4.3	Sometimes roadsides in North Coast coniferous forest; 5–1,395 m (16–4,577 ft) (March–August)	CNPS	<b>Low:</b> Suitable habitat is present in the Buhne Point Vista, Tsunami Assembly Area, Shoreline Trail, and Bayview Heights
<i>Sidalcea malachroides</i> (maple-leaved checkerbloom)	-/-/4.2	Often in disturbed areas in broadleafed upland forest, coastal prairie, coastal scrub, North Coast coniferous forest, and riparian woodland; 0–730 m (0–2,395 ft) (March–August)	CNPS	<b>Low:</b> Suitable habitat is present in the Buhne Slough salt marsh, Duck Pond, Buhne Point Vista, Tsunami Assembly Area, Shoreline Trail, and Bayview Heights

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<i>Sidalcea malviflora</i> ssp. <i>patula</i> (Siskiyou checkerbloom)	-/-/1B.2	Coastal bluff scrub, coastal prairie, North Coast coniferous forest/often roadcuts; 15–878 m (49–2,881 ft) (May–August)	CNDDDB; CNPS	<b>Low:</b> Suitable habitat is present in the Buhne Slough salt marsh, Duck Pond, Buhne Point Vista, Tsunami Assembly Area, Shoreline Trail, and Bayview Heights
<i>Sidalcea oregana</i> ssp. <i>eximia</i> (coast checkerbloom)	-/-/1B.2	Meadows, wetland-riparian; 5–1,340 m (16–4,396 ft) (June–August)	CNPS	<b>Low:</b> Suitable habitat is present in the Buhne Slough salt marsh, Duck Pond, and Intake Canal
<i>Spergularia canadensis</i> var. <i>occidentalis</i> (western sand-spurrey)	-/-/2B.1	Coastal salt marshes and swamps; 0–3 m (0–19 ft) (June–August)	CNDDDB; CNPS	<b>Low:</b> Suitable habitat is present in the Buhne Slough salt marsh, Duck Pond, and Intake Canal
<i>Usnea longissima</i> (Methuselah's beard lichen)	-/-/4.2	North Coast coniferous forest, broadleaved upland forest. 0–610 m (0–2000 ft) (n/a—lichen)	CNDDDB	<b>Low:</b> Suitable habitat is present in the Buhne Point Vista, Tsunami Assembly Area, Shoreline Trail, and Bayview Heights
<i>Viola palustris</i> (alpine marsh violet)	-/-/2B.2	Coastal bogs and fens, coastal scrub; 0–150 m (0–492) (March–August)	CNDDDB; CNPS	<b>Low:</b> Suitable habitat is present in the Buhne Slough salt marsh and Duck Pond

<sup>1</sup> **Status:****Federal**

- FE Endangered
- No federal status

**State**

- CE Endangered
- No state status

**California Rare Plant Rank**

- 1B: Plants Rare, Threatened, or Endangered in California and elsewhere
- 2B: Plants Rare, Threatened, or Endangered in California, but more common elsewhere
- 4: Plants of limited distribution – a watch list

**Threat Ranks**

- 0.1-Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)
- 0.2-Moderately threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat)
- 0.3-Not very threatened in California (less than 20% of occurrences threatened / low degree and immediacy of threat or no current threats known)

TABLE C-2

**Special-status fish and wildlife species evaluated for the likelihood to occur in the project area.**

Species name	Status <sup>1</sup> Federal/ State	Distribution	Habitat associations	Source	Likelihood of occurrence (none, low, moderate, high)
<b>Invertebrates</b>					
Black abalone ( <i>Haliotis cracherodii</i> )	FE/–	Point Arena in northern California to Bahia Tortugas and Isla Guadalupe, Mexico	Intertidal and shallow subtidal rocks, in areas of moderate to heavy surf action	USFWS	<b>None:</b> Outside of current distribution.
<b>Fish</b>					
North American green sturgeon— Pacific-northern (Northern and Southern Distinct Population Segments [DPS]) ( <i>Acipenser medirostris</i> )	FT/SSC  critical habitat	San Francisco, San Pablo, Suisun, and Humboldt bays; Sacramento-San Joaquin Delta, Sacramento and Klamath rivers	Large mainstem rivers with cool water and cobble, clean sand, or bedrock for spawning.	CNDDDB NMFS <sup>2</sup>	<b>Low:</b> Known to occur in the North Humboldt Bay (area of the bay north of the harbor entrance). Unlikely to occur in the intake canal.  Critical habitat, which includes all tidally influenced areas of Humboldt Bay (including tributaries) up to the elevation of mean higher high water, is present.
Tidewater goby ( <i>Eucyclogobius newberryi</i> )	FE/SSC  critical habitat	Tillas Slough (mouth of the Smith River, Del Norte County) to Agua Hedionda Lagoon (northern San Diego County).	Coastal lagoons and the uppermost zone of brackish large estuaries; prefer sandy substrate for spawning, but can be found on silt and rocky mud substrates; can occur in water up to 4 m (15 ft) in lagoons and within a wide range of salinity (0–42 ppt).	CNDDDB USFWS	<b>None:</b> Habitat not present in intake canal.  Surveys conducted in 2007 within Buhne Slough, near the project area, did not identify presence (Stillwater Sciences 2007). Survey in neighboring unnamed slough did not identify presence (USFWS 2014).  Individuals were documented in 2006 in the vicinity of Swain Slough and Elk River, about 1.5 mi from the project area (CDFW 2015).  Designated critical habitat is located in slough habitat about 1.6 km (1 mi) north and about 3 km (2 mi) south of the project area.

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Species name	Status <sup>1</sup> Federal/ State	Distribution	Habitat associations	Source	Likelihood of occurrence (none, low, moderate, high)
Eulachon (Southern DPS) ( <i>Thaleichthys pacificus</i> )	FT/SSC  critical habitat	Skeena River in British Columbia (inclusive) south to the Mad River in Northern California (inclusive)	An anadromous fish that historically used the Klamath River estuary and lowest portions of the river to spawn. Few to no individuals currently use the estuary. Most of their life is spent in the ocean.	NMFS <sup>2</sup>	<b>None:</b> Outside of current distribution. Last observed in the Mad River in 1977 (CNDDDB 2013), more than 10 miles north of the project area.  Proposed critical habitat is located about 24 km (15 mi) north on the Mad River.
Longfin smelt ( <i>Spirnichus thaleichthys</i> )	FC/ST	San Francisco estuary from Rio Vista or Medford Island in the Delta as far downstream as South Bay; concentrated in Suisun, San Pablo, and North San Francisco bays; populations in Humboldt Bay, Eel River estuary, and Klamath River estuary	Adults in large bays, estuaries, and nearshore coastal areas; migrate into freshwater rivers to spawn; salinities of 15–30 ppt	CNDDDB	<b>Moderate:</b> Rearing habitat for juveniles and/or adults is present year-round in the Fisherman’s Channel and Residential Finger Channels. Larvae prefer areas where fresh and saltwater mix for rearing, which does not occur in the intake canal. Spawning habitat is not present, since this species spawns in freshwater streams. Yearlings and adults move into freshwater to spawn from January through March. Documented throughout Humboldt Bay (CDFW 2015).
Coastal cutthroat trout ( <i>Oncorhynchus clarki clarki</i> )	-/SSC	Small, low-gradient coastal streams and estuaries. Shaded streams with water temperatures below 18°C (64°F) and small gravel for spawning. May enter intertidal areas that contain brackish waters.	From northern Oregon to the Eel River, California	CNDDDB	<b>None:</b> Coastal cutthroat trout documented in tributaries to Humboldt Bay (CDFW 2015). No coastal cutthroat trout have been documented in the project area. No tributaries flow into the project area.

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Coho salmon (southern Oregon/ northern California Evolutionary Significant Unit ESU) ( <i>Oncorhynchus kisutch</i> )	FT/-  critical habitat	Punta Gorda north to the Oregon border	Spawn in coastal streams and large mainstem rivers (i.e., Klamath/Trinity Rivers) in riffles and pool tails-outs and rear in pools > 1 m (3 ft) deep with overhead cover with high levels oxygen and temperatures of 10- 15°C (50-59°F).	NMFS <sup>2</sup>	<b>Low:</b> Smolts prefer deep water channels and presence in intake canal is unlikely (NMFS 2014). Adult spawning habitat is located in freshwater. Designated critical habitat is present.
Steelhead (Northern California DPS) ( <i>Oncorhynchus mykiss</i> )	FT/SSC  (SSC refers to the summer- run only)  critical habitat	Russian River north to Redwood Creek (Humboldt County)	Inhabits small coastal streams to large mainstem rivers with gravel- bottomed, fast-flowing habitat for spawning. However, habitat criteria for different life stages (spawning, fry rearing, juvenile rearing) are can vary significantly.	NMFS <sup>2</sup>	<b>Low:</b> Smolts prefer deep water channels and presence in intake canal is unlikely (NMFS 2014). Adult spawning habitat is located in freshwater. Designated critical habitat is present.
Chinook salmon (California coastal ESU) ( <i>Oncorhynchus tshawytscha</i> )	FT/-  critical habitat	Russian River (Sonoma County) north to Redwood Creek (Humboldt County)	Coastal streams; spawns in gravel riffles	NMFS <sup>2</sup>	<b>Low:</b> Smolts prefer deep water channels and presence in intake canal is unlikely (NMFS 2014). Adult spawning habitat is located in freshwater. Designated critical habitat is present.
<b>Amphibians</b>					
Northern red- legged frog ( <i>Rana aurora</i> )	-/SSC	From Mills Creek in Mendocino County to Oregon border	Humid forests, woodlands, grasslands, and streamside usually near dense cover. Generally near permanent water, but can be found far from water in damp woods and meadows during non-breeding season.	CNDDDB	<b>High:</b> Egg masses, juveniles, and adults have been documented in the Buhne Preserve within permanent ponded water sources (Stillwater Sciences and Dains 2013), in the drainage south east of the Duck Pond, and are common occurrences on HBPP property.

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Pacific tailed frog <i>(Ascaphus truei)</i>	-/SSC	Coastal Mendocino County north to the Oregon border, with an isolated population in Shasta region	In and adjacent to cold, clear, moderate- to fast-flowing, perennial mountain streams in conifer forest	CNDDDB	<b>None:</b> Habitat not suitable. Closest documented location is greater than 8 km (5 mi) from the project area.
Foothill yellow-legged frog <i>(Rana boylei)</i>	-/SSC	From the Oregon border along the coast to the Transverse Ranges, and south along the western side of the Sierra Nevada Mountains to Kern County; a possible isolated population in Baja California	Shallow tributaries and mainstems of perennial streams and rivers, typically associated with cobble or boulder substrate	CNDDDB	<b>None:</b> Habitat not suitable. Closest documented location is greater than 8 km (5 mi) from the project area (CNDDDB 2015).
Southern torrent salamander <i>(Rhyacotriton variegatus)</i>	-/SSC	Coastal drainages from near Point Arena in Mendocino County to the Oregon border	Coastal redwood, Douglas-fir, mixed conifer, montane riparian and montane hardwood-conifer habitats. Seeps and small streams in coastal redwood, Douglas-fir, mixed conifer, montane riparian, and montane hardwood-conifer habitats.	CNDDDB	<b>None:</b> Habitat not suitable. Closest documented location is greater than 8 km (5 mi) from the project area (CNDDDB 2015).
<b>Reptiles</b>					
Loggerhead turtle <i>(Caretta caretta)</i>	FT/-	Warm waters of the Pacific coast, primarily from the Channel Islands south; does not nest in California.	Uses the open ocean near-shore zone; nests on high energy, relatively narrow, steep coarse-grained beaches.	NMFS <sup>2</sup>	<b>None:</b> Habitat not suitable.
Green sea turtle <i>Chelonia mydas</i> <i>(incl. agassizi)</i>	FT/-	Warm waters of the Pacific coast, primarily from San Diego south. Uncommon along the California coast; does not nest in California.	Uses convergence zones in the open ocean and benthic feeding grounds in coastal areas; nests on sandy ocean beaches	NMFS <sup>2</sup>	<b>None:</b> Habitat not suitable.
Leatherback sea Turtle <i>Dermochelys</i>	FE/- Critical	Temperate and cool waters of the Pacific coast; most sightings in California are from	Pelagic, though also forages near coastal waters	NMFS <sup>2</sup>	<b>None:</b> Habitat not suitable.

TABLE C-2

**Special-status fish and wildlife species evaluated for the likelihood to occur in the project area.**

Species name	Status <sup>1</sup> Federal/ State	Distribution	Habitat associations	Source	Likelihood of occurrence (none, low, moderate, high)
<i>coriacea</i>	habitat	boats out at sea; have been observed in open ocean near San Diego, Santa Barbara, Ventura, San Mateo, and Santa Cruz counties; does not nest in California			
Olive (=Pacific) ridley sea turtle <i>Lepidochelys olivacea</i>	FT/–	Warm waters of the Pacific coast, primarily from southern California south; does not nest in California	Well out to sea in pelagic zone as well as coastal areas, including bays and estuaries; nests on sandy ocean beaches	NMFS <sup>2</sup>	<b>None:</b> Habitat not suitable.
Western pond turtle ( <i>Actinemys marmorata</i> )	–/SSC	From the Oregon border along the coast ranges to the Mexican border, and west of the crest of the Cascades and Sierras	Ponds, marshes, rivers, streams, and irrigation ditches with abundant vegetation, and either rocky or muddy bottoms, in woodland forest and grasslands. Below 1,830 m (6,000 ft) elevation. Basking sites are located on logs, rocks, cattail mats, and exposed banks and egg-laying sites are located on suitable upland habitats (grassy open fields) up to 500 m (1,640 ft) from water. May enter brackish water or seawater.	CNDDDB	<b>None:</b> Habitat not suitable as there are limited basking and upland egg laying sites. Closest documented location is greater than 6 km (4 mi) from the proposed project area.
<b>Birds</b>					
Short-tailed albatross ( <i>Phoebastris albatrus</i> )	FE/SSC	Pacific Ocean (nests in Japan)	Feeds in north Pacific	USFWS	<b>None:</b> Habitat not suitable.
Marbled murrelet ( <i>Brachyramphus marmoratus</i> )	FT/–  critical	Nesting marbled murrelets in California mostly concentrated on coastal waters near Del Norte and Humboldt counties, and in	Most time spent on the ocean; nests inland in old-growth conifers with suitable platforms, especially redwoods near coastal areas.	USFWS	<b>Low:</b> No suitable foraging or nesting habitat within the general project area; however, daily migration corridor is present in the area based on occurrences documenting multiple individuals flying

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Species name	Status <sup>1</sup> Federal/ State	Distribution	Habitat associations	Source	Likelihood of occurrence (none, low, moderate, high)
	habitat	lesser numbers near San Mateo and Santa Cruz counties; winter throughout nesting range, and in small numbers in southern California.			out of the bay to the ocean (eBird 2007).  Critical habitat located more than 9 km (6 mi) from the project area.
Xantus's murrelet  ( <i>Synthliboramphus hypoleucus</i> )	FC/-	Range extends from Mexico, west coast United States and Canada. Nests in the Channel Islands in southern California and on islands off the coast of Baja California.	Most time spent on the ocean.	USFWS	<b>None:</b> No suitable nesting or foraging habitat in the project area.
Northern spotted owl  ( <i>Strix occidentalis caurina</i> )	ST/SCT, SSC  critical habitat	Northwestern California south to Marin County, and southeast to the Pit River area of Shasta County	Usually found in mature and old-growth coniferous forest with dense multi-layered structure	USFWS	<b>None:</b> Habitat not suitable.  Critical habitat located more than 25 km (16 mi) from the project area.
Bald eagle  ( <i>Haliaeetus leucocephalus</i> )	-/SE	Permanent resident and uncommon winter migrant, found nesting primarily in Butte, Lake, Lassen, Modoc, Plumas, Shasta, Siskiyou, and Trinity counties	Large bodies of water or rivers with abundant fish, uses adjacent snags or other perches; nests and winter communal roosts in advanced-successional conifer forest within 1.6 km (1 mi) of open water	CNDDDB	<b>Moderate:</b> Foraging habitat present in Humboldt Bay. Closest documented nesting location is about 4 mi from proposed project area (CDFW 2015).
Bank swallow ( <i>Riparia riparia</i> )	-/ST	Summer resident; occurs along the Sacramento River from Tehama County to Sacramento County, along the Feather and lower American rivers; and in the plains east of the Cascade Range in Modoc,	Nests in vertical bluffs or banks, usually adjacent to water, where the soil consists of sand or sandy loam. Forages over lakes, ponds, rivers and streams.	CNDDDB	<b>None:</b> Habitat not suitable. Closest location within CNDDDB is greater than 8 km (5 mi) from the proposed project area (CDFW 2015).

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Species name	Status <sup>1</sup> Federal/ State	Distribution	Habitat associations	Source	Likelihood of occurrence (none, low, moderate, high)
		Lassen, and northern Siskiyou counties; small populations near the coast from San Francisco County to Monterey County			
Western snowy plover ( <i>Charadrius alexandrinus nivosus</i> )	FT (Pacific coastal population) /-  critical habitat	Nests in locations along the California coast, including the Eel River in Humboldt County; nests in the interior of the state in the Central Valley, Klamath Basin, Modoc Plateau, and Great Basin, Mojave, and Colorado deserts; winters primarily along coast	Barren to sparsely vegetated beaches, barrier beaches, salt-evaporation pond levees, and shores of alkali lakes; also nests on gravel bars in rivers with wide flood plains; needs sandy, gravelly, or friable soils for nesting	USFWS CNDDB	<b>Low:</b> No nesting or foraging habitat is present in the Fisherman's Channel or Residential Finger Channels; however, nesting may occur on nearby sandy beaches.  Critical habitat is located about 1.6 km (1 mi) west of the proposed project area on the South Spit (land south of the harbor entrance).
California clapper rail ( <i>Rallus longirostris obsoletus</i> )	FE/SE	Predominantly in the marshes of the San Francisco estuary: South San Francisco Bay, North San Francisco Bay, San Pablo Bay, and sporadically throughout the Suisun Marsh area east to Browns Island	Salt and brackish water marshes, typically dominated by pickleweed ( <i>Salicornia virginica</i> ) and Pacific cordgrass ( <i>Spartina foliosa</i> )	CNDDB	<b>None:</b> No habitat present and outside of current distribution. Last observed in 1932 (CDFW 2015).
Western yellow-billed cuckoo ( <i>Coccyzus americanus</i> )	FT/SE	Breeds in limited portions of the Sacramento River and the South Fork Kern River; small populations may nest in Butte, Yuba, Sutter, San Bernardino, Riverside, Inyo, Los Angeles, and Imperial counties	Valley foothill and desert riparian habitats; nests in open woodland with clearings and low, dense, scrubby vegetation	USFWS CNDDB	<b>None:</b> No habitat present. Rare recent observations have documented an individual at the Eel River Estuary (T. Leskiw, USDA Forest Service [retired], pers. comm., 2012).
Tricolored blackbird ( <i>Agelaius tricolor</i> )	-/SE	Permanent resident, but makes extensive migrations both in breeding season and winter; common locally throughout Central Valley and	Feeds in grasslands and agriculture fields; nesting habitat components include open accessible water, a protected nesting substrate (including flooded or thorny	CNDDB	<b>Low:</b> May inhabit coastal scrub, but preferred habitat is in grasslands and agricultural fields. Largest population centers in central and southern California. Closest location within CNDDB is greater

TABLE C-2

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Species name	Status <sup>1</sup> Federal/ State	Distribution	Habitat associations	Source	Likelihood of occurrence (none, low, moderate, high)
		in coastal areas from Sonoma County south	vegetation), and a suitable nearby foraging space with adequate insect prey		than 8 km (5 mi) south of the proposed project area (CDFW 2015).
<b>Mammals</b>					
Sonoma tree vole <i>Arborimus pomo</i>	-/SSC	North Coast fog belt between the northern Oregon border and Sonoma County	Associated nearly exclusively with Douglas-fir trees and occasionally grand fir, hemlock, or spruce trees	CNDDDB	<b>None:</b> Habitat not suitable. Closest documented location is greater than 8 km (5 mi) from the project area.
Townsend's big-eared bat ( <i>Corynorhinus townsendii</i> )	-/SCT, SSC	Throughout California, found in all but subalpine and alpine habitats, details of distribution not well known	Most abundant in mesic habitats; also found in oak woodlands, desert, vegetated drainages, caves or cave-like structures (including basal hollows in large trees, mines, tunnels, and buildings)	CNDDDB	<b>Low:</b> May roost in relatively dark, semi-enclosed buildings, but are easy to detect. Have not been observed in the HBPP. Closest documented location is greater than 8 km (5 mi) from the project area (CNDDDB 2013).
Pallid bat <i>Antrozous pallidus</i>	-/SSC	Throughout California except for elevations greater than 3,000 m (9,842 ft) in the Sierra Nevada	Roosts in rock crevices, tree hollows, mines, caves, and a variety of vacant and occupied buildings; feeds in a variety of open terrestrial habitats	CNDDDB	<b>Low:</b> Daily migration habitat may be present in project area. Roosting and foraging habitat may be present in man-made structures and open terrestrial habitats.  The most recent CNDDDB occurrence is from 1924 and is greater than 16 km (10 mi) from the proposed project area; however, individuals have been readily documented in the redwood/coastal fog belt (W. Rainey, pers. comm., 2013).

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Species name	Status <sup>1</sup> Federal/ State	Distribution	Habitat associations	Source	Likelihood of occurrence (none, low, moderate, high)
Humboldt marten <i>Martes americana humboldtensis</i>	-/SSC	Coastal redwood zone from the Oregon border south to Fort Ross, Sonoma County	Mid- to advanced-successional stands of conifers with complex structure near the ground and dense canopy closure	CNDDB	<b>None:</b> Habitat not suitable. Closest documented location is greater than 16 km (10 mi) from the proposed project area.
Pacific fisher <i>Martes pennanti (pacifica)</i> West Coast DPS	FPT/SCT, SSC  Proposed critical habitat	Northern Coast Range and Klamath Province, and the southern Sierra Nevada	Advanced successional conifer forests, with complex forest structure being more important than tree species; den in hollow trees and snags	CNDDB	<b>None:</b> Habitat not suitable. Closest documented location is greater than 19 km (12 mi) from the proposed project area.
Steller (=northern) sea-lion <i>Eumetopias jubatus</i>	FT/-  Critical habitat	Coastal waters of California	Colder waters; haul outs and rookeries usually consist of beaches, ledges, or rocky reefs	NMFS <sup>2</sup>	<b>None:</b> Habitat not suitable.  Critical habitat located about 48 km (30 mi) south of the proposed project area at Sugarloaf Island, Cape Mendocino.
Sei whale <i>Balaenoptera borealis</i>	FE/-	Pacific Ocean	Deep ocean waters far from the coastline	NMFS <sup>2</sup>	<b>None:</b> Habitat not suitable.
Blue whale <i>Balaenoptera musculus</i>	FE/-	Pacific Ocean	Deep ocean offshore waters; also can be found in coastal waters	NMFS <sup>2</sup>	<b>None:</b> Habitat not suitable.
Fin whale <i>Balaenoptera physalus</i>	FE/-	Pacific Ocean	Deep ocean waters	NMFS <sup>2</sup>	<b>None:</b> Habitat not suitable.
Humpback whale <i>Megaptera novaengliae</i>	FE/-	Pacific Ocean	Deep ocean waters	NMFS <sup>2</sup>	<b>None:</b> Habitat not suitable.
Sperm whale <i>Physeter macrocephalus</i>	FE/-	Pacific Ocean	Deep ocean waters	NMFS <sup>2</sup>	<b>None:</b> Habitat not suitable.
Killer whale (Southern)	FE/-	Pacific Ocean	Coastal waters and bays	USFWS	<b>None:</b> Habitat not suitable within the Project area. Low likelihood of foraging

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Species name	Status <sup>1</sup> Federal/ State	Distribution	Habitat associations	Source	Likelihood of occurrence (none, low, moderate, high)
Resident DPS) ( <i>Orcinus orca</i> )	Critical habitat				and migratory habitat within Humboldt Bay based on a single documented occurrence in the harbor entrance.  Critical habitat in Washington; potential project impacts on fisheries (prey base) would not affect populations of salmonids within critical habitat.

<sup>1</sup> **Status: Federal State**

<sup>2</sup> Species identified from the USFWS query, but is listed by NMFS.

FE	Endangered	SE	Endangered
FT	Threatened	ST	Threatened
FC	Candidate	SSC	Considered a species of special concern by CDFW
–	No federal status	–	No state status
SCT	– state candidate threatened		
FPT	– federal proposed threatened		