MEN 001

ELK TO MENDOCINO CAPM

NATURAL ENVIRONMENT STUDY

Minimal Impacts

01-MEN-001-PM-33.7/R51.0

EA 01-0H600 / EFIS 01-1700-0240

November 2021

Caltrans
CALIFORNIA DEPARTMENT OF TRANSPORTATION

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November 2021

STATE OF CALIFORNIA
Department of Transportation

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SUMMARY

The California Department of Transportation (Caltrans) is proposing a project to repair existing distressed pavement, upgrade existing guardrail and upgrade existing Transportation Management System (TMS) assets between post miles (PMs) 33.7 and R51.0 along State Route (SR) 1 in Mendocino County. The purpose of this project is to preserve roadway pavement that has minor structural distress as determined by the Pavement Condition Survey and to improve safety for motorists. The project is needed to repair existing pavement cracking and surface rutting that cannot be adequately maintained by Highway Maintenance programs and to upgrade existing guardrails within the project area to meet current Caltrans guardrail system standards.

This Natural Environment Study with Minimal Impacts (NES/MI) was prepared to identify existing biological resources, assess potential impacts, and identify permitting requirements for the proposed project. As currently proposed, this project would require the following permit and consultation:

- Programmatic Letter of Concurrence (PLOC) from the U.S. Fish and Wildlife Service (USFWS)
- Mendocino County Local Coastal Development Permit (CDP)

Caltrans has determined the project would have ***no effect*** on the following federally listed species or species proposed for listing due to the nature of the project and/or absence of suitable habitat within or adjacent to the project site:

- Behren's silverspot butterfly (*Speyeria zerene behrensii*)
- California red-legged frog (*Rana draytonii*)
- Chinook salmon (*Oncorhynchus tshawytscha*)–California Coastal Evolutionarily Significant Unit (ESU) (pop. 17)
- Coho salmon (*Oncorhynchus kisutch*)–Central California coast ESU (pop. 4)
- Lotis blue butterfly (*Plebejus idas lotis*)
- Monarch butterfly (*Danaus plexippus*)
- Steelhead (*Oncorhynchus mykiss irideus*)–Northern California DPS (pop. 16)
- Tidewater goby (*Eucyclogobius newberryi*)

- Western snowy plover (*Charadrius nivosus* ssp. *nivosus*)
- Yellow-billed cuckoo (Coccyzus americanus)–Western DPS

Caltrans has determined the proposed action ***may affect, is not likely to adversely affect****:*

- Marbled murrelet (*Brachyramphus marmoratus*)
- Northern spotted owl (*Strix occidentalis caurina*)

Caltrans has determined the project would have ***no impact/"take"*** of the following state-listed species, species proposed for listing, or Fully Protected (FP) species that may occur within the project area:

- Coho salmon (*Oncorhynchus kisutch*)–central California coast ESU
- Marbled murrelet (*Brachyramphus marmoratus*)
- Northern spotted owl (*Strix occidentalis caurina*)

The California Department of Fish and Wildlife (CDFW) also maintains a list of animal Species of Special Concern (SSC), most of which are species whose breeding populations in California may face extirpation. Although these species have no legal status, the CDFW recommends their consideration during analysis of the impacts of proposed projects to protect declining populations and avoid the need to list them as endangered in the future. The proposed project would have "*no impact"* to the following SSC that may occur within the project area:

- Bryant's savannah sparrow (*Passerculus sandwichensis alaudinus*)
- Burrowing owl (*Athene cunicularia*)
- California red-legged frog (*Rana draytonii*)
- Foothill yellow-legged frog – Northwest/North Coast clade (*Rana boylii*)
- Long-eared owl (*Asio otus*)
- Northern coastal roach (*Hesperoleucus venustus navarroensis*)
- Northern harrier (*Circus hudsonius*)
- Northern red-legged frog (*Rana aurora*)

- Olive-sided flycatcher (*Circus hudsonius*)
- Pacific lamprey (*Entosphenus tridentatus*)
- Pacific tailed frog (*Ascaphus truei*)
- Purple martin (*Progne subis*)
- Red-bellied newt (*Taricha rivularis*)
- River Lamprey (*Lampetra ayresii*)
- Sonoma tree vole (*Arborimus pomo*)
- Southern torrent salamander (*Rhyacotriton variegatus*)
- Tidewater goby (*Eucyclogobius newberryi*)
- Townsend's big-eared bat (*Corynorhinus townsendii*)
- Vaux's swift (*Chaetura vauxi*)
- Western pond turtle (*Emys marmorata*)
- Western snowy plover (*Charadrius alexandrines nivosus*)
- Yellow warbler (*Setophaga petechia*)
- Yellow-breasted chat (*Icteria virens*)

Caltrans' Standard Measures and Best Management Practices (Section 1.3.2.) would be implemented to avoid impacts to these species. Standard measures would protect sensitive animal species, rare plant species, migratory birds, natural communities, and jurisdictional waters. Seasonal work windows would minimize potential impacts to northern spotted owl and marbled murrelet.

No jurisdictional Waters of the U.S. (WOTUS), Waters of the State, and/or riparian habitat would be impacted by project activities.

Three rare plant species were potentially identified within the project BSA during botanical surveys: coastal bluff morning-glory (*Calystegia purpurata* ssp. *saxicola*), Mendocino coast

paintbrush (*Castilleja mendocinensis*), and Point Reyes checkerbloom (*Sidalcea calycosa* ssp. *rhizomata*). The Mendocino coast paintbrush individuals were observed well outside of the project footprint/ESL. Several of the potential observations of coastal bluff morning-glory could be within the project footprint/ESL. The Point Reyes checkbloom observation may be within the project footprint/ESL. Project activities including guardrail replacement, sign replacement, equipment staging and placement of shoulder backing could impact coastal bluff-morning glory and/or Point Reyes checkerbloom individuals within the project ESL.

To avoid potential impacts to coast-bluff morning-glory and Point Reyes checkerbloom, prior to the beginning of construction, a qualified biologist would update the botanical surveys around the potential observations outlined below in Table 8 in Section 4.2. If individuals are observed that could be impacted by construction activities, THVF or environmentally sensitive area (ESA) staking would be installed to ensure individuals are not impacted by construction activities. These standard measures are described in Section 1.3.2 under BR-4-A and BR-4-C. With these standard measures in place, no impacts to special-status plants are anticipated as a result of the proposed project.

TABLE OF CONTENTS

APPENDICES

LIST OF FIGURES

LIST OF TABLES

LIST OF ABBREVIATIONS AND ACRONYMS

ABBREVIATION	DESCRIPTION
AC	Asphalt Concrete
AMMs	Avoidance and Minimization Measures
Amsl	Above Mean Sea Level
BMP(s)	Best Management Practice(s)
BSA	Biological Study Area
Caltrans	California Department of Transportation
ºC	degrees Celsius
Cal-IPC	California Invasive Plant Council
CAPM	Capital Preventative Maintenance (Project)
CDFW	California Department of Fish and Wildlife
CEHC Project	California Essential Habitat Connectivity Project
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFGC	California Fish and Game Code
CFR	Code of Federal Regulations
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CRPR	California Rare Plant Ranks
CWA	Clean Water Act
dB	decibels
DPS	Distinct Population Segment
ECAs	Essential Connectivity Blocks
EFH	Essential Fish Habitat
EOs	Executive Orders
ESA	Endangered Species Act
FESA	Federal Endangered Species Act
ESL	Environmental Study Limits
ESU	Evolutionarily Significant Unit
ºF	degrees Fahrenheit
FE	Federal Endangered species
FESA	Federal Endangered Species Act

ABBREVIATION	DESCRIPTION
FGDC	Federal Geographic Data Committee
FHWA	Federal Highway Administration
FP	State Fully Protected species
FT	Federal Threatened species
FT	Feet/foot
HUC	Hydrologic Unit Code
IPaC	Information for Planning and Consultation
ITP	Incidental Take Permit
IUCN	International Union for Conservation of Nature
m(s)	meter(s)
MBGR	Metal Beam Guardrail
MBTA	Migratory Bird Treaty Act
MGS	Midwest Guardrail System
MSA	Magnuson-Stevens Fishery Conservation and Management Act
NCRWQCB	North Coast Regional Water Quality Control Board
NCSC	Natural Communities of Special Concern
NEPA	National Environmental Policy Act
NES	Natural Environment Study
NES/MI	Natural Environment Study/Minimal Impacts
NMFS	National Marine Fisheries Service
NPDES	National Pollutant Discharge Elimination System
NPPA	Native Plant Protection Act
NSO	Northern spotted owl
NWI	National Wetland Inventory
NWP	Nationwide Permit
OHWM	Ordinary High Water Mark
PLOC	Programmatic Letter of Concurrence
PLSS	Public Land Survey System
PM(s)	post mile(s)
quad	USGS 7.5-minute quadrangle
RHMA	Rubberized Hot-Mix Asphalt
RWQCB	Regional Water Quality Control Board
SC	State Candidate species

ABBREVIATION	DESCRIPTION
SE	State Endangered species
SNC(s)	Sensitive Natural Community(ies)
SONCC	Southern Oregon/Northern California Coast
SR	State Route
SSC	Species of Special Concern
ST	State Threatened species
SWPPP	Stormwater Pollution Prevention Plan
THVF	Temporary High Visibility Fencing
TMS	Transportation Management System
TNW	Traditional Navigable Waterway
U.S. / US	United States
USACE	United States Army Corps of Engineers
USC	United States Code
USCD	United States Climate Data
USDA	United States Department of Agriculture
U.S. EPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
WAFWA	Western Association of Fish and Wildlife Agencies
WBWG	Western Bat Working Group
WOTUS	Waters of the U.S.
WPCP	Water Pollution Control Program

CHAPTER 1. Introduction

1.1 Project Purpose and Need

The California Department of Transportation (Caltrans) is proposing a project to repair existing distressed pavement, upgrade existing guardrail and upgrade existing Transportation Management System (TMS) assets between post miles (PMs) 33.7 and R51.0 along State Route (SR) 1 in Mendocino County. The purpose of this project is to preserve roadway pavement that has minor structural distress as determined by the Pavement Condition Survey and to improve safety for motorists.

1.2. Project Location

The proposed project is located along SR 1 between PM 33.7 and R51.0 in Mendocino County within the Elk, Albion, and Mendocino 7.5-minute U.S. Geological Survey (USGS) quadrangle maps. The location of the proposed project is shown below in Figure 1.

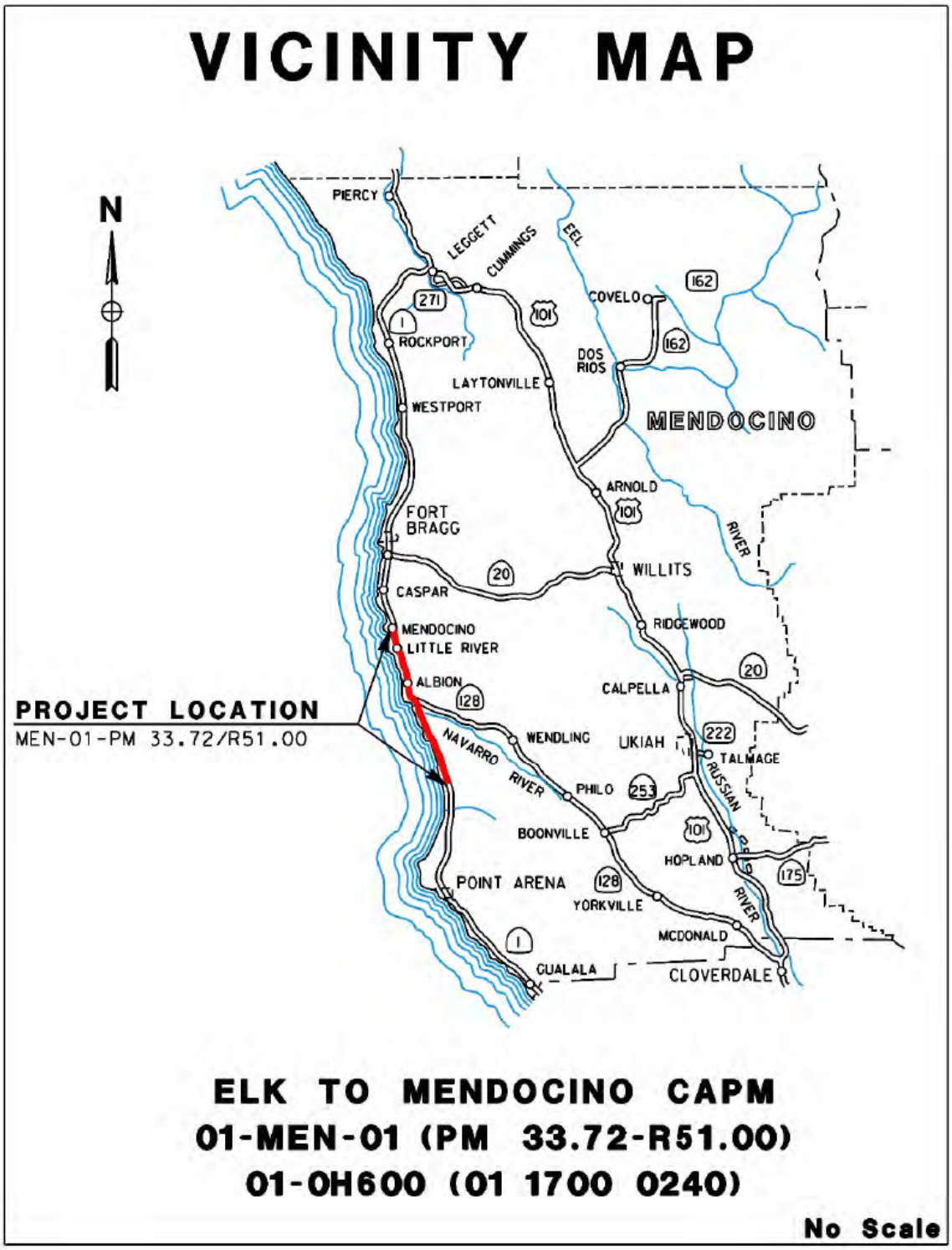

Figure 1. Project Vicinity Map

1.3. Project Description

This Capital Preventative Maintenance (CAPM) improvement project would include:

- Rehabilitation of Class II pavement by cold-plane asphalt-concrete (AC) dig outs
- Profile grinding
- Placement of 0.20-foot of Rubberized Hot Mix Asphalt (RHMA) overlay
- Placement of shoulder backing
- Upgrade of existing Metal Beam Guard Rail (MBGR) to Midwest Guardrail System (MGS)
- Upgrade of WB transitions to WB-31 sections
- Installing nine new inline terminal sections
- Upgrading existing TMS facilities
- Replacing sign panels
- Replacement of centerline rumble strips from PM 40.33 to 43.41

1.3.1. Staging Areas

Potential staging areas would be limited to existing paved and gravel turnouts within the project limits (Appendix A, Project Plans). Turnouts proposed as staging areas within the project Environmental Study Limits (ESL) have been surveyed for special status plants and habitat for special status animals.

1.3.2. Standard Measures and Best Management Practices

The following section provides a list of standard measures that are included as part of the project description. Standard avoidance and minimization measures are prescriptive and sufficiently standardized to be generally applicable, and do not require special tailoring to a project situation. These are generally measures that result from laws, permits, guidelines, and resource management plans that are relevant to the project. They contain refinements in planning policies and implementing actions. These practices predate the project's proposal and apply to all similar projects. For this reason, these measures and practices do not qualify as project mitigation and the effects of the project are analyzed with these measures in place. Any species-specific avoidance, minimization or mitigation measures that would be applied to reduce the effects of project impacts are listed in relevant sections of Chapter 4. Standard measures relevant to the protection of natural resources deemed applicable to the proposed project include:

Biological Resources

BR-1: General

Before start of work, as required by permit or consultation conditions, a Caltrans biologist or Environmental Construction Liaison (ECL) would meet with the contractor to brief them on environmental permit conditions and requirements relative to each stage of the proposed project, including, but not limited to, work windows, drilling site management, and how to identify and report regulated species within the project areas.

BR-2: Animal Species

A. To protect migratory and nongame birds (occupied nests and eggs), if possible, vegetation removal would be limited to the period outside of the bird breeding season (removal would occur between September 16 and January 31). If vegetation removal is required during the breeding season, a nesting bird survey would be conducted by a qualified biologist within one week prior to vegetation removal. If an active nest is located, the biologist would coordinate with CDFW to establish appropriate species-specific buffer(s) and any monitoring requirements. The buffer would be delineated around each active nest and construction activities would be excluded from these areas until birds have fledged, or the nest is determined to be unoccupied.

B. ***Northern Spotted Owl and Marbled Murrelet:*** No construction activities generating sound levels 20 or more decibels (dB) above ambient sound or with maximum sound levels (ambient sound level plus activity-generated sound level) above 90 dB would occur between February 1 and August 5. Between August 6 and September 15, work that generates sound levels equal to or greater than 10 dB above ambient sound levels or above 90 dB max would observe a daily work window beginning 2 hours post-sunrise and ending 2 hours pre-sunset. Sound-related work windows would be lifted between September 16 and January 31. Further, no construction activities would occur within a visual line-of-sight of 131 feet or less from any known active nest locations for northern spotted owl or marbled murrelet.

BR-3: Invasive Species

Invasive non-native species control would be implemented. Straw, straw bales, seed, mulch, or other material used for erosion control or landscaping which would be free of noxious weed seed and propagules. All equipment would be thoroughly cleaned of all dirt and vegetation prior to entering the job site to prevent importing invasive non-native species.

BR-4: Plant Species, Sensitive Natural Communities, and ESHA

A. Seasonally appropriate, pre-construction surveys for sensitive plant species would be updated by a qualified biologist prior to construction in accordance with *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (CDFW 2018).

C. Prior to the start of work, Temporary High Visibility Fencing (THVF) and/or flagging would be installed around sensitive natural communities, environmentally sensitive habitat areas, rare plant occurrences, intermittent streams, and wetlands and other waters, where appropriate. No work would occur within fenced/flagged areas.

Water Quality and Stormwater Runoff

WQ-1: Water Quality and Stormwater Runoff

The project would comply with the Provisions of the Caltrans Statewide National Pollutant Discharge Elimination System (NPDES) Permit (Order 2012-0011-DWQ) as amended by subsequent orders, which became effective July 1, 2013, for projects that result in a land disturbance of one acre or more, and the Construction General Permit (Order 2009-0009-DWQ).

Before any ground-disturbing activities, the contractor would prepare a Stormwater Pollution Prevention Plan (SWPPP) (per the Construction General Permit Order 2009-0009-DWQ) or Water Pollution Control Program (WPCP) (projects that result in a land disturbance of less than one acre), that includes erosion control measures and construction waste containment measures to protect waters of the State during project construction.

The SWPPP or WPCP would identify the sources of pollutants that may affect the quality of stormwater; include construction site Best Management Practices (BMPs) to control sedimentation, erosion, and potential chemical pollutants; provide for

construction materials management; include non-stormwater BMPs; and include routine inspections and a monitoring and reporting plan. All construction site BMPs would follow the latest edition of the Caltrans Storm Water Quality Handbooks: Construction Site BMPs Manual to control and reduce the impacts of construction-related activities, materials, and pollutants on the watershed.

The project SWPPP or WPCP would be continuously updated to adapt to changing site conditions during the construction phase. Construction may require one or more of the following temporary construction site BMPs:

- Any spills or leaks from construction equipment (i.e., fuel, oil, hydraulic fluid, and grease) would be cleaned up in accordance with applicable local, state, and/or federal regulations.
- Accumulated stormwater, groundwater, or surface water from excavations or temporary containment facilities would be removed by dewatering.
- Temporary sediment control and soil stabilization devices would be installed.
- Existing vegetated areas would be maintained to the maximum extent practicable.
- Clearing, grubbing, and excavation would be limited to specific locations, as delineated on the plans, to maximize the preservation of existing vegetation.
- Vegetation reestablishment or other stabilization measures would be implemented on disturbed soil areas, per the Erosion Control Plan.
- Soil disturbing work would be limited during the rainy season.

CHAPTER 2. Study Methods

This section presents the methods used to identify and evaluate the potential presence of sensitive natural communities, special status plants and animals, and jurisdictional waters and/or wetlands within or adjacent to the project area. This section also includes a description of the study area, as well as all state and federal regulatory requirements relevant to these sensitive biological resources.

2.1. Study Area

The study area consists of the project footprint/Environmental Study Limits (ESL) and Biological Study Area (BSA). The ESL, depicted in project plans provided in Appendix A, includes the area where work is anticipated to occur and where potential direct project impacts are anticipated, including construction activities (i.e., ground disturbance), equipment staging, and vehicle access.

The Biological Study Area (BSA) encompasses the project footprint/ESL in addition to the following areas:

- A 165-foot buffer around the ESL to assess potential indirect impacts from construction noise to NSO, MAMU (Section 4.3.2), and other terrestrial special status animal species. This buffer was determined in accordance with the USFWS Guidance: *Estimating the Effects of Auditory and Visual Disturbance to Northern Spotted Owl and Marbled Murrelets in Northwestern California* (USFWS 2006).
- A 100-foot buffer around the ESL in areas that contain proposed expansion of facility, as defined by the Mendocino County Local Coastal Program (LCP) to assess potential direct and indirect impacts to Environmentally Sensitive Habitat Areas (ESHA).
- Waterways within the same watershed as the project footprint/ESL that may have suitable habitat for special status fish species. These waterways were assessed for potential indirect impacts as a result of potential sedimentation and/or pollutant contamination from project-related activities.

2.2. Regulatory Requirements

The federal and state regulatory requirements and laws related to biological resources that apply to the proposed project include:

- Bald and Golden Eagle Protection Act
- California Endangered Species Act of 1984
- California Environmental Quality Act (CEQA)
- California Fish and Game Code, Section 1600 et seq.
- Clean Water Act (CWA), Section 404 and Section 401
- Executive Order 13112 – Invasive Species
- Executive Order (EO) 11990 (Protection of Wetlands)
- Federal Endangered Species Act (FESA)
- Magnuson-Stevens Fishery Conservation and Management Act (MSA)
- Migratory Bird Treaty Act (MBTA)
- National Environmental Policy Act (NEPA)
- Native Plant Protection Act of 1977 (NPPA)
- Porter-Cologne Water Quality Control Act

2.3. Studies Required

To comply with the provisions of the preceding state and federal environmental statutes, biological studies were conducted of the project footprint/ESL and BSA to identify existing vegetation communities, sensitive natural communities, potential jurisdictional waters and wetlands, special status species, and/or suitable habitat for special status species. These studies are discussed in detail below.

2.3.1. Records Search

Project biologists conducted initial background research by compiling a comprehensive list of special status species and sensitive natural communities that may be present within the project footprint/ESL and BSA. Available datasets and resources were queried for known special status species occurrences within the Elk, Mendocino, Albion, Mallo Pass Creek, Fort Bragg, Inglenook, Dutchmans Knoll, Noyo Hill, and Mathison Peak USGS 7.5-minute quadrangle maps.

Information on these sensitive biological resources was obtained from the following resources:

- USFWS Environmental Conservation Online System: Information for Planning and Conservation (IPaC) list for the project locations (USFWS 2021) (Appendix B)
- National Marine Fisheries (NMFS) West Coast Region, California Species List (NMFS 2021) (Appendix C).
- CDFW California Natural Diversity Database (CNDDB) (CDFW 2021a) (Appendix D).
- CDFW Special Animals List (CDFW 2021b)
- CNPS Inventory of Rare and Endangered Plants of California (CNPS 2021)
- Natural Resources Conservation Service (NRCS) Web Soil Survey (NRCS 2021)
- USFWS National Wetlands Inventory (NWI) data (USFWS 2019)
- Current and historical aerial imagery (Google Earth 2021; Esri 2021)
- California Wildlife Habitat Relationships System (CDFW 2021c);

2.3.2. Wildlife Habitat Assessment

Reconnaissance-level surveys were conducted by Stantec biologists, Jacqueline Phipps (Staff Biologist) and Sheryl Creer (Senior Botanist), from June 15 to 17, 2021 to assess the project BSA for potential habitat for sensitive wildlife species. The BSA was surveyed on foot where accessible and safe to do so, and with binoculars from the roadway for inaccessible or unsafe areas.

The potential for regionally occurring special-status wildlife species to occur in the BSA was evaluated based on habitats identified during the field survey and the suitability of those habitats to support each of the species. Vegetation types were classified based on A Manual

of California Vegetation, 2nd edition (MCV) (Sawyer et al. 2009). A list of the species observed during the field survey is provided in the Botanical Resources Survey Report (Appendix F).

2.3.3. Botanical Surveys

The BSA was surveyed on foot where accessible and safe to do so, in meandering transects per CNPS (CNPS 2001) and CDFW guidelines (CDFW 2018). Portions of the BSA that were inaccessible on foot due to safety concerns were surveyed using binoculars. In many locations, there was no shoulder or turnout to use, and surveys were limited to observations through the vehicle windows. In addition, portions of the BSA overlapped with private property; these areas were either not surveyed or surveyed using binoculars. Each species was identified to the taxonomic level necessary to determine whether the plant was listed as a special-status species. Plant taxonomy follows the Jepson Flora Project (Jepson Flora Project 2021), and communities were identified based on the classification system described in *A Manual of California Vegetation, 2nd Edition* (Sawyer et al., 2009).

The first of two rounds of surveys for the botanical resource field assessment was conducted June 15-18, 2021; the second round of surveys was conducted August 3-6, 2021. Both rounds were conducted by a team of two Stantec biologists over the course of 100 person hours. The survey team consisted of Sheryl Creer (Task Lead, Senior Botanist) and Jacqueline Phipps (Biologist).

Areas that were developed or ornamental were checked to confirm dominant non-native vegetation species (where vegetation was present). Timing of the field surveys coincided with the blooming period(s) for potentially occurring special-status plants in the BSA. Collectively, the June and August field visits covered the period when potential special-status plants would be identifiable in the region.

Vegetation mapping followed the technical approach and vegetation alliance classification system described in the MCV (CNPS 2021a), with the same limitations in coverage as described for the floristic surveys above. Each vegetation community identified during field mapping was checked for sensitivity against the California Natural Community List (CDFW 2020). Stantec botanists mapped vegetation in the field by walking through the BSA and assessing vegetative cover within stands. The full extent, or a representative portion, of all vegetation communities mapped in the BSA were visited during the field survey. Vegetation communities were classified to the level necessary (i.e., alliance or association) to determine sensitivity. Stantec botanists noted plant species composition, stand structure, regional

occurrence, and other notable characteristics for each community. After completion of the survey, the preliminary vegetation map created during desktop review was updated with field observations.

To the extent practicable, nearby reference populations of special-status plant species were visited to help ensure that Stantec botanists had an accurate search image for a species and to determine whether the species was identifiable at the time of the survey. Reference site visits were made for plant occurrences near the BSA that were documented by the CNDDB (CDFW 2021a) and Calflora (Calflora 2021). Species identification was confirmed using the Jepson Flora Project (Jepson Flora Project 2021). Reference sites were visited on June 15, August 3, and August 5, 2021.

Relevant survey results are presented in Sections 4.1 and 4.2. The complete Botanical Resources Survey Report is provided in Appendix F and contains a complete summary of all botanical survey efforts and results.

2.3.4. Aquatic Resources Delineation

The project footprint/ESL was surveyed to identify any potentially jurisdictional aquatic resources that may be impacted by the project. This included an assessment for the following:

- Wetlands or non-wetlands Waters of the United States (WOTUS) subject to federal jurisdiction of the United State Army Corps of Engineers (USACE) pursuant to Section 404 of the Clean Water Act (CWA)
- Wetlands or non-wetlands Waters of the State subject to the jurisdiction of the North Coast Regional Water Quality Control Board (NCRWQCB) pursuant to the Porter-Cologne Water Quality Control Act and Section 401 of the CWA, and
- Any bed, bank, channel, or riparian habitats subject to the jurisdiction of the California Department of Fish and Wildlife (CDFW) pursuant to Fish and Game Code Section 1602.
- Wetlands subject to the jurisdiction of The California Coastal Commission pursuant to the California Coastal Act.

The methods used to delineate potentially jurisdictional wetlands were based on the *Corps of Engineers Wetland Delineation Manual* (USACE 1987) and *Regional Supplement to the*

Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (USACE 2010).

The boundaries of any potentially jurisdictional non-wetland WOTUS or Waters of the State were delineated at the ordinary high-water mark (OHWM) in accordance with the guidelines in USACE Regulatory Guidance Letter 05-05 (USACE 2005) and *A Guide to Ordinary High Water Mark (OHWM) Delineation for Non-Perennial Streams in the Western Mountains, Valleys, and Coast Region of the United States* (Mersel and Lichvar, 2014). The OHWM represents the limit of potential USACE or NCRWQCB jurisdiction over non-tidal waters (e.g., rivers).

The complete Aquatic Resources Assessment Report, completed by Stantec biologists in 2021, is provided in Appendix G and contains a detailed summary of all aquatic resources survey efforts and results.

2.3.5. Personnel and Survey Dates

Table 1 summarizes all surveys conducted within the project footprint/ESL, including the type of survey, survey date(s), location, and personnel who conducted the survey.

Table 1. Biological Surveys, Personnel, and Dates

Survey	Date	Location	Personnel
Reconnaissance-level wildlife habitat assessment	June 15-17, 2021	Entire ESL and accessible areas of BSA	Jacqueline Phipps, Stantec Biologist
			Sheryl Creer, Stantec Senior Botanist
Botanical Survey	June 15-18, 2021	Entire ESL and accessible areas of BSA	Sheryl Creer, Stantec Senior Botanist
			Jacqueline Phipps, Stantec Biologist
Aquatic Resources Survey	July 13-15	Entire ESL and accessible areas of BSA	Meghan Oats, Stantec Biologist
Botanical Survey	August 3-6, 2021	Entire ESL and accessible areas of BSA	Sheryl Creer, Stantec Senior Botanist
			Jacqueline Phipps, Stantec Biologist

2.4 Agency Coordination and Professional Contacts

On November 13, 2021, official species lists were updated from USFWS, NMFS, CDFW and CNPS (Appendices B-E). The Programmatic Letter of Concurrence (USFWS 2018a) will be used for potential effects of the project on northern spotted owl and marbled murrelet.

2.5. Limitations That May Influence Results

Changes in the proposed project scope could result in changes to the assessments in this document. If any changes are made or additional work added, then this NES/MI would no longer be considered valid and an updated NES would be required.

CHAPTER 3. Environmental Setting

3.1. Description of the Existing Biological and Physical Conditions

This section describes the physical and biological conditions of the BSA. Physical conditions include climate, topography, geology and soils, and hydrology. Biological conditions include vegetation communities and habitat connectivity. This information provides context in understanding the potential for project-related impacts.

3.1.1. Study Area

The proposed project is along SR 1 in Mendocino County between PMs 33.7 and R51.0. The Environmental Study Limits (ESL) include the project construction boundaries and all equipment storage and access areas (project footprint). The Biological Study Area (BSA) consists of those areas described in Section 2.1 .

3.1.2. Physical Conditions

The project footprint/ESL and BSA are entirely within the Coast Range ecoregion, a region consisting of coastal headlands, marine terraces, sand dunes, and beaches on the immediate coast and an inland coastal mountain range, which is dominated by highly productive evergreen forests. Through the project area, SR 1 is bound by multiple land use types, including residential, commercial, parks, recreational areas, coastal areas, and undeveloped properties. The project footprint/ESL is entirely within the road prism of SR 1, a north-south trending, 2-lane winding highway with intermittent passing lanes and occasional paved or gravel pullouts.

Climate

Climate within the study area in Mendocino County is based on historical weather data collected at the Fort Bragg 5 N Station (NOAA 2021) and is presented below. The weather station is located approximately 10 miles north of the study area.

- **Type:** The climate of the area is characterized as Mediterranean, with wet, rainy winters and dry summers.
- **Precipitation:** Precipitation in Mendocino County coastal area primarily occurs as rain. The average annual rainfall is approximately 41 inches.

- **Air Temperature:** Air temperatures in the Mendocino County coastal area range between an average January high of 47.6 degrees Fahrenheit (ºF) and an average July high of 57.8ºF. The annual average high is approximately 52.8ºF.

- **Growing Season:** The growing season (i.e., 50 percent probability of 28°F day or higher) in the Mendocino County coastal area is approximately 278 days and occurs between February and November (NRCS 2021).

Topography

Topography varies considerably within the project footprint/ESL and BSA, from relatively flat areas near the coast to sloping and terraced hills further inland. Elevations vary from approximately 3-feet to 300-feet above mean sea level (amsl).

Geology/Soils

The project footprint/ESL is within the Northern Coast Ranges subset of the Coast Ranges Geomorphic Province. The Coast Ranges are north-west trending mountain ranges (typically 2,000 to 4,000 feet elevation amsl) and valleys that run subparallel to the San Andreas Fault. The province is bordered to the west by the Pacific Ocean, to the east by the Great Valley Geomorphic Province, to the south by the Transverse Ranges of southern California, and to the north by the Klamath Mountain Range (Schoenherr 2017).

Soil textures include those typically found along the coastal region: loam, sandy loam, and loamy sand (NRCS 2021). Table 2 includes the fifteen soil map units in the study area and provides the drainage class and depth to restrictive layer for each hydric soil type. Soils within the project area are further discussed in the Aquatic Resources Assessment Report provided in Appendix G.

Table 2: Summary of soil map units present within the study area.

Map Unit Name	Map Unit Reference Code	Drainage Class	Depth to Restrictive Layer (inches)	Hydric?
Biaggi loam 5 to 15% slopes	106	Moderately well drained	20-40	No
Bruhel-Shinglemill complex 2 to 15% slopes	116	Well drained	40-70	No
Cabrillo-Heeser complex 0 to 5% slopes	117	Somewhat poorly drained	60-65	No

Map Unit Name	Map Unit Reference Code	Drainage Class	Depth to Restrictive Layer (inches)	Hydric?
Coastal beaches	126	--	--	No
Dystropepts 30 to 75% slopes	139	Well drained	10-40	No
Flumeville clay loam 0 to 5% slopes	144	Poorly drained	> 60	Yes
Flumeville clay loam 5 to 15% slopes	145	Poorly drained	> 60	Yes
Heeser sandy loam 2 to 15% slopes	161	Excessively drained	> 65	No
Irmulco-Tramway complex 50 to 75% slopes	174	Well drained	20-40	No
Mallopass loam 0 to 5% slopes	182	Moderately well drained	48-60	No
Mallopass loam 5 to 15% slopes	183	Moderately well drained	48-60	No
Shinglemill-Gibney complex 2 to 9% slopes	199	Poorly drained	>68	Yes
Tropaquepts 0 to 15% slopes	214	Very poorly drained	> 60	Yes
Urban land	219	--	--	No
Windyhollow loam 0 to 5% slopes	225	Moderately poorly drained	>60	No

Hydrology

The primary source of hydrology in the study area is precipitation and runoff, which ultimately drain into the Pacific Ocean via Big River, Little River, Albion River, Big Salmon Creek, Navarro River, Greenwood Creek, and other unnamed intermittent streams. Numerous tributaries flow into these rivers and large creeks. The BSA contains perennial streams, intermittent streams, ephemeral streams, and roadside ditches. Most tributaries in the local area originate in the north Coast Ranges and flow westerly, ultimately draining into the Pacific Ocean. The study area is within the Big-Navarro-Garcia watershed (Hydrologic Unit Code #18010108).

3.1.3. Existing Biological Conditions

Vegetation Communities

The BSA is located in or adjacent to residential commercial development or highway corridors. Vegetation within the BSA is highly disturbed by human activity and has been impacted by clearing, grading, paving, and alteration of hydrology. The BSA supports a high number of non-native plants and invasive species (i.e., species rated limited, moderate, or high by the California Invasive Species Council). The twenty-four vegetation communities and land cover types mapped in the BSA to the alliance or association level are summarized below in Table 3. The Botanical Resources Survey Report, provided in Appendix F summarizes each community in detail and provides mapping of community distributions.

Table 3 Summary of vegetation communities identified and mapped within the BSA.

Alliance or Association	Sensitive	Native to Region	Acres
Forest and Woodland			
Abies grandis Forest Alliance Grand Fir Forest	**Yes**	**Yes**	5.99
Alnus rhombifolia Forest & Woodland Association White Alder Groves	**Yes**	**Yes**	0.63
Alnus rubra Forest Alliance Red Alder Forest	TBD[1]	**Yes**	4.26
Eucalyptus sp. Woodland Semi-Natural Association Eucalyptus Groves	No	No	3.18
Hesperocyparis macrocarpa Plantations Monterey Cypress Stands	No	No[2]	13.18
Notholithocarpus densiflorus Forest Alliance Tanoak Forest	**Yes**	**Yes**	1.86
Pinus radiata Forest and Woodland Association Monterey Pine Plantations	No	No[2]	38.81
Subtotal			67.91
Shrubland			
Baccharis pilularis Annual Grass-Herb Shrubland Alliance Coyote Brush/Annual Grass Scrub	TBD[3]	**Yes**	48.09
Cytisus scoparius - Genista monspessulana - Cotoneaster spp. Shrubland Semi-Natural Alliance Broom Patches	No	No	2.14

Alliance or Association	Sensitive	Native to Region	Acres
Garrya elliptica Provisional Shrubland Alliance Coastal Silk Tassel Scrub	**Yes**	**Yes**	0.99
Lupinus arboreus Shrubland Semi-Natural Association Yellow Bush Lupine Scrub	No	No[2]	1.02
Rubus armeniacus Shrubland Semi-Natural Association Himalayan Blackberry Scrub	No	No	1.08
Salix hookeriana Shrubland Alliance Coastal Dune Willow Thickets	**Yes**	**Yes**	0.73
Salix lasiolepis Shrubland Association Arroyo Willow Thickets	**Yes**	**Yes**	0.58
Subtotal			54.63
Herbaceous			
Briza maxima Herbaceous Semi-Natural Association Rattlesnake Grass Grasslands	No	No	11.38
Conium maculatum Herbaceous Semi-Natural Alliance Poison Hemlock Patches	No	No	0.34
Cortaderia sp. Herbaceous Semi-Natural Alliance Pampas Grass Patches	No	No	0.45
Eriophyllum staechadifolium - Erigeron glaucus - Eriogonum latifolium Herbaceous Alliance Seaside Woolly-Sunflower - Seaside Daisy - Buckwheat Patches	**Yes**	**Yes**	1.71
Holcus lanatus - Anthoxanthum odoratum Herbaceous Semi-Natural Association Common Velvet Grass - Sweet Vernal Grass Meadows	No	No	3.13
Juncus patens Provisional Herbaceous Alliance Western Rush Marshes	No	**Yes**	0.18
Subtotal			17.19
Other			
Barren	N/A	N/A	3.45
Developed	N/A	N/A	53.03
Open Water	N/A	N/A	2.90
Ornamental Shrubs	No	No	1.85
Subtotal			61.23
Total			**200.96**

Alliance or Association	Sensitive	Native to Region	Acres
Notes: 1. All 4 associations currently described within this alliance in the MCV are considered sensitive natural communities by CDFW. However, the assemblage observed within the BSA does not fit within any of the 4 associations and is therefore listed at the alliance level. CDFW should be consulted for a sensitivity determination. 2. Vegetation community that is native to California, but is not native to this region (i.e., it was planted as landscaping or has escaped from its naturally-occurring range). 3. Several associations within this alliance are considered sensitive by CDFW. However, due to safety and access restrictions, this community was mapped to the alliance level only.			

Habitat Connectivity

Dispersal/Migration Corridors

Wildlife movement corridors in California are identified and described for the California Essential Habitat Connectivity (CEHC) Project, a project commissioned by Caltrans and CDFW to identify a functional network of connected wildlands deemed essential for maintaining California's native biodiversity (Spencer et al., 2010). The CEHC Project identified numerous essential connectivity areas (ECAs) throughout the state as lands likely to be important to wildlife movement between large, mostly natural areas. No ECAs are currently identified within the project BSA.

Fish Passage

The Calfish Passage Assessment Database (PAD) includes an ongoing inventory of potential barriers to anadromous fish in California. Within the project limits, PAD currently shows two total barriers and one partial barrier along SR 1 at Schoolhouse Creek, Laurel Gulch, and Buckhorn Creek, respectively. The proposed project does not include drainage work and would not impact existing fish passage features.

Invasive Species

Introduction and naturalization of non-native species is one of the leading threats to global biodiversity. Some of the species that most threaten native ecosystem function and structure in Mendocino County found in or adjacent to the project footprint/ESL include ripgut brome (*Bromus diandrus*), Italian thistle (*Carduus pycnocephalus*), pampas grass (*Cortaderia selloana*), reed fescue (*Festuca arundinacea*), Himalayan blackberry (*Rubus armeniacus*), and greater periwinkle (*Vinca major*). The *Briza maxima* Semi-Natural Associate (Rattlesnake Grass Grasslands) was identified as the most

abundant herbaceous community in the BSA, and several other non-native alliances exist within the ESL as well.

3.2. Regional Species and Habitats and Sensitive Natural Communities

3.2.1. Special Status Species

Special status species known or likely to occur in the project region were identified based on the CNDDB records search (CDFW 2021a), the CNPS Inventory of Rare and Endangered Plants (CNPS 2021), the NMFS species list (NMFS 2021), the USFWS species list (USFWS 2021), and species distribution and habitat requirements data.

For the purposes of this evaluation, "special status species" are plants or animals that are legally protected or prioritized under the regulations addressed in Section 2.2. Special status species reviewed in this NES include:

- Species listed or proposed for listing as threatened or endangered under the Federal Endangered Species Act (FESA) (50 CFR. 17.12, 50 CFR. 17.11, and various notices in the Federal Register)
- Species that are candidates for possible future listing as threatened or endangered under the FESA (73 FR 75176, December 10, 2008)
- Species listed or proposed for listing by the State of California as threatened or endangered under the California Endangered Species Act (CESA) (14 C.C.R. 670.5)
- Species that meet the definitions of rare or endangered under California Environmental Quality Act (CEQA) (Guidelines Sections 15380 and 15125)
- CDFW Species of Special Concern (SSC) and Fully Protected (FP) Species (California Fish and Game Code Sections 3511) (CDFW 2021b)
- Plant species listed as rare under the California Native Plant Protection Act (FGC 1900 et seq.)
- Plants listed by CNPS per the California Rare Plants Ranks (CRPR) (CNPS 2021)
    - CRPR 1A List – Plants presumed by the CNPS to be "extinct in California"

- CRPR List 1B and 2 – Plants considered by the CNPS to be "rare, threatened, or endangered in California"
- CRPR List 3 – Plants listed by CNPS as plants about which more information is needed to determine their status, which may be included as special status species on the basis of local significance or recent biological information.
- CRPR List 4 – Plants with limited distribution or infrequent throughout a broader area in California, and their status should be monitored regularly.

3.2.2. Special Status Plants

Based on the queries made to CNDDB, NMFS, CNPS, and USFWS databases, eighty-three special status plants have the potential to occur within the USGS quadrangle maps queried for this assessment (Table 2). However, seven of those species were identified as potentially having habitat within the project footprint/ESL. The project footprint/ESL either lacks suitable habitat or is outside of the elevation and/or geographic range for the remaining eighty-three species.

Botanical surveys described in Section 2.3.3 documented several potential occurrences of Coastal bluff morning-glory (*Calystegia purpurata* ssp. *saxicola*) within and/or adjacent to the ESL; these potential occurrences are discussed in detail in Chapter 4 and in the Botanical Resources Survey Report (Appendix F). Additionally, occurrences of Point Reyes checkerbloom are known within or adjacent to the ESL and discussed in detail in Chapter 4.

Table 4 evaluates the potential for species to occur within the project footprint/ESL, as indirect impacts to plants outside the ESL as a result of the proposed project are unlikely. The Botanical Resources Survey Report, provided in Appendix F, evaluates the potential for species to occur within the expanded BSA.

Table 4. Special Status Plants Potentially Occurring or Known to Occur in the Project ESL

Common Name	*Scientific Name*	Status Federal/State/CRPR	Habitat	Elevational Range (feet)	Habitat Presence	Rationale
Vascular Plants						
alpine marsh violet	*Viola palustris*	- / - / 2B.2	Bogs and fens, Coastal scrub.	0 - 490	Absent	ESL Lacks suitable habitat, and species was not observed during botanical surveys.
American glehnia	*Glehnia littoralis* ssp. *leiocarpa*	- / - / 4.2	Coastal dunes.	0 - 65	Absent	ESL Lacks suitable habitat, and species was not observed during botanical surveys.
Baker's goldfields	*Lasthenia californica* ssp. *bakeri*	- / - / 1B.2	Closed-cone coniferous forest, Coastal scrub, Marshes and swamps, Meadows and seeps.	195 - 1,705	Absent	ESL Lacks suitable habitat, and species was not observed during botanical surveys.
Blasdale's bent grass	*Agrostis blasdalei*	- / - / 1B.2	Coastal bluff scrub, Coastal dunes, Coastal prairie.	0 - 490	Absent	ESL Lacks suitable habitat, and species was not observed during botanical surveys.
bluff wallflower	*Erysimum concinnum*	- / - / 1B.2	Coastal bluff scrub, Coastal dunes, Coastal prairie.	0 - 605	Absent	ESL Lacks suitable habitat, and species was not observed during botanical surveys.
Bolander's beach pine	*Pinus contorta* ssp. *bolanderi*	- / - / 1B.2	Closed-cone coniferous forest.	245 - 820	Absent	ESL Lacks suitable habitat, and species was not observed during botanical surveys.

Common Name	*Scientific Name*	Status Federal/State/CRPR	Habitat	Elevational Range (feet)	Habitat Presence	Rationale
Bolander's reed grass	*Calamagrostis bolanderi*	- / - / 4.2	Bogs and fens, Broadleafed upland forest, Closed-cone coniferous forest, Coastal scrub, Marshes and swamps, Meadows and seeps, North Coast coniferous forest. Mesic	0 - 1495	Absent	ESL Lacks suitable habitat, and species was not observed during botanical surveys.
broad-lobed leptosiphon	*Leptosiphon latisectus*	- / - / 4.3	Broadleafed upland forest, Cismontane woodland.	560 - 4,920	Absent	Outside of species' elevational range.
bunchberry	*Cornus canadensis*	- / - / 2B.2	Bogs and fens, Meadows and seeps, North Coast coniferous forest.	195 - 6,300	Absent	ESL Lacks suitable habitat, and species was not observed during botanical surveys.
Burke's goldfields	*Lasthenia burkei*	FE / SE / 1B.1	Vernal pools and wet meadows	50 – 1,970	Absent	ESL lacks suitable vernal pool/meadow habitat
California pinefoot	*Pityopus californicus*	- / - / 4.2	Broadleafed upland forest, Lower montane coniferous forest, North Coast coniferous forest, Upper montane coniferous forest.	50 - 7,300	Absent	ESL Lacks suitable habitat, and species was not observed during botanical surveys.
California pitcherplant	*Darlingtonia californica*	- / - / 4.2	Bogs and fens, Meadows and seeps.	0 - 8,480	Absent	ESL Lacks suitable habitat, and species was not observed during botanical surveys.
California sedge	*Carex californica*	- / - / 2B.2	Bogs and fens, Closed-cone coniferous forest, Coastal prairie, Marshes and swamps, Meadows and seeps.	295 - 1,100	Absent	ESL Lacks suitable habitat, and species was not observed during botanical surveys.

Common Name	*Scientific Name*	Status Federal/State/CRPR	Habitat	Elevational Range (feet)	Habitat Presence	Rationale
coast iris	*Iris longipetala*	- / - / 4.2	Coastal prairie, Lower montane coniferous forest, Meadows and seeps.	0 - 1970	Absent	ESL Lacks suitable habitat, and species was not observed during botanical surveys.
coast lily	*Lilium maritimum*	- / - / 1B.1	Broadleafed upland forest, Closed-cone coniferous forest, Coastal prairie, Coastal scrub, Marshes and swamps, North Coast coniferous forest.	15 - 1,560	Absent	ESL Lacks suitable habitat, and species was not observed during botanical surveys.
coastal bluff morning-glory	*Calystegia purpurata* ssp. *saxicola*	- / - / 1B.2	Coastal bluff scrub, Coastal dunes, Coastal scrub, North Coast coniferous forest.	0 - 345	Present	Species potentially observed within ESL during botanical surveys.
coastal triquetrella	*Triquetrella californica*	- / - / 1B.2	Coastal bluff scrub, Coastal scrub.	35 - 330	Absent	ESL Lacks suitable habitat, and species was not observed during botanical surveys.
congested-headed hayfield tarplant	*Hemizonia congesta* ssp. *congesta*	- / - / 1B.2	Valley and foothill grassland.	65 - 1,835	Absent	ESL Lacks suitable habitat, and species was not observed during botanical surveys.
Contra Costa goldfields	*Lasthenia conjugens*	FE / - / 1B.1	Vernal pools and playas	0 – 1,540	Absent	ESL lacks suitable vernal pool habitat
dark-eyed gilia	*Gilia millefoliata*	- / - / 1B.2	Coastal dunes.	5 - 100	Absent	ESL Lacks suitable habitat, and species was not observed during botanical surveys.

Common Name	*Scientific Name*	Status Federal/State/CRPR	Habitat	Elevational Range (feet)	Habitat Presence	Rationale
deceiving sedge	*Carex saliniformis*	- / - / 1B.2	Coastal prairie, Coastal scrub, Marshes and swamps, Meadows and seeps. Mesic	10 - 755	Absent	ESL Lacks suitable habitat, and species was not observed during botanical surveys.
dwarf alkali grass	*Puccinellia pumila*	- / - / 2B.2	Marshes and swamps.	5 - 35	Absent	ESL Lacks suitable habitat, and species was not observed during botanical surveys.
fringed false-hellebore	*Veratrum fimbriatum*	- / - / 4.3	Bogs and fens, Coastal scrub, Meadows and seeps, North Coast coniferous forest.	10 - 985	Absent	ESL Lacks suitable habitat, and species was not observed during botanical surveys.
glory brush	*Ceanothus gloriosus* var. *exaltatus*	- / - / 4.3	Chaparral.	100 - 2,000	Absent	ESL Lacks suitable habitat, and species was not observed during botanical surveys.
great burnet	*Sanguisorba officinalis*	- / - / 2B.2	Bogs and fens, Broadleafed upland forest, Marshes and swamps, Meadows and seeps, North Coast coniferous forest, Riparian forest.	195 - 4,595	Absent	ESL Lacks suitable habitat, and species was not observed during botanical surveys.
green yellow sedge	*Carex viridula* ssp. *viridula*	- / - / 2B.3	Bogs and fens, Marshes and swamps, North Coast coniferous forest.	0 - 5250	Absent	ESL Lacks suitable habitat, and species was not observed during botanical surveys.
hair-leaved rush	*Juncus supiniformis*	- / - / 2B.2	Bogs and fens, Marshes and swamps.	65 - 330	Absent	ESL Lacks suitable habitat, and species was not observed during botanical surveys.

Common Name	*Scientific Name*	Status Federal/State/CRPR	Habitat	Elevational Range (feet)	Habitat Presence	Rationale
harlequin lotus	*Hosackia gracilis*	- / - / 4.2	Broadleafed upland forest, Cismontane woodland, Closed-cone coniferous forest, Coastal bluff scrub, Coastal prairie, Coastal scrub, Marshes and swamps, Meadows and seeps, North Coast coniferous forest, Valley and foothill grassland.	0 - 2295	Absent	ESL Lacks suitable habitat, and species was not observed during botanical surveys.
heart-leaved twayblade	*Listera cordata*	- / - / 4.2	Bogs and fens, Lower montane coniferous forest, North Coast coniferous forest.	15 - 4,495	Absent	ESL Lacks suitable habitat, and species was not observed during botanical surveys.
Hoffman's bristly jewelflower	*Streptanthus glandulosus* ssp. *hoffmanii*	- / - / 1B.3	Chaparral, Cismontane woodland, Valley and foothill grassland.	395 - 1,560	Absent	ESL Lacks suitable habitat, and species was not observed during botanical surveys.
Howell's spineflower	*Chorizanthe howellii*	FE / CT / 1B.2	Coastal dunes, Coastal prairie, Coastal scrub. Disturbed areas (often), Sandy	0 - 150	Absent	ESL Lacks suitable habitat, and species was not observed during botanical surveys.
Humboldt Bay owl's-clover	*Castilleja ambigua* var. *humboldtiensis*	- / - / 1B.2	Marshes and swamps.	0 - 10	Absent	ESL Lacks suitable habitat, and species was not observed during botanical surveys.

Common Name	*Scientific Name*	Status Federal/State/CRPR	Habitat	Elevational Range (feet)	Habitat Presence	Rationale
Humboldt County milk-vetch	*Astragalus agnicidus*	- / CE / 1B.1	Broadleafed upland forest, North Coast coniferous forest. Disturbed areas, Openings, Roadsides (sometimes)	395 - 2,625	Absent	Outside of species' elevational range.
johnny-nip	*Castilleja ambigua* var. *ambigua*	- / - / 4.2	Coastal bluff scrub, Coastal prairie, Coastal scrub, Marshes and swamps, Valley and foothill grassland, Vernal pools.	0 - 1425	Absent	ESL Lacks suitable habitat, and species was not observed during botanical surveys.
lagoon sedge	*Carex lenticularis* var. *limnophila*	- / - / 2B.2	Bogs and fens, Marshes and swamps, North Coast coniferous forest. Gravelly (often)	0 - 20	Absent	ESL Lacks suitable habitat, and species was not observed during botanical surveys.
leafy-stemmed mitrewort	*Mitellastra caulescens*	- / - / 4.2	Broadleafed upland forest, Lower montane coniferous forest, Meadows and seeps, North Coast coniferous forest.	15 - 5,580	Absent	ESL Lacks suitable habitat, and species was not observed during botanical surveys.
livid sedge	*Carex livida*	- / - / 2A	Bogs and fens.	0 - 0	Absent	ESL Lacks suitable habitat, and species was not observed during botanical surveys.
Lyngbye's sedge	*Carex lyngbyei*	- / - / 2B.2	Marshes and swamps.	0 - 35	Absent	ESL Lacks suitable habitat, and species was not observed during botanical surveys.

Common Name	*Scientific Name*	Status Federal/State/CRPR	Habitat	Elevational Range (feet)	Habitat Presence	Rationale
maple-leaved checkerbloom	*Sidalcea malachroides*	- / - / 4.2	Broadleafed upland forest, Coastal prairie, Coastal scrub, North Coast coniferous forest, Riparian woodland.	0 - 2,395	Present	Edge of coniferous forest along ESL may provide suitable habitat.
marsh pea	*Lathyrus palustris*	- / - / 2B.2	Bogs and fens, Coastal prairie, Coastal scrub, Lower montane coniferous forest, Marshes and swamps, North Coast coniferous forest.	5 - 330	Absent	ESL Lacks suitable habitat, and species was not observed during botanical surveys.
Mendocino Coast paintbrush	*Castilleja mendocinensis*	- / - / 1B.2	Closed-cone coniferous forest, Coastal bluff scrub, Coastal dunes, Coastal prairie, Coastal scrub.	0 - 525	Absent	ESL Lacks suitable habitat, and species was not observed during botanical surveys.
Mendocino dodder	*Cuscuta pacifica* var. *papillata*	- / - / 1B.2	Coastal dunes.	0 - 165	Absent	ESL Lacks suitable habitat, and species was not observed during botanical surveys.
Menzies' wallflower	*Erysimum menziesii*	FE / CE / 1B.1	Coastal dunes.	0 - 115	Absent	ESL Lacks suitable habitat, and species was not observed during botanical surveys.
Monterey clover	*Trifolium trichocalyx*	FE / CE / 1B.1	Closed-cone coniferous forest.	100 - 1,000	Absent	ESL Lacks suitable habitat, and species was not observed during botanical surveys.
Monterey Coast paintbrush	*Castilleja latifolia*	- / - / 4.3	Cismontane woodland, Closed-cone coniferous forest, Coastal dunes, Coastal scrub. Sandy	0 - 605	Absent	ESL Lacks suitable habitat, and species was not observed during botanical surveys.

Common Name	*Scientific Name*	Status Federal/State/CRPR	Habitat	Elevational Range (feet)	Habitat Presence	Rationale
nodding semaphore grass	*Pleuropogon refractus*	- / - / 4.2	Lower montane coniferous forest, Meadows and seeps, North Coast coniferous forest, Riparian forest.	0 - 5,250	Absent	ESL Lacks suitable habitat, and species was not observed during botanical surveys.
North Coast phacelia	*Phacelia insularis* var. *continentis*	- / - / 1B.2	Coastal bluff scrub, Coastal dunes.	35 - 560	Absent	ESL Lacks suitable habitat, and species was not observed during botanical surveys.
northern microseris	*Microseris borealis*	- / - / 2B.1	Bogs and fens, Lower montane coniferous forest, Meadows and seeps.	3,280 - 6,560	Absent	Outside of species' elevational range.
Oregon coast paintbrush	*Castilleja litoralis*	- / - / 2B.2	Coastal bluff scrub, Coastal dunes, Coastal scrub. Sandy	50 - 330	Absent	ESL Lacks suitable habitat, and species was not observed during botanical surveys.
Oregon goldthread	*Coptis laciniata*	- / - / 4.2	Meadows and seeps, North Coast coniferous forest. Mesic	0 - 3280	Absent	ESL Lacks suitable habitat, and species was not observed during botanical surveys.
Pacific gilia	*Gilia capitata* ssp. *pacifica*	- / - / 1B.2	Chaparral, Coastal bluff scrub, Coastal prairie, Valley and foothill grassland.	15 - 5,465	Absent	ESL Lacks suitable habitat, and species was not observed during botanical surveys.
Pacific golden saxifrage	*Chrysosplenium glechomifolium*	- / - / 4.3	North Coast coniferous forest, Riparian forest. Roadsides (sometimes), Seeps (sometimes), Streambanks	35 - 720	Absent	ESL Lacks suitable habitat, and species was not observed during botanical surveys.

Common Name	*Scientific Name*	Status Federal/State/CRPR	Habitat	Elevational Range (feet)	Habitat Presence	Rationale
perennial goldfields	*Lasthenia californica* ssp. *macrantha*	- / - / 1B.2	Coastal bluff scrub, Coastal dunes, Coastal scrub.	15 - 1,705	Absent	ESL Lacks suitable habitat, and species was not observed during botanical surveys.
pink sand-verbena	*Abronia umbellata* var. *breviflora*	- / - / 1B.1	Coastal dunes.	0 - 35	Absent	ESL Lacks suitable habitat, and species was not observed during botanical surveys.
Point Reyes blennosperma	*Blennosperma nanum* var. *robustum*	- / CR / 1B.2	Coastal prairie, Coastal scrub.	35 - 475	Absent	ESL Lacks suitable habitat, and species was not observed during botanical surveys.
Point Reyes ceanothus	*Ceanothus gloriosus* var. *gloriosus*	- / - / 4.3	Closed-cone coniferous forest, Coastal bluff scrub, Coastal dunes, Coastal scrub. Sandy	15 - 1,705	Absent	ESL Lacks suitable habitat, and species was not observed during botanical surveys.
Point Reyes checkerbloom	*Sidalcea calycosa* ssp. *rhizomata*	- / - / 1B.2	Marshes and swamps.	10 - 245	Present	Species documented potentially within project ESL.
Point Reyes horkelia	*Horkelia marinensis*	- / - / 1B.2	Coastal dunes, Coastal prairie, Coastal scrub.	15 - 2,475	Absent	ESL Lacks suitable habitat, and species was not observed during botanical surveys.
purple-stemmed checkerbloom	*Sidalcea malviflora* ssp. *purpurea*	- / - / 1B.2	Broadleafed upland forest, Coastal prairie.	50 - 280	Absent	ESL Lacks suitable habitat, and species was not observed during botanical surveys.
pygmy cypress	*Hesperocyparis pygmaea*	- / - / 1B.2	Closed-cone coniferous forest.	100 - 1,970	Absent	ESL Lacks suitable habitat, and species was not observed during botanical surveys.

Common Name	*Scientific Name*	Status Federal/State/CRPR	Habitat	Elevational Range (feet)	Habitat Presence	Rationale
pygmy manzanita	*Arctostaphylos nummularia* ssp. *mendocinoensis*	- / - / 1B.2	Closed-cone coniferous forest.	295 - 655	Absent	ESL Lacks suitable habitat, and species was not observed during botanical surveys.
redwood lily	*Lilium rubescens*	- / - / 4.2	Broadleafed upland forest, Chaparral, Lower montane coniferous forest, North Coast coniferous forest, Upper montane coniferous forest.	100 - 6,265	Absent	ESL Lacks suitable habitat, and species was not observed during botanical surveys.
round-headed beaked-rush	*Rhynchospora globularis*	- / - / 2B.1	Marshes and swamps.	150 - 195	Absent	ESL Lacks suitable habitat, and species was not observed during botanical surveys.
round-headed Chinese-houses	*Collinsia corymbosa*	- / - / 1B.2	Coastal dunes.	0 - 65	Absent	ESL Lacks suitable habitat, and species was not observed during botanical surveys.
running-pine	*Lycopodium clavatum*	- / - / 4.1	Lower montane coniferous forest, Marshes and swamps, North Coast coniferous forest.	150 - 4,020	Absent	ESL Lacks suitable habitat, and species was not observed during botanical surveys.
Santa Cruz clover	*Trifolium buckwestiorum*	- / - / 1B.1	Broadleafed upland forest, Cismontane woodland, Coastal prairie.	345 - 2,000	Absent	Outside of species' elevational range.

Common Name	*Scientific Name*	Status Federal/State/CRPR	Habitat	Elevational Range (feet)	Habitat Presence	Rationale
seacoast ragwort	*Packera bolanderi* var. *bolanderi*	- / - / 2B.2	Coastal scrub, North Coast coniferous forest.	100 - 2,135	Present	Edges of coniferous forest within ESL may provide suitable habitat; however, species was not observed during botanical surveys.
sea-watch	*Angelica lucida*	- / - / 4.2	Coastal bluff scrub, Coastal dunes, Coastal scrub, Marshes and swamps.	0 - 490	Absent	ESL Lacks suitable habitat, and species was not observed during botanical surveys.
short-leaved evax	*Hesperevax sparsiflora* var. *brevifolia*	- / - / 1B.2	Coastal bluff scrub, Coastal dunes, Coastal prairie.	0 - 705	Absent	ESL Lacks suitable habitat, and species was not observed during botanical surveys.
Showy Indian clover	*Trifolium trichocalyx*	FE / - 1B.1	Valley and foothill grassland and coastal scrub	0 - 328	Absent	ESL Lacks suitable habitat, and species was not observed during botanical surveys.
Siskiyou checkerbloom	*Sidalcea malviflora* ssp. *patula*	- / - / 1B.2	Coastal bluff scrub, Coastal prairie, North Coast coniferous forest.	50 - 4,035	Absent	ESL Lacks suitable habitat, and species was not observed during botanical surveys.
small groundcone	*Kopsiopsis hookeri*	- / - / 2B.3	North Coast coniferous forest.	295 - 2,905	Present	Edges of coniferous forest within ESL may provide suitable habitat; however, species was not observed during botanical surveys.
supple daisy	*Erigeron supplex*	- / - / 1B.2	Coastal bluff scrub, Coastal prairie.	35 - 165	Absent	ESL Lacks suitable habitat, and species was not observed during botanical surveys.

Common Name	*Scientific Name*	Status Federal/State/CRPR	Habitat	Elevational Range (feet)	Habitat Presence	Rationale
swamp harebell	*Campanula californica*	- / - / 1B.2	Bogs and fens, Closed-cone coniferous forest, Coastal prairie, Marshes and swamps, Meadows and seeps, North Coast coniferous forest. Mesic	5 - 1,330	Absent	ESL Lacks suitable habitat, and species was not observed during botanical surveys.
Thurber's reed grass	*Calamagrostis crassiglumis*	- / - / 2B.1	Coastal scrub, Marshes and swamps.	35 - 195	Absent	ESL Lacks suitable habitat, and species was not observed during botanical surveys.
Tracy's tarplant	*Hemizonia congesta* ssp. *tracyi*	- / - / 4.3	Coastal prairie, Lower montane coniferous forest, North Coast coniferous forest.	395 - 3,935	Absent	Outside of species' elevational range.
trifoliate laceflower	*Tiarella trifoliata* var. *trifoliata*	- / - / 3.2	Lower montane coniferous forest, North Coast coniferous forest.	560 - 4,920	Absent	Outside of species' elevational range.
white beaked-rush	*Rhynchospora alba*	- / - / 2B.2	Bogs and fens, Marshes and swamps, Meadows and seeps.	195 - 6,695	Absent	ESL Lacks suitable habitat, and species was not observed during botanical surveys.
white-flowered rein orchid	*Piperia candida*	- / - / 1B.2	Broadleafed upland forest, Lower montane coniferous forest, North Coast coniferous forest.	100 - 4,300	Present	Edges of coniferous forest within ESL may provide suitable habitat; however, species was not observed during botanical surveys.
Whitney's farewell-to-spring	*Clarkia amoena* ssp. *whitneyi*	- / - / 1B.1	Coastal bluff scrub, Coastal scrub.	35 - 330	Absent	ESL Lacks suitable habitat, and species was not observed during botanical surveys.

Common Name	*Scientific Name*	Status Federal/State/CRPR	Habitat	Elevational Range (feet)	Habitat Presence	Rationale
Wolf's evening-primrose	*Oenothera wolfii*	- / - / 1B.1	Coastal bluff scrub, Coastal dunes, Coastal prairie, Lower montane coniferous forest.	10 - 2,625	Absent	ESL Lacks suitable habitat, and species was not observed during botanical surveys.
Lichen						
angel's hair lichen	*Ramalina thrausta*	- / - / 2B.1	North Coast coniferous forest.	245 - 1,410	Absent	ESL Lacks suitable habitat, and species was not observed during botanical surveys.
Methuselah's beard lichen	*Usnea longissima*	- / - / 4.2	Broad-leaved upland forests and North Coast coniferous forests	165 – 4,790	Present	Edges of coniferous forest within ESL may provide suitable habitat; however, species was not observed during botanical surveys.

***Notes**:*

***Federal status:** FE = Endangered;*

***State status**: SE = Endangered; CE: Candidate Endangered; R = Candidate Rare*

***California Rare Plant Rank (CRPR):** 1B = rare, threatened, or endangered in California and elsewhere; 2B = rare, threatened, or endangered in California but more common elsewhere; 3 = more information is needed (Review List); 4 = limited distribution (Watch List)*

***CRPR Threat Ranking**: 0.1 = seriously endangered in California, 0.2 = fairly endangered in California, 0.3 = not very endangered in California.*

3.2.3. Special Status Animals

Based on the queries made to CNDDB, NMFS, CNPS, and USFWS databases, 58 special status animals have the potential to occur within the USGS quadrangle maps queried for this assessment. Thirty-six of those species were identified as having potential suitable habitat within the project BSA. The project BSA either lacks suitable habitat or is outside of the geographic ranges for the remaining twenty-two species. Table 5 summarizes the special status animal species that were considered during this evaluation. The Wildlife Habitat Assessment Report provided in Appendix H provides more detail about the species that have potential to occur within the project BSA.

Table 5. Special Status Animals Potentially Occurring or Known to Occur in the Project Area

Common Name	*Scientific Name*	Status[1] Federal/ State	General Habitat Description	Habitat Present/ Absent	Rationale
AMPHIBIANS					
California red-legged frog	*Rana draytonii*	FT / SSC	Requires 11-20 weeks of permanent water for larval development. Must have access to estivation habitat.	Present	Potentially suitable habitat may be present within BSA along southern edge of project area, but no habitat is present within the ESL.
foothill yellow-legged frog – Northwest/North Coast clade	*Rana boylii*	- / SSC	Needs at least some cobble-sized substrate for egg-laying. Needs at least 15 weeks to attain metamorphosis.	Present	Potentially suitable habitat may be present within the BSA, but not within the ESL.
northern red-legged frog	*Rana aurora*	- / SSC	Generally near permanent water, but can be found far from water, in damp woods and meadows, during non-breeding season.	Present	Potentially suitable habitat may be present within the BSA, but not within the ESL.
Pacific tailed frog	*Ascaphus truei*	- / SSC	Restricted to perennial montane streams. Tadpoles require water below 15 degrees C.	Present	Potentially suitable habitat may be present within the BSA, but not within the ESL.

Common Name	*Scientific Name*	Status[1] Federal/ State	General Habitat Description	Habitat Present/ Absent	Rationale
red-bellied newt	*Taricha rivularis*	- / SSC	Lives in terrestrial habitats, juveniles generally underground, adults active at surface in moist environments. Will migrate over 1 km to breed, typically in streams with moderate flow and clean, rocky substrate.	Present	Potentially suitable habitat may be present within the BSA, but not within the ESL.
southern torrent salamander	*Rhyacotriton variegatus*	- / SSC	Cold, well-shaded, permanent streams and seepages, or within splash zone or on moss-covered rocks within trickling water.	Present	Potentially suitable habitat may be present within the BSA, but not within the ESL.
BIRDS					
ashy storm-petrel	*Hydrobates homochroa*	- / SSC	Nest sites on islands are in crevices beneath loosely piled rocks or driftwood, or in caves.	Absent	Suitable nesting and/or foraging habitat may be present within BSA.
American peregrine falcon	*Falso peregrinus anatum*	DL / FP	Forages in many habitats; nest in cliffs or rock outcrops, and occasionally in man-made structures.	Present	Suitable nesting and/or foraging habitat may be present within BSA.

Common Name	*Scientific Name*	Status[1] Federal/ State	General Habitat Description	Habitat Present/ Absent	Rationale
Bryant's savannah sparrow	*Passerculus sandwichensis alaudinus*	- / SSC	Breeds in tidal marshes, and in grassland influenced by the fog belt, in a narrow corridor along the California coast from Humboldt Bay to Monterey Bay. Also breeds in isolated coastal locations near Morro Bay.	Present	Suitable nesting and/or foraging habitat may be present within BSA.
burrowing owl	*Athene cunicularia*	- / SSC	Found in grasslands and ruderal habitats with low-growing vegetation and elevated perching sites.	Present	Suitable nesting and/or foraging habitat may be present within BSA.
golden eagle	*Aquila chrysaetos*	- / FP	Breeds on cliffs or in large trees or electrical towers, forages in open areas.	Present	Suitable nesting and/or foraging habitat may be present within BSA.
long-eared owl	*Asio otus*	- / SSC	Found in dense riparian and live oak thickets near meadow edges, and nearby woodland and forest habitats; also found in dense conifer stands at higher elevations.	Present	Suitable nesting and/or foraging habitat may be present within BSA.
marbled murrelet	*Brachyramphus marmoratus*	FT / SE	Nests in old-growth redwood-dominated forests, up to six miles inland, often in Douglas-fir.	Present	Suitable nesting and/or foraging habitat may be present within BSA.

Common Name	*Scientific Name*	Status[1] Federal/ State	General Habitat Description	Habitat Present/ Absent	Rationale
northern goshawk	*Accipiter gentilis*	- / SSC	Usually nests on north slopes, near water. Red fir, lodgepole pine, Jeffrey pine, and aspens are typical nest trees.	Absent	BSA lacks suitable nesting and foraging habitat.
northern harrier	*Circus hudsonius*	- / SSC	Forages in marshes, grasslands, and ruderal habitats; nests in extensive marshes and wet fields.	Present	Suitable nesting and/or foraging habitat may be present within BSA.
northern spotted owl	*Strix occidentalis caurina*	FT/ST	Old-growth forests or mixed stands of old-growth and mature trees. Occasionally in younger forests with patches of big trees. High, multistory canopy dominated by big trees, many trees with cavities or broken tops, woody debris and space under canopy.	Present	Suitable nesting and/or foraging habitat may be present within BSA.

Common Name	*Scientific Name*	Status[1] Federal/ State	General Habitat Description	Habitat Present/ Absent	Rationale
olive-sided flycatcher	*Circus hudsonius*	- / SSC	Forages in marshes, grasslands, and ruderal habitats; nests in extensive marshes and wet fields.	Present	Species was observed during surveys. Suitable nesting and/or foraging habitat may be present within BSA.
purple martin	*Progne subis*	- / SSC	Nests in old woodpecker cavities mostly; also in human-made structures. Nest often located in tall, isolated tree/snag.	Present	Species was observed during surveys. Suitable nesting and/or foraging habitat may be present within BSA.
short-tailed albatross	*Phoebastria (=Diomedea) albatrus*	E / -	Pelagic species distributed throughout the temperate and subarctic North Pacific Ocean, often found close to U.S. coast.	Absent	BSA lacks suitable nesting and foraging habitat.
tufted puffin	*Fratercula cirrhata*	- / SSC	Requires sod or earth into which the birds can burrow, on island cliffs or grassy island slopes.	Absent	BSA lacks suitable nesting and foraging habitat.
Vaux's swift	*Chaetura vauxi*	- / SSC	Nests in snags in coastal coniferous forests or occasionally, in chimneys; forages aerially.	Present	BSA may provide suitable nesting and/or foraging habitat.
western snowy plover	*Charadrius nivosus nivosus*	FT / SSC	Needs sandy, gravelly or friable soils for nesting.	Present	Suitable habitat may be present within the BSA.

Common Name	*Scientific Name*	Status[1] Federal/ State	General Habitat Description	Habitat Present/ Absent	Rationale
white-tailed kite	*Elanus leucurus*	- / FP	Open grasslands, meadows, or marshes for foraging close to isolated, dense-topped trees for nesting and perching.	Present	Low to medium quality habitat may be present within the BSA.
yellow-billed cuckoo – Western DPS	*Coccyzus americanus*	FT/SE	Riparian forest nester, along the broad, lower flood-bottoms of larger river systems. Nests in dense riparian forests greater than 25 acres in size.	Absent	BSA lacks suitable nesting and foraging habitat.
yellow warbler	*Setophaga petechia*	- / SSC	Breeds in riparian woodlands, particularly those dominated by willows and cottonwoods.	Present	Species was observed during surveys. Suitable nesting and/or foraging habitat may be present within BSA.
yellow-breasted chat	*Icteria virens*	- / SSC	Breeds in riparian habitats having dense understory vegetation, such as willow and blackberry.	Present	Suitable nesting and/or foraging habitat may be present within BSA.
FISH					
Chinook salmon - California Coastal ESU – pop. 17	*Oncorhynchus tshawytscha*	FT/--	Coastal, spring and fall river runs between Redwood Creek in Humboldt County and Russian River in Sonoma County.	Present / Critical Habitat	Known to occur within the BSA (Albion River and Big River), however the ESL lacks suitable aquatic habitat for this species. Critical habitat has been designated within the project BSA.

Common Name	*Scientific Name*	Status[1] Federal/ State	General Habitat Description	Habitat Present/ Absent	Rationale
coho salmon – central California coast ESU	*Oncorhynchus kisutch* pop. 4	FE / SE	Require beds of loose, silt-free, coarse gravel for spawning. Also need cover, cool water and sufficient dissolved oxygen.	Present	Known to occur within the BSA (Navarro River, Big Salmon Creek, Little Salmon Creek, Albion River, Little River, and Big River). Critical habitat has been designated within the project BSA.
Coho salmon – Southern Oregon/Northern California Coast ESU – pop. 2	*Oncorhynchus kisutch*	FT/ST	Streams and rivers between Cape Blanco, OR, and Punta Gorda, CA.	Absent	The BSA is outside the geographical range of this species.
Green sturgeon – Southern DPS	*Acipenser medirostris*	FT/--	This species spawns in rivers and feeds in bays, estuaries, and sloughs.	Absent	The BSA is outside the geographical range of this species.
northern coastal roach	*Hesperoleucus venustus navarroensis*	- / SSC	Most abundant in tributaries with clear, well oxygenated water with dominant substrates of cobble and boulder, and shallow depths (average 10-50 cm) with pools up to 1 m deep.	Present	Known to occur within the BSA (Navarro River).
Pacific lamprey	*Entosphenus tridentatus*	- / SSC	Swift-current gravel-bottomed areas for spawning with water temps between 12-18 C. Ammocoetes need soft sand or mud.	Present	Known to occur within the BSA (Navarro River and Big River).

Common Name	*Scientific Name*	Status[1] Federal/ State	General Habitat Description	Habitat Present/ Absent	Rationale
river lamprey	*Lampetra ayresii*	- / SSC	Known to occur from near Juneau, Alaska, to San Francisco Bay, California. Species generally thought to require clean, gravelly riffles in permanent streams to spawn successfully.	Present	Species range is within BSA.
steelhead – Northern California DPS – pop. 16	*Oncorhynchus mykiss irideus*	FT/--	Coastal basins from Redwood Creek south to the Gualala River, inclusive. Does not include summer-run steelhead.	Present	Known to occur within the BSA. Critical habitat has been designated within the BSA.
steelhead-summer run – pop. 36	*Oncorhynchus mykiss irideus*	--/SCE and SSC	Found in Redwood Creek, Mad River, Eel River, and Mattole River watersheds.	Absent	The BSA is outside the geographical range of this species.
tidewater goby	*Eucyclogobius newberryi*	FE/SSC	Brackish water habitats along the CA coast from Agua Hedionda Lagoon, San Diego Co., to the mouth of the Smith River. Found in shallow lagoons and lower stream reaches, they need fairly still but not stagnant water & high oxygen levels	Present	Estuaries within the BSA may provide suitable habitat.
INSECTS					

Common Name	*Scientific Name*	Status[1] Federal/ State	General Habitat Description	Habitat Present/ Absent	Rationale
Behren's silverspot butterfly	*Speyeria zerene behrensii*	FE / -	Inhabits coastal terrace prairie habitat. Foodplant is Viola sp.	Present	Prairies within the BSA may provide suitable habitat.
lotis blue butterfly	*Plebejus idas lotis*	FE / -	Inhabits upper edges of peat bog between peat and surrounding low willows; host plant is suspected to be *Hosackia gracilis*.	Present	Prairies within the BSA may provide suitable habitat.
monarch butterfly	*Danaus plexippus*	FC/--	Migratory species of butterfly known to overwinter in a variety of habitat types along coastal California, including Humboldt County. Overwintering habitat consists of a grove of trees with the necessary microclimate typically within 1.5 miles of the coast (WAFWA 2019).	Present	Some of the BSA provides low to medium habitat based on a habitat suitability (Caltrans Monarch Habitat Suitability Model); however, the ESL lack suitable overwintering habitat and no larval host plants (*Asclepias* spp.) were observed in or adjacent to the ESL.
obscure bumble bee**	*Bombus caliginosus*	- / -	Food plant genera include Baccharis, Cirsium, Lupinus, Lotus, Grindelia and Phacelia.	Present	Prairies within the BSA may provide suitable habitat.

Common Name	*Scientific Name*	Status[1] Federal/ State	General Habitat Description	Habitat Present/ Absent	Rationale
western bumble bee**	*Bombus occidentalis*	- / -	Blooming flowers along streams, meadows, roadsides, and burned or logged areas. Nests found underground in abandoned rodent burrows.	Present	Prairies within the BSA may provide suitable habitat.
MAMMALS					
blue whale	*Balaenoptera musculus*	FE/--	Blue whales are found worldwide, from sub-polar to sub-tropical latitudes. Although blue whales are found in coastal waters, they are thought to occur generally more offshore than other whales.	Absent	BSA lacks suitable aquatic habitat.
fin whale	*Balaenoptera physalus*	FE/--	Fin whales are found in deep, offshore waters of all major oceans, primarily in temperate to polar latitudes, and less commonly in the tropics. They occur year-round in a wide range of latitudes and longitudes.	Absent	BSA lacks suitable aquatic habitat.

Common Name	*Scientific Name*	Status[1] Federal/ State	General Habitat Description	Habitat Present/ Absent	Rationale
Guadalupe fur seal	*Arctocephalus townsendi*	FT/ST and SSC	Breeds almost entirely on Guadalupe Island (off the Pacific Coast of Mexico), but can be found as far north as southern California.	Absent	BSA lacks suitable aquatic habitat.
humpback whale	*Megaptera novaengliae*	FE/--	Humpbacks are widely distributed in all oceans, ranging from tropical wintering grounds near islands and continental coasts to open-ocean temperate and sub-polar summering habitats.	Absent	BSA lacks suitable aquatic habitat.
Pacific (Humboldt) marten – Coastal DPS	*Martes caurina humboldtensis*	FT/SE	Known from Del Norte and Humboldt Counties and adjacent western Siskiyou County. Typically found in late successional coniferous forests. (USFWS 2018b).	Absent	The BSA is outside the accepted geographical range of this species.
Point Arena mountain beaver	*Aplodontia rufa nigra*	FE / SSC	North-facing slopes of ridges and gullies with friable soils and thickets of undergrowth.	Absent	BSA is outside range of species.

Common Name	*Scientific Name*	Status[1] Federal/ State	General Habitat Description	Habitat Present/ Absent	Rationale
right whale, North Pacific	*Eubalaena japonica*	FE/--	Primarily occur in coastal or shelf waters, although movements over deep waters are known. For much of the year, their distribution is strongly correlated to the distribution of their prey.	Absent	BSA lacks suitable aquatic habitat.
Sei whale	*Balaenoptera borealis*	FE/--	Sei whales prefer subtropical to subpolar waters on the continental shelf edge and slope worldwide. They are usually observed in deeper waters of oceanic areas far from the coastline.	Absent	BSA lacks suitable aquatic habitat.
Sonoma tree vole	*Arborimus pomo*	- / SSC	Feeds almost exclusively on Douglas-fir needles. Will occasionaly take needles of grand fir, hemlock or spruce.	Present	BSA may provide suitable habitat

Common Name	*Scientific Name*	Status[1] Federal/ State	General Habitat Description	Habitat Present/ Absent	Rationale
southern resident killer whale	*Orcinus orca*	FE/--	Killer whales live in aquatic marine habitats. They are found in all oceans of the world. Normally preferring depths of 20 to 60 m, killer whales also visit shallow waters along coastlines or dive to 300 m in search of food.	Absent	BSA lacks suitable aquatic habitat.
sperm whale	*Physeter macrocephalus*	FE/--	In water depth of 600 m or more and are uncommon in waters less than 300 m deep. Female sperm whales are generally found in deep waters (at least 1000 m) of low latitudes (less than 40°, except in the North Pacific where they are found as high as 50°).	Absent	BSA lacks suitable aquatic habitat.
Steller sea-lion	*Taricha rivularis*	FT/--	Steller sea lions forage near shore and pelagic waters. They use land habitat as haul-out sites for periods of rest, molting, and as rookeries for mating and pupping during the breeding season.	Absent	BSA lacks suitable aquatic habitat.

Common Name	*Scientific Name*	Status[1] Federal/ State	General Habitat Description	Habitat Present/ Absent	Rationale
Townsend's big-eared bat	*Corynorhinus townsendii*	- / SSC	Roosts in the open, hanging from walls and ceilings. Roosting sites limiting. Extremely sensitive to human disturbance.	Present	BSA may provide suitable habitat
REPTILES					
East Pacific green sea turtle	*Chelonia mydas*	FT/--	Generally found in fairly shallow waters (except when migrating) within reefs, bays, and inlets. Open beaches with a sloping platform and minimal disturbance are required for nesting. Green turtles have strong nesting site fidelity and often make long distance migrations between feeding grounds and nesting beaches.	Absent	BSA lacks suitable aquatic habitat.
Leatherback sea turtle	*Demochelys coriacea*	FE/--	Leatherbacks mate in the waters adjacent to nesting beaches and along migratory corridors. After nesting, female leatherbacks migrate from tropical waters to more temperate latitudes.	Absent	BSA lacks suitable aquatic habitat.

Common Name	*Scientific Name*	Status[1] Federal/ State	General Habitat Description	Habitat Present/ Absent	Rationale
Olive (=Pacific) ridley sea turtle	*Lepidochelys olivacea*	FE/--	Primarily a "pelagic" sea turtle, this species has been known to inhabit coastal areas, including bays and estuaries. Olive ridleys mostly breed annually and have an annual migration from pelagic foraging, to coastal breeding and nesting grounds, back to pelagic foraging.	Absent	BSA lacks suitable aquatic habitat.
western pond turtle	*Emys marmorata*	- / SSC	Needs basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 km from water for egg-laying.	Present	BSA may provide suitable habitat.

[1] **Federal Status**: FE = Endangered, FPT = Proposed Threatened. FT = Threatened, FC = Candidate, DL = Delisted;

State Status: SE = Endangered**.** ST = Threatened, SC = Candidate**.** FP = CDFW Fully protected, SSC = CDFW Species of Special Concern

** Obscure bumble bee and western bumble bee assessed per the request of CDFW

(*Source: CDFW-CNDDB 2021a; USFWS 2021*)

3.2.4. Sensitive Natural Communities, Critical Habitat and EFH Potentially Occurring or Known to Occur in Project Area

Sensitive Natural Communities are natural communities that are of limited distribution statewide or within a county or region and are often vulnerable to environmental effects of projects. These communities may or may not contain special status taxa or their habitat. High priority SNC are globally (G) and state (S) ranked 1 to 3, where 1 is critically imperiled, 2 is imperiled, and 3 is vulnerable. Global and state ranks of 4 and 5 are considered apparently secure and demonstrably secure, respectively (CDFW 2009, IUCN 2016).

The sensitive natural communities included in Table 6 below were identified within the BSA, but no sensitive natural communities were identified within the ESL. The Botanical Resources Survey Report (Appendix F), includes a detailed summary of all communities identified within the BSA as well as mapping of all communities within the BSA.

Table 6. Sensitive communities present within the BSA

Community Type	Species/Habitat
Critical Habitat	Chinook salmon – California Coastal ESU (pop. 17)
Critical Habitat	Coho salmon – central California coast ESU (pop. 4)
Critical Habitat	Steelhead – Northern California DPS
Essential Fish Habitat	Pacific Salmon
Sensitive Natural Community	Grand fir forest
Sensitive Natural Community	Tanoak forest
Sensitive Natural Community	Coastal silk tassel scrub
Sensitive Natural Community	Coastal dune willow thickets
Sensitive Natural Community	Seaside wolly-sunflower Seaside saidy – Buckwheat patches

CHAPTER 4. Biological Resources, Discussion of Impacts and Mitigation

4.1 Natural Communities of Special Concern

The following sections discuss survey results, potential project impacts, avoidance and minimization measures, compensatory mitigation, and cumulative impacts for natural communities of special concern including Waters of the U.S. and State, riparian habitat, critical habitat, essential fish habitat, and Sensitive Natural Communities.

4.1.1 Waters of the U.S. and State and Riparian Habitat

Survey Results

The Aquatic Resources Assessment Report, provided in Appendix G, identified sixteen potentially jurisdictional aquatic features within the project BSA. Feature types included riparian wetlands, scrub-shrub wetlands, freshwater emergent wetlands, vegetated ditches, perennial streams, intermittent streams, and ephemeral streams. Features are potentially regulated by USACE, NCRWQCB, CDFW, and CCC. For a detailed summary of all potentially jurisdictional aquatic features identified during field surveys, refer to Chapter 4 of the Aquatic Resources Assessment Report provided in Appendix G.

Project Impacts

All proposed work for this project would occur within the existing roadway prism, beneath existing guardrail, or below existing signs. All areas that would potentially experience soil disturbance are previously disturbed areas that are routinely maintained through activities such as mowing, trimming, or scraping. As such, Caltrans has determined that the proposed project would not have any impacts on jurisdictional aquatic resources.

Avoidance and Minimization Efforts

Impacts to potentially jurisdictional aquatic features would be avoided with the incorporation of Standard Measures and Best Management Practices (WQ-1, Section 1.3.2).

Compensatory Mitigation

No compensatory mitigation is proposed because no effects have been identified that require mitigation.

Cumulative Impacts

Since impacts to sensitive aquatic resources are not expected, cumulative impacts are not expected.

4.1.2 Discussion of Critical Habitat

Survey Results

Critical habitat for Chinook salmon – California Coastal ESU (pop. 17), coho salmon – central California coast ESU (pop. 4), and steelhead – Northern California DPS is within the project BSA (Section 3.2.4), but not within the project footprint/ESL.

Project Impacts

There is no critical habitat for any of these species within the project footprint/ESL. No in-water work is proposed, and no removal of riparian vegetation is proposed. Caltrans has determined the proposed project would not result in impacts to critical habitat of any of the aforementioned species.

Avoidance and Minimization Efforts

Given the project would not have an impact on critical habitat, no additional avoidance and minimization measures would be implemented. Indirect impacts to waters would be avoided with incorporation of Standard Measures and Best Management Practices (WQ-1, Section 1.3.2).

Compensatory Mitigation

No compensatory mitigation is proposed because no effects have been identified that require mitigation.

Cumulative Impacts

Since impacts to critical habitat are not anticipated, cumulative impacts are not expected.

4.1.3 Discussion of Essential Fish Habitat

Survey Results

Pacific salmon EFH is within the project BSA (Section 3.2.4), but not within the project footprint/ESL.

Project Impacts

There is no EFH within the project footprint/ESL, so direct impacts to EFH would not occur.

Avoidance and Minimization Efforts

Given the project would not have an impact on EFH, no additional avoidance and minimization measures would be implemented.

Compensatory Mitigation

No compensatory mitigation is proposed because no effects have been identified that require mitigation.

Cumulative Impacts

Since EFH was not identified within the project ESL, cumulative impacts are not expected.

4.1.4 Discussion of Sensitive Natural Communities

Survey Results

Five Sensitive Natural Communities were identified within portions of the project BSA, but not within the project footprint/ESL. The Botanical Resources Survey Report (Appendix F) summarizes and provides mapping for all vegetation communities identified within the BSA. Table 7 summarizes the Sensitive Natural Communities that were identified within the BSA.

Table 7 Summary of Sensitive Natural Communities identified within the BSA.

Alliance/Association	Ranking*	Acres Identified in BSA
Abies grandis Forest Alliance Grand fir forest	G5/S3	5.99
Notholithocarpus densiflorus Forest Alliance Tanoak forest	G4/S3	1.86
Garrya elliptica Provisional Shrubland Alliance Coastal silk tassel scrub	G3?/S3?	0.99
Salix hookeriana Shrubland Alliance Coastal dune willow thickets	G4/S3	0.73
Eriophyllum staechadifolium – Erigeron glacus – Eriogonum latifolium Herbaceous Alliance	G3/S3	1.71

Alliance/Association	Ranking*	Acres Identified in BSA
Seaside wolly-sunflower Seaside saidy – Buckwheat patches		

*G rankings indicate global security and S rankings indicate California security. Rankings range from 1 (very rare and threatened) to 5 (demonstrably secure). Natural Communities with ranks of S1-S3 are considered Sensitive Natural Communities in California.

Project Impacts

No Sensitive Natural Communities were identified within the project footprint/ESL. Additionally, only minor disturbance of roadside ruderal vegetation is expected. Therefore, Caltrans has determined the project would not result in impacts to any of the identified Sensitive Natural Communities within the BSA.

Avoidance and Minimization Efforts

Given the project would not have an impact on any sensitive natural community, no additional avoidance and minimization measures would be implemented.

Compensatory Mitigation

No compensatory mitigation is proposed because no effects have been identified that require mitigation.

Cumulative Impacts

Since no sensitive natural communities were identified within the project footprint/ESL, cumulative impacts are not expected.

4.2 Discussion of Special Status Plant Species

Survey Results

The project footprint/ESL is entirely within the disturbed road prism of SR 1, which provides only marginally suitable habitat for any special status plant species which could potentially occur. However, three special-status species were detected within the BSA: coastal bluff morning-glory (*Calystegia purpurata* ssp. *saxicola*) and Mendocino coast paintbrush (*Castilleja mendocinensis*), and Point Reyes checkerbloom (*Sidalcea calycosa* ssp. *rhizomata*). Coastal bluff morning-glory, Mendocino coast paintbrush, and Point Reyes checkerbloom have a CA Rare Plant Rank of 1B.2, indicating they are rare throughout their range and moderately threatened in California.

The observations of Mendocino Coast paintbrush were well outside of the ESL growing on a sea cliff; however, some of the coastal bluff morning-glory individuals were observed in close proximity to SR 1. Table 8, provided below, summarizes the potential observations of coastal bluff morning-glory and Point Reyes checkerbloom.

Smooth western morning-glory (*Calystegia purpurata* ssp. *purpurata*) is a common subspecies that is difficult to distinguish from the rare subspecies; the Jepson Manual indicates that the common subspecies is generally greater than 1-meter in length, has a triangular leaf with an acute tip, and rarely lobed bracts whereas the rare subspecies is generally less than 1-meter in length, has an obvate-triangular to reniform leaf with a rounded or notched tip and bracts with small lobes. The plants that were observed during botanical surveys exhibited intermediate characteristics, suggesting a possible hybridization.

Table 8 Summary of coastal bluff morning-glory and Point Reyes checkerbloom observations potentially within the project ESL.

Species	Nearest Postmile Location	Location Description	Notes
Coastal bluff morning-glory	Postmile 36.2-36.3	Located at a turnout on the east side of the highway between PM 36.3 and PM 36.2. Growing on coyote brush; 10 or more feet from the turnout edge.	Approximately 20 plants, all in bloom.
Coastal bluff morning-glory	Postmile 40.9	Located within feet of the south side of the highway at PM 40.9,	One plant in bloom; was not safely accessible to confirm

Species	Nearest Postmile Location	Location Description	Notes
		growing in and around coyote brush.	identity as the common or rare subspecies.
Coastal bluff morning-glory	Postmile 42.2	Located on the west side of the highway at PM 42.4. Growing in and on coyote brush, within 5 feet of the road.	Ten plants observed in bloom. Plants had intermediate characteristics.
Point Reyes checkerbloom	Postmile 43.6	Located on the west side of SR1 south of the intersection with Albion Ridge Rd.	Individuals observed adjacent to edge of pull out and closer to SR 1.
Coastal bluff morning-glory	Postmile 44.8-44.9	Located within 15 feet of the west side of the highway, adjacent to a guardrail at PM 44.8. Located on the east side of the highway between PM 44.8 and PM 44.9, within 5 feet of the guardrail.	One plant in bloom; also had intermediate characters. Five plants in bloom; intermediate characters observed.

Project Impacts

None of the Mendocino coast paintbrush observations were within the project footprint/ESL, so impacts to Mendocino coast paintbrush are not anticipated.

Several of the potential observations of coastal bluff morning-glory could be within the project footprint/ESL. The Point Reyes checkerbloom could be within the project footprint/ESL. Project activities including guardrail replacement, sign replacement, equipment staging, and placement of shoulder backing could impact coastal bluff-morning glory and/or Point Reyes checkerbloom individuals within the project ESL.

Avoidance and Minimization Efforts

Prior to the beginning of construction, a qualified biologist would update the botanical surveys around the potential observations of sensitive plant species outlined in Table 8. If individuals are observed that could be impacted by construction activities, THVF or environmentally sensitive area (ESA) staking would be installed to ensure individuals are not impacted by construction activities. These standard measures are described in Section 1.3.2

under BR-4-A and BR-4-C. With these standard measures in place, no impacts to special-status plants are anticipated as a result of the proposed project.

Compensatory Mitigation

No compensatory mitigation is proposed because no impacts have been identified that require mitigation.

Cumulative Impacts

Given the project would not impact any special status plants or their habitat, cumulative impacts are not anticipated.

4.3 Discussion of Special Status Animal Species

There is potentially suitable habitat for thirty-six special status animal species within the project footprint/ESL and BSA. Special status animal species indicated in Table 5 that do not have potential to occur within the BSA are not discussed further in this assessment.

A discussion of those special status animal species that could be impacted by the project, potential impacts, and avoidance and minimization measures is provided below.

4.3.1. Discussion of Amphibian and Reptile Species

Six special status amphibians are potentially present within the project BSA, including foothill yellow-legged frog–Northwest/North Coast Clade, California red-legged frog, northern red-legged frog, Pacific tailed frog, red-bellied newt, and southern torrent salamander. Although habitat preferences can vary during their adult stages, all amphibians require aquatic habitats early in their lifecycles (egg and larval stages) and for breeding. All special status amphibians considered in this analysis require intermittent or perennial waters for early life stages and breeding. During their adult phases, they can often be found within a few feet of these waters, though adults can occasionally be found in surrounding woodland habitats. Specific habitat requirements and occurrence information for these species are detailed in Table 3 (Stebbins and McGinnis 2012; Thomson et al., 2016).

One special status reptile, western pond turtle (CDFW SSC), may occur within the project BSA. Western pond turtle occurs throughout California west of the Sierra–Cascade crest and is found from sea level to 6,000 feet. Although this species is most likely to be encountered in aquatic habitats (i.e., ponds, marshes, rivers, streams), it may be found away from perennial waters for nesting and/or overwintering (aestivation).

Survey Results

While no surveys for special status amphibians and reptiles were conducted, there are several CNDDB occurrences for these species within the queried USGS quadrangle maps described in Section 2.3.1. However, all occurrences are associated with perennial aquatic features or associated tributaries—all of which are below the SR 1 road prism.

Project Impacts

No in-water work is proposed and no impacts to aquatic features are anticipated as a result of the proposed project. With implementation of Standard Measures and Best Management

Practices (Section 1.3.2.) to protect water quality, Caltrans does not anticipate impacts to special status amphibians and/or reptiles.

Avoidance and Minimization Efforts

Given the project is not anticipated to have an impact on special status amphibian and reptile species, no avoidance and minimization measures are proposed.

Compensatory Mitigation

No compensatory mitigation is proposed because no impacts have been identified that require mitigation.

Cumulative Impacts

Given the project would not impact any special status amphibians or reptiles or their habitat, cumulative impacts are not anticipated.

4.3.2. Discussion of Northern Spotted Owl and Marbled Murrelet

The northern spotted owl (NSO) (federally threatened and state threatened) is a medium-sized owl that inhabits the forests of the Pacific Coast region from southwestern British Columbia to Marin County in California. In northern California, NSOs can be found in dense, old-growth, multi-layered, mixed conifer, redwood, and Douglas-fir forests, from sea level to 6,600 feet in elevation. Spotted owls are primarily nocturnal and normally spend their days perched in a protected roost. Foraging typically occurs in forested habitats near a permanent water source (USFWS 2011).

In northern California, NSO nest sites are often located on broken-top trees and cavities, although individuals will also use existing platforms such as abandoned raptor nests, squirrel nests, mistletoe brooms, and debris piles. Nest sites are frequently sited near streams and creeks and are typically located low to mid-slope rather than near ridge lines (Folliard et al., 2000). NSOs have strong breeding site fidelity, producing one brood per season. In inland Douglas-fir habitats, the typical home range for NSO is 1.3 miles (USFWS 2011; CDFW 2016). Regionally, NSOs nest from approximately February 1 through July 31 (USFWS 2011).

The marbled murrelet (MAMU) is a small, nearshore seabird species that nests on high platforms in mature conifers within 32 miles of the coasts of Washington, Oregon and Northern California (USFWS 2009). Suitable nest structures typically include large, mossy horizontal branches 4 to 25 inches in diameter and at least 33 feet high in the live crown of

tree species including Douglas-fir, coast redwood, western hemlock, western red cedar, yellow cedar, mountain hemlock, and Sitka spruce (Nelson and Hamer, 1995). MAMU has been found nesting in small areas of suitable habitat which is surrounded by unsuitable habitat (Nelson and Wilson, 2001). In Northern California, the USFWS official nesting season is March 24 to September 15, with most MAMU fledged by August 5 (USFWS 2009).

Survey Results

Protocol-level surveys for NSO and MAMU were not conducted for the project. There is low potential for MAMU to occur within the BSA as conifer stands present within the BSA do not include old-growth trees and are not sufficiently mature to support nesting. The CNDDB predicted habitat layer for MAMU indicates that the entire project ESL and BSA does not serve as suitable habitat for MAMU.

There is moderate potential for NSO to occur within the BSA as suitable foraging habitat is present; however suitable nesting habitat is absent. The BSA lacks dense multi-storied mixed conifer forests with nesting features suitable for NSO. The nearest observation of NSO to SR-1 is approximately 600 feet near the intersection of SR-1 and SR-128 along the Navarro River; the nearest NSO activity center to SR-1 is approximately 1,100 feet, 2-miles south of the intersection of SR-1 and SR-128. The CNDDB spotted owl predicted habitat layer indicates the vast majority of the project ESL does not serve as suitable habitat for NSO; however, a 0.5-mile stretch of SR-1 along Dark Gulch (PM 45.0) is listed as potentially moderate habitat.

The ambient noise levels along SR-1 are estimated at high (81-90 decibels) due to high traffic volumes including passenger vehicles, diesel trucks, buses, and motorcycles.

Potentially suitable habitat for NSO and MAMU within 160-feet of the occurs within the following postmile limits: PM 39.0 to PM 40.2 and PM 44.3 to PM 46.4.

Project Impacts

Potential project impacts to NSO and MAMU, including noise-related harassment to nesting individuals, were evaluated per USFWS guidance (USFWS 2006). There would be no visual disturbances to NSO or MAMU nests because no activities would occur within a visual line-of-sight of 131 feet (40 meters) from any known nest locations. As no vegetation removal is proposed for this project, direct impacts to suitable habitat or critical habitat for either species would not occur.

Daytime ambient noise levels within the ESL along SR 1 are estimated as High (81-90 decibels [dB]). Sound levels for equipment used in project activities were estimated as Moderate (71-80 dB) to Very High (91-100 dB) (Table 10). Any construction noise that exceeds 90 dB, which is limited to pile driving associated with guardrail installation, could result in disturbance or harassment of NSO and MAMU.

Table 9 Anticipated noise levels of proposed project equipment

Measured Sound Source	"Standardized" Value dB at 50 ft[1]	Relative Sound Level
Pickup Truck (driving)	71	Moderate
Dump Truck	85	High
Excavator	81	High
Backhoe (high end)	84	High
Sweeper	80	Moderate
Asphalt paver	77[2]	Moderate
Roller (high end)	80	Moderate
Jackhammer	89	High
Compactor (high end)	82	High
Air compressor	80	Moderate
Concrete mixer (high end)	85	High
Pavement Scarifier	90	High
Pile Driver	95	Very High

[1] The measured "Actual" emission level at 50 feet for each piece of equipment based on hundreds of emission measurements performed on CA/T work site (FHWA 2017)

Under FESA, the proposed project *may affect, but is not likely to adversely affect* NSO and MAMU. The Programmatic Letter of Concurrence (PLOC) issued by the USFWS (USFWS 2018a) will be used for potential effects of the project on NSO and MAMU.

Under CESA, the project would not result in *"take"* of NSO or MAMU.

Avoidance and Minimization Measures

Standard protection measures for NSO and MAMU (Measure BR-2, Section 1.3.2) would be implemented within suitable habitat areas to avoid and minimize impacts on these species. Within the project limits, suitable habitat occurs from PM 39.0 to PM 40.2 and from PM 44.3 to PM 46.4.

Compensatory Mitigation

No compensatory mitigation is proposed because no adverse effects or "take" of a listed species have been identified that require mitigation.

Cumulative Impacts

Given there would be no adverse effects to NSO and MAMU, cumulative impacts would not occur.

4.3.3. Discussion of Special Status Fish Species

Waterways and associated tributaries within the BSA may provide suitable spawning, rearing, and/or migration habitat for several anadromous special status fish species. These include:

- Chinook salmon (*Oncorhynchus tshawytscha*)–California Coastal ESU (pop. 17)
- Coho salmon (*Oncorhynchus kisutch*)–central California coast ESU (pop. 4)
- Northern coastal roach (*Hesperoleucus venustus navarroensis)*
- Pacific lamprey (*Lampetra ayresii*)
- River lamprey (*Lampetra ayresii*)
- Steelhead (*Oncorhynchus mykiss irideus*)–Northern California DPS (pop. 16)
- Tidewater goby (*Eucyclogobius newberryi*)

Habitat requirements and range information for these species are detailed in Table 4.

Survey Results

No surveys for special status fish species were conducted within the project BSA. Observation data from various sources have documented the presence of these fish species within the waterways in the project BSA (CalFish 2021). Potentially suitable spawning, rearing, and/or migration habitat is present for each species within the project BSA.

Project Impacts

Given that no work is anticipated to occur below the ordinary highwater mark of any waterways that may feed suitable fish habitat, Caltrans does not anticipate any impacts to special status fish.

Under FESA, the project would have *no effect* on the following federally listed fish species or their critical habitat:

- Chinook salmon – California Coastal ESU (pop. 17)
- Coho salmon – Southern Oregon /Northern California Coast ESU (pop. 2)
- Steelhead – Northern California DPS (pop.16)
- Tidewater goby

Under CESA, the project would have no impact or result in "*take*" of the following state listed species:

- Coho salmon – central California coast ESU (pop. 4)

Avoidance and Minimization Efforts

Standard measures (Measure WQ-1, Section 1.3.2) and Best Management Practices would be implemented to avoid and minimize impacts on special status fish species.

Compensatory Mitigation

No compensatory mitigation is proposed because no impacts have been identified that require mitigation.

Cumulative Impacts

Impacts to special status fish are not anticipated; therefore, the proposed work would have no cumulative impact on these species.

4.3.4. Discussion of Sonoma Tree Vole

Sonoma tree vole (*Arborimus pomo*) (SSC) may potentially occur within the project BSA. Individuals are typically restricted to the fog belt in the California North Coast, and can be found in coniferous forests.

Survey Results

No surveys for Sonoma tree vole were conducted within the project BSA. Potentially suitable habitat for this species exists within the project BSA, but not within the project footprint/ESL.

Project Impacts

The proposed project would not modify or remove suitable habitat for Sonoma tree vole. Caltrans anticipates no disturbance or impacts to this species.

Avoidance and Minimization Efforts

No avoidance and minimization measures are proposed.

Compensatory Mitigation

No compensatory mitigation is proposed because no impacts have been identified that require mitigation.

Cumulative Impacts

Impacts to Sonoma tree vole are not anticipated; therefore, the proposed work would have no cumulative impact on this species.

4.3.5. Discussion of Townsend's big-eared bat

Townsend's big-eared bat (*Corynorhinus townsendii*) (SSC) can be found from the southern portion of British Columbia south along the Pacific Coast to central Mexico and east into the Great Plains. This species utilizes a variety of habitat types that include coniferous forests, riparian habitats, and active agricultural areas. It primarily roosts in caves, but has been documented roosting in rock crevices, trees, buildings, and bridges. Maternity colonies, typically comprising fewer than 100 individuals, are usually established between March and June (depending on local climactic factors). Foraging typically occurs along edge habitats near streams and in forested areas (WBWG 2021).

Survey Results

No surveys for Townsend's big-eared bat were conducted within the project BSA. Marginal foraging habitat for Townsend's big-eared bat exists within the project BSA.

Project Impacts

No suitable bat habitat would be impacted as a result of this project, and Caltrans anticipates no disturbance or impacts to any bat species.

Avoidance and Minimization Efforts

No avoidance and minimization measures are proposed.

Compensatory Mitigation

No compensatory mitigation is proposed because no impacts have been identified that require mitigation.

Cumulative Impacts

Impacts to special status bats are not anticipated; therefore, the proposed work would have no cumulative impact on these species.

4.3.6. Discussion of Special Status Insect Species

Behren's silverspot butterfly (*Speyeria zerene behrensii*), lotis blue butterfly (*Plebejus idas lotis*), monarch butterfly (*Danaus plexippus*), obscure bumble bee (*Bombus caliginosus*), and western bumble bee (*Bombus occidentalis*) are potentially present in the project BSA. Behren's silverspot butterfly is associated with blue violet (*Violet adunca*) that grow in coastal prairie habitats. Lotis blue buttefly is associated with coast trefoil (*Lotus formosissimus*) and herbaceous lupine that grow in bog/fen, meadow/seep, and wetland habitats. Obscure bumble bee and western bumble bee are generalist foragers that can be found in a variety of habitats. Monarch butterfly is a migratory species that overwinters in groves of trees within 1.5 miles of the coast, but may be found further inland during migrations.

Survey Results

While no surveys for special status insects were conducted, there is potentially suitable habitat for these species within the project footprint/ESL. No host plants for Behren's silverspot butterfly, lotis blue butterfly, or monarch butterfly were observed within the project ESL.

Project Impacts

The proposed project would not modify or remove suitable habitat for Behren's silverspot butterfly, lotis blue butterfly, monarch butterfly, obscure bumblebee, or western bumble bee, as no substantial vegetation removal is proposed. Caltrans anticipates no disturbance or impacts to these species.

Under FESA, the project would have *no effect* on Behren's silverspot butterfly, lotis blue butterfly, or monarch butterfly.

Avoidance and Minimization Efforts

No avoidance and minimization measures are proposed.

Compensatory Mitigation

No compensatory mitigation is proposed because no impacts have been identified that require mitigation.

Cumulative Impacts

Impacts to special status insects are not anticipated; therefore, the proposed work would have no cumulative impact on these species.

4.3.7. Discussion of Migratory Bird Species

The Federal Migratory Bird Treaty Act (MBTA) (15 USC 703-711), Title 50 Code of Federal Regulations (CFR) Part 21 and 50 CFR Part 10, and the California Fish and Game Code (CFGC) Sections 3503, 3513, 3800, and AB-2627 protect migratory birds, their occupied nests, and their eggs from disturbance or destruction. The MBTA provides protection in part by restricting the disturbance of nests during the bird nesting season.

Survey Results

While no surveys for migratory birds were conducted, there is suitable habitat for numerous migratory birds within the project BSA.

Project Impacts

No active nests would be removed or altered during project activities and vegetation removal would be limited to ruderal annual vegetation immediately adjacent to SR 1. The traffic and noise associated with SR 1 likely limits migratory birds from using the areas for nesting within and immediately adjacent to the project ESL. With the implementation of Standard Measures and Best Management Practices (Section 1.3.2.), impacts to migratory birds are expected to be minimal.

Avoidance and Minimization Efforts

Standard protection measures (Measure BR-2, Section 1.3.2) would be implemented to avoid and minimize impacts to migratory birds.

Compensatory Mitigation

No compensatory mitigation is proposed because no impacts have been identified that require mitigation.

Cumulative Impacts

Impacts to migratory bird species are not anticipated; therefore, the proposed work would have no cumulative impact on these species.

CHAPTER 5. Conclusions and Regulatory Determinations

Caltrans has determined the project would have ***no effect*** on the following federally listed species, critical habitat, or species proposed for listing:

- Behren's silverspot butterfly (*Speyeria zerene behrensii*)
- Blue whale (*Balaenoptera musculus*)
- Burke's goldfields (*Lasthenia burkei*)
- California red-legged frog (*Rana draytonii*)
- Chinook salmon (*Oncorhynchus tshawytscha*)–California Coastal ESU (pop. 17)
- Coho salmon (*Oncorhynchus kisutch*)–Central California coast ESU (pop. 4)
- Coho salmon (*Oncorhynchus kisutch*)–Southern Oregon /Northern California Coast ESU (pop. 2)
- Contra Costa goldfields (*Lasthenia conjugens*)
- East Pacific green sea turtle (*Chelonia mydas*)
- Fin whale (*Balaenoptera physalus*)
- Green sturgeon – Southern DPS (*Acipenser medirostris*)
- Guadalupe fur seal (*Arctocephalus townsendi*)
- Howell's spineflower (*Chorizanthe howellii*)
- Humpback whale (*Megaptera novaengliae*)
- Leatherback sea turtle (*Demochelys coriacea*)
- Lotis blue butterfly (*Plebejus idas lotis*)
- Menzies' wallflower (*Erysimum menziesii*)
- Monarch butterfly (*Danaus plexippus*)
- Monterey clover (*Trifolium trichocalyx*)
- Olive (=Pacific) ridley sea turtle (*Lepidochelys olivacea*)
- Pacific (Humboldt) marten (*Martes caurina humboldtensis*)–Coastal DPS

- Point arena mountain beaver (*Aplodontia rufa nigra*)
- Right whale, North Pacific (*Eubalaena japonica*)
- Sei whale (*Balaenoptera borealis*)
- Short-tailed albatross (*Phoebastria* (=*Diomedea*) *albatrus*
- Showy Indian clover (*Trifolium trichocalyx*)
- Southern resident killer whale (*Orcinus orca*)
- Sperm whale (*Physeter macrocephalus*)
- Steelhead (*Oncorhynchus mykiss irideus*)–Northern California DPS (pop. 16)
- Steller sea-lion (*Taricha rivularis*)
- Tidewater goby (*Eucyclogobius newberryi*)
- Western snowy plover (*Charadrius nivosus* ssp. *nivosus*)
- Yellow-billed cuckoo (Coccyzus americanus)–Western Distinct Population Segment (DPS)

Caltrans has determined the project ***may affect, but is not likely to adversely affect:***

- Marbled murrelet (*Brachyramphus marmoratus*)
- Northern spotted owl (*Strix occidentalis caurina*)

Section 7 consultation for the proposed project would be covered under the *The Programmatic Letter of Concurrence issued by the USFWS* (2014) for potential effects on MAMU and NSO.

5.1 CESA Consultation Summary

Caltrans has determined the project would have ***no state "take"*** of the following state listed species, species proposed for listing, or FP species that may occur within the project area:

- Marbled murrelet (*Brachyramphus marmoratus*)
- Northern spotted owl (*Strix occidentalis caurina*)
- Coho salmon (*Oncorhynchus kisutch*)–central California coast ESU

5.2 CDFW Species of Special Concern Summary

The CDFW also maintains a list of animal Species of Special Concern (SSC). Although these species have no legal status, the CDFW recommends their consideration during analysis of the impacts of proposed projects to protect declining populations and avoid the need to list them as endangered in the future. This project would have "***no impact"*** to any CDFW SSC that may occur within the project area:

- Bryant's savannah sparrow (*Passerculus sandwichensis alaudinus*)
- Burrowing owl (*Athene cunicularia*)
- California red-legged frog (*Rana draytonii*)
- Foothill yellow-legged frog – Northwest/North Coast clade (*Rana boylii*)
- Long-eared owl (*Asio otus*)
- Northern coastal roach (*Hesperoleucus venustus navarroensis*)
- Northern harrier (*Circus hudsonius*)
- Northern red-legged frog (*Rana aurora*)
- Olive-sided flycatcher (*Circus hudsonius*)
- Pacific lamprey (*Entosphenus tridentatus*)
- Pacific tailed frog (*Ascaphus truei*)
- Purple martin (*Progne subis*)
- Red-bellied newt (*Taricha rivularis*)
- River Lamprey (*Lampetra ayresii*)
- Sonoma tree vole (*Arborimus pomo*)
- Southern torrent salamander (*Rhyacotriton variegatus*)
- Tidewater goby (*Eucyclogobius newberryi*)

- Townsend's big-eared bat (*Corynorhinus townsendii*)
- Vaux's swift (*Chaetura vauxi*)
- Western pond turtle (*Emys marmorata*)
- Western snowy plover (*Charadrius alexandrines nivosus*)
- Yellow warbler (*Setophaga petechia*)
- Yellow-breasted chat (*Icteria virens*)

Standard Measures and Best Management Practices (Section 1.3.2.) would be taken to avoid impacts to these species.

5.3 Essential Fish Habitat

The MSA is the primary law governing marine fisheries management in United States federal waters. Provisions of the MSA require consultation with NMFS for actions that may adversely affect EFH for federally managed fish and invertebrates. For the purposes of the MSA, EFH includes "those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity" (MSA § 3(10)).

Under the MSA, the project would not impact Pacific salmon EFH.

5.4 Wetlands and Other Waters Discussion

No jurisdictional Waters of the U.S. (WOTUS), Waters of the State, or riparian habitat will be impacted by the proposed project. Permits related to these resources are not anticipated.

5.5 Invasive Species

Executive Order 13112 requires federal agencies to combat the introduction or spread of invasive species in the United States. The order defines invasive species as "any species, including its seeds, eggs, spores, or other biological material capable of propagating that species, that is not native to that ecosystem, whose introduction does or is likely to cause economic or environmental harm or harm to human health." The Federal Highway Administration (FHWA) guidance issued August 10, 1999, directs the use of the state's invasive species list, maintained by the California Invasive Species Council, to define the invasive species that must be considered as part of the National Environmental Policy Act

(NEPA) analysis for a proposed project. A discussion of the invasive species within the BSA can be found in Section 3.2.3. Standard Measures and Best Management Practices (Section 1.3.2.) would be implemented as part of the proposed project to ensure invasive species do not proliferate.

5.6 Migratory Bird Treaty Act

Federal and state laws protect migratory birds, their occupied nests, and their eggs from destruction. The applicable federal law is the Migratory Bird Treaty Act (15 USC 703-711), 50 CFR Part 21, and 50 CFR Part 10. Protection under California law is found in Fish and Game Code (CFGC) Sections 3503, 3513, 3800, and AB-2627. Migratory bird species may nest in vegetation adjacent to the project site. Standard Measures and Best Management Practices would be taken to ensure no birds or occupied nests would be affected by the proposed project as described under Migratory Bird Protection Measures in Section 1.3.2.

5.7 Native Plant Protection Act Summary

California's Native Plant Protection Act requires all state agencies to utilize their authority to carry out programs to conserve endangered and rare native plants (Fish and Game Code Sections 1900-1913). Two rare species were potentially identified within the project BSA during botanical surveys: coastal bluff morning-glory (*Calystegia purpurata* ssp. *saxicola*) and Mendocino coast painbrush (*Castilleja mendocinensis*). The Mendocino coast paintbrush individuals were observed well outside of the project footprint/ESL. However, several of the potential observations of coastal bluff morning-glory could be within the project footprint/ESL. Project activities including guardrail replacement, sign replacement, and placement of shoulder backing could impact coastal bluff-morning glory individuals within the project ESL.

To avoid potential impacts to coast-bluff morning-glory, prior to the beginning of construction, a qualified biologist would update the botanical surveys around the potential observations of coastal bluff morning-glory outlined in Table 8. If coastal bluff morning-glory observations are confirmed, THVF would be installed to ensure individuals are not impacted by construction activities. These standard measures are described in Section 1.3.2 under BR-4-A and BR-4-C. With these standard measures in place, no impacts to special-status plants are anticipated as a result of the proposed project.

CHAPTER 6. References

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APPENDIX A. Project Plans

(SEE APPENDIX A BINDER)

APPENDIX B. USFWS Species List

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Arcata Fish And Wildlife Office
1655 Heindon Road
Arcata, CA 95521-4573
Phone: (707) 822-7201 Fax: (707) 822-8411

In Reply Refer To: November 14, 2021
Consultation Code: 08EACT00-2022-SLI-0051
Event Code: 08EACT00-2022-E-00136
Project Name: 01-0H600 Elk to Mendocino CAPM Project

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)

(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

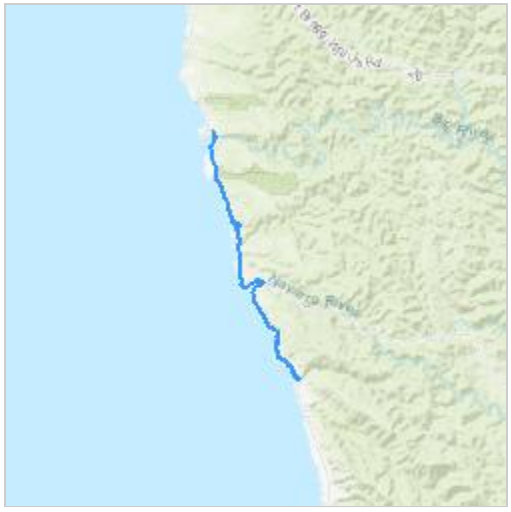
This species list is provided by:

Arcata Fish And Wildlife Office
1655 Heindon Road
Arcata, CA 95521-4573
(707) 822-7201

Project Summary

Consultation Code: 08EACT00-2022-SLI-0051
Event Code: Some(08EACT00-2022-E-00136)
Project Name: 01-0H600 Elk to Mendocino CAPM Project
Project Type: TRANSPORTATION
Project Description: Pavement rehabilitation; digouts and overlay; guardrail replacement.
Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@39.21765805,-123.76818147896736,14z



Counties: Mendocino County, California

Endangered Species Act Species

There is a total of 19 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Pacific Marten, Coastal Distinct Population Segment *Martes caurina* There is **proposed** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/9081	Threatened
Point Arena Mountain Beaver *Aplodontia rufa nigra* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/7727	Endangered

Birds

NAME	STATUS
Marbled Murrelet *Brachyramphus marmoratus* Population: U.S.A. (CA, OR, WA) There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/4467	Threatened
Northern Spotted Owl *Strix occidentalis caurina* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/1123	Threatened
Short-tailed Albatross *Phoebastria (=Diomedea) albatrus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/433	Endangered
Western Snowy Plover *Charadrius nivosus nivosus* Population: Pacific Coast population DPS-U.S.A. (CA, OR, WA), Mexico (within 50 miles of Pacific coast) There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/8035	Threatened
Yellow-billed Cuckoo *Coccyzus americanus* Population: Western U.S. DPS There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/3911	Threatened

Reptiles

NAME	STATUS
Green Sea Turtle *Chelonia mydas* Population: East Pacific DPS No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6199	Threatened
Leatherback Sea Turtle *Dermochelys coriacea* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/1493	Endangered

Amphibians

NAME	STATUS
California Red-legged Frog *Rana draytonii* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/2891	Threatened

Fishes

NAME	STATUS
Tidewater Goby *Eucyclogobius newberryi* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/57	Endangered

Insects

NAME	STATUS
Behren's Silverspot Butterfly *Speyeria zerene behrensii* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/900	Endangered
Lotis Blue Butterfly *Lycaeides argyrognomon lotis* There is **proposed** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/5174	Endangered
Monarch Butterfly *Danaus plexippus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

Flowering Plants

NAME	STATUS
Burke's Goldfields *Lasthenia burkei* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4338	Endangered
Contra Costa Goldfields *Lasthenia conjugens* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/7058	Endangered
Menzies' Wallflower *Erysimum menziesii* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2935	Endangered
Monterey Clover *Trifolium trichocalyx* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4282	Endangered
Showy Indian Clover *Trifolium amoenum* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6459	Endangered

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

APPENDIX C. NMFS Species List

Crane, Reed@DOT

From: Crane, Reed@DOT
Sent: Saturday, November 13, 2021 10:54 AM
To: nmfs.wcrca.specieslist@noaa.gov
Subject: Caltrans 01-0H600 Elk to Mendocino CAPM Project

This species list is for a capital preventative project on CA State Route 1. Scope of work includes asphalt rehab, guardrail upgrades, and sign replacement. Contact information can be found at the bottom of this email.

Quad Name **Mallo Pass Creek**
Quad Number **39123-A6**

ESA Anadromous Fish

SONCC Coho ESU (T) -
CCC Coho ESU (E) - **X**
CC Chinook Salmon ESU (T) - **X**
CVSR Chinook Salmon ESU (T) -
SRWR Chinook Salmon ESU (E) -
NC Steelhead DPS (T) - **X**
CCC Steelhead DPS (T) -
SCCC Steelhead DPS (T) -
SC Steelhead DPS (E) -
CCV Steelhead DPS (T) -
Eulachon (T) -
sDPS Green Sturgeon (T) - **X**

ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat -
CCC Coho Critical Habitat - **X**
CC Chinook Salmon Critical Habitat -
CVSR Chinook Salmon Critical Habitat -
SRWR Chinook Salmon Critical Habitat -
NC Steelhead Critical Habitat - **X**
CCC Steelhead Critical Habitat -
SCCC Steelhead Critical Habitat -
SC Steelhead Critical Habitat -
CCV Steelhead Critical Habitat -
Eulachon Critical Habitat -
sDPS Green Sturgeon Critical Habitat - **X**

ESA Marine Invertebrates

Range Black Abalone (E) -
Range White Abalone (E) -

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

ESA Sea Turtles

East Pacific Green Sea Turtle (T) - X
Olive Ridley Sea Turtle (T/E) - X
Leatherback Sea Turtle (E) - X
North Pacific Loggerhead Sea Turtle (E) -

ESA Whales

Blue Whale (E) - X
Fin Whale (E) - X
Humpback Whale (E) - X
Southern Resident Killer Whale (E) - X
North Pacific Right Whale (E) - X
Sei Whale (E) - X
Sperm Whale (E) - X

ESA Pinnipeds

Guadalupe Fur Seal (T) - X
Steller Sea Lion Critical Habitat -

Essential Fish Habitat

Coho EFH - X
Chinook Salmon EFH - X
Groundfish EFH - X
Coastal Pelagics EFH - X
Highly Migratory Species EFH -

MMPA Species (See list at left)

ESA and MMPA Cetaceans/Pinnipeds

See list at left and consult the NMFS Long Beach office
562-980-4000

MMPA Cetaceans - **X**
MMPA Pinnipeds - **X**

Quad Name **Elk**
Quad Number **39123-B6**

ESA Anadromous Fish

SONCC Coho ESU (T) -
CCC Coho ESU (E) - **X**
CC Chinook Salmon ESU (T) - **X**
CVSR Chinook Salmon ESU (T) -
SRWR Chinook Salmon ESU (E) -
NC Steelhead DPS (T) - **X**
CCC Steelhead DPS (T) -
SCCC Steelhead DPS (T) -
SC Steelhead DPS (E) -
CCV Steelhead DPS (T) -
Eulachon (T) -
sDPS Green Sturgeon (T) - **X**

ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat -
CCC Coho Critical Habitat - **X**
CC Chinook Salmon Critical Habitat - **X**
CVSR Chinook Salmon Critical Habitat -
SRWR Chinook Salmon Critical Habitat -
NC Steelhead Critical Habitat - **X**
CCC Steelhead Critical Habitat -
SCCC Steelhead Critical Habitat -
SC Steelhead Critical Habitat -
CCV Steelhead Critical Habitat -
Eulachon Critical Habitat -
sDPS Green Sturgeon Critical Habitat - **X**

ESA Marine Invertebrates

Range Black Abalone (E) -
Range White Abalone (E) -

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

ESA Sea Turtles

East Pacific Green Sea Turtle (T) - X
Olive Ridley Sea Turtle (T/E) - X
Leatherback Sea Turtle (E) - X
North Pacific Loggerhead Sea Turtle (E) -

ESA Whales

Blue Whale (E) - X
Fin Whale (E) - X
Humpback Whale (E) - X
Southern Resident Killer Whale (E) - X
North Pacific Right Whale (E) - X
Sei Whale (E) - X
Sperm Whale (E) - X

ESA Pinnipeds

Guadalupe Fur Seal (T) - X
Steller Sea Lion Critical Habitat -

Essential Fish Habitat

Coho EFH - X
Chinook Salmon EFH - X
Groundfish EFH - X
Coastal Pelagics EFH - X
Highly Migratory Species EFH -

MMPA Species (See list at left)

ESA and MMPA Cetaceans/Pinnipeds

See list at left and consult the NMFS Long Beach office 562-980-4000

MMPA Cetaceans - **X**

MMPA Pinnipeds - **X**

Quad Name **Albion**

Quad Number **39123-B7**

ESA Anadromous Fish

SONCC Coho ESU (T) -

CCC Coho ESU (E) - **X**

CC Chinook Salmon ESU (T) - **X**

CVSR Chinook Salmon ESU (T) -

SRWR Chinook Salmon ESU (E) -

NC Steelhead DPS (T) - **X**

CCC Steelhead DPS (T) -

SCCC Steelhead DPS (T) -

SC Steelhead DPS (E) -

CCV Steelhead DPS (T) -

Eulachon (T) -

sDPS Green Sturgeon (T) - **X**

ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat -

CCC Coho Critical Habitat - **X**

CC Chinook Salmon Critical Habitat - **X**

CVSR Chinook Salmon Critical Habitat -

SRWR Chinook Salmon Critical Habitat -

NC Steelhead Critical Habitat - **X**

CCC Steelhead Critical Habitat -

SCCC Steelhead Critical Habitat -

SC Steelhead Critical Habitat -

CCV Steelhead Critical Habitat -

Eulachon Critical Habitat -

sDPS Green Sturgeon Critical Habitat - **X**

ESA Marine Invertebrates

Range Black Abalone (E) -

Range White Abalone (E) -

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

ESA Sea Turtles

East Pacific Green Sea Turtle (T) - X
Olive Ridley Sea Turtle (T/E) - X
Leatherback Sea Turtle (E) - X
North Pacific Loggerhead Sea Turtle (E) -

ESA Whales

Blue Whale (E) - X
Fin Whale (E) - X
Humpback Whale (E) - X
Southern Resident Killer Whale (E) - X
North Pacific Right Whale (E) - X
Sei Whale (E) - X
Sperm Whale (E) - X

ESA Pinnipeds

Guadalupe Fur Seal (T) - X
Steller Sea Lion Critical Habitat -

Essential Fish Habitat

Coho EFH - X
Chinook Salmon EFH - X
Groundfish EFH - X
Coastal Pelagics EFH - X
Highly Migratory Species EFH - X

MMPA Species (See list at left)

ESA and MMPA Cetaceans/Pinnipeds

See list at left and consult the NMFS Long Beach office 562-980-4000

MMPA Cetaceans - X
MMPA Pinnipeds - X

Quad Name **Mathison Peak**

Quad Number **39123-C6**

ESA Anadromous Fish

SONCC Coho ESU (T) -
CCC Coho ESU (E) - **X**
CC Chinook Salmon ESU (T) - **X**
CVSR Chinook Salmon ESU (T) -
SRWR Chinook Salmon ESU (E) -
NC Steelhead DPS (T) - **X**
CCC Steelhead DPS (T) -
SCCC Steelhead DPS (T) -
SC Steelhead DPS (E) -
CCV Steelhead DPS (T) -
Eulachon (T) -
sDPS Green Sturgeon (T) -

ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat -
CCC Coho Critical Habitat - **X**
CC Chinook Salmon Critical Habitat - **X**
CVSR Chinook Salmon Critical Habitat -
SRWR Chinook Salmon Critical Habitat -
NC Steelhead Critical Habitat - **X**
CCC Steelhead Critical Habitat -
SCCC Steelhead Critical Habitat -
SC Steelhead Critical Habitat -
CCV Steelhead Critical Habitat -
Eulachon Critical Habitat -
sDPS Green Sturgeon Critical Habitat -

ESA Marine Invertebrates

Range Black Abalone (E) -
Range White Abalone (E) -

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

ESA Sea Turtles

East Pacific Green Sea Turtle (T) -

Olive Ridley Sea Turtle (T/E) -
Leatherback Sea Turtle (E) -
North Pacific Loggerhead Sea Turtle (E) -

ESA Whales

Blue Whale (E) -
Fin Whale (E) -
Humpback Whale (E) -
Southern Resident Killer Whale (E) -
North Pacific Right Whale (E) -
Sei Whale (E) -
Sperm Whale (E) -

ESA Pinnipeds

Guadalupe Fur Seal (T) -
Steller Sea Lion Critical Habitat -

Essential Fish Habitat

Coho EFH - **X**
Chinook Salmon EFH - **X**
Groundfish EFH -
Coastal Pelagics EFH -
Highly Migratory Species EFH -

MMPA Species (See list at left)

ESA and MMPA Cetaceans/Pinnipeds

See list at left and consult the NMFS Long Beach office 562-980-4000

MMPA Cetaceans -
MMPA Pinnipeds -

Quad Name **Mendocino**
Quad Number **39123-C7**

ESA Anadromous Fish

SONCC Coho ESU (T) -
CCC Coho ESU (E) - **X**
CC Chinook Salmon ESU (T) - **X**

CVSR Chinook Salmon ESU (T) -
SRWR Chinook Salmon ESU (E) -
NC Steelhead DPS (T) - X
CCC Steelhead DPS (T) -
SCCC Steelhead DPS (T) -
SC Steelhead DPS (E) -
CCV Steelhead DPS (T) -
Eulachon (T) -
sDPS Green Sturgeon (T) - X

ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat -
CCC Coho Critical Habitat - X
CC Chinook Salmon Critical Habitat - X
CVSR Chinook Salmon Critical Habitat -
SRWR Chinook Salmon Critical Habitat -
NC Steelhead Critical Habitat - X
CCC Steelhead Critical Habitat -
SCCC Steelhead Critical Habitat -
SC Steelhead Critical Habitat -
CCV Steelhead Critical Habitat -
Eulachon Critical Habitat -
sDPS Green Sturgeon Critical Habitat - X

ESA Marine Invertebrates

Range Black Abalone (E) -
Range White Abalone (E) -

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

ESA Sea Turtles

East Pacific Green Sea Turtle (T) - X
Olive Ridley Sea Turtle (T/E) - X
Leatherback Sea Turtle (E) - X
North Pacific Loggerhead Sea Turtle (E) -

ESA Whales

Blue Whale (E) - X
Fin Whale (E) - X
Humpback Whale (E) - X
Southern Resident Killer Whale (E) - X
North Pacific Right Whale (E) - X
Sei Whale (E) - X
Sperm Whale (E) - X

ESA Pinnipeds

Guadalupe Fur Seal (T) - X
Steller Sea Lion Critical Habitat -

Essential Fish Habitat

Coho EFH - X
Chinook Salmon EFH - X
Groundfish EFH - X
Coastal Pelagics EFH - X
Highly Migratory Species EFH - X

MMPA Species (See list at left)

ESA and MMPA Cetaceans/Pinnipeds

See list at left and consult the NMFS Long Beach office 562-980-4000

MMPA Cetaceans - X
MMPA Pinnipeds - X

Quad Name **Noyo Hill**
Quad Number **39123-D6**

ESA Anadromous Fish

SONCC Coho ESU (T) -
CCC Coho ESU (E) - X
CC Chinook Salmon ESU (T) - X
CVSR Chinook Salmon ESU (T) -
SRWR Chinook Salmon ESU (E) -
NC Steelhead DPS (T) - X

CCC Steelhead DPS (T) -
SCCC Steelhead DPS (T) -
SC Steelhead DPS (E) -
CCV Steelhead DPS (T) -
Eulachon (T) -
sDPS Green Sturgeon (T) -

ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat -
CCC Coho Critical Habitat - X
CC Chinook Salmon Critical Habitat - X
CVSR Chinook Salmon Critical Habitat -
SRWR Chinook Salmon Critical Habitat -
NC Steelhead Critical Habitat - X
CCC Steelhead Critical Habitat -
SCCC Steelhead Critical Habitat -
SC Steelhead Critical Habitat -
CCV Steelhead Critical Habitat -
Eulachon Critical Habitat -
sDPS Green Sturgeon Critical Habitat -

ESA Marine Invertebrates

Range Black Abalone (E) -
Range White Abalone (E) -

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

ESA Sea Turtles

East Pacific Green Sea Turtle (T) -
Olive Ridley Sea Turtle (T/E) -
Leatherback Sea Turtle (E) -
North Pacific Loggerhead Sea Turtle (E) -

ESA Whales

Blue Whale (E) -
Fin Whale (E) -
Humpback Whale (E) -
Southern Resident Killer Whale (E) -

North Pacific Right Whale (E) -
Sei Whale (E) -
Sperm Whale (E) -

ESA Pinnipeds

Guadalupe Fur Seal (T) -
Steller Sea Lion Critical Habitat -

Essential Fish Habitat

Coho EFH - X
Chinook Salmon EFH - X
Groundfish EFH -
Coastal Pelagics EFH -
Highly Migratory Species EFH -

MMPA Species (See list at left)

ESA and MMPA Cetaceans/Pinnipeds

See list at left and consult the NMFS Long Beach office 562-980-4000

MMPA Cetaceans -
MMPA Pinnipeds -

Quad Name **Fort Bragg**
Quad Number **39123-D7**

ESA Anadromous Fish

SONCC Coho ESU (T) -
CCC Coho ESU (E) - X
CC Chinook Salmon ESU (T) - X
CVSR Chinook Salmon ESU (T) -
SRWR Chinook Salmon ESU (E) -
NC Steelhead DPS (T) - X
CCC Steelhead DPS (T) -
SCCC Steelhead DPS (T) -
SC Steelhead DPS (E) -
CCV Steelhead DPS (T) -
Eulachon (T) -
sDPS Green Sturgeon (T) - X

ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat -
CCC Coho Critical Habitat - X
CC Chinook Salmon Critical Habitat - X
CVSR Chinook Salmon Critical Habitat -
SRWR Chinook Salmon Critical Habitat -
NC Steelhead Critical Habitat - X
CCC Steelhead Critical Habitat -
SCCC Steelhead Critical Habitat -
SC Steelhead Critical Habitat -
CCV Steelhead Critical Habitat -
Eulachon Critical Habitat -
sDPS Green Sturgeon Critical Habitat - X

ESA Marine Invertebrates

Range Black Abalone (E) -
Range White Abalone (E) -

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

ESA Sea Turtles

East Pacific Green Sea Turtle (T) - X
Olive Ridley Sea Turtle (T/E) - X
Leatherback Sea Turtle (E) - X
North Pacific Loggerhead Sea Turtle (E) -

ESA Whales

Blue Whale (E) - X
Fin Whale (E) - X
Humpback Whale (E) - X
Southern Resident Killer Whale (E) - X
North Pacific Right Whale (E) - X
Sei Whale (E) - X
Sperm Whale (E) - X

ESA Pinnipeds

Guadalupe Fur Seal (T) - X
Steller Sea Lion Critical Habitat -

Essential Fish Habitat

Coho EFH - X
Chinook Salmon EFH - X
Groundfish EFH - X
Coastal Pelagics EFH - X
Highly Migratory Species EFH - X

MMPA Species (See list at left)

ESA and MMPA Cetaceans/Pinnipeds
See list at left and consult the NMFS Long Beach office 562-980-4000

MMPA Cetaceans - X
MMPA Pinnipeds - X

Quad Name **Dutchmans Knoll**
Quad Number **39123-E6**

ESA Anadromous Fish

SONCC Coho ESU (T) -
CCC Coho ESU (E) - X
CC Chinook Salmon ESU (T) - X
CVSR Chinook Salmon ESU (T) -
SRWR Chinook Salmon ESU (E) -
NC Steelhead DPS (T) - X
CCC Steelhead DPS (T) -
SCCC Steelhead DPS (T) -
SC Steelhead DPS (E) -
CCV Steelhead DPS (T) -
Eulachon (T) -
sDPS Green Sturgeon (T) -

ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat -
CCC Coho Critical Habitat - X
CC Chinook Salmon Critical Habitat - X
CVSR Chinook Salmon Critical Habitat -
SRWR Chinook Salmon Critical Habitat -
NC Steelhead Critical Habitat - X
CCC Steelhead Critical Habitat -
SCCC Steelhead Critical Habitat -
SC Steelhead Critical Habitat -
CCV Steelhead Critical Habitat -
Eulachon Critical Habitat -
sDPS Green Sturgeon Critical Habitat -

ESA Marine Invertebrates

Range Black Abalone (E) -
Range White Abalone (E) -

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

ESA Sea Turtles

East Pacific Green Sea Turtle (T) -
Olive Ridley Sea Turtle (T/E) -
Leatherback Sea Turtle (E) -
North Pacific Loggerhead Sea Turtle (E) -

ESA Whales

Blue Whale (E) -
Fin Whale (E) -
Humpback Whale (E) -
Southern Resident Killer Whale (E) -
North Pacific Right Whale (E) -
Sei Whale (E) -
Sperm Whale (E) -

ESA Pinnipeds

Guadalupe Fur Seal (T) -
Steller Sea Lion Critical Habitat -

Essential Fish Habitat

Coho EFH - X
Chinook Salmon EFH - X
Groundfish EFH - X
Coastal Pelagics EFH -
Highly Migratory Species EFH -

MMPA Species (See list at left)

ESA and MMPA Cetaceans/Pinnipeds
See list at left and consult the NMFS Long Beach office 562-980-4000

MMPA Cetaceans -
MMPA Pinnipeds -

Quad Name **Inglenook**
Quad Number **39123-E7**

ESA Anadromous Fish

SONCC Coho ESU (T) -
CCC Coho ESU (E) - X
CC Chinook Salmon ESU (T) - X
CVSR Chinook Salmon ESU (T) -
SRWR Chinook Salmon ESU (E) -
NC Steelhead DPS (T) - X
CCC Steelhead DPS (T) -
SCCC Steelhead DPS (T) -
SC Steelhead DPS (E) -
CCV Steelhead DPS (T) -
Eulachon (T) -
sDPS Green Sturgeon (T) - X

ESA Anadromous Fish Critical Habitat

SONCC Coho Critical Habitat -
CCC Coho Critical Habitat - X

CC Chinook Salmon Critical Habitat - X
CVSR Chinook Salmon Critical Habitat -
SRWR Chinook Salmon Critical Habitat -
NC Steelhead Critical Habitat - X
CCC Steelhead Critical Habitat -
SCCC Steelhead Critical Habitat -
SC Steelhead Critical Habitat -
CCV Steelhead Critical Habitat -
Eulachon Critical Habitat -
sDPS Green Sturgeon Critical Habitat - X

ESA Marine Invertebrates

Range Black Abalone (E) -
Range White Abalone (E) -

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

ESA Sea Turtles

East Pacific Green Sea Turtle (T) - X
Olive Ridley Sea Turtle (T/E) - X
Leatherback Sea Turtle (E) - X
North Pacific Loggerhead Sea Turtle (E) -

ESA Whales

Blue Whale (E) - X
Fin Whale (E) - X
Humpback Whale (E) - X
Southern Resident Killer Whale (E) - X
North Pacific Right Whale (E) - X
Sei Whale (E) - X
Sperm Whale (E) - X

ESA Pinnipeds

Guadalupe Fur Seal (T) - X
Steller Sea Lion Critical Habitat -

Essential Fish Habitat

Coho EFH - X
Chinook Salmon EFH - X
Groundfish EFH - X
Coastal Pelagics EFH - X
Highly Migratory Species EFH - X

MMPA Species (See list at left)

ESA and MMPA Cetaceans/Pinnipeds

See list at left and consult the NMFS Long Beach office 562-980-4000

MMPA Cetaceans - X
MMPA Pinnipeds - X

Reed Crane
Environmental Planner
Caltrans
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APPENDIX D. CNDDB Species List

Selected Elements by Common Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Mendocino (3912337) OR Albion (3912327) OR Elk (3912326) OR Mallo Pass Creek (3912316) OR Fort Bragg (3912347) OR Inglenook (3912357) OR Dutchmans Knoll (3912356) OR Noyo Hill (3912346) OR Mathison Peak (3912336))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
alpine marsh violet *Viola palustris*	PDVIO041G0	None	None	G5	S1S2	2B.2
angel's hair lichen *Ramalina thrausta*	NLLEC3S340	None	None	G5?	S2S3	2B.1
ashy storm-petrel *Hydrobates homochroa*	ABNDC04030	None	None	G2	S2	SSC
Baker's goldfields *Lasthenia californica ssp. bakeri*	PDAST5L0C4	None	None	G3T1	S1	1B.2
Behren's silverspot butterfly *Speyeria zerene behrensii*	IILEPJ6088	Endangered	None	G5T1	S1	
Blasdale's bent grass *Agrostis blasdalei*	PMPOA04060	None	None	G2	S2	1B.2
bluff wallflower *Erysimum concinnum*	PDBRA160E3	None	None	G3	S2	1B.2
Bolander's beach pine *Pinus contorta ssp. bolanderi*	PGPIN04081	None	None	G5T2	S2	1B.2
bunchberry *Cornus canadensis*	PDCOR01040	None	None	G5	S2	2B.2
California red-legged frog *Rana draytonii*	AAABH01022	Threatened	None	G2G3	S2S3	SSC
California sedge *Carex californica*	PMCYP032D0	None	None	G5	S2	2B.2
coast lily *Lilium maritimum*	PMLIL1A0C0	None	None	G2	S2	1B.1
Coastal and Valley Freshwater Marsh *Coastal and Valley Freshwater Marsh*	CTT52410CA	None	None	G3	S2.1	
coastal bluff morning-glory *Calystegia purpurata ssp. saxicola*	PDCON040D2	None	None	G4T2T3	S2S3	1B.2
Coastal Brackish Marsh *Coastal Brackish Marsh*	CTT52200CA	None	None	G2	S2.1	
coastal triquetrella *Triquetrella californica*	NBMUS7S010	None	None	G2	S2	1B.2
coho salmon - central California coast ESU *Oncorhynchus kisutch pop. 4*	AFCHA02034	Endangered	Endangered	G5T2T3Q	S2	
congested-headed hayfield tarplant *Hemizonia congesta ssp. congesta*	PDAST4R065	None	None	G5T2	S2	1B.2

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
dark-eyed gilia *Gilia millefoliata*	PDPLM04130	None	None	G2	S2	1B.2
deceiving sedge *Carex saliniformis*	PMCYP03BY0	None	None	G2	S2	1B.2
dwarf alkali grass *Puccinellia pumila*	PMPOA531L0	None	None	G4?	SH	2B.2
Fen *Fen*	CTT51200CA	None	None	G2	S1.2	
foothill yellow-legged frog *Rana boylii*	AAABH01050	None	Endangered	G3	S3	SSC
globose dune beetle *Coelus globosus*	IICOL4A010	None	None	G1G2	S1S2	
Grand Fir Forest *Grand Fir Forest*	CTT82120CA	None	None	G1	S1.1	
great blue heron *Ardea herodias*	ABNGA04010	None	None	G5	S4	
great burnet *Sanguisorba officinalis*	PDROS1L060	None	None	G5?	S2	2B.2
green yellow sedge *Carex viridula ssp. viridula*	PMCYP03EM5	None	None	G5T5	S2	2B.3
hair-leaved rush *Juncus supiniformis*	PMJUN012R0	None	None	G5	S1	2B.2
hoary bat *Lasiurus cinereus*	AMACC05030	None	None	G3G4	S4	
Hoffman's bristly jewelflower *Streptanthus glandulosus ssp. hoffmanii*	PDBRA2G0J4	None	None	G4T2	S2	1B.3
Howell's spineflower *Chorizanthe howellii*	PDPGN040C0	Endangered	Threatened	G1	S1	1B.2
Humboldt Bay owl's-clover *Castilleja ambigua var. humboldtiensis*	PDSCR0D402	None	None	G4T2	S2	1B.2
Humboldt County milk-vetch *Astragalus agnicidus*	PDFAB0F080	None	Endangered	G2	S2	1B.1
lagoon sedge *Carex lenticularis var. limnophila*	PMCYP037A7	None	None	G5T5	S1	2B.2
leafy-stemmed mitrewort *Mitellastra caulescens*	PDSAX0N020	None	None	G5	S4	4.2
livid sedge *Carex livida*	PMCYP037L0	None	None	G5	SH	2A
lotis blue butterfly *Plebejus idas lotis*	IILEPG5013	Endangered	None	G5TH	SH	
Lyngbye's sedge *Carex lyngbyei*	PMCYP037Y0	None	None	G5	S3	2B.2

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
maple-leaved checkerbloom *Sidalcea malachroides*	PDMAL110E0	None	None	G3	S3	4.2
marbled murrelet *Brachyramphus marmoratus*	ABNNN06010	Threatened	Endangered	G3	S2	
marsh pea *Lathyrus palustris*	PDFAB250P0	None	None	G5	S2	2B.2
Mendocino Coast paintbrush *Castilleja mendocinensis*	PDSCR0D3N0	None	None	G2	S2	1B.2
Mendocino dodder *Cuscuta pacifica var. papillata*	PDCUS011A2	None	None	G5T1	S1	1B.2
Mendocino leptonetid spider *Calileptoneta wapiti*	ILARAU6040	None	None	G1	S1	
Mendocino Pygmy Cypress Forest *Mendocino Pygmy Cypress Forest*	CTT83161CA	None	None	G2	S2.1	
Menzies' wallflower *Erysimum menziesii*	PDBRA160R0	Endangered	Endangered	G1	S1	1B.1
Methuselah's beard lichen *Usnea longissima*	NLLEC5P420	None	None	G4	S4	4.2
Monterey clover *Trifolium trichocalyx*	PDFAB402J0	Endangered	Endangered	G1	S1	1B.1
North American porcupine *Erethizon dorsatum*	AMAFJ01010	None	None	G5	S3	
North Coast phacelia *Phacelia insularis var. continentis*	PDHYD0C2B1	None	None	G2T2	S2	1B.2
northern coastal roach *Hesperoleucus venustus navarroensis*	AFCJB19031	None	None	GNRTNR	SNR	SSC
Northern Coastal Salt Marsh *Northern Coastal Salt Marsh*	CTT52110CA	None	None	G3	S3.2	
northern goshawk *Accipiter gentilis*	ABNKC12060	None	None	G5	S3	SSC
northern microseris *Microseris borealis*	PDAST6E030	None	None	G5	S1	2B.1
northern red-legged frog *Rana aurora*	AAABH01021	None	None	G4	S3	SSC
obscure bumble bee *Bombus caliginosus*	IIHYM24380	None	None	G4?	S1S2	
Oregon coast paintbrush *Castilleja litoralis*	PDSCR0D012	None	None	G3	S3	2B.2
Oregon goldthread *Coptis laciniata*	PDRAN0A020	None	None	G4?	S3?	4.2
osprey *Pandion haliaetus*	ABNKC01010	None	None	G5	S4	WL

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Pacific gilia *Gilia capitata ssp. pacifica*	PDPLM040B6	None	None	G5T3	S2	1B.2
Pacific lamprey *Entosphenus tridentatus*	AFBAA02100	None	None	G4	S3	SSC
Pacific tailed frog *Ascaphus truei*	AAABA01010	None	None	G4	S3S4	SSC
perennial goldfields *Lasthenia californica ssp. macrantha*	PDAST5L0C5	None	None	G3T2	S2	1B.2
pink sand-verbena *Abronia umbellata var. breviflora*	PDNYC010N4	None	None	G4G5T2	S2	1B.1
Point Arena mountain beaver *Aplodontia rufa nigra*	AMAFA01011	Endangered	None	G5T1	S1	SSC
Point Reyes blennosperma *Blennosperma nanum var. robustum*	PDAST1A022	None	Rare	G4T2	S2	1B.2
Point Reyes checkerbloom *Sidalcea calycosa ssp. rhizomata*	PDMAL11012	None	None	G5T2	S2	1B.2
Point Reyes horkelia *Horkelia marinensis*	PDROS0W0B0	None	None	G2	S2	1B.2
Pomo bronze shoulderband *Helminthoglypta arrosa pomoensis*	IMGASC2033	None	None	G2G3T1	S1	
purple martin *Progne subis*	ABPAU01010	None	None	G5	S3	SSC
purple-stemmed checkerbloom *Sidalcea malviflora ssp. purpurea*	PDMAL110FL	None	None	G5T1	S1	1B.2
pygmy cypress *Hesperocyparis pygmaea*	PGCUP04032	None	None	G1	S1	1B.2
pygmy manzanita *Arctostaphylos nummularia ssp. mendocinoensis*	PDERI04280	None	None	G3?T1	S1	1B.2
red-bellied newt *Taricha rivularis*	AAAAF02020	None	None	G2	S2	SSC
round-headed Chinese-houses *Collinsia corymbosa*	PDSCR0H060	None	None	G1	S1	1B.2
running-pine *Lycopodium clavatum*	PPLYC01080	None	None	G5	S3	4.1
Santa Cruz clover *Trifolium buckwestiorum*	PDFAB402W0	None	None	G2	S2	1B.1
seacoast ragwort *Packera bolanderi var. bolanderi*	PDAST8H0H1	None	None	G4T4	S2S3	2B.2
short-leaved evax *Hesperevax sparsiflora var. brevifolia*	PDASTE5011	None	None	G4T3	S3	1B.2
Siskiyou checkerbloom *Sidalcea malviflora ssp. patula*	PDMAL110F9	None	None	G5T2	S2	1B.2

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
small groundcone *Kopsiopsis hookeri*	PDORO01010	None	None	G4?	S1S2	2B.3
Sonoma tree vole *Arborimus pomo*	AMAFF23030	None	None	G3	S3	SSC
southern torrent salamander *Rhyacotriton variegatus*	AAAAJ01020	None	None	G3G4	S2S3	SSC
Sphagnum Bog *Sphagnum Bog*	CTT51110CA	None	None	G3	S1.2	
steelhead - northern California DPS *Oncorhynchus mykiss irideus pop. 16*	AFCHA0209Q	Threatened	None	G5T2T3Q	S2S3	
supple daisy *Erigeron supplex*	PDAST3M3Z0	None	None	G2	S2	1B.2
swamp harebell *Campanula californica*	PDCAM02060	None	None	G3	S3	1B.2
Ten Mile shoulderband *Noyo intersessa*	IMGASC5070	None	None	G2	S2	
Thurber's reed grass *Calamagrostis crassiglumis*	PMPOA17070	None	None	G3Q	S2	2B.1
tidewater goby *Eucyclogobius newberryi*	AFCQN04010	Endangered	None	G3	S3	
Townsend's big-eared bat *Corynorhinus townsendii*	AMACC08010	None	None	G4	S2	SSC
tufted puffin *Fratercula cirrhata*	ABNNN12010	None	None	G5	S1S2	SSC
western bumble bee *Bombus occidentalis*	IIHYM24250	None	None	G2G3	S1	
western pond turtle *Emys marmorata*	ARAAD02030	None	None	G3G4	S3	SSC
western snowy plover *Charadrius nivosus nivosus*	ABNNB03031	Threatened	None	G3T3	S2	SSC
white beaked-rush *Rhynchospora alba*	PMCYP0N010	None	None	G5	S2	2B.2
white-flowered rein orchid *Piperia candida*	PMORC1X050	None	None	G3	S3	1B.2
white-tailed kite *Elanus leucurus*	ABNKC06010	None	None	G5	S3S4	FP
Whitney's farewell-to-spring *Clarkia amoena ssp. whitneyi*	PDONA05025	None	None	G5T1	S1	1B.1
Wolf's evening-primrose *Oenothera wolfii*	PDONA0C1K0	None	None	G2	S1	1B.1

Record Count: 101

APPENDIX E. CNPS Species List

Inventory of Rare and Endangered Plants of California

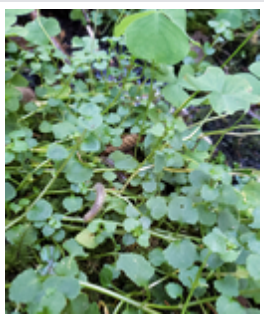
California Native Plant Society

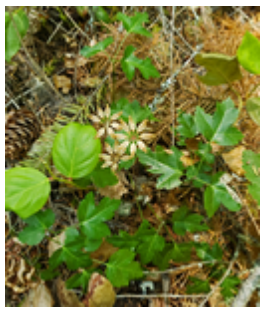
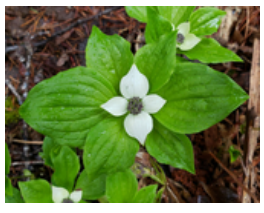
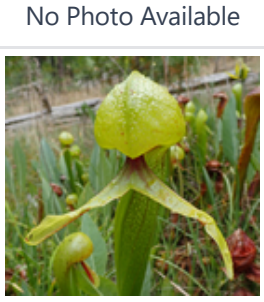
Search Results

80 matches found. Click on scientific name for details

Search Criteria: CRPR is one of [**1A:1B:2A:2B:3:4**] , Quad is one of [**3912337:3912327:3912326:3912316:3912347:3912357:3912356:3912346:3912336**]

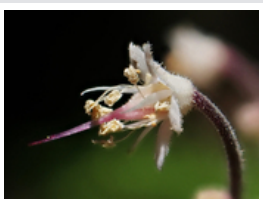
▲ SCIENTIFIC NAME	COMMON NAME	FAMILY	LIFEFORM	BLOOMING PERIOD	FED LIST	STATE LIST	GLOBAL RANK	STATE RANK	CA RARE PLANT RANK	PHOTO
Abronia umbellata var. *breviflora*	pink sand-verbena	Nyctaginaceae	perennial herb	Jun-Oct	None	None	G4G5T2	S2	1B.1	 ©2021 Scot Loring
Agrostis blasdalei	Blasdale's bent grass	Poaceae	perennial rhizomatous herb	May-Jul	None	None	G2	S2	1B.2	No Photo Available
Angelica lucida	sea-watch	Apiaceae	perennial herb	Apr-Sep	None	None	G5	S3	4.2	No Photo Available
Arctostaphylos nummularia ssp. *mendocinoensis*	pygmy manzanita	Ericaceae	perennial evergreen shrub	Jan	None	None	G3?T1	S1	1B.2	No Photo Available
Astragalus agnicidus	Humboldt County milk-vetch	Fabaceae	perennial herb	Apr-Sep	None	CE	G2	S2	1B.1	No Photo Available
Blennosperma nanum var. *robustum*	Point Reyes blennosperma	Asteraceae	annual herb	Feb-Apr	None	CR	G4T2	S2	1B.2	No Photo Available
Calamagrostis bolanderi	Bolander's reed grass	Poaceae	perennial rhizomatous herb	May-Aug	None	None	G4	S4	4.2	No Photo Available
Calamagrostis crassiglumis	Thurber's reed grass	Poaceae	perennial rhizomatous herb	May-Aug	None	None	G3Q	S2	2B.1	No Photo Available
Calystegia purpurata ssp. *saxicola*	coastal bluff morning-glory	Convolvulaceae	perennial herb	(Mar)Apr-Sep	None	None	G4T2T3	S2S3	1B.2	No Photo Available
Campanula californica	swamp harebell	Campanulaceae	perennial rhizomatous herb	Jun-Oct	None	None	G3	S3	1B.2	No Photo Available
Carex californica	California sedge	Cyperaceae	perennial rhizomatous herb	May-Aug	None	None	G5	S2	2B.2	No Photo Available
Carex lenticularis var. *limnophila*	lagoon sedge	Cyperaceae	perennial herb	Jun-Aug	None	None	G5T5	S1	2B.2	No Photo Available
Carex livida	livid sedge	Cyperaceae	perennial rhizomatous	Jun	None	None	G5	SH	2A	No Photo Available

			herb							
Carex lyngbyei	Lyngbye's sedge	Cyperaceae	perennial rhizomatous herb	Apr-Aug	None	None	G5	S3	2B.2	No Photo Available
Carex saliniformis	deceiving sedge	Cyperaceae	perennial rhizomatous herb	Jun(Jul)	None	None	G2	S2	1B.2	No Photo Available
Carex viridula ssp. *viridula*	green yellow sedge	Cyperaceae	perennial herb	(Jun)Jul-Sep(Nov)	None	None	G5T5	S2	2B.3	 © 2015 Dana York
Castilleja ambigua var. *ambigua*	johnny-nip	Orobanchaceae	annual herb (hemiparasitic)	Mar-Aug	None	None	G4T4	S3S4	4.2	No Photo Available
Castilleja ambigua var. *humboldtiensis*	Humboldt Bay owl's-clover	Orobanchaceae	annual herb (hemiparasitic)	Apr-Aug	None	None	G4T2	S2	1B.2	No Photo Available
Castilleja latifolia	Monterey Coast paintbrush	Orobanchaceae	perennial herb (hemiparasitic)	Feb-Sep	None	None	G4	S4	4.3	No Photo Available
Castilleja litoralis	Oregon coast paintbrush	Orobanchaceae	perennial herb (hemiparasitic)	Jun	None	None	G3	S3	2B.2	No Photo Available
Castilleja mendocinensis	Mendocino Coast paintbrush	Orobanchaceae	perennial herb (hemiparasitic)	Apr-Aug	None	None	G2	S2	1B.2	No Photo Available
Ceanothus gloriosus var. *exaltatus*	glory brush	Rhamnaceae	perennial evergreen shrub	Mar-Jun(Aug)	None	None	G4T4	S4	4.3	No Photo Available
Ceanothus gloriosus var. *gloriosus*	Point Reyes ceanothus	Rhamnaceae	perennial evergreen shrub	Mar-May	None	None	G4T4	S4	4.3	No Photo Available
Chorizanthe howellii	Howell's spineflower	Polygonaceae	annual herb	May-Jul	FE	CT	G1	S1	1B.2	No Photo Available
Chrysosplenium glechomifolium	Pacific golden saxifrage	Saxifragaceae	perennial herb	Feb-Jun	None	None	G5?	S3	4.3	 © 2021 Scot Loring
Clarkia amoena ssp. *whitneyi*	Whitney's farewell-to-spring	Onagraceae	annual herb	Jun-Aug	None	None	G5T1	S1	1B.1	No Photo Available
Collinsia corymbosa	round-headed Chinese-houses	Plantaginaceae	annual herb	Apr-Jun	None	None	G1	S1	1B.2	No Photo Available

Coptis laciniata	Oregon goldthread	Ranunculaceae	perennial rhizomatous herb	(Feb)Mar-May(Sep-Nov)	None	None	G4?	S3?	4.2	 © 2021 Scot Loring
Cornus canadensis	bunchberry	Cornaceae	perennial rhizomatous herb	May-Jul	None	None	G5	S2	2B.2	 © 2021 Scot Loring
Cuscuta pacifica var. *papillata*	Mendocino dodder	Convolvulaceae	annual vine (parasitic)	(Jun)Jul-Oct	None	None	G5T1	S1	1B.2	No Photo Available
Darlingtonia californica	California pitcherplant	Sarraceniaceae	perennial rhizomatous herb (carnivorous)	Apr-Aug	None	None	G4	S4	4.2	 © 2021 Scot Loring
Erigeron supplex	supple daisy	Asteraceae	perennial herb	May-Jul	None	None	G2	S2	1B.2	No Photo Available
Erysimum concinnum	bluff wallflower	Brassicaceae	annual/perennial herb	Feb-Jul	None	None	G3	S2	1B.2	No Photo Available
Erysimum menziesii	Menzies' wallflower	Brassicaceae	perennial herb	Mar-Sep	FE	CE	G1	S1	1B.1	No Photo Available
Gilia capitata ssp. *pacifica*	Pacific gilia	Polemoniaceae	annual herb	Apr-Aug	None	None	G5T3	S2	1B.2	No Photo Available
Gilia millefoliata	dark-eyed gilia	Polemoniaceae	annual herb	Apr-Jul	None	None	G2	S2	1B.2	No Photo Available
Glehnia littoralis ssp. *leiocarpa*	American glehnia	Apiaceae	perennial herb	May-Aug	None	None	G5T5	S2S3	4.2	No Photo Available
Hemizonia congesta ssp. *congesta*	congested-headed hayfield tarplant	Asteraceae	annual herb	Apr-Nov	None	None	G5T2	S2	1B.2	No Photo Available
Hemizonia congesta ssp. *tracyi*	Tracy's tarplant	Asteraceae	annual herb	(Mar)May-Oct	None	None	G5T4	S4	4.3	No Photo Available
Hesperevax sparsiflora var. *brevifolia*	short-leaved evax	Asteraceae	annual herb	Mar-Jun	None	None	G4T3	S3	1B.2	No Photo Available
Hesperocyparis pygmaea	pygmy cypress	Cupressaceae	perennial evergreen tree		None	None	G1	S1	1B.2	No Photo Available
Horkelia marinensis	Point Reyes horkelia	Rosaceae	perennial herb	May-Sep	None	None	G2	S2	1B.2	No Photo Available
Hosackia gracilis	harlequin lotus	Fabaceae	perennial rhizomatous herb	Mar-Jul	None	None	G3G4	S3	4.2	No Photo Available

herb

Iris longipetala	coast iris	Iridaceae	perennial rhizomatous herb	Mar-May(Jun)	None	None	G3	S3	4.2	No Photo Available
Juncus supiniformis	hair-leaved rush	Juncaceae	perennial rhizomatous herb	Apr-May(Jun-Jul)	None	None	G5	S1	2B.2	No Photo Available
Kopsiopsis hookeri	small groundcone	Orobanchaceae	perennial rhizomatous herb (parasitic)	Apr-Aug	None	None	G4?	S1S2	2B.3	No Photo Available
Lasthenia californica ssp. *bakeri*	Baker's goldfields	Asteraceae	perennial herb	Apr-Oct	None	None	G3T1	S1	1B.2	 ©2015 Asa Spade
Lasthenia californica ssp. *macrantha*	perennial goldfields	Asteraceae	perennial herb	Jan-Nov	None	None	G3T2	S2	1B.2	No Photo Available
Lathyrus palustris	marsh pea	Fabaceae	perennial herb	Mar-Aug	None	None	G5	S2	2B.2	No Photo Available
Leptosiphon latisectus	broad-lobed leptosiphon	Polemoniaceae	annual herb	Apr-Jun	None	None	G4	S4	4.3	No Photo Available
Lilium maritimum	coast lily	Liliaceae	perennial bulbiferous herb	May-Aug	None	None	G2	S2	1B.1	No Photo Available
Lilium rubescens	redwood lily	Liliaceae	perennial bulbiferous herb	Apr-Aug(Sep)	None	None	G3	S3	4.2	No Photo Available
Listera cordata	heart-leaved twayblade	Orchidaceae	perennial herb	Feb-Jul	None	None	G5	S4	4.2	No Photo Available
Lycopodium clavatum	running-pine	Lycopodiaceae	perennial rhizomatous herb	Jun-Aug(Sep)	None	None	G5	S3	4.1	 © 2021 Scot Loring
Microseris borealis	northern microseris	Asteraceae	perennial herb	Jun-Sep	None	None	G5	S1	2B.1	No Photo Available
Mitellastra caulescens	leafy-stemmed mitrewort	Saxifragaceae	perennial rhizomatous herb	(Mar)Apr-Oct	None	None	G5	S4	4.2	No Photo Available
Oenothera wolfii	Wolf's evening-primrose	Onagraceae	perennial herb	May-Oct	None	None	G2	S1	1B.1	No Photo Available
Packera bolanderi var. *bolanderi*	seacoast ragwort	Asteraceae	perennial rhizomatous herb	(Jan-Apr)May-Jul(Aug)	None	None	G4T4	S2S3	2B.2	 © 2021 Scot Loring
Phacelia insularis var. *continentis*	North Coast phacelia	Hydrophyllaceae	annual herb	Mar-May	None	None	G2T2	S2	1B.2	No Photo Available

Pinus contorta ssp. *bolanderi*	Bolander's beach pine	Pinaceae	perennial evergreen tree		None	None	G5T2	S2	1B.2	No Photo Available
Piperia candida	white-flowered rein orchid	Orchidaceae	perennial herb	(Mar)May-Sep	None	None	G3	S3	1B.2	No Photo Available
Pityopus californicus	California pinefoot	Ericaceae	perennial herb (achlorophyllous)	(Mar-Apr)May-Aug	None	None	G4G5	S4	4.2	No Photo Available
Pleuropogon refractus	nodding semaphore grass	Poaceae	perennial rhizomatous herb	(Mar)Apr-Aug	None	None	G4	S4	4.2	No Photo Available
Puccinellia pumila	dwarf alkali grass	Poaceae	perennial herb	Jul	None	None	G4?	SH	2B.2	No Photo Available
Ramalina thrausta	angel's hair lichen	Ramalinaceae	fruticose lichen (epiphytic)		None	None	G5?	S2S3	2B.1	 © 2013 Scot Loring
Rhynchospora alba	white beaked-rush	Cyperaceae	perennial rhizomatous herb	Jun-Aug	None	None	G5	S2	2B.2	 © 2021 Scot Loring
Rhynchospora globularis	round-headed beaked-rush	Cyperaceae	perennial rhizomatous herb	Jul-Aug	None	None	G4	S1	2B.1	No Photo Available
Sanguisorba officinalis	great burnet	Rosaceae	perennial rhizomatous herb	Jul-Oct	None	None	G5?	S2	2B.2	No Photo Available
Sidalcea calycosa ssp. *rhizomata*	Point Reyes checkerbloom	Malvaceae	perennial rhizomatous herb	Apr-Sep	None	None	G5T2	S2	1B.2	No Photo Available
Sidalcea malachroides	maple-leaved checkerbloom	Malvaceae	perennial herb	(Mar)Apr-Aug	None	None	G3	S3	4.2	No Photo Available
Sidalcea malviflora ssp. *patula*	Siskiyou checkerbloom	Malvaceae	perennial rhizomatous herb	(Mar)May-Aug	None	None	G5T2	S2	1B.2	No Photo Available
Sidalcea malviflora ssp. *purpurea*	purple-stemmed checkerbloom	Malvaceae	perennial rhizomatous herb	May-Jun	None	None	G5T1	S1	1B.2	No Photo Available
Streptanthus glandulosus ssp. *hoffmanii*	Hoffman's bristly jewelflower	Brassicaceae	annual herb	Mar-Jul	None	None	G4T2	S2	1B.3	No Photo Available
Tiarella trifoliata var. *trifoliata*	trifoliate laceflower	Saxifragaceae	perennial rhizomatous herb	(May)Jun-Aug	None	None	G5T5	S2S3	3.2	 © 2021 Scot Loring

Trifolium buckwestiorum	Santa Cruz clover	Fabaceae	annual herb	Apr-Oct	None	None	G2	S2	1B.1	No Photo Available
Trifolium trichocalyx	Monterey clover	Fabaceae	annual herb	Apr-Jun	FE	CE	G1	S1	1B.1	No Photo Available
Triquetrella californica	coastal triquetrella	Pottiaceae	moss		None	None	G2	S2	1B.2	No Photo Available
Usnea longissima	Methuselah's beard lichen	Parmeliaceae	fruticose lichen (epiphytic)		None	None	G4	S4	4.2	 © 2021 Scot Loring
Veratrum fimbriatum	fringed false-hellebore	Melanthiaceae	perennial herb	Jul-Sep	None	None	G3	S3	4.3	No Photo Available
Viola palustris	alpine marsh violet	Violaceae	perennial rhizomatous herb	Mar-Aug	None	None	G5	S1S2	2B.2	 ©2021 Scot Loring

Showing 1 to 80 of 80 entries

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APPENDIX F. Botanical Resources Survey Report

(SEE APPENDIX F BINDER)

APPENDIX G. Aquatic Resources Assessment Report

(SEE APPENDIX G BINDER)

APPENDIX H. Wildlife Habitat Assessment Report

(SEE APPENDIX H BINDER)