JAMES CREEK WEST SAFETY PROJECT

MENDOCINO COUNTY, CALIFORNIA

DISTRICT 1 – MEN – 20 (Post Miles 19.10 to 19.60)
01-0H450 / 0117000225

INITIAL STUDY

with Proposed Negative Declaration

Prepared by the
State of California Department of Transportation

Caltrans®

June 2020

General Information about this Document

What's in this document?

The California Department of Transportation (Caltrans) has prepared this Initial Study (IS) with proposed Negative Declaration (ND) which examines the potential environmental effects of a proposed project on State Route 20 between Fort Bragg, California, and Willits, California. Caltrans is the lead agency under the California Environmental Quality Act (CEQA). This document tells you why the project is being proposed, how the existing environment could be affected by the project, the potential impacts of the project, and proposed avoidance, minimization, and/or mitigation measures.

What should you do?

- **Please read this document.**
- Additional copies of this document are available for review at the following locations:
    - On weekdays between 8:00 a.m. and 4:00 p.m. at the Caltrans District 1 Office at 1656 Union Street in Eureka. Due to COVID-19 concerns, please call (707) 445-6431 beforehand to make arrangements for a document review following social distancing protocols.
    - On Wednesdays, Fridays, and Saturdays from 12:00 to 4:00 p.m. at the Mendocino County Museum, 400 E. Commercial Street, Willits, CA 95490.
    - This document may be downloaded at the following website: https://dot.ca.gov/caltrans-near-me/district-3/d3-programs/d3-environmental/d3-environmental-docs/d3-mendocino-county
    - Paper copies of this document and related technical studies are available upon request. Please contact Cari Williams at 707-445-6431 or cari.williams@dot.ca.gov.
- Attend a project presentation and ask questions during the virtual project meeting on **Tuesday, July 7, 2020** from 5:00 to 6:00 p.m.
    - To join the virtual meeting using a telephone, please call 1-408-418-9388 and use Meeting Number 965 527 831.
    - To join the virtual meeting on a computer or smartphone, preview the project slideshow, and find meeting information on the project website: https://dot.ca.gov/caltrans-near-me/district-3/d3-programs/d3-environmental/d3-environmental-docs/d3-mendocino-county

- **We'd like to hear what you think**. If you have any comments about the proposed project, please send your written comments to Caltrans by the deadline.
    - Please send comments via U.S. mail to:
      California Department of Transportation
      North Region Environmental – District 1
      Attn: Cari Williams
      1656 Union Street, Eureka, CA 95501
    - Send comments via e-mail to: **cari.williams@dot.ca.gov**
    - Be sure to send comments by the deadline: **July 27, 2020**

What happens after this?

After comments are received from the public and reviewing agencies, Caltrans may (1) give environmental approval to the proposed project, (2) do additional environmental studies, or (3) abandon the project. If the project is given environmental approval and funding is obtained, Caltrans could complete the design and construct all or part of the project.

For individuals with sensory disabilities, this document is available in Braille, in large print, on audiocassette, or on computer disk. To obtain a copy in one of these alternate formats, please write to or call Caltrans, Attention: Bonnie Kuhn, 1656 Union Street, Eureka, CA 95501; (707) 441-4678 Voice, or use the California Relay Service TTY number, 711 or 1-800-735-2929.

JAMES CREEK WEST SAFETY PROJECT

Improve a curve, replace guardrail, and widen shoulders on State Route 20 in Mendocino County, from post miles 19.10. to 19.60, west of Willits

INITIAL STUDY

With Proposed Negative Declaration

Submitted Pursuant to: Division 13, California Public Resources Code

THE STATE OF CALIFORNIA

Department of Transportation

06/16/20

Date of Approval

Brandon Larsen, Office Chief
North Region Environmental-District 1
California Department of Transportation
CEQA Lead Agency

The following person may be contacted for more information about this document:

Cari Williams
Caltrans North Region Environmental-District 1
1656 Union Street
Eureka, CA 95501
(707) 445-6431

or use the California Relay Service TTY number, 711 or 1-800-735-2929.

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Proposed Negative Declaration

Pursuant to: Division 13, California Public Resources Code

SCH Number: Pending

Project Description

The California Department of Transportation (Caltrans) proposes to improve a curve, replace guardrail, and widen shoulders on State Route 20 from post miles 19.10 to 19.60 in Mendocino County.

Determination

This proposed Negative Declaration (ND) is included to give notice to interested agencies and the public that it is Caltrans' intent to adopt an ND for this project. This does not mean that Caltrans' decision regarding the project is final. This ND is subject to change based on comments received by interested agencies and the public.

Caltrans has prepared an Initial Study for this project and, pending public review, expects to determine from this study that the proposed project would not have a significant impact on the environment for the following reasons:

- The project would have "***No Impact***" with regard to air quality, cultural resources, energy, hazards and hazardous materials, hydrology and water quality, land use and planning, mineral resources, noise, population and housing, public services, recreation, traffic and transportation, tribal cultural resources, utilities and service systems, and wildfire.
- The project would have a *"**Less Than Significant Impact**"* with regard to aesthetics, agriculture and forest resources, biological resources, geology and soils, and greenhouse gas emissions.

_____ _____

Brandon Larsen, Office Chief
North Region Environmental-District 1
California Department of Transportation

Date

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List of Abbreviated Terms

Abbreviation	Description
AB	Assembly Bill
BMPs	Best Management Practices
BSA	Biological Study Area
CAFE	Corporate Average Fuel Economy
CAL FIRE	California Department of Forestry and Fire Protection
Caltrans	California Department of Transportation
CARB	California Air Resource Board
CCC	Central California Coast
CCR	California Code of Regulations
CD	Consistency Determination
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFGC	California Fish and Game Code
CFR	Code of Federal Regulations
CH_4	methane
CIA	Cumulative Impact Analysis
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CO_2	carbon dioxide
CTP	California Transportation Plan
CWA	Clean Water Act
dB	decibel
DBH	diameter at breast height
DL	delisted
Department	Caltrans
DPS	Distinct Population Segment
EFH	Essential Fish Habitat
EIR	Environmental Impact Report
EO	Executive Order
ESA(s)	Environmentally Sensitive Area(s)
ESL	Environmental Study Limits
ESU	Evolutionarily Significant Unit
FEMA	Federal Emergency Management Agency
FESA	Federal Endangered Species Act
FHWA	Federal Highway Administration
FT	Federally Threatened

Abbreviation	Description
FP	Fully Protected
FPT	Proposed for listing as threatened under the Federal Endangered Species Act
G	Globally (ranking for Sensitive Natural Communities)
GHG	greenhouse gas
H&SC	Health & Safety Code
HFCs	hydrofluorocarbons
IPCC	Intergovernmental Panel on Climate Change
IS	Initial Study
LCFS	low carbon fuel standard
MAMU	Marbled murrelet
MBTA	Migratory Bird Treaty Act
MCOG	Mendocino County of Governments
MLD	Most Likely Descendent
MMTC0_2e	million metric tons of carbon dioxide equivalent
MPO	Metropolitan Planning Organization
MSA	Magnuson Stevens Fishery Conservation and Management Act
N_2O	nitrous oxide
NAHC	Native American Heritage Commission
NC	Northern California
NCRWQCB	North Coast Regional Water Quality Control Board
NCSC	Natural Communities of Special Concern
ND	Negative Declaration
NEPA	National Environmental Policy Act
NHTSA	National Highway Traffic Safety Administration
NMFS	National Marine Fisheries Service (under NOAA [NOAA Fisheries])
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
NRLF	Northern red-legged frog
NSO	Northern spotted owl
PDO	Property Damage Only
PDT	Project Development Team
PLOC	Programmatic Letter of Concurrence
PM	post mile
PRC	Public Resources Code
RSP	rock slope protection
RTP	Regional Transportation Plan
S	State (ranking for Sensitive Natural Communities)
SB	Senate Bill
SC	Proposed for state listing as threatened under the California Endangered Species Act
SCS	Sustainable Communities Strategy

Abbreviation	Description
SE	State Endangered
SF_6	sulfur hexafluoride
SHPO	State Historic Preservation Officer
SHS	State Highway System
SLR	Sea Level Rise
SNC	sensitive natural community/communities
SR	State Route
SSC	Species of Special Concern
ST	State Threatened
TMP	Transportation Management Plan
TPZ	Timber Production Zones
U.S. or US	United States
USACE	U.S. Army Corps of Engineers
USC	United States Code
USDA	U.S. Department of Agriculture
U.S. DOT	U.S. Department of Transportation
U.S. EPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGCRP	U.S. Global Change Research Program
VMT	Vehicle Miles Traveled
WPCP	Water Pollution Control Plan
WQOs	Water Quality Objectives

Chapter 1. Proposed Project

1.1. Project History

This project was initiated by the California Department of Transportation (Caltrans) District 1, Office of Traffic Safety, while investigating collisions. Review of collision data received from the California Highway Patrol indicated the number of fatal and injury collisions was greater than the statewide average at this location. A curve improvement is proposed to reduce collisions identified in the Highway Safety Improvement Program Guidelines. Caltrans is the lead agency under the California Environmental Quality Act (CEQA).

1.2. Project Description

The proposed project is on State Route (SR) 20 between post miles (PMs) 19.10 and 19.60 in Mendocino County between the cities of Willits and Fort Bragg (Figure 1). The entire proposed project area is within the Jackson Demonstration State Forest. The proposed project would be from 1.63 miles east of Road 800 to 0.37 mile west of Road 900 and the total length of the proposed improvements is approximately 0.5 mile (Figure 2).

Project Objective (Purpose and Need)

The purpose of this project is to improve safety for motorists and reduce the frequency and severity of collisions within the project limits.

The project is needed because there were 13 collisions within the project area between July 1, 2010, and June 30, 2015, including 6 injuries (0 Fatal, 6 Injury) and 7 Property Damage Only (PDO). Of those, 2 were Multi-Vehicle, 6 Wet, and 3 Dark. Based on the collision data, this area has a collision rate that is greater than the statewide average for similar facilities.

Proposed Project

Caltrans proposes a safety improvement project on SR 20 between PM 19.10 and PM 19.60 in Mendocino County, between the cities of Willits and Fort Bragg. The proposed project would include the following:

- Installing temporary traffic control and signage
- Improving and realigning an existing compound curve
- Saw cutting and cold planing existing pavement

- Constructing a new structural section, realigning the existing roadway, widening existing eastbound and westbound travel lanes to 12 feet, and shifting the centerline approximately 50 feet north
- Widening shoulders to 4 feet
- Upgrading and replacing existing guardrail between PM 19.12 and PM 19.21
- Overlaying the entire roadway with hot mix asphalt (HMA), installing centerline and shoulder rumble strips, and installing high visibility bicycle lane striping

To improve and realign the compound curve between PM 19.34 and PM 19.52 (Figure 3), approximately 45 feet of an existing cut slope on the north side of the roadway would be excavated (see project layouts in Appendix A). Vegetation within the cut would be removed, which would cut fewer than 144 trees greater than 4 inches in diameter at breast high (DBH). The existing roadway centerline would be shifted approximately 50 feet north and two 12-foot-wide lanes would be constructed.

The existing 2-foot-wide eastbound and westbound shoulders would be widened to 4 feet and paved. Approximately 3 feet of shoulder backing would be placed adjacent to the widened shoulders. Around 5,100 cubic yards of excess material would be removed from the project area and become property of the contractor.

Excavation and grinding of the existing pavement structural section would be required. New pavement structural sections, consisting of compacted base material and hot mix asphalt, would be constructed. Centerline and shoulder rumble strips and high visibility striping would be added throughout the project limits. Striping for a Class II[1] bicycle lane would be installed on both the eastbound and westbound lanes.

The existing guardrail between PM 19.12 and PM 19.21 would be upgraded to current standards. Fire-resistant metal posts would be installed with a concrete beam system on the existing embankment to a depth of approximately 3 feet. Concrete vegetation control would be placed around the guardrail posts.

All work and staging would occur within the existing Caltrans right of way and within Jackson Demonstration State forest, owned by the California Department of Forestry and Fire Protection (CAL FIRE). To realign the roadway and make room for the new cut,

[1] Class II bike lanes are designated with striping and stencils, but without curbs or barriers.

Caltrans would work with CAL FIRE to transfer jurisdiction of 0.63 acre and grant a temporary construction easement (0.14 acre). Construction staging would occur on the existing paved roadway and on gravel pullouts within and adjacent to the project limits.

Construction is anticipated to start in 2022 and last 6 to 7 months. Night work may be needed. Temporary lane closures and one-way reversing traffic control would be required.

Project features, including design elements of the project and standard measures that are applied to all or most Caltrans projects, are considered an integral part of the project. This includes Best Management Practices (BMPs) as well as the methods and measures in Caltrans Standard Plans and Specifications and Caltrans Special Provisions.

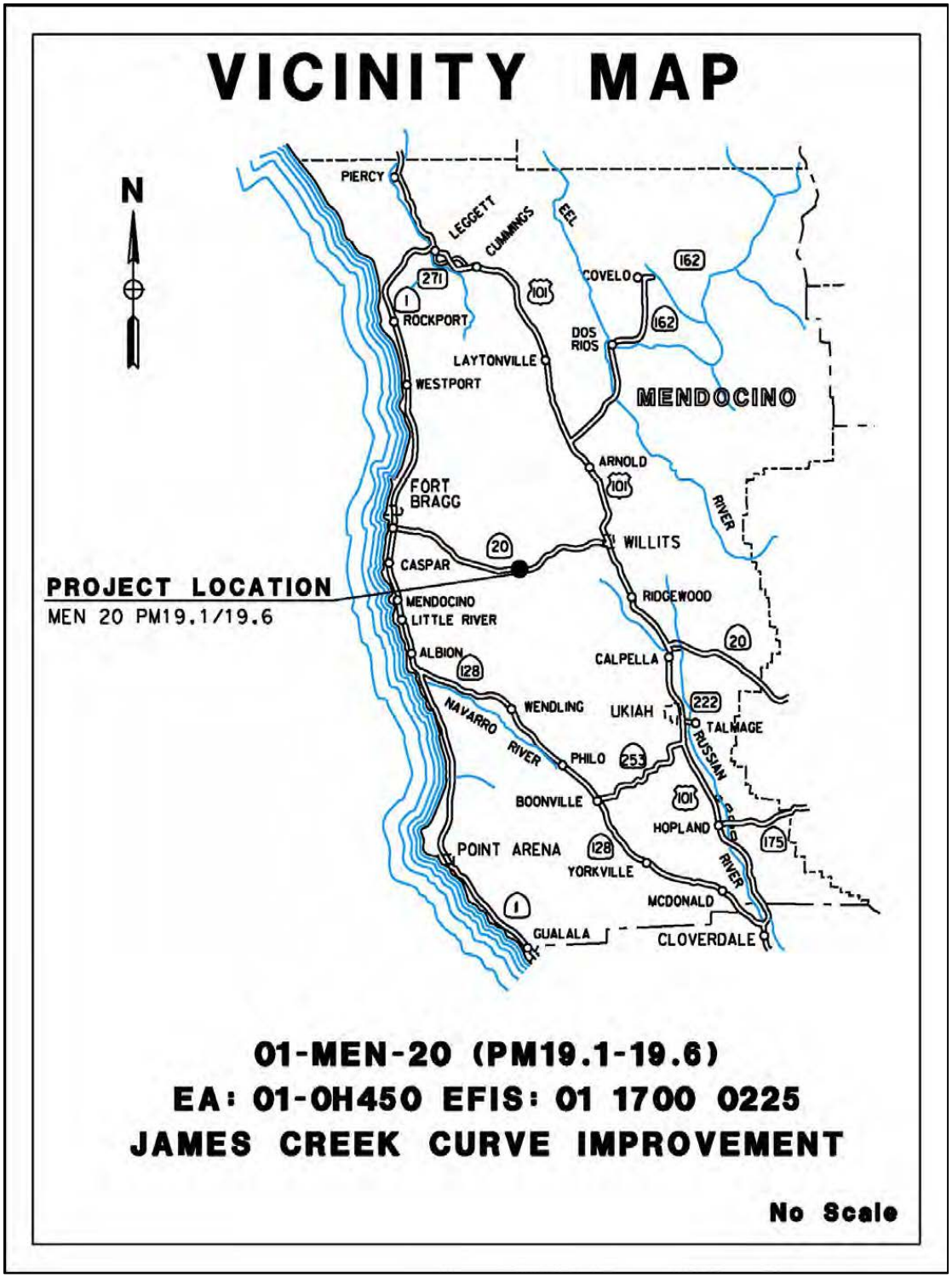

Figure 1. Project Vicinity

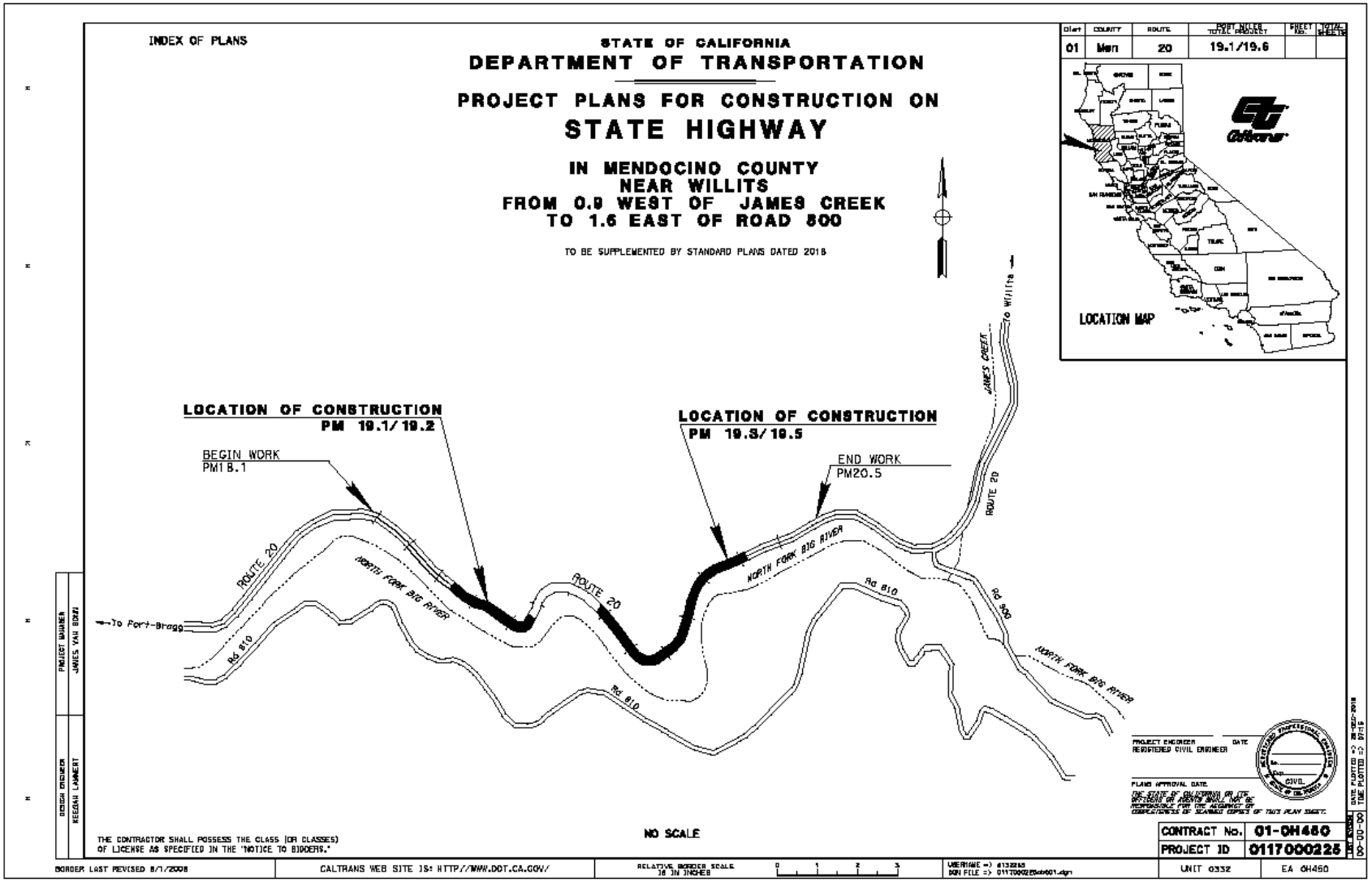

Figure 2. Project Location Map

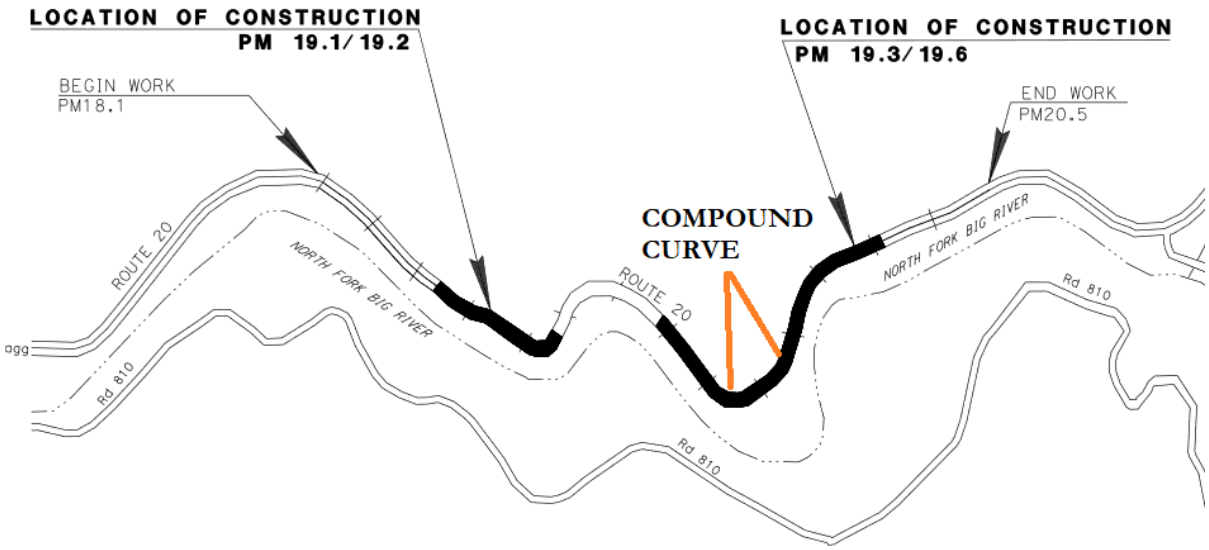

Figure 3. Compound Curve Proposed for Realignment

No-Build Alternative

The No-Build alternative would make no changes to the existing conditions and safety concerns would not be addressed.

General Plan Description, Zoning, and Surrounding Land Uses

Land use near the proposed project is designated in the Mendocino County General Plan as Public Lands. CAL FIRE owns the adjacent Jackson Demonstration State Forest. The project is on a segment of SR 20 which travels between Willits and Fort Bragg and is eligible for designation as a State Scenic Highway. There are no intersections or businesses within the project limits.

1.3. Permits and Approvals Needed

Two agency approvals would be required for this project (Table 1). The table lists the permitting agency, type of approvals, and status of approvals required for the project.

Table 1. Agency Approvals

Agency	Permit/Approval	Status
National Marine Fisheries Service (NMFS)	Letter of Concurrence	Consultation would be initiated after Initial Study circulation
U.S. Fish and Wildlife Service (USFWS)	Programmatic Letter of Concurrence	Completed November 21, 2019

1.4. Standard Measures and Best Management Practices Included in Project

Aesthetic Resources

AR-1: Areas impacted by the proposed road cuts would be replanted with regionally-appropriate native plants.

AR-2: Plant species and locations would be developed by the project landscape architect and biologist.

AR-3: Proposed rock slope protection (RSP) would not be visible from the road.

AR-4: Vegetation removal would be minimized as much as possible.

Animal Species

AS-1: To protect migratory and nongame birds, and their occupied nests and eggs, nesting-prevention measures would be implemented. Vegetation removal would be restricted to the period outside of the bird breeding season (allowed from September 16 through January 31) or, if vegetation removal is required during the breeding season, a nesting bird survey would be conducted by a qualified biologist within one week of vegetation removal. If an active nest were located, the biologist would coordinate with the California Department of Fish and Wildlife (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.

AS-2: Partially constructed and unoccupied nests within the construction area would be removed and disposed of on a regular basis throughout the breeding season (February 1 through September 15) to prevent their occupation. Nest removal would be repeated weekly under guidance of a qualified biologist to ensure nests are inactive prior to removal.

AS-3: To avoid any direct effects to Northern spotted owl or marbled murrelet, no construction activities generating noise levels greater than 90 decibels (dB) (with the exception of backup alarms) or activities generating sound levels 20 or more dB above ambient sound levels would occur between February 1 and August 5. Between August 6 and September 15, any sound levels greater than 10 dB above ambient sound levels would observe a daily work window beginning 2 hours post-sunrise and ending 2 hours pre-sunset. Noise-related work windows would be lifted between September 16 and January 31.

AS-3: No construction activities shall occur within a visual line-of-sight of 131 feet or less from any known nest locations for Northern spotted owl or marbled murrelet.

AS-4: Pre-construction surveys for active raptor nests within a quarter mile of the project area would be conducted by a qualified biologist within 15 days prior to the initiation of construction activities. Areas to be surveyed would be limited to those areas subject to increased disturbance because of construction activities (i.e., areas where existing traffic or human activity is greater than or equal to construction-related disturbance need not be surveyed). If any active raptor nests are identified, appropriate conservation measures (as determined by a qualified biologist) would be implemented. These measures may include, but are not limited to, establishing a construction-free buffer zone around the active nest site, biological monitoring of the active nest site, and delaying construction activities near the active nest site until the young have fledged.

AS-5: Artificial night lighting is not anticipated but may be required. The use of artificial lighting would be temporary and of short duration, and lighting would be focused specifically on the portion of the project actively under construction to reduce potential disturbance to sensitive species. To reduce the effects of artificial light on sensitive biological resources, use would be limited to critical need (e.g., due to

accelerated work schedule to meet permit deadlines or reaching a critical juncture in work at a time when it would be infeasible to stop construction).

AS-6: To prevent attracting corvids (birds of the *Corvidae* family which include jays, crows, and ravens), no trash or foodstuffs would be left or stored on-site. All trash must be deposited in a secure container and disposed of at an approved garbage facility. Also, on-site workers would not attempt to attract or feed any wildlife.

AS-7: To prevent impacts to Pacific fisher, no trees would be removed during the critical denning period (March 1st through July 31st).

AS-8: Pre-construction surveys for the presence of amphibians would be conducted immediately prior to construction activities in all areas where vegetation was removed and soil was disturbed.

Cultural Resources

CR-1: If cultural materials are discovered during construction, all earth-moving activity within and around the immediate discovery area would be diverted until a qualified archaeologist can assess the nature and significance of the find in consultation with the State Historic Preservation Officer (SHPO).

CR-2: If human remains are discovered, State Health and Safety Code § 7050.5 states that further disturbances and activities would cease in any area or nearby area suspected to overlie remains, and the County Coroner contacted. Pursuant to CA Public Resources Code (PRC) § 5097.98, if the remains were thought to be Native American, the coroner would notify the Native American Heritage Commission (NAHC) who would then notify the Most Likely Descendent (MLD).

At this time, the person who discovered the remains would contact the Environmental Senior and Professionally Qualified Staff so they may work with the MLD on the respectful treatment and disposition of the remains. Further provisions of PRC § 5097.98 would be followed as applicable.

Geology and Seismic/Topography

GS-1: The project would be designed to minimize slope failure, settlement, and erosion using recommended construction techniques and BMPs. New slopes should be revegetated to reduce erosion potential.

GS-2: In the unlikely event that fossils were encountered during project excavations, Caltrans Standard Specification 14-7 would be followed. This standard specification states that if unanticipated paleontological resources are discovered at the job site, all work within 60 feet would stop, the area around the fossil would be protected, and the Resident Engineer would be notified.

Greenhouse Gas Emissions

GHG-1: The construction contractor must comply with the Caltrans Standard Specifications Section 14-9 (Caltrans 2015). Section 14-9.02 specifically requires compliance by the contractor with all applicable laws and regulations related to air quality. Certain common regulations, such as equipment idling restrictions, that reduce construction vehicle emissions also help reduce GHG emissions.

GHG-2: Compliance with Title 13 of the California Code of Regulations, which includes restricting idling of construction vehicles and equipment to no more than 5 minutes.

GHG-3: Caltrans Standard Specification 7-1.02C "Emissions Reduction" ensures that construction activities adhere to the most recent emissions reduction regulations mandated by the California Air Resource Board (CARB).

GHG-4: Use of a Transportation Management Plan (TMP) to minimize vehicle delays and idling emissions.

GHG-5: Construction traffic would be scheduled and routed to reduce congestion and related air quality impacts caused by idling vehicles along local roads during peak travel times.

Hazardous Waste and Material

HW-1: Contractors must follow Caltrans Standard Special Provision 7-1.02K(6)(j)(iii) for "Earth Material Containing Lead."

HW-2: Per Caltrans requirements, the contractor(s) would prepare a project-specific Lead Compliance Plan (CCR Title 8, § 1532.1, the "Lead in Construction" standard) to reduce worker exposure to lead-impacted soil. The plan would include protocols for environmental and personnel monitoring, requirements for personal protective equipment, and other health and safety protocols and procedures for the handling of lead-impacted soil.

HW-3: Traffic stripes would be removed and disposed of in accordance with Caltrans Standard Special Provision Section 36-4 "Residue Containing Lead from Paint and Thermoplastic."

HW-4: If treated wood waste, such as signposts, is generated during this project, it would be disposed of in accordance with Standard Special Provision 14-11.14 "Treated Wood Waste."

Invasive Species

The standard measures described in the following section, PS-1, for restoring the project site post construction are also appropriate for the control of invasive species.

IS-1: After all construction materials are removed, the project area would be restored to a natural setting by grading, placing erosion control, and replanting. Replanting would be subject to a plant establishment period as defined by project permits, which would require Caltrans to adequately water plants, replace unsuitable plants, and control pests. Caltrans would implement a program of invasive weed control in all areas of soil disturbance caused by construction to improve habitat for native species in and adjacent to disturbed soil areas within the project limits.

Plant Species

PS-1: After all construction materials are removed, the project area would be revegetated. A hydroseed mixture of native species along with fast growing sterile erosion control seed would be placed, as required by the final approved Erosion Control Plans. Caltrans would implement a program of invasive weed control in all areas of soil disturbance caused by construction to improve habitat for native species in and adjacent to disturbed soil areas within the project limits.

PS-2: The contractor would be required to place temporary barrier fencing along the boundaries of environmentally sensitive areas (ESAs) to avoid impacts to sensitive habitats that occur adjacent to the project footprint.

PS-3: Where feasible, ESA fencing would be established around the portion of the absorbed root zone of each large-diameter tree (>2-foot DBH) directly adjacent to project activities.

When possible, excavation of roots would not be conducted with mechanical excavator or other ripping tools. Instead, roots would be severed using a combination of root-friendly excavation and severance methods (e.g., sharp-bladed pruning instruments). At a minimum, jagged roots would be pruned away to make sharp, clean cuts.

PS-4: Where feasible, no fill that is a greater density than existing surface soils would be placed against the trunks of existing trees.

Threatened and Endangered Species

TS-1: The pre-construction meeting with the contractor would consist of a briefing on environmental permit conditions and requirements relative to each stage of the proposed project, including, but not limited to, work windows, construction site management, and how to identify and report regulated species within the project areas.

TS-2: Artificial night lighting may be required. The use of artificial lighting would be temporary and of short duration and lighting would be directed away from the river and focused specifically on the portion of the project actively under construction, which would reduce potential disturbance to sensitive species. To reduce the effects of artificial light on sensitive biological resources, use near watercourses would be limited to critical need (i.e., due to accelerated work schedule to meet

permit deadlines or reaching a critical juncture in work at a time when it would be infeasible to stop construction.)

Traffic and Transportation

TT-1: Pedestrian and bicycle access would be maintained during construction.

TT-2: The Contractor would be required to reduce any access delays to driveways or public roadways within or near the work zones.

TT-3: A Transportation Management Plan (TMP) would be applied to project.

Emergency Services

ES-1: All emergency response agencies in the project area would be notified of the project construction schedule and would have access to SR 20 throughout the construction period.

Water Quality and Stormwater Runoff

WQ-1: The project would comply with the Provisions of the Caltrans Statewide National Pollutant Discharge Elimination System (NPDES) Permit (Order 2012-0011-DWQ), which became effective July 1, 2018.

Before any ground-disturbing activities, the contractor would prepare a Water Pollution Control Plan (WPCP) that includes erosion control measures and construction waste containment measures so that waters of the State are protected during and after project construction.

The 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 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 WPCP would be continuously updated to adapt to changing site conditions during the construction phase.

Construction would likely require the following temporary construction site BMPs:

- Any spills or leaks from construction equipment (i.e., fuel, oil, hydraulic fluid, and grease) shall be cleaned up in accordance with applicable local, state, and/or federal regulations.
- Perimeter control devices, such as fiber rolls or silt fences, would be used to prevent sediment transport from the project site.
- Temporary drainage inlet protection methods, such as gravel bags, would be deployed to prevent sediment and other pollutants from entering drainage systems.
- Existing vegetated areas removed to the minimum extent necessary to facilitate the proposed work. 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 and newly constructed fill slopes, per the Erosion Control Plan.
- Concrete washout facilities, re-fueling areas, as well as equipment and storage areas should be covered and located away from drainage inlets and waterways to prevent both stormwater and non-stormwater discharges.
- Paving, sealing, saw cutting, and grinding of asphalt and cement surface should minimize the transport of pollutants from materials and equipment to storm drain systems and receiving waterbodies.

WQ-2: The project would incorporate pollution prevention and design measures consistent with the 2003 Caltrans Storm Water Management Plan to meet Water Quality Objectives (WQOs). This plan complies with the requirements of the Caltrans Statewide NPDES Permit (Order 2012-0011-DWQ).

The project design may include the following permanent BMPs:

- Vegetated surfaces would feature native plants and revegetation would use the seed mixture, mulch, tackifier, and fertilizer recommended in the Erosion Control Plan prepared for the project.

- Existing roadway drainage systems currently discharge stormwater to receiving waters from vegetated slopes adjacent to the highway facility. The current design for stormwater management, post construction, is to perpetuate existing drainage patterns. Stormwater would continue to sheet flow to vegetated slopes providing stormwater treatment in accordance with Caltrans' NPDES Permit.

Wetlands and Other Waters

WW-1: The contractor would be required to place temporary barrier fencing along the boundaries of all riparian or other environmentally sensitive areas adjacent to the Environmental Study Limits (ESL).

WW-2: Impacts to waters would be reduced with incorporation of the measures identified in GS-1.

1.5. Discussion of the NEPA Categorical Exclusion

This document contains information regarding compliance with the California Environmental Quality Act (CEQA) and other state laws and regulations. Separate environmental documentation, supporting a Categorical Exclusion determination, will be prepared in accordance with the National Environmental Policy Act. When needed for clarity, or as required by CEQA, this document may contain references to federal laws and/or regulations (CEQA, for example, requires consideration of adverse effects on species identified as a candidate, sensitive, or special-status species by the United States National Marine Fisheries Service and the United States Fish and Wildlife Service—in other words, species protected by the Federal Endangered Species Act).

Chapter 2. CEQA Environmental Checklist

Environmental Factors Potentially Affected

The environmental factors noted below would be potentially affected by this project. Please see the CEQA Environmental Checklist on the following pages for additional information.

Potential Impact Area	Impacted: Yes / No
Aesthetics	**Yes**
Agriculture and Forestry	**Yes**
Air Quality	No
Biological Resources	**Yes**
Cultural Resources	No
Energy	No
Geology/Soils	**Yes**
Greenhouse Gas Emissions	**Yes**
Hazards and Hazardous Materials	No
Hydrology/Water Quality	No
Land Use/Planning	No
Mineral Resources	No
Noise	No
Population/Housing	No
Public Services	No
Recreation	No
Transportation/Traffic	No
Tribal Cultural Resources	No
Utilities/Service Systems	No
Wildfire	No
Mandatory Findings of Significance	No

The CEQA Environmental Checklist identifies physical, biological, social, and economic factors that might be affected by the proposed project. In many cases, background studies performed in connection with the project will indicate there are no impacts to a particular resource. A "No Impact" answer in the last column of the checklist reflects this determination.

The words "significant" and "significance" used throughout the checklist and this document are only related to potential impacts pursuant to CEQA. The questions in the CEQA Environmental Checklist are intended to encourage the thoughtful assessment of impacts and do not represent thresholds of significance.

Project features, which can include both design elements of the project as well as standard measures that are applied to all or most Caltrans projects (such as Best Management Practices (BMPs) and measures included in the Standard Plans and Specifications or as Standard Special Provisions) are considered to be an integral part of the project and have been considered prior to any significance determinations documented in the checklist or document.

Project Impact Analysis Under CEQA

CEQA broadly defines "project" to include "the whole of an action, which has a potential for resulting in either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment" (14 CCR § 15378). Under CEQA, normally the baseline for environmental impact analysis consists of the existing conditions at the time the environmental studies began. However, it is important to choose the baseline that most meaningfully informs decision-makers and the public of the project's possible impacts. Where existing conditions change or fluctuate over time, and where necessary to provide the most accurate picture practically possible of the project's impacts, a lead agency may define existing conditions by referencing historic conditions, or conditions expected when the project becomes operational, or both, that are supported with substantial evidence. In addition, a lead agency may also use baselines consisting of both existing conditions and projected future conditions that are supported by reliable projections based on substantial evidence in the record. The CEQA Guidelines require a "statement of objectives sought by the proposed project" (14 CCR § 15124(b)).

CEQA requires the identification of each potentially "significant effect on the environment" resulting from the action, and ways to mitigate each significant effect. Significance is defined as "Substantial or potentially substantial adverse change to any of the physical conditions within the area affected by the project" (14 CCR § 15382). CEQA determinations are made prior to and separate from the development of mitigation measures for the project.

The legal standard for determining the significance of impacts is whether a "fair argument" can be made that a "substantial adverse change in physical conditions" would occur. The fair argument must be backed by substantial evidence including facts, reasonable assumption predicated upon fact, or expert opinion supported by facts. Generally, an environmental

professional with specific training in an area of environmental review can make this determination.

Though not required, CEQA suggests Lead Agencies adopt thresholds of significance, which define the level of effect above which the Lead Agency will consider impacts to be significant, and below which it will consider impacts to be less than significant. Given the size of California and its varied, diverse, and complex ecosystems, as a Lead Agency that encompasses the entire State, developing thresholds of significance on a state-wide basis has not been pursued by Caltrans. Rather, to ensure each resource is evaluated objectively, Caltrans analyzes potential resource impacts based on their location and the effect of the potential impact on the resource as a whole in the project area. For example, if a project has the potential to impact 0.10 acre of wetland in a watershed that has minimal development and contains thousands of acres of wetland, then a "less than significant" determination would be considered appropriate. In comparison, if 0.10 acre of wetland would be impacted that is located within a park in a city that only has 1.00 acre of total wetland, then the 0.10 acre of wetland impact could be considered "significant."

If the action may have a potentially significant effect on any environmental resource (even with mitigation measures implemented), then an Environmental Impact Report (EIR) must be prepared. Under CEQA, the lead agency may adopt a negative declaration (ND) if there is no substantial evidence that the project may have a potentially significant effect on the environment (14 CCR § 15070(a)). A proposed negative declaration must be circulated for public review, along with a document known as an Initial Study. CEQA allows for a "mitigated negative declaration" in which mitigation measures are proposed to reduce potentially significant effects to less than significant (14 CCR § 15369.5).

Although the formulation of mitigation measures shall not be deferred until some future time, the specific details of a mitigation measure may be developed after project approval when it is impractical or infeasible to include those details during the project's environmental review. The lead agency must (1) commit itself to the mitigation, (2) adopt specific performance standards the mitigation will achieve, and (3) identify the type(s) of potential action(s) that can feasibly achieve that performance standard and that will be considered, analyzed, and potentially incorporated in the mitigation measure. Compliance with a regulatory permit or other similar processes may be identified as mitigation if compliance would result in implementation of measures that would be reasonably expected, based on substantial evidence in the record, to reduce the significant impact to the specified performance standards (§ 15126.4(a)(1)(B)). Per CEQA, measures may also be adopted, but are not required, for environmental impacts that are not found to be significant (14 CCR §

15126.4(a)(3)). Under CEQA, mitigation is defined as avoiding, minimizing, rectifying, reducing, and compensating for any potential impacts (CEQA § 15370).

Regulatory agencies may require additional measures beyond those required for compliance with CEQA. Though not considered "mitigation" under CEQA, these measures are often referred to in an Initial Study as "mitigation", Good Stewardship or Best Management Practices. These measures can also be identified after the Initial Study/Negative Declaration is approved.

CEQA documents must consider direct and indirect impacts of a project (CAL. PUB. RES. CODE § 21065.3). They are to focus on significant impacts (14 CCR § 15126.2(a)). Impacts that are less than significant need only be briefly described (14 CCR § 15128). All potentially significant effects must be addressed.

No-Build Alternative

For each of the following CEQA questions, the "No-Build" alternative has been determined to have "No Impact." Under the "No-Build" alternative, no alterations to the existing conditions would occur, nor would any proposed improvements be implemented. The "No-Build" alternative is not discussed further in this document.

2.1. Aesthetics

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: a) Have a substantial adverse effect on a scenic vista?				✓
Would the project: b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?			✓	
Would the project: c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?			✓	
Would the project: d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?				✓

Regulatory Setting

The California Environmental Quality Act (CEQA) establishes that it is the policy of the state to take all action necessary to provide the people of the state "with…enjoyment of *aesthetic*, natural, scenic and historic environmental qualities" (CA Public Resources Code [PRC] § 21001[b]).

Environmental Setting

The proposed project is in rural Mendocino County, California, on State Route (SR) 20. The route connects U.S. Highway 101 (US 101) to SR 1 between Willits and Fort Bragg, passing through the Coast Ranges. SR 20 is an eligible State Scenic Highway. The project corridor

is characterized by dense forest, steep cuts, and various roadway elements such as pullouts, signs, and guardrail. Viewing distances are limited by the winding road and dense roadside forest, primarily Douglas-fir and redwood. The proposed project is within the Jackson Demonstration State Forest.

Discussion of Environmental Evaluation Question 2.1 (a-d)—Aesthetics

Discussion of CEQA Environmental Checklist Questions a) and d)

"No Impact" determinations were made for Questions a) and d) of the CEQA Environmental Checklist based on the project scope, description, and Visual Impact Assessment dated June 3, 2019 (Caltrans 2019a). The project would not impact a scenic vista and would not create a new source of light or glare.

Discussion of CEQA Environmental Checklist Questions b) and c)

The following CEQA Environmental Checklist items were used to evaluate the impacts of the proposed project on Aesthetics:

> ***b) Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?***

The proposed project is located on a section of SR 20 that is eligible for designation as a State Scenic Highway. Scenic resources in the project area include Douglas-fir and redwood forests. There are no historic buildings in the project area.

Fewer than 144 trees over 4 inches in diameter would be removed from the project area, primarily on the existing cut slope between PM 19.34 and PM 19.52. None of the trees proposed for removal have unique scenic value when compared to trees along the rest of the route. Tree removal resulting from this safety project would have a low adverse effect on scenic resources.

New roadside hillslopes would be cut at similar grades to existing slopes to preserve as many trees as possible. The resulting slopes would provide similar views to highway users. The cut slopes would have a low adverse effect on scenic resources.

Based on the Visual Impact Assessment, Caltrans has determined the project would have a "Less Than Significant Impact" on Aesthetic Resources (Caltrans 2019a).

c) Would the project, in non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a publicly accessible vantage point.)

While the proposed changes to the alignment would shift the highway, the resulting road cut would be similar to its current aesthetic. Since the new alignment would continue to be surrounded by trees, highway users would not see major changes to the landscape. After construction, the road would still be a curvilinear, two-lane highway with a forested view.

The proposed work would have a low impact on the existing visual character and quality of public views. Highway users would continue to travel SR 20 surrounded by Douglas-fir and redwood trees on the new alignment. Therefore a "Less than Significant Impact" determination for this question.

Mitigation Measures

Based on the determinations made in the CEQA Environmental Checklist, mitigation measures have not been proposed for the project.

2.2. Agriculture and Forest Resources

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection (CAL FIRE) regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and the forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board (CARB).

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?				✓
Would the project: b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?				✓
Would the project: c) Conflict with existing zoning, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?			✓	

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: d) Result in the loss of forest land or conversion of forest land to non-forest use?			✓	
Would the project: e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?				✓

Regulatory Setting

Impacts to timberland are analyzed as required by the California Timberland Productivity Act of 1982 (CA Government Code § 51100 et seq.) which was enacted to preserve forest resources. This program gives landowners tax incentives to keep their land in timber production. Contracts involving Timber Production Zones (TPZ) are on 10-year cycles. Although state highways are exempt from provisions of the Act, the California Secretary of Resources and the local governing body are notified in writing if new or additional right-of-way from a TPZ is required for a transportation project.

Environmental Setting

The proposed project is in a rural forested area on SR 20 within the Jackson Demonstration State Forest. The route connects Willits to Fort Bragg and is the main transportation route through the area for both passenger and commercial vehicles. This project proposes to transfer 0.63 acre of land from Jackson Demonstration State Forest to Caltrans and acquire a temporary construction easement from CAL FIRE for an additional 0.14 acre.

A demonstration forest provides opportunity for research and demonstration of forestry techniques, in addition to responsibly managed state-owned resources. Trees are harvested each year and the revenue supports resource management programs. At approximately 48,648 acres, Jackson Demonstration State Forest is the largest demonstration forest owned by CAL FIRE. Caltrans plans to acquire 3.92 acres for another nearby curve improvement project between PM 16.8 and PM 17.2.

Discussion of Environmental Evaluation Questions 2.2 (a-e)— Agriculture and Forest Resources

Discussion of CEQA Environmental Checklist Questions a), b), and e)

"No Impact" determinations were made for Questions a), b), and e) of the CEQA Environmental Checklist based on the project scope, location, description. No farmland or agricultural land would be impacted. No Williamson Acts contracts exist in the project area. There would be no changes or impacts to existing farmland or agricultural land resulting from this project.

Discussion of CEQA Environmental Checklist Questions c) and d)

The following CEQA Environmental Checklist items were used to evaluate the impacts of the proposed project on Agriculture and Forest Resources:

> ***c) Would the project conflict with existing zoning, or cause rezoning of forest land (as defined in Public Resources Code § 12220(g)), timberland (as defined by Public Resources Code § 4526), or timberland zoned Timberland Production (as defined by Government Code § 51104(g))?`***

The area around the proposed project is currently zoned by Mendocino County as Timber Preserve. Approximately 0.63 acre of land would be permanently transferred to Caltrans from CAL FIRE, and a temporary construction easement would be used to access another 0.14 acre during construction. The land proposed for purchase would represent a transfer of 0.0013 percent of the 48,648-acre Jackson Demonstration State Forest to Caltrans jurisdiction for highway use. Based on the minimal acreage required for the curve safety improvement, Caltrans has determined the overall impacts to forest land and timberland would result in a "Less Than Significant Impact."

> ***d) Would the project result in the loss of forest land or conversion of forest land to non-forest use?***

Approximately 0.63 acre of forested land would be permanently transferred to Caltrans from CAL FIRE. A temporary construction easement would be used to access another 0.14 acre during construction, which would be returned to CAL FIRE after construction. The land proposed for purchase would represent a transfer of 0.0013 percent of the 48,648-acre Jackson Demonstration State Forest to Caltrans jurisdiction for highway use. Based on the minimal acreage required for the curve safety improvement, Caltrans has determined the overall impacts to forest land would result in a "Less Than Significant Impact."

Mitigation Measures

Based on the determinations made in the CEQA Environmental Checklist, mitigation measures have not been proposed for the project.

2.3. Air Quality

Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations.

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: a) Conflict with or obstruct implementation of the applicable air quality plan?				✓
Would the project: b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?				✓
Would the project: c) Expose sensitive receptors to substantial pollutant concentrations?				✓
Would the project: d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?				✓

"No Impact" determinations in this section are based on the scope, description, and location of the proposed project, as well as the Environmental Impact Assessment—Noise, Air Quality, Greenhouse Gas, and Energy memo dated August 30, 2019 (Caltrans 2019b). The analysis concluded that air quality conformity requirements do not apply because Mendocino County is designated as attainment, or is unclassified, for all current National Air Quality Standards. There would be temporary construction emissions associated with the project. As a result, potential impacts to Air Quality are not anticipated.

Mitigation Measures

Based on the determinations made in the CEQA Environmental Checklist, mitigation measures have not been proposed for the project.

2.4. Biological Resources

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife, U.S. Fish and Wildlife Service, or NOAA/National Marine Fisheries Service [NMFS]?			✓	
Would the project: b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?			✓	
Would the project: c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?				✓
Would the project: d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?				✓

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?				✓
Would the project: f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?				✓

Regulatory Setting

Within this section of the document (2.4, Biological Resources), the topics are separated into Natural Communities, Wetlands and Other Waters, Plant Species, Animal Species, Threatened and Endangered Species, and Invasive Species.

Natural Communities

The California Department of Fish and Wildlife (CDFW) has jurisdiction over the conservation, protection, and management of wildlife, native plants, and habitat needed to maintain biologically sustainable populations (Fish & Game Code, § 1802). CDFW, as a trustee agency under CEQA Guidelines § 15386, provides expertise in reviewing and commenting on environmental documents and provides protocols regarding potential negative impacts to those resources held in trust for the people of California.

CDFW maintains records of sensitive natural communities (SNC) in the California Natural Diversity Database (CNDDB). SNC 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. Natural communities with ranks of S1-S3 are to be addressed in the environmental review processes of CEQA and its equivalents.

Wetlands and waters of the U.S., are also considered sensitive by both federal and state agencies, are discussed below.

Wetlands and Other Waters

"Waters" of the United States (including wetlands) and State are protected under several laws and regulations. The primary laws and regulations governing wetlands and other waters include:

- Federal Clean Water Act (CWA), 33 USC 1344
- Federal Executive Order for the Protection of Wetlands (EO 11990)
- State §§ 1600–1607 of the California Fish and Game Code (CFGC)
- State Porter-Cologne Water Quality Control Act, §13000 et seq.

The North Coast Regional Water Quality Control Board (NCRWQCB) regulates discharges of fill and dredged material into waters of the State under § 401 of the CWA and the Porter-Cologne Water Quality Control Act. This program protects all waters in its regulatory scope, but has special responsibility for wetlands, riparian areas, and headwaters because these water bodies have high resource value, are vulnerable to filling, and are not systematically protected by other programs. The NCRWQCB is involved with protection of special-status species and regulation of hydro-modification effects. The program encourages basin or landscape-level analysis and protection of functions of wetlands, riparian areas, and headwater streams, including pollutant removal, floodwater retention, and habitat connectivity.

Plant Species

The U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Wildlife have regulatory responsibility for the protection of special-status plant species. "Special-status" species are selected for protection because they are rare and/or subject to population and habitat declines. Special-status is a general term for species that are provided varying levels of regulatory protection. The highest level of protection is given to threatened and endangered species; these are species that are formally listed or proposed for listing as endangered or threatened under the Federal Endangered Species Act (FESA) and/or the California Endangered Species Act (CESA). See Section 2.4 Biological Resources—Threatened and Endangered Species in this document for detailed information regarding these species.

This section of the document discusses all the other special-status plant species, including CDFW Species of Special Concern, USFWS candidate species, and California Native Plant Society (CNPS) rare and endangered plants.

The regulatory requirements for FESA can be found at United States Code 16 (USC), § 1531, et seq. See also 50 Code of Federal Regulations (CFR) Part 402. The regulatory requirements for CESA can be found at California Fish and Game Code, § 2050, et seq. Caltrans projects are also subject to the Native Plant Protection Act, found at California Fish and Game Code, §§ 1900–1913, and the California Environmental Quality Act (CEQA), found at California Public Resources Code, §§ 21000–21177.

Animal Species

Many state and federal laws regulate impacts to wildlife. The USFWS, NOAA/National Marine Fisheries Service (NMFS), and CDFW are responsible for implementing these laws. This section discusses potential impacts and permit requirements associated with animals not listed or proposed for listing under the federal or state Endangered Species Acts. Species listed or

proposed for listing as threatened or endangered are discussed in the following section. All other special-status animal species are discussed here, including CDFW fully protected species and SSC, and USFWS or NOAA/NMFS candidate species.

- NEPA, 40 C.F.R. § 1500 through § 1508
- CEQA, California Public Resources Code, §§ 21000–2117
- Migratory Bird Treaty Act, 16 U.S.C. §§ 703–712
- Fish and Wildlife Coordination Act, 16 U.S. Code § 661
- §§ 1600–1603 of the California Fish and Game Code
- §§ 4150 and 4152 of the California Fish and Game Code

Threatened and Endangered Species

The primary laws governing threatened and endangered species include:

- FESA, United States Code 16 (USC), §1531, et seq. See also 50 CFR Part 402
- CESA, California Fish and Game Code, § 2050, et seq.
- CEQA, California Public Resources Code, §§ 21000–21177
- Magnuson-Stevens Fishery Conservation and Management Act, 16 U.S. Code § 1801

The primary federal law protecting threatened and endangered species is FESA: 16 United States Code (USC) § 1531, et seq. See also 50 CFR Part 402. This act and later amendments provide for the conservation of endangered and threatened species and the ecosystems upon which they depend. Under Section 7 of this act, federal agencies, such as the Federal Highway Administration (FHWA) (and Caltrans, as assigned), are required to consult with the USFWS and NMFS to ensure they are not undertaking, funding, permitting or authorizing actions likely to jeopardize the continued existence of listed species or destroy or adversely modify designated critical habitat. Critical habitat is defined as geographic locations critical to the existence of a threatened or endangered species. The outcome of consultation under Section 7 may include a Biological Opinion with an Incidental Take Statement, a Letter of Concurrence, and/or documentation of a no effect finding. Section 3 of FESA defines take as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect or any attempt at such conduct."

California has enacted a similar law at the state level, the California Endangered Species Act (CESA), California Fish and Game Code § 2050, et seq. CESA emphasizes early consultation to avoid potential impacts to rare, endangered, and threatened species and to develop appropriate planning to offset project-caused losses of listed species populations and their essential habitats.

The California Department of Fish and Wildlife is the agency responsible for implementing CESA. Section 2080 of the California Fish and Game Code prohibits "take" of any species determined to be an endangered species or a threatened species. Take is defined in Section 86 of the California Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." CESA allows for take incidental to otherwise lawful development projects; for these actions, an Incidental Take Permit is issued by CDFW. For species listed under both FESA and CESA requiring a Biological Opinion under Section 7 of FESA, the CDFW may also authorize impacts to CESA species by issuing a Consistency Determination (CD) under Section 2080.1 of the California Fish and Game Code.

Another federal law, the Magnuson-Stevens Fishery Conservation and Management Act of 1976 (MSA), was established to conserve and manage fishery resources found off the coast, as well as anadromous species and Continental Shelf fishery resources of the United States, by exercising (A) sovereign rights for the purposes of exploring, exploiting, conserving, and managing all fish within the exclusive economic zone established by Presidential Proclamation 5030, dated March 10, 1983, and (B) exclusive fishery management authority beyond the exclusive economic zone over such anadromous species, Continental Shelf fishery resources, and fishery resources in special areas.

Invasive Species

The primary laws governing invasive species are Executive Order (EO) 13112 and NEPA. On February 3, 1999, President William J. Clinton signed Executive Order 13112 requiring 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." 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.

Environmental Setting

The proposed project is located on SR 20 in a rural, forested area between Willits and Fort Bragg. The entire project is surrounded by the Jackson Demonstration State Forest , which is owned by CAL FIRE. Mendocino County zoned the project area as Timber Production and the Jackson Demonstration State Forest's 2015 land management plan designates the project area as

Older Forest Structure Zone. According to a monitoring station in Willits, the project area receives an average of 51.4 inches of rain per year.

The Environmental Study Limits (ESL) and Biological Study Area (BSA), shown in Figure 4, were established to evaluate the potential presence of Natural Communities of Special Concern (NCSC) and special-status plants and animals. The ESL includes the anticipated work area. The BSA is larger, with a 0.25-mile buffer around the construction area to capture areas theat could be affected by airborne noise. The limits of the BSA were determined by using the *USFWS Guidance: Estimating the Effects of Auditory and Visual Disturbance to Northern Spotted Owl and Marbled Murrelets in Northwestern California* (USFWS 2006).

A Natural Environment Study (NES) (Caltrans 2020a) was prepared for the project. Caltrans coordinated with fisheries biologists and water quality specialists, as well as agency personnel from CDFW, USFWS, and NMFS. See Chapter 3 for a summary of these coordination efforts and professional contacts.

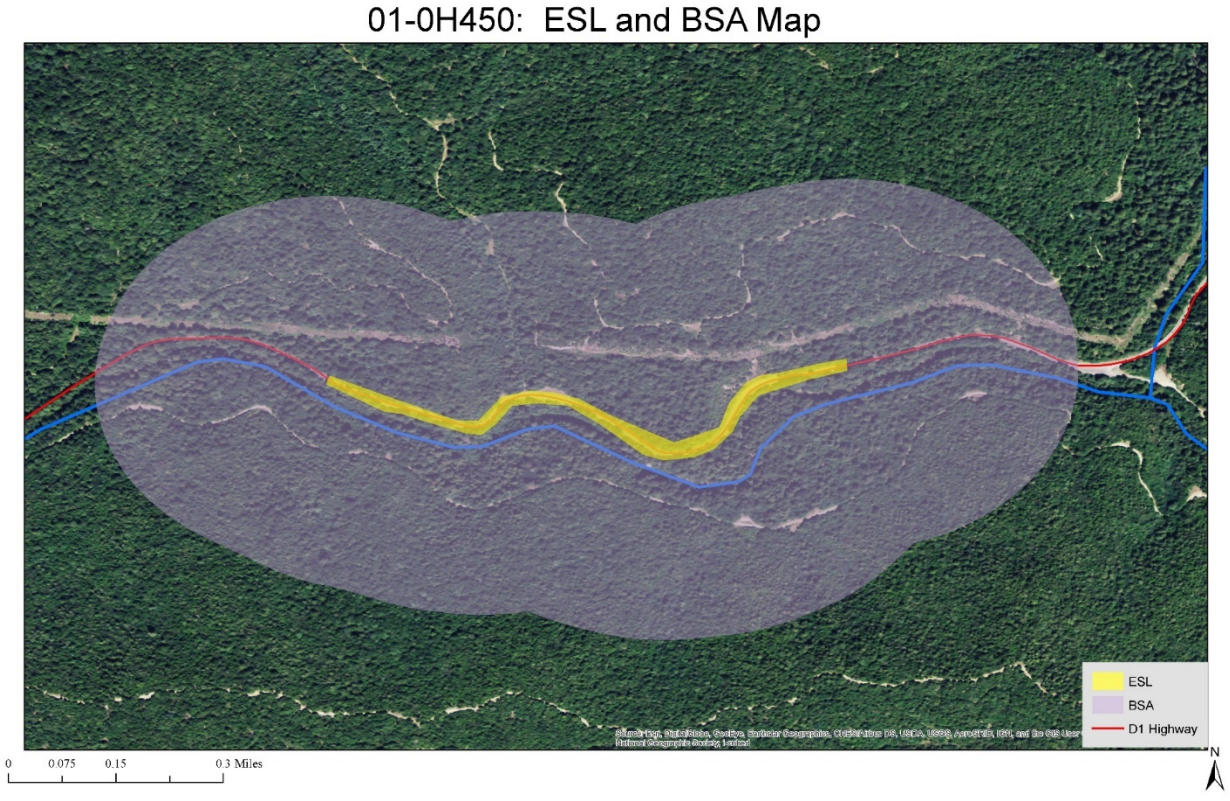

Figure 4. Environmental Study Limits (ESL) and Biological Survey Area (BSA)

Natural Communities

Using the Online Manual of California Vegetation's Key to Alliance, the area within the proposed cut limits keys out to the Douglas-fir–Tanoak Forest Alliance. Douglas-fir–Tanoak Forest is a sensitive natural community (CDFW 2009; CDFW 2020b); therefore, all associations within this alliance are considered sensitive. Additionally, the rank of 3 means the associate is "sensitive". The California Natural Community List contains all associations within the Douglas-fir–Tanoak Forest Alliance, including the Douglas-fir–Tanoak–Huckleberry Association, which is the best fit for the forest in the proposed cut area of the project. This association has a Global rarity rank of G3 and a State rarity rank of S3.

Douglas-fir–Tanoak forests represent a gradation between Douglas-fir (*Pseudotsuga menziesii*) and tanoak (*Notholithocarpus densiflorus*), where each species makes up at least 30 percent canopy cover. Understory vegetation is often sparse. Douglas-fir–tanoak forests generally inhabit well-drained soils derived from sandstone and schist. This alliance occurs throughout the ESL and BSA. Vegetation consists of a dense mixed canopy of Douglas-fir and tanoak, with occasional Pacific madrone (*Arbutus menziesii*) and coastal redwood (*Sequoia sempervirens*) trees.

This project is in a second growth mixed conifer forest. Overstory species in the project area include Douglas-fir, tanoak, coast redwood, and Pacific madrone. The shrub layer comprises redwood manzanita (*Arctostaphylos columbiana*), California blackberry (*Rubus ursinus*), Scotch broom (*Cytisus scoparius*), sword fern (*Polystichum munitum*), and evergreen huckleberry (*Vaccinium ovatum*). Trees range in diameter at breast height (DBH) from approximately 2 inches to approximately 54.8 inches. No broken top snags or trees with prominent cavities that could serve as high quality bird or wildlife habitat were identified within the project limits.

Wetlands and Other Waters

Portions of the project area contain federally and state-recognized jurisdictional wetlands and waters. The culverts at PM 19.25 and PM 19.34 convey water that are considered jurisdictional. The United States Army Corp of Engineers (USACE) regulates waters of the U.S. under Section 404 of the Clean Water Act (CWA) and Section 10 of the Rivers and Harbor Act. Waters of the U.S. include wetlands, special aquatic sites, and other non-wetland waters such as bays, rivers, and lakes.

No work would be conducted in any federally or state-recognized jurisdictional wetlands or waters. Permanent impacts to jurisdictional waters or wetlands are not anticipated.

Plant Species

According to the California Native Plant Society (CNPS) inventory and the California Natural Diversity Database (CNDDB) searches (Appendix C), the project area has the potential to contain several listed plant species. Seasonally-appropriate floristic surveys were conducted according to *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (CDFW 2009).

No special-status plant species were identified within the ESL; species with the potential to occur are discussed in Table 2 below. However, one California Rare Plant Rank (CRPR) 4 species was found: glory brush (*Ceanothus gloriosus* var. *exaltatus*).

Table 2. Plant Species with Potential for Occurrence

Common Name *Scientific Name*	Legal Status Federal/State/ CRPR	Habitat Requirements	Blooming Period	Habitat Present/ Absent[2]	Potential for Occurrence and Rationale
Blasdale's bent grass *Agrostis blasdalei*	–/–/1B.2	Coastal bluff scrub, coastal dunes, coastal prairie, perennial grasslands; 16-1,607 feet. Southern North Coast, northern Central Coast, northern San Francisco Bay regions: Mendocino, Marin, Santa Cruz, San Mateo, and Sonoma Counties. Blooming period is May–July.	May–Jul	Absent*	**None**. Restricted to coastal habitats, suitable habitat not present.
Grass alisma *Alisma gramineum*	–/–/2B.2	Marshes and swamps. Freshwater marsh; 410-5,692 feet.	Jul–Aug	Absent*	**None.** Suitable habitat does not exist within the ESL.
Pygmy manzanita *Arctostaphylos nummularia* ssp. *mendocinoensis*	–/–/1B.2	Closed-cone coniferous forest. Acidic, sandy-clay soils in dwarf coniferous forest; 295-607 feet.	Jan	Absent*	**None.** Suitable habitat does not exist within the ESL.
Humboldt County milk-vetch *Astragalus agnicidus*	–/SE/1B.1	Broad-leaved upland forest, north coast coniferous forest. Disturbed openings in partially timbered forest lands; also along ridgelines; south aspects; 377-2,198 feet.	Apr–Sep	Absent	**Low.** Suitable habitat is present adjacent to the project area but does not exist within the ESL.
Coastal marsh milk-vetch *Astragalus pycnostachyus* var. *pycnostachyus*	–/–/1B.2	Mesic sites in dunes, along streams, and in coastal salt marshes; 0-99 feet.	Jun–Oct	Absent*	**None**. Restricted to coastal habitats, suitable habitat not present.

[2] Species marked with an asterisk are not expected to be present and will not be discussed further in this document.

Common Name *Scientific Name*	Legal Status Federal/State/ CRPR	Habitat Requirements	Blooming Period	Habitat Present/ Absent[2]	Potential for Occurrence and Rationale
Watershield *Brasenia schreberi*	–/–/2B.3	Freshwater marshes and swamps. Aquatic known from water bodies both natural and artificial in California; 3-7,152 feet.	Apr–Oct	Absent*	**None**. Restricted to coastal habitats; suitable habitat not present.
Swamp harebell *Campanula californica*	–/–/1B.2	Fresh emergent wetlands, including bogs, marshes, swamps, and seeps and wet areas in closed-cone coniferous forest, North Coast coniferous forest, and coastal prairie. Below 1,329 feet; North Coast, northern central coast: Marin, Mendocino, Santa Cruz, and Sonoma counties.	Jun–Oct	Absent*	**None.** Suitable habitat is present adjacent to the project area but does not exist within the ESL.
Seaside bittercress *Cardamine angulata*	–/–/2B.2	North Coast coniferous forest and lower montane coniferous forest in wet areas and streambanks; 82-3,002 feet.	(Jan) Mar–Jul	Absent*	**Low.** Suitable habitat is present adjacent to the project area but does not exist within the ESL.
California sedge *Carex californica*	–/–/2B.3	Bogs and fens, closed cone coniferous forest, coastal prairie, meadows and seeps, marsh and swamp margins; 295-1,099 feet. Mendocino County; Idaho, Oregon, Washington.	May–Aug	Absent*	**None.** Suitable habitat is present adjacent to the project area but does not exist within the ESL.
Lagoon sedge *Carex lenticularis* var. *limnophila*	–/–/2B.2	North Coast coniferous forest on lakeshores and beaches, often in gravelly substrates; 0-2 feet.	Jun–Aug	Absent*	**None.** Restricted to coastal habitats, suitable habitat not present.
Bristle-stalked sedge *Carex leptalea*	–/–/2B.2	Bogs and fens, mesic meadows and seeps, marshes and swamps; below 2,297 feet.	Mar–Jul	Absent*	**None.** Restricted to coastal habitats, suitable habitat not present.
Lyngbye's sedge *Carex lyngbyei*	–/–/2B.2	Brackish or freshwater marshes and swamps; 0-3 feet.	Apr–Aug	Absent*	**None.** Restricted to coastal habitats, suitable habitat not present.

Common Name *Scientific Name*	Legal Status Federal/State/ CRPR	Habitat Requirements	Blooming Period	Habitat Present/ Absent[2]	Potential for Occurrence and Rationale
Northern meadow sedge *Carex praticola*	–/–/2B.2	Moist to wet meadows; 0–10,500 feet.	May–Jul	Absent*	**None.** Suitable habitat is present adjacent to the project area but does not exist within the ESL.
Deceiving sedge *Carex saliniformis*	–/–/1B.2	Moist areas in coastal prairie, coastal scrub, meadows, coastal salt marshes, and swamps; 10-755 feet. North Coast, Central Coast in Humboldt, Mendocino, Santa Cruz*, and Sonoma counties.	May–Jun (Jul)	Absent*	**None.** Restricted to coastal habitats, suitable habitat not present.
Green yellow sedge *Carex viridula* ssp. *viridula*	–/–/2B.3/–	Freshwater bogs, fens, marshes, and swamps in North Coast coniferous forest; 0-5,249 feet.	(Jun) Jul–Sep (Nov)	Absent*	**None.** Suitable habitat is present adjacent to the project area but does not exist within the ESL.
Humboldt Bay owl's-clover *Castilleja ambigua* var. *humboldtiensis*	–/–/1B.2	Coastal saltmarsh with *Spartina, Distichlis, Salicornia, Jaumea*, in marshes and swamps; 0-10 feet.	Apr–Aug	Absent*	**None.** Restricted to coastal habitats, suitable habitat not present.
Mendocino coast paintbrush *Castilleja mendocinensis*	–/–/1B.2	Sea bluffs or cliffs in coastal bluff scrub or prairie, in coastal bluff scrub, coastal scrub, coastal prairie, closed-cone coniferous forest, and coastal dunes; 0–525 feet.	Apr–Aug	Absent*	**None.** Restricted to coastal habitats, suitable habitat not present.
Glory brush *Ceanothus gloriosus* var. *exaltatus*	–/–/4.3	Sandy soils exhibiting topographical features including bluffs, shrubby slopes, and ridges; 100-2,000 feet.	Mar–June	**Present**	**High.** Plant detected in botanical surveys.
Point Reyes salty bird's-beak *Chloropyron maritimum* ssp. *palustre*	–/–/1B.2	Coastal salt marsh, often with *Salicornia, Distichlis, Jaumea, Spartina,* etc.; 0–65 feet.	Jun–Oct	Absent*	**None.** Restricted to coastal habitats, suitable habitat not present.
Round-headed Chinese-houses *Collinsia corymbosa*	–/–/1B.2	Coastal dunes; 0–65 feet.	Apr–Jun	Absent*	**None.** Restricted to coastal habitats, suitable habitat not present.

Common Name *Scientific Name*	Legal Status Federal/State/ CRPR	Habitat Requirements	Blooming Period	Habitat Present/ Absent[2]	Potential for Occurrence and Rationale
Bunchberry *Cornus canadensis*	–/–/2B.2	North Coast coniferous forest, bogs and fens, meadows and seeps, 197–6,300 feet.	May–Jul	Absent*	**Low.** Suitable habitat is present adjacent to the project area but does not exist within the ESL.
Black crowberry *Empetrum nigrum*	–/–/2B.2	Coastal bluff scrub and coastal prairie; 328–656 feet.	Apr–Jun	Absent*	**None.** Restricted to coastal habitats, suitable habitat not present.
Bluff wallflower *Erysimum concinnum*	–/–/1B.2	Coastal bluff scrub, coastal dunes, coastal prairie; 0-607 feet. Coastal Del Norte, Humboldt, Mendocino, Marin, and Sonoma counties.	Feb–July.	Absent*	**None.** Suitable habitat does not exist within the ESL.
Coast fawn lily *Erythronium revolutum*	–/–/2B.2	Mesic sites and streambanks in bogs and fens, broad-leaved upland forest, and North Coast coniferous forest; below 5,250 feet.	Mar–Jul (Aug)	Absent*	**Low.** Suitable habitat does not exist within the ESL.
Pacific gilia *Gilia capitata* ssp. *pacifica*	–/–/1B.2	Coastal bluff scrub, chaparral, coastal prairie, valley and foothill grassland; 16-4,364 feet.	Apr–Aug	Absent*	**Low.** Suitable habitat is present adjacent to the project area but does not exist within the ESL.
Dark-eyed gilia *Gilia millefoliata*	–/–/1B.2	Coastal dunes; 3-98 feet.	Apr–Jul	Absent*	**None.** Restricted to specific coastal habitats; suitable habitat not present.
Congested-headed hayfield tarplant *Hemizonia congesta ssp. congesta*	–/–/1B.2	Valley and foothill grassland. Valley and foothill grassland. Grassy valleys and hills, often in fallow fields; sometimes along roadsides; 16-1,706 feet.	Apr–Nov	Absent*	**Low.** No habitat in the BSA.
Short-leaved evax *Hesperevax sparsiflora* var. *brevifolia*	–/–/1B.2	Coastal bluff scrub, coastal dunes, and coastal prairie on sandy bluffs and flats; 0-705 feet.	Mar–Jun	Absent*	**None.** Restricted to specific coastal habitats; suitable habitat not present.

Common Name *Scientific Name*	Legal Status Federal/State/ CRPR	Habitat Requirements	Blooming Period	Habitat Present/ Absent[2]	Potential for Occurrence and Rationale
Pygmy cypress *Hesperocyparis pygmaea*	–/–/1B.2	Coastal terraces, closed-cone and pygmy cypress coniferous forest, on podzol-like Blacklock soil; 98-1,969 feet. North Coast: Mendocino and Sonoma counties.	Not Applicable	Absent*	**Low.** Restricted to specific coastal habitats; suitable habitat not present.
Glandular western flax *Hesperolinon adenophyllum*	–/–/1B.2	Chaparral, cismontane woodland, valley and foothill grassland. Serpentine soils; generally found in serpentine chaparral;1,394-4,413 feet.	May–Aug	Absent*	**Low.** Suitable habitat does not exist within the ESL.
Thin-lobed horkelia *Horkelia tenuiloba*	–/–/1B.2	Moist openings on sandy soils in chaparral, broadleaved upland forest, valley and foothill grassland; 160-1,640 feet. Scattered occurrences in Mendocino, Marin, and Sonoma counties.	May–July	Absent*	**Low.** Suitable habitat does not exist within the ESL.
Point Reyes horkelia *Horkelia marinensis*	–/–/1B.2	Coastal dunes, coastal prairie, coastal scrub. Sandy flats and dunes near coast; in grassland or scrub plant communities. 7-2,443 feet.	May–Sep	Absent*	**Low.** Restricted to specific coastal habitats; suitable habitat not present.
California globe mallow *Iliamna latibracteata*	–/–/1B.2	Seepage areas in silty clay loam in North Coast coniferous forest, chaparral, lower montane coniferous forest, and riparian scrub (streambanks); 197-6,562 feet.	Jun–Aug	Absent*	**Low.** Suitable habitat is present adjacent to the project area but does not exist within the ESL.
Small groundcone *Kopsiopsis hookeri*	–/–/2B.3	Open woods and shrubby places, generally with Gaultheria shallon, in North Coast coniferous forest; 295-2,904 feet.	Apr–Aug	Absent*	**Low.** Suitable habitat is present adjacent to the project area but does not exist within the ESL.
Burke's goldfields *Lasthenia burkei*	FE/SE/1B.1	Vernal pools, meadows, and seeps. Most often in vernal pools and swales; 5-1,902 feet.	Jun–Aug	Absent*	**None.** Suitable habitat does not exist within the ESL.

Common Name *Scientific Name*	Legal Status Federal/State/ CRPR	Habitat Requirements	Blooming Period	Habitat Present/ Absent[2]	Potential for Occurrence and Rationale
Contra Costa goldfields *Lasthenia conjugens*	FE/–/1B.1	Wet areas in cismontane woodland, valley and foothill grassland, vernal pools, alkaline playas or saline vernal pools and swales; below 1,542 feet. Scattered occurrences in Coast Range valleys and southwest edge of Sacramento Valley, Alameda, Contra Costa, Mendocino, Monterey, Marin, Napa, Santa Barbara, Santa Clara*, Solano and Sonoma counties.	Mar–Jun	Absent*	**None.** Suitable habitat does not exist within the ESL.
Coast lily *Lilium maritimum*	–/–/1B.1	Broad-leaved upland forest, closed-cone pine-cypress forest, coastal prairie, coastal scrub, freshwater marshes and swamps, perennial grassland, North Coast coniferous forest, often in roadside ditches; 16-1,558 feet. North Coast in Mendocino, Marin, San Francisco, San Mateo, and Sonoma counties.	May–Aug	Absent*	**None.** Suitable habitat does not exist within the ESL.
Howell's montia *Montia howellii*	–/–/2B.2	Vernally wet sites; often on compacted soil, in meadows and seeps, North Coast coniferous forest, and vernal pools; 0–2,740.	(Jan–Feb) Mar–May	Absent*	**Low.** Suitable habitat is present adjacent to the project area but does not exist within the ESL.
Seacoast ragwort *Packera bolanderi* var. *bolanderi*	–/–/2B.2	Coastal scrub and North Coast coniferous forest, sometimes along roadsides; 98-2,133 feet.	(Jan–Apr) May–Jul (Aug)	Absent*	**Low.** Suitable habitat is present adjacent to the project area but does not exist within the ESL.
Bolander's beach pine *Pinus contorta ssp. Bolanderi*	–/–/1B.1	Closed-cone pine-cypress forest, on podzol-like soil; 246-820 feet. Known only from the white sand pine barrens along the Mendocino coast.	?	Absent*	**Low.** Restricted to specific coastal habitats; suitable habitat not present.

Common Name *Scientific Name*	Legal Status Federal/State/ CRPR	Habitat Requirements	Blooming Period	Habitat Present/ Absent[2]	Potential for Occurrence and Rationale
White-flowered rein orchid *Piperia candida*	–/–/1B.2	Forest duff, mossy banks, rock outcrops, and muskeg, sometimes on serpentine, in North Coast coniferous forest, lower montane coniferous forest, broad-leaved upland forest; 98-4,298 feet.	(Mar) May–Sep	Absent*	**Low.** Suitable habitat is present adjacent to the project area but does not exist within the ESL.
North Coast semaphore grass *Pleuropogon hooverianus*	–/ST/1B.1	Open areas, moist grassy sometimes shaded areas, in broad-leaved upland forest, meadows and seeps, North Coast coniferous forest, vernal pools; 33-2,201 feet. Scattered locations in Mendocino, Marin, and Sonoma counties.	Apr–Jun	Absent*	**None.** Suitable habitat does not exist within the ESL.
White-beaked rush *Rhynchospora alba*	–/–/2B.2	Bogs and fens, meadows and seeps, freshwater marshes, and swamps; 60-2,040 feet. Scattered localities in northern California: Mendocino, Nevada, Plumas, Sonoma, and Trinity counties; Oregon and elsewhere.	Jul–Aug	Absent*	**None.** Suitable habitat does not exist within the ESL.
Great burnet *Sanguisorba officinalis*	–/–/2B.2	Rocky serpentine seepage areas and along streams; in bogs and fens, meadows, and seeps, broad-leaved upland forest, marshes and swamps, North Coast coniferous forest, and riparian forest; 197-4,593 feet.	Jul–Oct	Absent*	**None.** No serpentinite substrates present.
Point Reyes checkerbloom *Sidalcea calycosa ssp. rhizomata*	–/–/1B.2	Freshwater wetlands, including marshes, swamps and seeps, near the coast; 10-246 feet. North Coast and northern central coast, Mendocino, Marin, and Sonoma counties.	Apr–Sep	Absent*	**Low.** Suitable habitat does not exist within the ESL.

Common Name *Scientific Name*	Legal Status Federal/State/ CRPR	Habitat Requirements	Blooming Period	Habitat Present/ Absent[2]	Potential for Occurrence and Rationale
Coast checkerbloom *Sidalcea oregana* ssp. *eximia*	–/–/1B.2	Near meadows, in gravelly soil, in meadows and seeps, North Coast coniferous forest, and lower montane coniferous forest; 16–4,429 feet.	Jun–Aug	Absent*	**Low.** Suitable habitat is present adjacent to the project area but does not exist within the ESL.
Santa Cruz clover *Trifolium buckwestiorum*	–/–/1B.1	Moist grassy areas on margins of broad-leaved upland forest, cismontane woodland, and coastal prairie, sometimes in disturbed areas; 340-2,000 feet. San Francisco Bay area and central coastal California in Mendocino, Santa Cruz, and Sonoma counties.	Apr–Oct	Absent*	**Low.** Suitable habitat is present adjacent to the project area but does not exist within the ESL.
Showy Indian clover *Trifolium amoenum*	FE/–/1B.1	Low elevation grasslands, including swales and disturbed areas, sometimes on serpentinite soils; 15-1,350 feet. Coast Range foothills in the San Francisco Bay region, currently known from only two recent occurrences in Marin County.	Apr–Jun	Absent*	**None.** Suitable habitat is present adjacent to the project area but does not exist within the ESL.
Monterey clover *Trifolium trichocalyx*	FE/SE/1B.1	Sandy areas in openings and burned areas in closed-cone coniferous forest; 98-787 feet. Monterey County; recently discovered in Big River Forest in Mendocino County; possible of hybrid origin.	Apr–Jun	Absent	**Low.** Burned areas do not exist within the ESL. Surveys did not detect this species.
Minute pocket moss *Fissidens pauperculus*	–/–/1B.2	Damp soil along the coast, in dry streambeds and on streambanks, in North Coast coniferous forest; 33-3,360 feet.	N/A	Absent*	**None.** Suitable habitat is present adjacent to the project area but does not exist within the ESL.

Common Name *Scientific Name*	Legal Status Federal/State/ CRPR	Habitat Requirements	Blooming Period	Habitat Present/ Absent[2]	Potential for Occurrence and Rationale
Angel's hair lichen *Ramalina thrausta*	–/–/2B.1	On dead twigs and other lichens in North Coast coniferous forest; 247-1,411 feet.	N/A	Absent*	**Low.** Suitable habitat is present adjacent to the project area but does not exist within the ESL.

Federal:

– = No status definition. FE = Endangered. FPT = Proposed for federal listing as threatened under the Federal Endangered Species Act. FT = Listed as threatened under the Federal Endangered Species Act. FC = Candidate for Federal listing (taxa for which the U.S. Fish and Wildlife Service has sufficient biological information to support a proposal to list as Endangered or Threatened). DL = Delisted.

State:

– = No status definition. SE = Listed as endangered under the California Endangered Species Act. ST = Listed as threatened under the California Endangered Species Act. SC = Proposed for state listing as threatened under the California Endangered Species Act. FP = Fully protected, species may not be taken or possessed without a permit from the FG Commission and/or the CDFW. SSC = Species of Special Concern.

CNDDB California Rare Plant Rank (CRPR):

– = No status definition. Rank 1A = Plants presumed extinct in California and rare or extinct elsewhere. Rank 1B = Plants are rare and endangered in California. Rank 2A = Plants presumed extirpated (regionally extinct) in California. Rank 2B = Plants common in California but rare elsewhere. Source: CNPS 2020; CDFW 2020b; USFWS 2020.

"Potential for Occurrence" within the study area, unless noted within the analysis, is derived from the following formula:

None: Species, habitat, or community was not observed during biological field surveys conducted at an appropriate time for identification of the species; or species is restricted to habitats that do not occur within the Study Area.

Low: No records exist of the species occurring within the Study Area or its "vicinity" (within 5 miles); or on-site habitats needed to support the species are of poor quality.

Moderate: Both a historical record exists of the species within the vicinity of the Study Area and the habitat requirements associated with the species occur within the Study Area. The validity of a historical occurrence is weighted by the condition of on-site habitat at the time of occurrence versus existing habitat conditions.

High: Both a valid historical record exists of the species within the Study Area or its "immediate vicinity" (within 1 mile) and the habitat requirements associated with the species occur within the Study Area and are of high quality.

Observed: Species, habitat, or community was observed within the Study Area at the time of the biological field survey

Glory Brush

Glory brush (*Ceanothus gloriosus* var. *exaltatus*) is not currently listed by state or federal laws, however is considered a special-status plant due to its 4.3 rarity ranking by CNPS. It is a shrub that can grow up to a height of 7 feet and produces lavender colored flowers. This species is in bloom from March to June (occasionally August). Glory brush typically grows on sandy soils exhibiting topographical features including bluffs, shrubby slopes, and ridges (CNPS 2020). This species is endemic to California and found in elevations ranging from 100 to 2,000 feet above mean sea level. It is documented in several locations in Mendocino County, but only within two watersheds.

Seasonally-appropriate floristic surveys were completed within the BSA in 2019 for glory brush and other regionally-occurring special-status plants. Seven to ten glory brush plants were noted within the ESL during the field surveys. The observations occurred between PM 19.35 and PM 19.50 on the westbound side of the roadway. The plants were observed in the cut zone of the project.

Animal Species

Animals are considered "species of special concern" (SSC) based on (1) federal, state, or local laws regulating their development; (2) limited distributions; and/or (3) the habitat requirements of special-status animals occurring on-site. Several special-status animal species could potentially be present within the BSA. Special-status species occurrences within the region are included on the CNDDB query and USFWS and NMFS species lists (Appendix C). Species listed or proposed for listing as state threatened or state endangered by regulatory agencies are discussed in the next section, while all other special-status animal species are discussed in this section, including CDFW SSC. All listed and sensitive species are discussed below (Table 3). Special-status species with no potential to occur in the project area are not discussed further.

Table 3. Animal Species with Potential for Occurrence

Common Name *Scientific Name*	Legal Status Federal/State	General Range and Habitat Description	Habitat Present/ Absent[3]	Potential for Occurrence and Rationale
Pacific tailed frog *Ascaphus truei*	–/SSC	Occurs in coastal northern California and inland to Big Bend in Shasta County and north in the Cascade Mountains. Restricted to montane cold, clear, rocky perennial streams in wet forests; tadpoles require water below 59° F.	Absent*	**Low.** Suitable habitat is present adjacent to the project area but does not exist within the ESL.
Northern red-legged frog *Rana aurora*	–/SSC	Occurs in coastal northern California; Mendocino County through Oregon and Washington; humid forests, woodlands, and streams with plant cover. Often found in woods adjacent to streams. Breeding habitat is in permanent water sources; lakes, ponds, reservoirs, slow streams, marshes, bogs, and swamps.	**Present**	**Moderate.** No suitable breeding habitat occurs in the ESL. Suitable dispersal habitat is present in the ESL.
Red-bellied newt *Taricha rivularis*	–/SSC	California endemic. Occurs in coastal southern Humboldt County, as well as Sonoma, Lake, and Mendocino counties at elevations from 492 feet to 1,476 feet. Typically found in coastal redwood although it also uses Douglas-fir, tan oak, and madrone forests. Moderate to fast-flowing streams with rocky substrates are used for breeding.	**Present**	**Moderate.** No suitable breeding habitat occurs in the ESL. Suitable dispersal habitat is present in the ESL.

[3] Species marked with an asterisk are not expected to be present and will not be discussed further in this document.

Common Name *Scientific Name*	Legal Status Federal/State	General Range and Habitat Description	Habitat Present/ Absent[3]	Potential for Occurrence and Rationale
California red-legged frog *Rana draytonii*	FT/SSC	Found along the coast and coastal mountain ranges of California from Mendocino to San Diego County and in the Sierra Nevada from Butte to Tuolumne County. Inhabits permanent and semi-permanent aquatic habitat, including creeks and ponds with emergent vegetation. Uses upland areas adjacent to aquatic habitat for cover (small mammal burrows, logs, rocks, leaf litter) and dispersal.	Absent*	**None.** This location is outside the current range of this species.
Foothill yellow-legged frog, North Coast population *Rana boylii*	–/SSC	Occurs throughout the North and South Coast Ranges, south to the Transverse Range, across northern California to the west slope of the Cascade Range, and south through the foothills of the Sierra Nevada. Inhabits forest streams and rivers (both perennial and intermittent) with sunny, sandy, and rocky banks, with deep pools, and shallow riffles.	Absent	**Low.** Suitable habitat is present adjacent to the project area but does not exist within the ESL. FYLF may temporarily disperse through the ESL.
Rhyacotriton variegatus Southern torrent salamander	–/SSC	Found in coastal drainages from southern Mendocino County north to Oregon; prefers cold shaded streams and seeps, often with rocks and talus, usually on north-facing slopes.	Absent*	**Low.** Suitable habitat is present adjacent to the project area but does not exist within the ESL.

Common Name *Scientific Name*	Legal Status Federal/State	General Range and Habitat Description	Habitat Present/ Absent[3]	Potential for Occurrence and Rationale
Western pond turtle *Emys marmorata*	–/SSC	Occurs throughout California west of the Sierra-Cascade crest; found from sea level to 6,000 feet; occupies ponds, marshes, rivers, streams, and irrigation canals with muddy or rocky bottoms.	Absent*	**Low.** Suitable habitat is present adjacent to the project area but does not exist within the ESL.
Northern goshawk *Accipiter gentilis*	–/SSC (Nesting)	Permanent resident in the North Coast Ranges from Del Norte to Mendocino counties, and in the Sierra Nevada south to Kern County; winters in Modoc, Lassen, Mono, and northern Inyo counties. Nests in mature and old-growth forest stands with large trees, high canopy cover, and open understory; forages in mature and old-growth forests with relatively dense canopy, but also enters adjacent open habitats.	**Present**	**Moderate.** Suitable habitat is present adjacent to the project area but does not exist within the ESL.
Tricolored blackbird *Agelaius tricolor*	–/SE	Highly colonial species, most numerous in Central Valley and vicinity. Largely endemic to California. Requires open water, protected nesting substrate, and foraging area with insect prey within a few km of the colony.	Absent*	**None.** No suitable breeding or foraging habitat in or adjacent to the ESL.
Marbled murrelet *Brachyramphus marmoratus*	FT/SE	Occurs in coastal western United States. A small seabird that nests in California in stands of old-growth redwood and other types of conifer forest.	**Present**	**Moderate.** Suitable habitat is present adjacent to the project area but does not exist within the ESL.

Common Name *Scientific Name*	Legal Status Federal/State	General Range and Habitat Description	Habitat Present/ Absent[3]	Potential for Occurrence and Rationale
Western snowy plover *Charadrius nivosus nivosus*	FT/SSC	Found adjacent to tidal waters of the West Coast; breeds above the high tide line on coastal beaches, sand spits, dune-backed beaches, sparsely vegetated dunes, beaches at creek and river mouths, and salt pans.	Absent*	**None.** No suitable breeding or foraging habitat in or adjacent to the ESL.
Yellow-billed cuckoo *Coccyzus americanus occidentalis*	FT/SE	Nests along the upper Sacramento, lower Feather, south fork of the Kern, Amargosa, Santa Ana, and Colorado rivers. Requires wide, dense riparian forests/woodlands with a thick understory of willows for nesting; sites with a dominant cottonwood overstory are preferred for foraging; may avoid valley-oak riparian habitats where scrub jays are abundant.	Absent*	**None.** No suitable nesting or foraging habitat in or adjacent to the ESL.
White-tailed kite *Elanus leucurus*	–/FP	Lowland areas west of Sierra Nevada from the head of the Sacramento Valley south, including coastal valleys and foothills to western San Diego County at the Mexico border. Low foothills or valley areas with valley or live oaks, riparian areas, and marshes near open grasslands for foraging.	Absent*	**Low.** No suitable nesting in or foraging habitat in or adjacent to the ESL.
American peregrine falcon *Falco peregrinus anatum*	DL/FP	Ranges throughout most of California, in mountain ranges, river valleys, coastlines, and increasingly in cities. Typical nest site is a ledge on a high cliff, but also uses large bridges.	Absent	**None.** No suitable nesting habitat in or adjacent to the ESL.

Common Name *Scientific Name*	Legal Status Federal/State	General Range and Habitat Description	Habitat Present/ Absent[3]	Potential for Occurrence and Rationale
Bald Eagle *Haliaeetus leucocephalus*	DL/SE	Ocean shore, lake margins, and rivers for both nesting and wintering. Most nests within 1 mile of water. Nests in large, old-growth or dominant live tree with open branches, especially ponderosa pine. Roosts communally in winter	Absent	**Low.** No suitable nesting or foraging habitat was found in the ESL.
Purple martin *Progne subis*	–/SSC	Inhabits woodlands, low elevation coniferous forest of Douglas-fir, ponderosa pine, and Monterey pine. Nests in old woodpecker cavities mostly; also, in human-made structures. Nests are often located in tall, isolated tree/snag.	Absent*	**Low.** No suitable nesting habitat in or adjacent to the ESL.
Northern spotted owl *Strix occidentalis caurina*	FT/ST	Found in old-growth conifer forest with moderate to high canopy closure, a multi-layered and multi-species canopy with large overstory trees, a high incidence of large trees with various deformities (e.g., large cavities, broken tops, mistletoe infections, and debris accumulations), and sufficient open space below the canopy for owls to fly. Nests in dense old-growth forest in in tree cavities or on overgrown, broken treetops.	**Present**	**Moderate.** Suitable habitat is present adjacent to the project area but does not exist within the ESL.

Common Name *Scientific Name*	Legal Status Federal/State	General Range and Habitat Description	Habitat Present/ Absent[3]	Potential for Occurrence and Rationale
Pallid bat *Antrozous pallidus*	–/SSC	Occurs throughout California except for the high Sierra Nevada from Shasta to Kern counties, and the northwestern corner of the state from Del Norte and western Siskiyou counties to northern Mendocino County. Habitat types include grasslands, shrublands, woodlands, and forests from sea level up through mixed conifer forests. Most common in open, dry habitats with rocky areas for roosting.	**Present**	**Moderate.** Suitable foraging habitat within the BSA. No known roosting habitat in ESL. This species may forage in the ESL.
Sonoma tree vole *Arborimus pomo*	–/SSC	Endemic to California; from Sonoma County, north through Mendocino, Humboldt, and western Trinity counties to the South Fork of the Smith River, Del Norte County; poorly known; occurs in mixed evergreen forests; may prefer wet and mesic old-growth Douglas-fir forest.	**Present**	**Moderate.** Suitable habitat is present in the BSA and ESL.
Ring-tailed cat *Bassariscus astutus*	–/FP	Known from Humboldt County, occurs in riparian forests, conifer forest and shrub habitat types. Dens in rock crevices, tree hollows, or under cliffs.	**Present**	**Moderate.** Suitable foraging and dispersal habitat present in the BSA. No suitable denning habitat present.

Common Name *Scientific Name*	Legal Status Federal/State	General Range and Habitat Description	Habitat Present/ Absent[3]	Potential for Occurrence and Rationale
Townsend's big-eared bat *Corynorhinus townsendii*	–/SSC	Primarily roosts in caves and cave-like roosting habitat, such as tunnels and mines. Very sensitive to disturbances and may abandon a roost after one on-site visit. Reported to use buildings in the northern and coastal portions of range. Also reported to use bridges and hollow trees as roost sites. In California, occurs in inland deserts, moist cool redwood forests, oak woodlands of the inner Coast Ranges and Sierra Nevada foothills, and low to mid-elevation mixed conifer forests.	**Present**	**Moderate.** Suitable foraging habitat within the BSA. No known roosting habitat in ESL. This species may forage in the ESL.
Pacific Fisher, West Coast DPS *Pekania pennanti*	FPT/SSC	Distributed throughout the northern Coast Ranges, Cascade Range, Klamath Range, and southern Sierra Nevada. Inhabits forests with diverse successional stages with mostly mid- and late-successional stages and high percent canopy closure. Requires tree or snag cavities for denning, in large-diameter trees.	**Present**	**Moderate.** Suitable foraging and denning habitat present in the BSA. No suitable denning habitat present in the ESL.
Western bumblebee *Bombus occidentalis*	–/SC	Populations of central California, Oregon, Washington, and southern British Columbia have largely disappeared. Generalist foragers using a variety of flower types. Found in a variety of habitat types and forage/pollinate a wide range of plant species. Construct hives in underground burrows or crevices.	Absent	**Low.** Suitable habitat is present adjacent to the project area but does not exist within the ESL.

Common Name *Scientific Name*	Legal Status Federal/State	General Range and Habitat Description	Habitat Present/ Absent[3]	Potential for Occurrence and Rationale
Lotis blue butterfly *Plebejus ida lotis*	FE/–	Inhabits wet meadows or poorly drained sphagnum-willow bogs, where soils are waterlogged and acidic; north coastal California.	Absent*	**None.** Project location is outside the known range of this species.
Behren's silverspot butterfly *Speyeria zerene behrensii*	FE/–	Pacific side of the Coast Ranges from Point Arena County to Cape Mendocino, Mendocino County. Coastal terrace prairie where larval host plants of *Viola adunca, V. Cuneata, V. lobata, V. nuttalii or V. purpurea* are present.	Absent*	**None.** Project location is outside the known range of this species.
Pacific lamprey *Entosphenus tridentatus*	–/SSC	Requires cold, clean water and gravel for spawning and soft substrate for ammocoetes to burrow into, with slower water velocity areas, such as backwaters.	Absent*	**Low.** No suitable habitat within the ESL.
Tidewater goby *Eucyclogobius newberryi*	FE/SSC	Coastal lagoons, estuaries, and marshes in California from mouth of Smith River (Del Norte County) to Agua Hedionda Lagoon (San Diego County). Brackish water in shallow lagoons and lower stream reaches with minimal current.	Absent*	**None.** No suitable habitat within or adjacent to the ESL.
Navarro roach *Lavinia symmetricus navarroensis*	–/SSC	Habitat generalists. Found in warm, intermittent streams as well as cold, well-aerated streams.	Absent*	**Low.** Suitable habitat is present adjacent to the project area but does not exist within the ESL.
Coastal cutthroat trout *Oncorhynchus clarkii*	–/SSC	Found in small, low gradient coastal streams that are cool, shaded, with cover. Also found in estuaries. They are anadromous, but strongly associated with fresh water.	Absent*	**Low.** No suitable habitat within the ESL.

Common Name *Scientific Name*	Legal Status Federal/State	General Range and Habitat Description	Habitat Present/ Absent[3]	Potential for Occurrence and Rationale
Coho salmon, Central California Coast ESU *Oncorhynchus kisutch*	FE/SE	Requires cold, clean water and gravel for spawning and rearing, with cover for velocity and predator refuge. This ESU includes coho salmon populations between Punta Gorda, California, and Santa Cruz, California.	**Present**	**Low.** Suitable habitat is present within BSA, but species does not exist within the ESL.
Steelhead, Northern California DPS *Oncorhynchus mykiss irideus*	FT/–	Found in cool, clear, fast-moving perennial streams with riffles, pools, and dense riparian cover. The Northern California Steelhead DPS includes coastal rivers and streams from Redwood Creek (Humboldt County) to the Gualala River (Sonoma County).	**Present**	**Low.** Suitable habitat is present within BSA, but species does not exist within the ESL.
Chinook salmon, California Coast ESU *Oncorhynchus tshawytscha*	FT/–	Requires cold, clean water and gravel for spawning and rearing, with cover for velocity and predator refuge. This ESU includes coastal rivers and streams from Redwood creek (Humboldt County) to the Russian River (Sonoma County). Includes fall-run Chinook salmon in coastal streams and lower Klamath River.	Absent*	**None.** Suitable habitat is present downstream of the project area, but species does not exist within the ESL.
Eulachon, southern DPS *Thaleichthys pacificus*	FT/-	Spawns in lower reaches of rivers during peak spring flow events. Adults in the southern DPS are semelparous. Needs sand or coarse gravel for spawning substrate. Larvae are transported to estuaries and then to the ocean.	Absent*	**None.** No suitable habitat within the ESL.

Federal**:* – = No status definition. ***FE = Endangered. ***FPT*** = Proposed for listing as threatened under the Federal Endangered Species Act. ***FT*** = Listed as threatened under the Federal Endangered Species Act. ***FC*** = Candidate for federal listing (taxa for which the U.S. Fish and Wildlife Service has sufficient biological information to support a proposal to list as Endangered or Threatened). ***DL*** = Delisted.

State: – = No status definition***.*** ***SE*** = Listed as endangered under the California Endangered Species Act***.*** ***ST*** = Listed as threatened under the California Endangered Species Act***.*** ***SC*** = Proposed for state listing as threatened under the California Endangered Species Act***.*** ***FP*** = Fully protected, species may not be taken or possessed without a permit from the FG Commission and/or the CDFW. ***SSC*** = Species of Special Concern

"Potential for Occurrence," unless noted within the analysis, is derived from the following formula:

None: Species, habitat, or community was not observed during biological field surveys conducted at an appropriate time for identification of the species; or species is restricted to habitats that do not occur within the Study Area.

Low: No records exist of the species occurring within the Study Area or its "vicinity" (within 5 miles); or on-site habitats needed to support the species are of poor quality.

Moderate: Both a historical record exists of the species within the vicinity of the Study Area and the habitat requirements associated with the species occur within the Study Area. The validity of a historical occurrence is weighted by the condition of on-site habitat at the time of occurrence versus existing habitat conditions.

High: Both a valid historical record exists of the species within the Study Area or its "immediate vicinity" (within 1 mile) and the habitat requirements associated with the species occur within the Study Area and are of high quality.

Observed: Species, habitat, or community was observed within the Study Area at the time of the biological field survey.

American Peregrine Falcon

American peregrine falcon (*Falco peregrinus*) is a CDFW fully protected species. The peregrine falcon feeds mainly on birds (doves, shorebirds, pigeons, ducks), as well as some mammals, such as bats, rabbits, and rodents, and occasionally insects, reptiles, and fish. Peregrine falcons are usually found alone or in breeding pairs, with each pair maintaining a breeding territory and often remaining together throughout the year. Nesting in northern California may begin in March, with young leaving the nest by early July. Although peregrine falcons often nest on cliff faces, they will select a wide variety of other structures for nest sites, including buildings, bridges, electrical transmission structures, and occasionally the abandoned nests of large raptors or ravens.

No species-specific surveys were performed for this species. CNDDB lists one observation approximately 10.69 miles to the southeast of the ESL. No peregrine falcons or potential nests were observed in the BSA.

Bald Eagle

Though the bald eagle (*Haliaeetus leucocephalus*) was delisted from federal status, it is still considered state endangered and is also classified as state fully protected. It remains federally protected by the Bald and Golden Eagle Protection Act (16 U.S.C. §668). Bald eagles typically nest in large trees within one mile of fishable waters, within or directly adjacent to forests with large trees that provide suitable nesting structures. Active breeding occurs February through August. Bald eagles are known to feed on a wide variety of fish, small mammals, amphibians, reptiles, and small birds. They are also documented to scavenge for food and eat carrion. In Mendocino County, bald eagles are strongly tied to open water and undisturbed shorelines. River corridors and estuaries attract scattered individuals thought to be migrants, or otherwise nonresident, from October to March.

No species-specific surveys were performed for this species. CNDDB lists no observations within the nine-quad search. The nearest CNDDB observation is approximately 22.2 miles to the east of the ESL. No bald eagles or their nests were observed in the BSA.

Bats: Townsend's Big-eared Bat, Pallid Bat and other Chiropterans

In California, fourteen species of bats are either considered an SSC by CDFW or currently proposed as SSCs. Additionally, the U.S. Forest Service and Bureau of Land Management list some species as sensitive and the Western Bat Working Group lists some as high priority for consideration of conservation measures. Under CEQA, state agencies, local governments, and

special districts are required to evaluate and disclose impacts from projects in the state. California Fish and Game Code § 4150 provides further protection to bats (non-game mammals) from take or possession. Disturbance by humans, especially in hibernacula[4] and maternity roosts, are a serious threat to most of the species. In the mild northern California coastal climate, bats can be present year-round.

All 25 bat species that occur in California use one or more natural features or manmade structures for roosting. Bats forage in habitats near bridges, such as riparian communities and open water, and along transportation corridors (e.g., roadside tree canopies).

Bridges are the transportation structures most commonly associated with bat species. In addition to bats roosting inside or on bridge structures, bats can roost in culverts, on rocky banks, or in nearby trees such as those in adjacent riparian habitat. These trees represent potential roosting sites for foliage roosting bats (e.g., hoary bats, *Lasiurus cinereus*; and Western red bats, *Lasiurus blossevillii*), as well as for many species of crevice-roosting bats. Buildings, culverts, and other structures adjacent to a transportation project may also provide potential habitat for crevice- or cavern-roosting species.

Bats use these transportation structures and adjacent habitat for roosting during the day and for bearing and rearing young (e.g., maternal roosts) typically from February through August. These locations may also be used in winter as hibernacula. Night roosts, which are used from approximately sunset to sunrise, are sites where animals congregate to rest and digest their food between foraging bouts. Night roosts also serve as important stopping points during migration and appear to have a social function.

The project is within range of California myotis (*Myotis californicus*), fringed myotis (*Myotis thysanodes*), hoary bat, little brown bat (*Myotis lucifugus*), Mexican free-tailed bat (*Tadarida brasiliensis*), pallid bat (*Antrozous pallidus*), silver-haired bat (*Lasionycteris noctivagans*), Townsend's Big-Eared bat (*Corynorhinus townsendii)*, Yuma myotis (*Myotis yumanensis*), and other species. Of these, Mexican free-tailed bat, little brown bat, and Yuma myotis are commonly found on transportation structures. Fringed myotis, pallid bats, and Townsend's big-eared bat are occasionally found on bridges and other transportation structures. All these species are known to use these structures for day roost, maternity roost, and/or night roost where habitat is suitable. California myotis, big brown bat (*Eptesicus fuscus*), hoary bat, little brown bat, long-eared myotis (*Myotis evotis*), long-legged myotis (*Myotis volans*), Townsend's big-eared bat, and

[4] Hibernacula are shelters used by hibernating animals during winter.

Yuma myotis have been historically documented roosting within Redwood trees. Hoary bat, silver-haired bat, and Western red bat are known to roost in trees exclusively.

The forested woodlands and North Fork Big River adjacent to the project area offer foraging and roosting habitat for bats. On-site, the road offers an opening in the forest for edge-foraging bats. Both day and night roosting habitat could occur within crevices and cavities of trees and snags within the forested landscape. Of all fourteen bat species considered to be SSC by CDFW, only the Townsend's big-eared bat was documented within the nine-quad database search; the CNDDB RareFind database shows a detection of Townsend's big-eared bats approximately 4.4 miles east of the project area. The nearest pallid bat detection was approximately 21.5 miles northeast of the project. These SSCs, and other bat species discussed above, could potentially occur within the project limits.

Biologists inspected trees within the ESL for signs of roosting activity. Trees were inspected for cavities, guano accumulations, staining, and observable crevices. No signs of bat colonies were detected within the ESL. No trees marked for removal had signs of bat roosting activity or observable roosting cavities or crevices. No acoustic detection surveys were performed.

Essential Fish Habitat

Essential Fish Habitat (EFH) is defined by the Magnuson-Stevens Fishery Conservation and Management Act (MSA) for federally managed species as "those waters and substrate necessary for fish for spawning, breeding, feeding, or growth to maturity". The Big River supports EFH for species regulated under the federal Pacific Coast Salmon Fishery Management Plan.

EFH for the Pacific Coast Salmon Fishery means those waters and substrate necessary for salmon production needed to support a long-term sustainable salmon fishery and salmon contributions to a healthy ecosystem. Freshwater EFH for coho salmon consists of four major components: (1) spawning and incubation; (2) juvenile rearing; (3) juvenile migration corridors; and (4) adult migration corridors.

Although outside the ESL, a portion of the North Fork Big River is within the BSA and supports EFH for Pacific salmon. This section of the river serves as a migration corridor for juveniles and adults. There is no suitable spawning habitat in the ESL. There is also no juvenile rearing in the ESL because there are no watercourses connected to the North Fork Big River in the ESL.

Foothill Yellow-legged Frog

Foothill yellow-legged frog (FYLF) (*Rana boylii*) is an SSC and was recently a candidate for state-threatened listing. The species is characteristically found close to water in association with perennial streams and ephemeral creeks that retain perennial pools through the end of summer. Adults preferentially use shallow areas near water's edge in areas of low water velocity for breeding and egg laying, usually characterized by gravel, cobble, and boulder substrate.

Reproduction occurs in aquatic environments but mating and egg-laying occurs exclusively in streams and rivers (not in ponds or lakes). This occurs from April until early July, after streams have slowed from winter runoff. Eggs hatch within 5 to 37 days, depending on temperature. Tadpoles transform in three to four months, typically from July to October. Juvenile and non-breeding adult frogs may be found adjacent to riffles, cascades, main channel pools, and plunge pools that provide escape cover. During the summer, some adults may remain in the vicinity of breeding sites if there are cool, partly shady areas with adequate cover. However, adults typically move to nearby tributary streams, where overhead riparian canopy provides areas of partial sun and shade throughout the day, and air temperatures are cooler than on the main river. Perennial streams appear to be the preferred summer habitat of adults; however, ephemeral streams with perennial pools may also provide suitable habitat. During cold weather, individuals seek cover under rocks in the streams or on shore within a few feet of water.

CNDDB documents occurrences of this species within a twelve-quad search radius, with the closest detection recorded adjacent to the project in the North Fork Big River. Due to the lack of suitable FYLF breeding habitat within the ESL, no FYLF egg mass surveys were conducted. No FYLF were observed in the ESL.

Migratory Birds

The Federal Migratory Bird Treaty Act (MBTA) (15 USC 703-711), Title 50 CFR Part 21 and 50 CFR Part 10, and the CDFG Game Code §§ 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.

No point count surveys were conducted to specifically observe and record all migratory birds. Habitat for migratory bird species is present and species are likely to nest in vegetation within and adjacent to the project site.

Northern Goshawk

The Northern goshawk (*Accipter gentilis)* is an SSC and is the largest of the three "true hawk" species of North America, with short, broad wings and a long, rounded tail. These secretive birds are mostly gray with bold white "eyebrow" stripes over piercing orange to red eyes. Northern goshawks can be fierce and vocal when defending their nestlings and will attack human intruders and kill neighboring raptors they perceive as threats, including owls and hawks.

Northern goshawks nest in mature and old-growth forests with more than 60 percent closed canopy. Northern goshawks usually choose the largest trees in a stand for nest sites, placing the nest next to the trunk on a large horizontal branch or in a primary or secondary crotch. Western birds build nests in conifers, such as Douglas-fir, white fir (*Abies concolor*), and California red fir (*Abies magnifica*), ponderosa pines (*Pinus ponderosa*), Western larch (*Larix occidentalis*), and Western hemlock (*Tsuga heterophylla*), along with deciduous trees including aspens (*Populus tremuloides*) and paper birch (*Betula papyrifera*). They often reuse nests from previous years or appropriate nests of other accipiters, ravens, or eagles.

Goshawks hunt in the forest, along riparian corridors, and flash through forests chasing bird and mammal prey, pouncing silently, or crashing feet first through brush to grab quarry. Northern goshawks eat a wider range of prey than other accipiters, including birds, mammals, and reptiles, as well as insects and occasionally carrion. Tree and ground squirrels, snowshoe hares, jackrabbits, and cottontails are the primary mammalian prey.

No species-specific surveys were performed for this species. CNDDB lists the nearest observations 3.5 miles southeast of the ESL. No Northern goshawk or their nests were observed within the BSA.

Northern Red-legged Frog

The Northern red-legged frog (NRLF) (*Rana aurora)* is an SSC that occurs along the California Coast Ranges from Del Norte County to Mendocino County, usually below 3,936 feet. NRLF use ephemeral, intermittent, and perennial creeks and streams, reservoirs, springs, wetlands, and man-made impoundments as breeding habitat and aquatic non-breeding habitat (CDFW 2020b). Upland dispersal habitats are primarily used by NRLF in dispersal events, which can be triggered by both periods of wet weather and dry weather when breeding pools and other occupied aquatic habitats dry up and are no longer suitable (CDFW 2020c). NRLF likely require rains for dispersal as individuals have been found considerable distances from breeding sites on rainy nights. This frog is highly aquatic and prefers shorelines with extensive vegetation. It uses deep-water habitat (three feet or more) at the bottom of pools to escape predation. NRLF breed

from January to July and require permanent or nearly permanent pools for larval development, which takes 11 to 20 weeks. Intermittent streams must retain surface water in pools year-round for frog survival (CDFW 2020c).

No specific surveys were conducted by Caltrans biologists; however, this species has been observed within the ESL. There are two CNDDB occurrences of NRLF within five miles of the ESL. This species may be present in the ESL during construction activities.

Pacific Fisher—West Coast DPS, Northern California ESU

The Pacific fisher (*Pekania pennanti*) is an SSC, a proposed species for federal threatened status, and some California populations are regulated as state threatened. In 2016, the California Fish and Game Commission found that the Pacific Fisher —West Coast DPS, Northern California ESU did not actively warrant state listing. The proposed project would occur within the range of the SSC-Northern California ESU of Pacific fisher.

The fisher is one of the larger members of the weasel family (*Mustelidae*) and are opportunistic, generalist predators with a diverse diet including mammalian and avian prey, ungulate carrion, vegetation, insects, and fungi. Fisher are known to occur in coniferous forest in the coastal ranges of northern California, including second growth and old-growth redwood forest, with a possible preference for stands with structural complexity, diversity, and large logs and snags for resting and denning. The fisher requires intermediate to large-tree stages of coniferous forests and deciduous-riparian areas with high percent canopy closure. They require large areas of mature, structurally complex conifer and mixed conifer hardwood forest and occupy home ranges that can exceed 14,826 acres. Fishers are generally solitary animals, except during the breeding season. They mate between February and May (usually late March), giving birth the following March.

The CNDDB RareFind database (CDFW 2020b) shows the nearest fisher detection approximately 4.10 miles east of PM 14.73. Protocol-level surveys were not performed for this species. The BSA contains numerous potential resting locations and large hollow redwoods with suitable denning cavities; however, there are no potential den structures or day resting locations within the ESL where work would be conducted. Suitably sized trees with the following characteristics were considered as potential fisher den sites:

- Any broken-topped tree with a minimum diameter at the break of 18 inches or larger
- Trees with one or more limbs 12 inches or greater in diameter

- Trees with a cavity (or void within a tree bole or large limb) with a relatively small opening; includes all cavities with entrances 2.5 to 6 inches across the smallest direction (for example, a vertical slit-like opening 4 inches across would count, as would a more circular entrance).

Fishers are a nocturnal species that dislike interacting with humans. They would likely be absent from otherwise suitable habitat within the BSA due to high levels of human disturbance, such as areas bordering roads, trails, human habitation, and the highway. No signs of fisher occupation were observed.

Red-bellied Newt

The red-bellied newt (*Taricha rivularis*) is a stream-breeding newt that occurs in coastal California north of San Francisco Bay, and in Sonoma, Lake, Mendocino, and Humboldt counties. Many forest types are used by the species, from Douglas-fir/tanoak dominated forests to redwood forests. Adult red-bellied newts use terrestrial sites for underground retreats, migration, and foraging habitat during the dry season, generally from May to October. Red-bellied newts prefer cold and rocky forest streams with a moderate to fast current. Following rainfall events, individuals begin migrating to streams as early as the beginning of January. However, during heavy rainfall events and/or flooding, migration to streams is often inhibited. These events may drive the species away from water sources temporarily and extend their breeding season past April. Most of the breeding season occurs from March to April and egg masses are deposited underneath stones or rootlets in fast-flowing water.

Focused surveys were not conducted for red-bellied newts. Breeding habitat is not present in the drainage pathways within the ESL. Potential dispersal and foraging habitat are found throughout the drainage pathways and terrestrial habitat within the ESL. The CNDDB indicates the nearest documented occurrence of red-bellied newt is approximately 875 feet to the east of the project. These occurrences were documented in 1963, 1965 and 1973 at James Creek within the Jackson Demonstration State Forest. Therefore, red-bellied newt presence within the ESL would be assumed.

Ring-tailed Cat

Ring-tailed cat (*Bassariscus astutus)* is a state fully protected mammal. It is a member of the raccoon family (*Procyonidae*) that may be found in fragmented and disturbed areas and will den inside buildings and other manmade structures. Ring-tailed cats are nocturnal carnivores that forage at night for a variety of prey, primarily small mammals, invertebrates, birds, and reptiles. Ring-tailed cats may supplement their diet with plants or fruit. In northwestern California, ring-

tailed cats tend to select diurnal rest sites in proximity to steep slopes and water sources. They frequently change rest sites, although some may be revisited regularly. Most litters are born in May or June, with young beginning to forage outside the den site after two months. Dens can be in rock crevices, living and dead hollow trees, logs, brush piles, abandoned buildings, and other manmade structures. Female ring-tailed cats may regularly move young between dens.

No species-specific surveys were conducted for this species. No CNDDB occurrence information is available because CNDDB does not track ring-tailed cat observations. No potential natal dens were observed within the ESL, but potential den sites are present within the BSA.

Sonoma Tree Vole

Sonoma tree vole (*Arborimus pomo)* is an SSC found along the North Coast of California from Sonoma County to the Oregon border, generally restricted to the fog belt. It is reported to be rare to uncommon throughout its range, but the difficulty of locating nests and capturing individuals makes abundance difficult to assess. Sonoma tree voles occur in old-growth and other forests, mainly Douglas-fir, redwood, and montane mixed hardwood-conifer habitats.

Sonoma tree voles feed on needles of Douglas-fir and grand fir (*Abies grandis*). Needles and twigs are gathered primarily at night and are either consumed on site or brought to the nest where the needle resin ducts are removed, and the remainder is eaten. The resin ducts may be used to line the nest cup. Young, tender needles are often eaten entirely. Food may be stored, and the tender bark of terminal twigs may be eaten as well.

Nests of Douglas-fir needles are constructed in trees, preferably tall trees. Nests may be situated on the whorl of the limbs against a trunk or at outer limits of branches. In young second-growth Douglas-fir, the broken tops of trees frequently are used for nesting. The Sonoma tree vole breeds year-round, but most breeding is from February through September. Litter size ranges from one to four, with an average of two. There are one or more litters per year, and two litters of different ages may occupy a nest at the same time. Young are cared for by only the female. Weaning occurs at 30 to 40 days.

The spotted owl is the main predator of Sonoma tree voles throughout the geographical distribution. Saw-whet owls (*Aegolius acadicus*) and raccoons also prey on voles.

No species-specific surveys were performed for this species, though trees slated for removal were investigated for signs of tree vole use. Three CNNDB detections of the Sonoma tree vole occurred in the Comptche Quadrangle, with the nearest approximately 1.8 miles from the ESL.

Western Bumblebee

The Western bumblebee (*Bombus occidentalis)* is a species of bumblebee native to the Western United States and Canada. It is considered critically imperiled in the state (CDFW S1 species) because of extreme rarity (often five or fewer populations) or because of factors such as very steep population declines that make the species especially vulnerable to elimination from the state.

This bumblebee is associated with several plant genera including *Melilotus*, *Cirsium*, *Lupinus*, *Trifolium*, *Centaurea,* and *Eriogonum* (CDFW 2020b). Queens of this species emerge from hibernation in late January and select a nest site in an existing hole in the ground, such as an abandoned rodent hole. The queen gathers pollen and nectar and stores them in wax containers. She lays 8 to 16 eggs that hatch into larvae and tends to them until they spin cocoons, pupate, and emerge as workers. Once they emerge, the queen stops foraging and devotes her time to egg laying. The first workers appear in early March and the drones and a new queen emerge by the end of April. The colony dissolves in late October when the old queen, workers, and drones die. A new queen mates and digs a hole where she hibernates through the winter.

No species-specific surveys were conducted for bumblebee species. CNDDB contains records of bumblebee species with the nearest in Willits, where the western bumblebee was collected in 1958. No western bumblebees or their nests were observed within the BSA.

Threatened and Endangered Species

Based on seasonally-appropriate floristic surveys and as indicated in the plant species table (Table 2), it was determined there was no suitable habitat and no presence within the ESL, therefore no impact to the following federally endangered or threatened and state endangered or threatened plant species:

- FE/SE Burke's goldfields (*Lasthenia burkei*)
- FE Contra Costa goldfields (*Lasthenia conjugens*)
- ST North Coast semaphore grass
- FE Showy Indian Clover (*Trifolium amoenum*)

As indicated in the species table (Table 3), it was determined there was no suitable habitat and no presence within the ESL, therefore no impact to the following federally endangered or threatened and state endangered or threatened animal species:

- FT California red-legged frog (*Rana draytonii*)
- SE tricolored blackbird (*Agelaius tricolor*)
- FT/SE yellow-billed cuckoo (*Coccyzus americanus occidentalis*)
- FE Lotis blue butterfly (*Plebejus ida lotis*)
- FE Behren's silverspot butterfly (*Speyeria zerene behrensii*)
- FE tidewater goby (*Eucyclogobius newberryi*)
- FT Chinook salmon (*Oncorhynchus tshawytscha*) and
- FT eulachon (*Thaleichthys pacificus*)

Species that do not have habitat in the ESL are not discussed further.

Humboldt County Milk-Vetch

Humboldt County milk-vetch (*Astragalus agnicidus*) is a state endangered species. The plant is a coarse, leafy perennial herb of *Fabaceae* (pea) family that blooms in the summer to early fall. The geographical distribution of this species in California includes the outer North Coast ranges in Mendocino and Humboldt counties. It ranges in elevation from 635 to over 2,624 feet. It is documented in several locations in Mendocino County but within only two watersheds (Larabee Creek and Bear Butte) in Humboldt County, with the largest populations on Humboldt Redwood Company land (CDFW 2020b). These populations are very close to each other in the Larabee

Creek drainage, which is located on the mainstem Eel River. It occupies disturbed areas in the broad-leaved upland forest, North Coast coniferous forest and open soil in woodland.

Seasonally-appropriate floristic surveys were completed within the BSA in 2019 for Humboldt County milk-vetch. Suitable habitat does not exist in the ESL but is present in the BSA; however no milk-vetch plants were found.

Monterey Clover

Monterey clover (*Trifolium trichocalyx*) is a federal and state endangered species. The plant is a spreading, annual herb in the pea family that blooms from April to June. The geographical distribution of this species in California includes the outer North Coast ranges in Mendocino and Monterey counties and inhabits elevations lower than 328 feet. The species is a classic fire follower, taking advantage of reduced forest cover that allows a significantly higher proportion of light to reach the herbaceous ground cover for the first few years after a fire. Until recently, Monterey clover was only found in one area in the central portion of the Monterey peninsula. In 2011, Monterey Clover was discovered in Big River Forest in Mendocino County.

Seasonally-appropriate floristic surveys were completed within the project area in 2019 for Monterey clover and other regionally-occurring special-status plants. CNDDB records the nearest detection 5.8 miles west of the BSA. While the environmental study limit may support Monterey clover, the species has not been found within the project area. The closed canopy of the ESL is not likely to support this fire adapted species because burned areas do not exist within the ESL.

Coho Salmon, Central California Coast ESU

Central California Coast (CCC) coho salmon (*Oncorhynchus kisutch*) Evolutionarily Significant Unit (ESU), listed as endangered under FESA and CESA, could potentially occur in North Fork Big River in the BSA, though not within the ESL. CCC coho salmon ESU includes naturally spawned coho salmon originating from rivers south of Punta Gorda, California, to and including Aptos Creek, as well as such coho salmon originating from tributaries to San Francisco Bay. This ESU also includes coho salmon from two hatchery programs: The Don Clausen Fish Hatchery on the Russian River and the Southern Coho Salmon Captive Broodstock Program.

Coho salmon are anadromous fish that exhibit a three-year life cycle, typically spending 14 to 18 months in fresh water before migrating to the ocean and then returning to fresh water to spawn at the age of three years. A small percentage of males return to fresh water to spawn early (in their

second year, before spending a winter at sea) as "jacks". A few juveniles may also remain in fresh water for two years.

After their freshwater rearing period, young migrate downstream to the ocean beginning in late March/early April. Peak downstream migration in California generally occurs from April to early June. Suitable coho salmon freshwater habitat consists of perennial streams with cool, clean water, dense riparian canopy, deep complex pools with large woody debris, in-stream cover with woody debris and undercut banks, and a gravel or cobble substrate.

No fish surveys were conducted for this project. The ESL does not provide habitat for this species, although CCC coho salmon are known to be present in the adjacent North Fork Big River, which is within the BSA. Therefore, presence is assumed. The North Fork Big River is also critical habitat for CCC coho salmon.

Marbled Murrelet

Marbled murrelet (MAMU) (*Brachyramphus marmoratus*) is a federally threatened and state endangered species. The MAMU is a small Pacific seabird that breeds along the Pacific coast of North America from the Aleutian Archipelago and southern Alaska south to central California. In Washington, Oregon, and California, they have a unique life history strategy in that they feed primarily within a few miles of shore and fly inland to nest in mature conifers. Nesting habitat is primarily associated with large tracts of old-growth forest, typically within 50 miles from shore, characterized by large trees, a multistoried stand, and moderate to high canopy closure. They are commonly absent from stands less than 60 acres in size. Nests are not built, but an egg is laid in a depression of moss or other debris on the limb of a large conifer. Suitable nest structures include large mossy horizontal branches, mistletoe (*Phoradendron* spp.) infections, witches' brooms (structural deformities of the tree), and other such structures. During the March to September breeding season, MAMU typically fly along river corridors for their morning and evening nest visits.

Protocol-level surveys were not conducted for MAMU. CNDDB lists the nearest MAMU detections in Russian Gulch State Park, approximately 12.8 miles west of the project footprint. The forest in the area proposed for removal is mixed conifer second growth, dominated by tanoak, Douglas-fir, and coast redwood. The stand comprises a multi-tiered canopy. The forest in this area is critical habitat for MAMU, therefore presence is assumed. However, no suitable nesting habitat is present within the ESL.

Northern California Steelhead DPS

Northern California (NC) steelhead trout (*Oncorhynchus mykiss irideus*) Distinct Population Segment (DPS) is listed as threatened under FESA. This fish species could potentially occur in the North Fork Big River within the BSA, but outside of the ESL.

NC steelhead trout DPS is an anadromous fish species that spawns below impassable barriers in coastal basins from Redwood Creek in Humboldt County south to the Gualala River in Mendocino County. The proposed project is within critical habitat for this DPS. EFH is not defined for this species because it is not a commercially managed species. NC steelhead trout generally enter estuaries and rivers between September and March, with spawning peaking between December and early April. They are sexually mature when they arrive at spawning areas, usually after spending two years in freshwater and one year growing at sea. Females can lay between 200 and 12,000 eggs, depending on their size and condition, before migrating back to the ocean by May.

Newly emerged steelhead school together and seek shallow waters with gentle currents to grow, while older juveniles maintain territories in faster water and in pool habitats. Juveniles migrate to estuaries or the ocean between March and June. Good freshwater spawning habitat consists of fast, well-oxygenated rivers and streams with gravel substrates that do not have excessive amounts of silt. Suitable rearing habitat contains cover features such as overhanging and emergent vegetation, boulders, and woody material, and high flow velocity features such as riffles for feeding.

No species-specific surveys were conducted for this project. The ESL does not provide habitat for this species, but suitable habitat is present downstream of the BSA and in the adjacent North Fork Big River. The North Fork Big River is also critical habitat for steelhead.

Northern Spotted Owl

The Northern spotted Owl (NSO) (*Strix occidentalis caurina*) is a federal and state threatened species. NSOs generally have large home ranges and use large tracts of land containing significant acreage of older forest to meet their biological needs. The attributes of superior NSO nesting and roosting habitat typically include a moderate-to-high canopy closure (60 to 80 percent); a multi-layered, multi-species canopy with large overstory trees; a high incidence of large trees with deformities (large cavities, broken tops, mistletoe infections, and debris accumulation); large accumulations of fallen trees and other debris; and sufficient open space below the canopy for flight. In redwood forests and mixed conifer-hardwood forests along the coast of northwestern California, considerable numbers of NSO also occur in young forest

stands. NSOs tend to select broken-top trees and cavities in older forests for nest sites, although they also use existing platforms such as abandoned raptor nests, squirrel nests, mistletoe brooms, and debris piles. In younger forests, existing platforms are more frequently used for nest sites. Courtship begins in February or March and the first eggs are laid in late March through April. Fledglings generally leave the nest in late May or in June but continue to be dependent on their parents into September until they can fly and hunt on their own. By September juveniles have left their natal area.

Focused surveys were not conducted for NSO. The project is located within the Jackson Demonstration State Forest, which is critical habitat for NSO. The nearest documented NSO activity center is approximately 0.72 mile to the northwest. There are two other activity centers nearby to the northeast and northwest at approximately 0.74 and 1.3 miles from the project area, respectively. Therefore, the potential for NSO to occur within the BSA exists and potential for presence is assumed.

The forest in the area proposed for removal is mixed conifer second growth, dominated by tanoak, Douglas-fir, and coast redwood. Tanoak and coast redwood are the largest component. The stand comprises a multi-tiered canopy; however, there are no broken top trees or snags that would serve as high quality wildlife trees. Suitable habitat is present adjacent to the project area but does not exist within the ESL.

Invasive Species

Introduction and naturalization of non-native species is one of the most important threats to global biodiversity. The North Fork Big River watershed contains several invasive plant species that adversely affect ecologic functions. Some of the species that most threaten native ecosystem function and structure include yellow star-thistle (*Centaurea solstitialis*), jubata grass and pampas grass (*Cortaderia* spp.), Scotch broom (*Cytisus scoparius*), French broom (*Genista monspessulana*), reed canary grass (*Phalaris arundinacea),* water primrose (*Ludwigia* sp.), and Spanish broom (*Spartium junceum*). Of these species, Scotch broom, yellow star-thistle, and reed canary grass were observed within the project limits.

Invasive bird species with potential to occur in or adjacent to the ESL include the European starling (*Sturnus vulgaris*) and Eurasian collared dove (*Streptopelia decaocto*). These two species are known to compete with native species for resources and are typically associated with human disturbance. The starling is currently threatening at least two SSCs: the purple martin (*Progne subis*) and the Gila woodpecker (*Melanerpes uropygialis*). It may pose problems for other cavity-nesters as its population continues to increase.

Brown-headed cowbirds (*Molothrus ater*), a native North American species but invasive to California, may also occur in the area. The expansion of agriculture in California has resulted in a phenomenal increase in cowbird populations and significant range expansions. Brown-headed cowbirds parasitize the nests of more than 220 bird species in their range. Each cowbird can lay up to 30 eggs per season and usually lay 1 or 2 (or occasionally more) eggs in each host nest. When parasitizing nests, they often remove the eggs of the host bird. Nest parasitism lowers the reproductive success of host birds and has led to population declines in several bird species. Currently, cowbirds are threatening the Bell's vireo (*Vireo bellii*), willow flycatcher (*Empidonax traillii*), yellow warbler (*Setophaga petechia)*, common yellowthroat (*Geothlypis trichas*), warbling vireo (*Vireo gilvus*), yellow-breasted chat (*Icteria virens*), and possibly black-tailed gnatcatcher (*Polioptila melanura*), blue-gray gnatcatcher (*Polioptila caerulea*), and gray vireo (*Vireo vicinior*). California's vireos, warblers, and small flycatchers may be jeopardized if the cowbird population continues to increase and expand its range.

Discussion of Environmental Evaluation Questions 2.4 (a-f)—Biological Resources

Discussion of CEQA Environmental Checklist Questions c), d), e), and f)

"No Impact" determinations were made for Questions c, d, e, and f of the CEQA Environmental Checklist based on the project scope, location, description. Though the BSA contains wetlands, there would not be any work done in wetlands or other waters. Therefore, the project would not have adverse effects on wetlands. The proposed project would not conflict with any local policies or ordinances designed to protect biological resources, and would not conflict with any adopted local, regional, or state habitat conservation plan. Additionally, the project is not expected to interfere with any established migratory routes or nursery sites.

Discussion of CEQA Environmental Checklist Question a)

The following CEQA Environmental Checklist items were used to evaluate the impacts of the proposed project on Biological Resources:

a) Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife, U.S. Fish and Wildlife Service, or NOAA/NMFS?

Plant Species

Glory Brush

Botanical surveys did not identify any state or federal special-status plant species within the ESL; however, one CRPR 4.3 plant species was observed: glory brush. Glory brush has a state rank of S4 and a global rank of G4, which indicates state and global populations are "apparently secure."

Up to ten individuals were observed in the cut area. Though the species does not appear to be sensitive on a state or global scale, it is only known from two watersheds within Mendocino County. However, as a best management practice, Caltrans would collect seeds from the plants in the season prior to construction and propagate new glory brush plants for replanting. Given this, Caltrans has determined the project area would have a "Less Than Significant Impact" on glory brush.

Animal Species

American Peregrine Falcon

Since there would be no potential nest structure removal associated with this project, Caltrans determined the project would have "No Impact" on American peregrine falcons or their habitat.

Given the project would not directly harm this species, per CESA, this project would have "***No Take***" of American peregrine falcons as defined by the CFGC.

Bald Eagle

Since there would be no nest or nest structure removal associated with this project, and there are no nests in range of the project where noise disturbance could potentially impact bald eagles, Caltrans determined the project would have "No Impact" on bald eagles or their habitat.

Given the project would not directly harm this species, per CESA, this project would have "***No Take***" of bald eagles as defined by the CFGC.

Bats: Townsend's Big-eared Bat, Pallid Bat and other Chiropterans

No known maternity roosts or other colonial night roosts would be removed or altered during project activities. Furthermore, all tree removal would occur outside of the maternity season to ensure no impacts would occur to any potentially unidentified maternity roosts. Impacts to bat

species are not anticipated given the specific trees to be removed, seasonal timing of the project, and the standard measures to avoid disturbing active colonies. Lights used for potential night work would not be anticipated to impact any known roosting colonies as lights would be focused on the portion of the project actively under construction. Given these factors, Caltrans determined the project would have "No Impact" on bat species or their habitat.

Essential Fish Habitat

Although outside the ESL, the North Fork Big River is within the BSA and supports Essential Fish Habitat (EFH) for Pacific salmon. The project does not propose any in-stream work, however small, temporary pulses of suspended sediment potentially caused by construction could result in insignificant or discountable effects to juvenile salmon rearing within the BSA. There may also be an insignificant loss of riparian cover that offers shade to the adjacent river and an associated reduction of organic inputs from removal of this habitat. Because measures would be taken to protect water quality, Caltrans does not anticipate any permanent impacts to the rearing and migratory functions of Pacific salmon EFH due to turbidity or sedimentation. Given this, Caltrans determined the project would have a "Less than Significant Impact" on EFH for Pacific salmon.

Because of the potential for small amounts of sediment to enter the river, and based on technical assistance from NMFS, Caltrans anticipates the project ***may adversely affect*** EFH for Pacific salmon. Caltrans would initiate informal consultation with NMFS to discuss potential impacts to EFH.

Foothill Yellow-legged Frog

The habitat within the ESL does not contain suitable breeding habitat for Foothill yellow-legged frog (FYLF). Adult FYLF may use the jurisdictional water within the ESL as low-quality dispersal habitat only and presence is not expected. Based upon this, it is anticipated that adult FYLF have low potential to be within the BSA during construction activities.

Given the small amount of habitat affected, the short duration/intermittent nature of the work, the absence of work within the streambed, unlikely presence of FYLF, and implementation of standard measures to reduce project impacts, Caltrans determined the project would have "No Impact" on FYLF or their habitat.

Migratory Birds

No active nests would be removed or altered during project activities, though work near an active nest could affect nesting birds. Vegetation removal would be restricted to the period outside of the bird breeding season (allowed from September 16 through January 31) or, 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. Impacts to migratory birds are not expected because of the minimal amount and type of vegetation to be removed, the temporary nature of the project, and standard migratory bird avoidance measures. Given this, Caltrans determined the project would have "No Impact" on migratory bird species or their habitat.

Northern Goshawk

No active nests would be removed or altered during project activities. Pre-construction nest surveys would be performed to identify potential threats to Northern goshawk from project activities and to provide opportunity to develop appropriate avoidance measures. Given the highly unlikely presence of goshawk, minimal amount of vegetation to be removed, temporary nature of the project, and the standard measures to avoid disturbing active nests, Caltrans determined the project would have "No Impact" on Northern goshawk or their habitat.

Northern Red-legged Frog

Suitable dispersal habitat is present within the ESL, and the species has been observed within the ESL. Due to the timing of work, temporary nature of construction, standard measures, and the abundance of suitable habitat in the project vicinity to which frogs could relocate if necessary, Caltrans determined the project would have a "Less Than Significant Impact" on Northern red-legged frog and their habitat.

Pacific Fisher—West Coast DPS, Northern California ESU

Given the habitat within the ESL does not contain suitable denning sites or day resting sites, it is unlikely that fishers are present in the ESL. Additionally, the proximity to a heavily traveled roadway and human habitation likely deter fisher from using the ESL. No trees would be removed during the critical denning period (March 1st through July 31st). Given this, Caltrans determined the project would have "No Impact" on Pacific fisher or their habitat.

Red-bellied Newt

The proposed project would remove up to approximately 0.40 acre of suitable red-bellied newt migration, foraging, and underground retreat habitat. Tree removal would occur during the newts' potential breeding season (after September 15 and may continue through October). Red-bellied newts may be migrating and foraging within the project area during this time; therefore, presence would be assumed. Pre-construction surveys for the presence of amphibians would be conducted immediately prior to construction activities in all areas where vegetation was removed, and soil was disturbed.

If red-bellied newts were found, a qualified biologist, in coordination with CDFW, would relocate them to a safe species-specific appropriate habitat nearby, but outside of the project ESL. Given this, Caltrans determined this project would have a "Less than Significant Impact" on red-bellied newt and their habitat.

Ring-tailed Cat

This project would not remove ring-tailed cat denning or nesting habitat. The presence of a highly traveled roadway and occupied human structures in the proximity of the BSA are likely to prevent ring-tailed cats from choosing to den in the project area. Given this, Caltrans determined the project would have "No Impact" on ring-tailed cat or their habitat.

Given the project would not directly harm this species, per CESA, this project would have "***No Take***" of ring-tailed cat as defined by the CFGC.

Sonoma Tree Vole

Any trees slated for removal for this project would be adjacent to a highly traveled roadway that would provide low quality habitat and limit use for nesting voles. Sonoma tree vole prefer areas near small, clear streams with dense alder and shrubs and this habitat is not present in the ESL. The approximately 0.40 acre of trees proposed for removal is not high-quality habitat for Sonoma tree vole. Given this, Caltrans determined this project would have "No Impact" on Sonoma tree voles and their habitat.

Western Bumblebee

Ground disturbance and vegetation removal could directly affect bumblebees by destroying a hive/nest or hibernating queens found underground, if present. Construction activities could indirectly affect the Western bumblebee through the removal of or temporary disturbance to plants the species uses for foraging. Temporarily disturbed areas would be restored to their pre-

project conditions to the greatest extent practicable, which would facilitate revegetation of native plant species and minimize temporary impacts to bumblebees. The project would result in a negligible loss of potential foraging and nesting habitat in areas where flowering vegetation is removed. Potential impacts to Western bumblebee are considered negligible, given the unlikelihood of occurrence in the BSA and the abundance of potential nesting and foraging habitat for the species in the vicinity of the BSA. Given these factors, Caltrans determined that this project would have "No Impact" on Western bumblebees and their habitat.

Threatened and Endangered Species

Humboldt County Milk-Vetch

Seasonally-appropriate floristic surveys were completed within the project area in 2019 for Humboldt County milk-vetch and other regionally-occurring special-status plants. CNDDB records the nearest detection 15 miles west of the ESL. Suitable habitat is present adjacent to the project area but does not exist within the ESL. Given this, proposed construction would not be expected to directly or indirectly impact this species. Due to a lack of habitat or species presence within the ESL, Caltrans determined the proposed project would have "No Impact" on Humboldt County milk-vetch.

Monterey Clover

Monterey clover has not been documented in the project area and suitable habitat does not exist within or adjacent to the BSA; therefore, proposed construction would not be expected to directly or indirectly impact this species. Due to a lack of habitat or species presence, Caltrans determined the proposed project would have "No Impact" on Monterey clover.

Coho Salmon, Central California Coast ESU

This project would not include in-stream work; however, the project is upslope from the North Fork Big River and it is feasible that small amounts of soil could enter the river during construction or post-construction prior to full site stabilization. Small, temporary pulses of suspended sediment potentially caused by construction could result in insignificant or discountable effects to juvenile salmon rearing within the BSA. There may also be an insignificant loss of riparian cover that offers shade to the adjacent river and an associated

reduction of allochthonous[5] inputs from removal of this habitat. Because measures would be taken to protect water quality, Caltrans does not anticipate any permanent impacts to the rearing and migratory functions of coho salmon habitat due to turbidity or sedimentation. Given this, Caltrans determined the project would have a "Less than Significant Impact" on CCC coho salmon and habitat.

Based on the standard measures designed to protect water quality, Caltrans anticipates the project ***may affect, but is not likely to adversely affect*** CCC coho salmon and their critical habitat. Caltrans has pursued technical assistance with NOAA/NMFS regarding this project (Chapter 3). After circulation of this initial study, Caltrans would initiate informal consultation with NOAA /NMFS to discuss potential impacts to coho salmon and designated critical habitat.

The project would have "***No Take***", as defined by CFGC, of CCC coho salmon under CESA.

Marbled Murrelet

The project would remove up to approximately 0.40 acre of suitable MAMU habitat. Based on the results of the noise analysis in the NES (Caltrans 2019b), construction noise levels for the proposed project are anticipated to exceed the threshold of 20 or more decibels above the ambient conditions (81-90 dB) and exceed the maximum of 90 decibels overall. However, by implementing the required species-specific standard protection measures and the MAMU measures listed in Section 1.4, this project would comply with the guidelines in the *Programmatic Informal Consultation for the California Department of Transportation's Routine Maintenance and Repair Activities, and Small Projects Program for Districts 1 and 2*, which is commonly known as the "Programmatic Letter of Concurrence" (PLOC) (AFW0-128000 1-121000I U.S. Fish and Wildlife Service– Arcata Field Office 2014). Given this, Caltrans determined the project would have a "Less Than Significant Impact" on MAMU or MAMU critical habitat.

Given the above, per FESA, Caltrans anticipates the proposed project ***may affect, is not likely to adversely affect*** MAMU and would not result in modification of suitable habitat.

Given the project would not directly harm this species, per CESA, this project would have "***No Take***" of MAMU as defined by the CFGC.

[5] Allochthonous input is material from one place transported some distance to another place, which can redistribute nutrients in a river system.

Northern California Steelhead DPS

This project would not include in-stream work; however, work would be done on SR 20 upslope from the North Fork Big River and it is feasible that small amounts of soil could enter the river during construction or post-construction prior to full site stabilization. Small, temporary pulses of suspended sediment potentially caused by construction could result in insignificant or discountable effects to juvenile salmonid rearing within the BSA. There may also be an insignificant loss of riparian cover that offers shade to the adjacent river and an associated reduction of allochthonous inputs from removal of this habitat. Because measures would be taken to protect water quality, Caltrans does not anticipate any permanent impacts to the rearing and migratory functions of NC steelhead habitat due to turbidity or sedimentation. Given this, Caltrans determined this project would have a "Less Than Significant Impact" on NC steelhead DPS and their critical habitat.

Based on the standard measures designed to protect water quality and with technical assistance from NOAA/NMFS, Caltrans anticipates that the project ***may affect, is not likely to adversely affect*** NC steelhead DPS and their critical habitat. Caltrans would initiate informal consultation with NOAA/NMFS to discuss potential impacts to NC steelhead DPS and designated critical habitat after circulation of this Initial Study.

The project would have "***No Take***", as defined by the CFGC, of NC steelhead DPS under CESA.

Northern Spotted Owl

The project would remove up to approximately 0.40 acre of suitable NSO habitat. Based on the results of the noise analysis, the proposed project construction noise levels are anticipated to exceed the threshold of 20 or more decibels above the ambient conditions and exceed the maximum of 90 decibels overall (Caltrans 2019b). However, by implementing the required species-specific standard protection measures and the NSO avoidance and minimization measures listed in Section 1.4, this project would comply with the guidelines in the PLOC. Given this, Caltrans determined this project would have a "Less Than Significant Impact" on NSO and their critical habitat.

Based upon the minimization measures and technical assistance from the USFWS, per FESA, Caltrans anticipates the proposed project ***may affect, is not likely to adversely affect*** NSO or their critical habitat, and Caltrans would adhere to the avoidance and minimization measures listed in the PLOC.

Given the project would not directly harm this species, this project would have "***No Take***", as defined by the CFGC, of NSO under CESA.

Invasive Species

After construction materials are removed, the project area would be restored to a natural setting by grading, placing erosion control, and replanting. Caltrans would implement a program of invasive weed and erosion control in all areas of soil disturbance caused by construction to improve habitat for native species in and adjacent to disturbed soil areas within the project limits. Caltrans would also implement corvid avoidance measures to discourage corvid activity in the project limits. Therefore, Caltrans determined there would be "No Impact" to listed, protected, and sensitive species as a result of this project.

Discussion of CEQA Environmental Checklist Question b)

b) Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

Natural Communities

The proposed project would remove approximately 0.40 acre of Douglas-fir—Tanoak-Huckleberry Association on the north side of SR 20 to correct the curve. The largest tree in the proposed cut area is an approximately 54.8-inch DBH coast redwood.

The project would have no substantial impact on the Douglas-fir–Tanoak Forest Alliance. Impacts to the Douglas-fir Forest natural community are expected to be minimal due to the overall habitat availability in the Jackson Demonstration State Forest. Given this, Caltrans determined the project would have a "Less than Significant Impact" on the Douglas-fir–Tanoak sensitive natural community.

Wetlands and Other Waters

A desktop review for potential wetlands was conducted utilizing the National Wetlands Inventory Website (USFWS 2020) A field review occurred on September 13, 2019, to assess the ESL for wetlands and waters. There are no tidal waters in the study area.

Portions of the project area contain federally and state-recognized jurisdictional wetlands and waters. The culverts at PM 19.25 and PM 19.34 convey water that are considered jurisdictional.

No work would be conducted in any federally or state-recognized jurisdictional wetlands or waters. Permanent impacts to jurisdictional waters or wetlands are not anticipated. Work is not proposed within any watercourse. Therefore, Caltrans determined there would be "No Impact" to wetlands, other waters, or riparian habitat from this project.

Invasive Species

Potential impacts that could occur due to the possibility of colonization of the disturbed area by invasive non-native plants would be minimized through revegetation efforts, decontamination protocols, and avoidance and minimization efforts to control/reduce the spread of invasive non-native species. Therefore, Caltrans determined there would be "No Impact" to sensitive natural communities from invasive species as a result of this project.

Mitigation Measures

Caltrans has determined that impacts to Biological Resources would have a "Less Than Significant Impact" for CEQA Questions a) and b) and would have "No Impact" for Questions c), d), e) and f). Given this, Caltrans has determined that mitigation would not be required under CEQA.

2.5. Cultural Resources

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?				✓
Would the project: b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?				✓
Would the project: c) Disturb any human remains, including those interred outside of dedicated cemeteries?				✓

"No Impact" determinations in this section are based on the scope and location of the proposed project, as well as the Archaeological Survey Report dated December 11, 2019 (Caltrans 2019c) and Historic Property Survey Report dated December 11, 2019 (Caltrans 2019d). An extensive historical records search and correspondence with 11 tribes resulted in no known archaeological or cultural sites in the area of potential effects. Therefore, potential impacts to Cultural Resources are not anticipated.

Mitigation Measures

Based on the determinations made in the CEQA Environmental Checklist, mitigation measures have not been proposed for the project.

2.6. Energy

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation?				✓
Would the project: b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?				✓

"No Impact" determinations for Energy Resources are based on the scope and description of the proposed project, as well as the Environmental Impact Assessment—Noise, Air Quality, Greenhouse Gas, and Energy Memo dated August 30, 2019 (Caltrans 2019b).

Safety projects are proposed when traffic safety data suggest that collisions occur on a specific segment of road more frequently than the state average. When collisions can be measurably reduced, energy consumption is also reduced due to fewer emergency vehicle and personnel responses, less medical material and waste, less frequent roadway and guardrail repair, fewer opportunities for fuel spills, and fewer vehicle repairs or replacements. Overall, improving safety on state roadways can provide opportunities to reduce energy consumption resulting from collisions.

Mitigation Measures

Based on the determinations made in the CEQA Environmental Checklist, mitigation measures have not been proposed for the project.

2.7. Geology and Soils

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.				✓
ii) Strong seismic ground shaking?				✓
iii) Seismic-related ground failure, including liquefaction?				✓
iv) Landslides?				✓
Would the project: b) Result in substantial soil erosion or the loss of topsoil?			✓	
Would the project: c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?				✓
Would the project: d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?				✓

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?				✓
Would the project: f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?				✓

Regulatory Setting—Geology and Soils

The primary laws governing geology and soils include:

- Historic Sites Act of 1935, 16 U.S.C. 461 et seq.
- CEQA, California Public Resources Code (PRC) 21000

Environmental Setting—Geology and Soils

The proposed project area is located on SR 20 on a rural, winding road between Willits and Fort Bragg. This segment of SR 20 passes over the Coastal Ranges in an area known to have Quaternary-age materials that overlay the Coastal Belt Franciscan Complex Undivided Broken Formation from the Cretaceous age. In this region, SR 20 closely parallels the North Fork Big River. Silty, sandy materials are present in addition to mixed rock and gravel.

Discussion of Environmental Evaluation Questions 2.7 (a-e)—Geology and Soils

Discussion of CEQA Environmental Checklist Questions a), c), d) and e)

"No Impact" determinations made for CEQA Geology Questions a), c), d), and e) are based on the scope, description, and location of the proposed project. California Geological Survey Regulatory Maps, the United States Department of Agriculture (USDA) Soil Conservation Service Soil Survey of Mendocino County, the Alquist-Priolo Earthquake Fault Zoning Map, and the USDA Natural Resources Conservation Service Web Soil Survey were reviewed.

Discussion of CEQA Environmental Checklist Question b)

b) Would the project result in substantial soil erosion or the loss of topsoil?

As with most construction activities, earth-moving activities would be necessary to construct the project. Earth-moving activities have the potential to cause soil erosion or loss of topsoil. Approximately 5,100 cubic yards of material would be cut throughout the project limits. A concrete beam system would be installed to support the guardrail from PM 19.12 to PM 19.21 within the eastbound traveled way. Small amounts of soil could enter the North Fork Big River due to the steep slope of the hillside. However, due to Caltrans construction practices and BMPs (Section 1.4), any amount of soil that could reach the river would be minimal; therefore, a "Less Than Significant Impact" determination was made for this question.

Discussion of Environmental Evaluation Question 2.7 (f)—Paleontology

f) Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

"No Impact" determinations for this section are based on the Paleontology Screening dated March 27, 2020 (Caltrans 2020b). Potential impacts to paleontology resources are not anticipated due to a low potential for paleontology resources and the absence of unique geological features.

Mitigation Measures

Based on the determinations made in the CEQA Environmental Checklist, mitigation measures have not been proposed for the project.

2.8. Greenhouse Gas Emissions

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?			✓	
Would the project: b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?				✓

Climate Change

Climate change refers to long-term changes in temperature, precipitation, wind patterns, and other elements of the earth's climate system. An ever-increasing body of scientific research attributes these climatological changes to greenhouse gas (GHG) emissions, particularly those generated from the production and use of fossil fuels.

While climate change has been a concern for several decades, the establishment of the Intergovernmental Panel on Climate Change (IPCC) by the United Nations and World Meteorological Organization in 1988 led to increased efforts devoted to GHG emissions reduction and climate change research and policy. These efforts are primarily concerned with the emissions of GHGs generated by human activity, including carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), tetrafluoromethane, hexafluoroethane, sulfur hexafluoride (SF_6), and various hydrofluorocarbons (HFCs). CO_2 is the most abundant GHG; while it is a naturally occurring component of Earth's atmosphere, fossil-fuel combustion is the main source of additional, human-generated CO_2.

Two terms are typically used when discussing how we address the impacts of climate change: "greenhouse gas mitigation" and "adaptation." Greenhouse gas mitigation covers the activities and policies aimed at reducing GHG emissions to limit or "mitigate" the impacts of climate change. Adaptation, on the other hand, is concerned with planning for and responding to impacts resulting from climate change (such as adjusting transportation design standards to withstand more intense storms and higher sea levels). This analysis will include a discussion of both.

Regulatory Setting

This section outlines federal and state efforts to comprehensively reduce greenhouse gas emissions from transportation sources.

Federal

To date, no national standards have been established for nationwide mobile-source GHG reduction targets, nor have any regulations or legislation been enacted specifically to address climate change and GHG emissions reduction at the project level.

The National Environmental Policy Act (NEPA) (42 United States Code [USC] Part 4332) requires federal agencies to assess the environmental effects of their proposed actions prior to making a decision on the action or project.

The Federal Highway Administration (FHWA) recognizes the threats that extreme weather, sea level change, and other changes in environmental conditions pose to valuable transportation infrastructure and those who depend on it. FHWA therefore supports a sustainability approach that assesses vulnerability to climate risks and incorporates resilience into planning, asset management, project development and design, and operations and maintenance practices (FHWA 2019). This approach encourages planning for sustainable highways by addressing climate risks while balancing environmental, economic, and social values—"the triple bottom line of sustainability" (FHWA n.d.). Program and project elements that foster sustainability and resilience also support economic vitality and global efficiency, increase safety and mobility, enhance the environment, promote energy conservation, and improve the quality of life.

Various efforts have been promulgated at the federal level to improve fuel economy and energy efficiency to address climate change and its associated effects. The most important of these was the *Energy Policy and Conservation Act of 1975 (42 USC Section 6201) and Corporate Average Fuel Economy (CAFE) Standards*. This act establishes fuel economy standards for on-road motor vehicles sold in the United States. Compliance with federal fuel economy standards is determined through the CAFE program on the basis of each manufacturer's average fuel economy for the portion of its vehicles produced for sale in the United States.

Energy Policy Act of 2005, 109th Congress H.R.6 (2005–2006): This act sets forth an energy research and development program covering: (1) energy efficiency; (2) renewable energy; (3) oil and gas; (4) coal; (5) the establishment of the Office of Indian Energy Policy and Programs within the Department of Energy; (6) nuclear matters and security; (7) vehicles and motor fuels,

including ethanol; (8) hydrogen; (9) electricity; (10) energy tax incentives; (11) hydropower and geothermal energy; and (12) climate change technology.

The U.S. EPA, in conjunction with the National Highway Traffic Safety Administration (NHTSA), is responsible for setting GHG emission standards for new cars and light-duty vehicles to significantly increase the fuel economy of all new passenger cars and light trucks sold in the United States. Fuel efficiency standards directly influence GHG emissions.

State

California has been innovative and proactive in addressing GHG emissions and climate change by passing multiple Senate and Assembly bills and executive orders (EOs) including, but not limited to, the following:

EO S-3-05 (June 1, 2005): The goal of this EO is to reduce California's GHG emissions to: (1) year 2000 levels by 2010, (2) year 1990 levels by 2020, and (3) 80 percent below year 1990 levels by 2050. This goal was further reinforced with the passage of Assembly Bill (AB) 32 in 2006 and Senate Bill (SB) 32 in 2016.

AB 32, Chapter 488, 2006, Núñez and Pavley, The Global Warming Solutions Act of 2006: AB 32 codified the 2020 GHG emissions reduction goals outlined in EO S-3-05, while further mandating that the California Air Resources Board (CARB) create a scoping plan and implement rules to achieve "real, quantifiable, cost-effective reductions of greenhouse gases." The Legislature also intended that the statewide GHG emissions limit continue in existence and be used to maintain and continue reductions in emissions of GHGs beyond 2020 (Health and Safety Code [H&SC] Section 38551(b)). The law requires CARB to adopt rules and regulations in an open public process to achieve the maximum technologically feasible and cost-effective GHG reductions.

EO S-01-07 (January 18, 2007): This order sets forth the low carbon fuel standard (LCFS) for California. Under this EO, the carbon intensity of California's transportation fuels is to be reduced by at least 10 percent by the year 2020. CARB re-adopted the LCFS regulation in September 2015, and the changes went into effect on January 1, 2016. The program establishes a strong framework to promote the low-carbon fuel adoption necessary to achieve the Governor's 2030 and 2050 GHG reduction goals.

SB 375, Chapter 728, 2008, Sustainable Communities and Climate Protection: This bill requires CARB to set regional emissions reduction targets for passenger vehicles. The Metropolitan Planning Organization (MPO) for each region must then develop a "Sustainable Communities

Strategy" (SCS) that integrates transportation, land-use, and housing policies to plan how it will achieve the emissions target for its region.

SB 391, Chapter 585, 2009, California Transportation Plan: This bill requires the State's long-range transportation plan to identify strategies to address California's climate change goals under AB 32.

EO B-16-12 (March 2012): Orders State entities under the direction of the Governor, including CARB, the California Energy Commission, and the Public Utilities Commission, to support the rapid commercialization of zero-emission vehicles. It directs these entities to achieve various benchmarks related to zero-emission vehicles.

EO B-30-15 (April 2015): Establishes an interim statewide GHG emission reduction target of 40 percent below 1990 levels by 2030 to ensure California meets its target of reducing GHG emissions to 80 percent below 1990 levels by 2050. It further orders all state agencies with jurisdiction over sources of GHG emissions to implement measures, pursuant to statutory authority, to achieve reductions of GHG emissions to meet the 2030 and 2050 GHG emissions reductions targets. It also directs CARB to update the Climate Change Scoping Plan to express the 2030 target in terms of million metric tons of carbon dioxide equivalent ($MMTCO_2e$).[6] Finally, it requires the Natural Resources Agency to update the state's climate adaptation strategy, *Safeguarding California*, every 3 years, and to ensure that its provisions are fully implemented.

SB 32, Chapter 249, 2016: Codifies the GHG reduction targets established in EO B-30-15 to achieve a mid-range goal of 40 percent below 1990 levels by 2030.

SB 1386, Chapter 545, 2016: Declared "it to be the policy of the state that the protection and management of natural and working lands … is an important strategy in meeting the state's greenhouse gas reduction goals, and would require all state agencies, departments, boards, and commissions to consider this policy when revising, adopting, or establishing policies, regulations, expenditures, or grant criteria relating to the protection and management of natural and working lands."

[6] GHGs differ in how much heat each trap in the atmosphere (global warming potential, or GWP). CO_2 is the most important GHG, so amounts of other gases are expressed relative to CO_2, using a metric called "carbon dioxide equivalent" (CO_2e). The GWP of CO_2 is assigned a value of 1, and the GWP of other gases is assessed as multiples of CO_2.

AB 134, Chapter 254, 2017: Allocates Greenhouse Gas Reduction Funds and other sources to various clean vehicle programs, demonstration/pilot projects, clean vehicle rebates and projects, and other emissions-reduction programs statewide.

SB 743, Chapter 386 (September 2013): This bill changes the metric of consideration for transportation impacts pursuant to CEQA from a focus on automobile delay to alternative methods focused on vehicle miles traveled to promote the state's goals of reducing greenhouse gas emissions and traffic-related air pollution, and promoting multimodal transportation while balancing the needs of congestion management and safety.

SB 150, Chapter 150, 2017, Regional Transportation Plans: This bill requires CARB to prepare a report that assesses progress made by each Metropolitan Planning Organization in meeting their established regional greenhouse gas emission reduction targets.

EO B-55-18, (September 2018): Sets a new statewide goal to achieve and maintain carbon neutrality no later than 2045. This goal is in addition to existing statewide targets of reducing GHG emissions.

EO N-19-19 (September 2019): Advances California's climate goals, in part by directing the California State Transportation Agency to leverage annual transportation spending to reverse the trend of increased fuel consumption and reduce GHG emissions from the transportation sector. It orders a focus on transportation investments near housing, managing congestion, and encouraging alternatives to driving. This EO also directs CARB to encourage automakers to produce more clean vehicles, formulate ways to help Californians purchase them, and propose strategies to increase demand for zero-emission vehicles.

Environmental Setting

The proposed project is in a rural forested area, within the Jackson Demonstration State Forest which is owned and managed by CAL FIRE. SR 20 connects Willits to Fort Bragg and is the main transportation route through the area for both passenger and commercial vehicles. It is an eligible state scenic highway. Traffic counts are low and SR 20 is rarely congested. The Mendocino Council of Governments guides transportation development in the project area through the Mendocino County Regional Transportation Plan (RTP). The 2017 RTP was adopted in February 2018.

A GHG emissions inventory estimates the amount of GHGs discharged into the atmosphere by specific sources over a period of time, such as a calendar year. Tracking annual GHG emissions allows countries, states, and smaller jurisdictions to understand how emissions are changing and

what actions may be needed to attain emission reduction goals. U.S. EPA is responsible for documenting GHG emissions nationwide, and the CARB does so for the state, as required by H&SC Section 39607.4.

National GHG Inventory

The U.S. EPA prepares a national GHG inventory every year and submits it to the United Nations in accordance with the Framework Convention on Climate Change (Figure 3). The inventory provides a comprehensive accounting of all human-produced sources of GHGs in the United States, reporting emissions of CO_2, CH_4, N_2O, HFCs, perfluorocarbons, SF_6, and nitrogen trifluoride. It also accounts for emissions of CO_2 that are removed from the atmosphere by "sinks" such as forests, vegetation, and soils that uptake and store CO_2 (carbon sequestration). The 1990–2016 inventory found that of 6,511 $MMTCO_2e$ GHG emissions in 2016, 81% consist of CO_2, 10% are CH_4, and 6% are N_2O; the balance consists of fluorinated gases (U.S. EPA 2018). In 2016, GHG emissions from the transportation sector accounted for nearly 28.5% of U.S. GHG emissions.

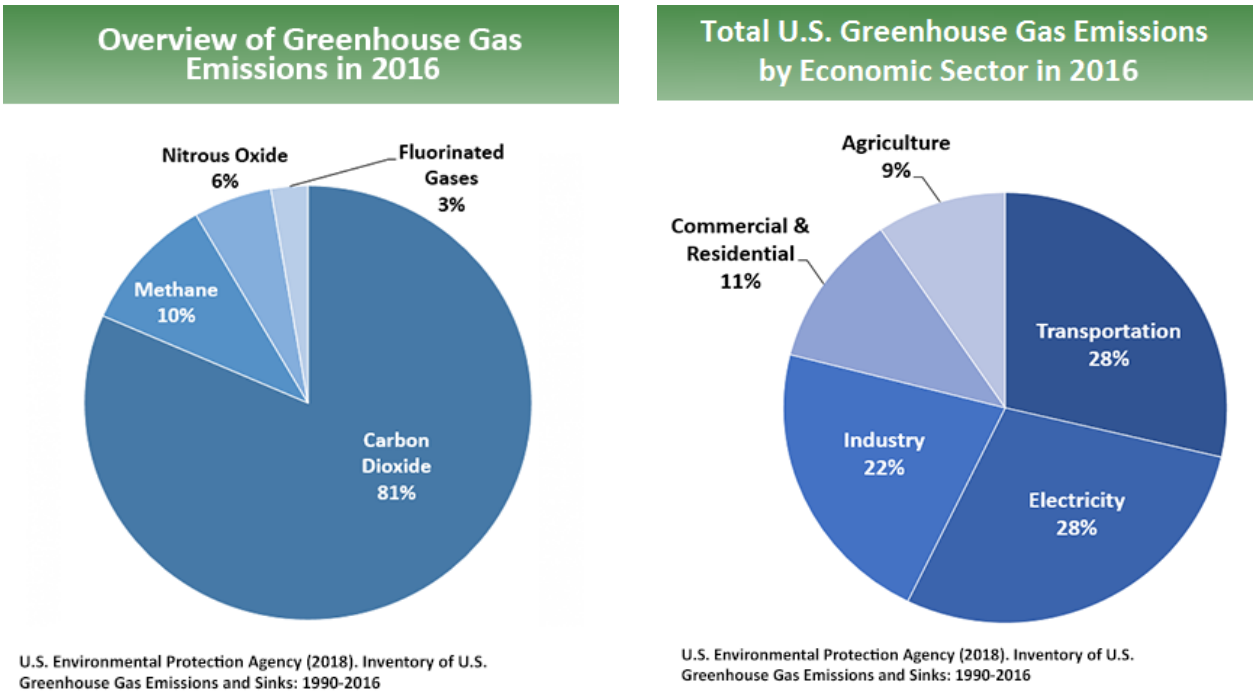

Figure 5. U.S. 2016 GHG Gas Emissions

State GHG Inventory

CARB collects GHG emissions data for transportation, electricity, commercial/residential, industrial, agricultural, and waste management sectors each year (Figure 4) (CARB 2019a). It then summarizes and highlights major annual changes and trends to demonstrate the state's progress in meeting its GHG reduction goals. The 2019 edition of the GHG emissions inventory found total California emissions of 424.1 $MMTCO_2e$ for 2017, with the transportation sector responsible for 41% of total GHGs. It also found that overall statewide GHG emissions declined from 2000 to 2017 despite growth in population and state economic output (Figure 5) (CARB 2019b).

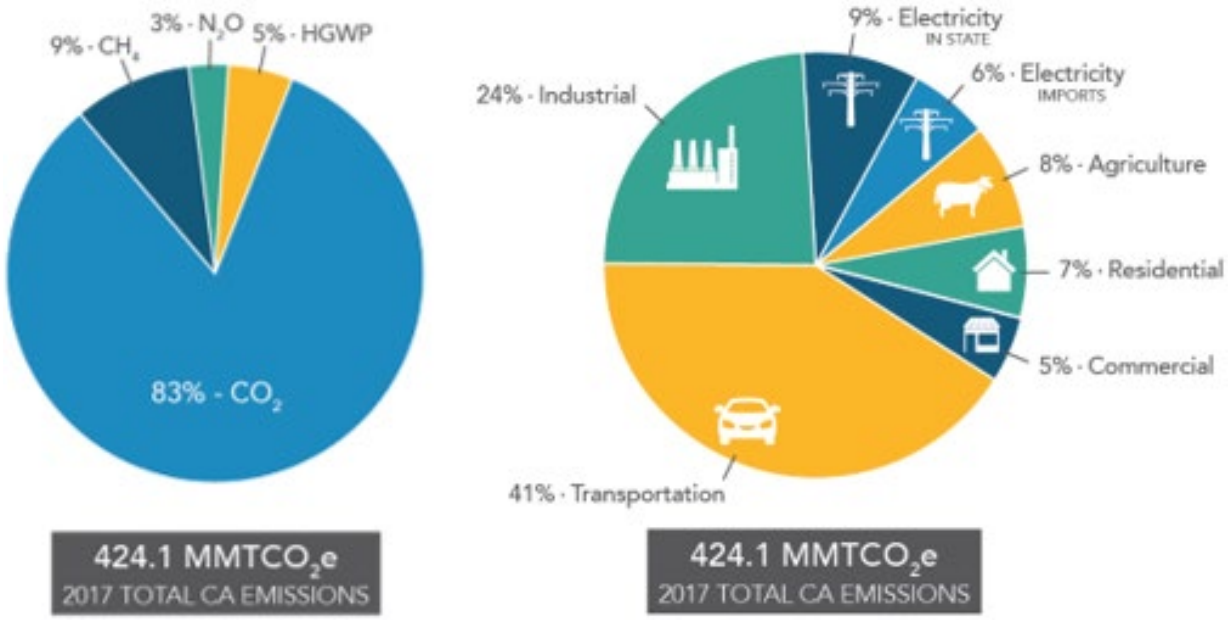

Figure 6. California 2017 Greenhouse Gas Emissions

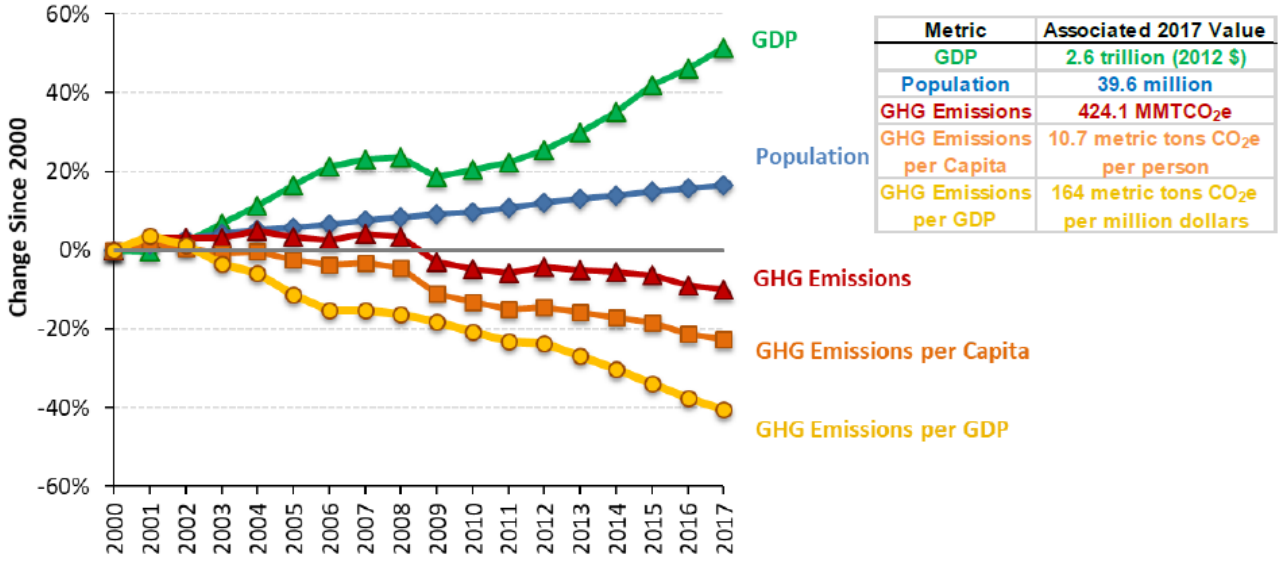

Figure 7. Change in California GDP, Population, and GHG Emissions Since 2000 (Source: CARB 2019b)

AB 32 required the CARB to develop a Scoping Plan that describes the approach California will take to achieve the goal of reducing GHG emissions to 1990 levels by 2020, and to update it every 5 years. CARB adopted the first scoping plan in 2008. The second updated plan, *California's 2017 Climate Change Scoping Plan*, adopted on December 14, 2017, reflects the 2030 target established in EO B-30-15 and SB 32. The AB 32 Scoping Plan and subsequent updates contain the main strategies California will use to reduce GHG emissions.

Regional Plans

The proposed project is within the jurisdiction of the Mendocino Council of Governments. The *Mendocino County 2017 Regional Transportation Plan* and the *Mendocino County 2009 General Plan* identify prior and ongoing efforts that result in reduced GHG emissions (Table 4).

Table 4. Regional GHG Reduction Plans and Strategies

Title	GHG Reduction Policies or Strategies
Mendocino Council of Governments (MCOG) *2017 Mendocino County Regional Transportation Plan* (adopted February 2018).	• Providing an effective public transit system • Expanding non-motorized modal alternatives • Promoting the expansion of alternative fuels • Investing in projects that reduce congestion • Participating in long term planning efforts (Blueprint Program) that are likely to reduce sprawl and promote infill • Identification of funding to implement all the above • Expanding infrastructure to support utilization of zero emission vehicles
Mendocino County 2009 General Plan (adopted August 2009)	Commits to energy-reducing policies that will also reduce CO_2 emissions. Policy RM-50: Mendocino County acknowledges the real challenge of climate change and will implement existing strategies to reduce greenhouse gas emissions and incorporate future measures that the State adopts in the coming years.

Project Analysis

GHG emissions from transportation projects can be divided into those produced during operation of the State Highway System (SHS) and those produced during construction. The primary GHGs produced by the transportation sector are CO_2, CH_4, N_2O, and HFCs. CO_2 emissions are a product of the combustion of petroleum-based products, like gasoline, in internal combustion engines. Relatively small amounts of CH_4 and N_2O are emitted during fuel combustion. In addition, a small amount of HFC emissions are included in the transportation sector.

The CEQA Guidelines generally address greenhouse gas emissions as a cumulative impact due to the global nature of climate change (Public Resources Code, § 21083(b)(2)). As the California Supreme Court explained, "Because of the global scale of climate change, any one project's contribution is unlikely to be significant by itself." (Cleveland National Forest Foundation *v.* San Diego Assn. of Governments (2017) 3 Cal.5th 497, 512.) In assessing cumulative impacts, it must be determined if a project's incremental effect is "cumulatively considerable" (CEQA Guidelines Sections 15064(h)(1) and 15130)).

To make this determination, the incremental impacts of the project must be compared with the effects of past, current, and probable future projects. Although climate change is ultimately a cumulative impact, not every individual project that emits greenhouse gases must necessarily be found to contribute to a significant cumulative impact on the environment.

Operational Emissions

The purpose of the proposed project is to is to improve safety for motorists and reduce the frequency and severity of collisions on SR 20 within the project limits. The project would not increase the capacity of the roadway. This type of project generally causes minimal or no increase in operational GHG emissions. Because the project would not increase the number of travel lanes on SR 20, no increase in vehicle miles traveled (VMT) would occur as result of the project. While approximately 0.40 acre of trees and vegetation would be removed to accommodate the realignment, the project area is densely forested, and the loss of vegetation would not likely substantially impair capacity for carbon sequestration. While some GHG emissions during the construction period would be unavoidable, no increase in operational GHG emissions is expected.

Construction Emissions

Construction GHG emissions would result from material processing, on-site construction equipment, and traffic delays due to construction. These emissions will be produced at different levels throughout the construction phase; their frequency and occurrence can be reduced through innovations in plans and specifications and by implementing better traffic management during construction phases.

In addition, with innovations such as longer pavement lives, improved Transportation Management Plans, and changes in materials, the GHG emissions produced during construction can be offset to some degree by longer intervals between maintenance and rehabilitation activities.

The Caltrans Construction Emissions Tool version was used to estimate carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O) emissions from construction activities. Construction is expected to begin in 2022 and last approximately 150 working days (6 to 7 months). Construction GHG emissions generated by on-site equipment for the project would be temporary (Table 5).

Table 5. Total GHG Emissions during Construction (U.S. tons)

Construction Year	CO_2	CH_4	N_2O	HFC
2022 (150 working days)	85	<1	<1	<1

CO_2 = carbon dioxide CH_4 = methane N_2O = nitrous oxide HF = hydrofluorocarbons

Implementation of the following measures, some of which may also be required for other purposes such as air pollution control, would reduce GHG emissions resulting from construction activities. Please note that although these measures are anticipated to reduce construction-related emissions, these reductions cannot be quantified at this time.

The construction contractor must comply with Caltrans Standard Specifications Section 14-9 (Caltrans 2015). Section 14-9.02 specifically requires compliance by the contractor with all applicable laws and regulations related to air quality. Certain common regulations, such as equipment idling restrictions, that reduce construction vehicle emissions also help reduce GHG emissions.

- Compliance with Title 13 of the California Code of Regulations, which includes restricting idling of construction vehicles and equipment to no more than five minutes.
- Caltrans Standard Specification 7-1.02C "Emissions Reduction" ensures that construction activities adhere to the most recent emissions reduction regulations mandated by the California Air Resource Board.
- Use a Transportation Management Plan to minimize vehicle delays and idling emissions.
- To the extent feasible, construction traffic would be scheduled and routed to reduce congestion and related air quality impacts caused by idling vehicles along local roads during peak travel times.

CEQA Conclusion

While the proposed project will result in a slight increase in GHG emissions during construction, it is anticipated the project will not result in any increase in operational GHG emissions. The proposed project does not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases (Caltrans 2019b). With implementation of construction GHG-reduction measures, there would be a "Less Than Significant Impact."

Caltrans is firmly committed to implementing measures to help reduce GHG emissions. These measures are outlined in the following section.

Greenhouse Gas Reduction Strategies

Statewide Efforts

Major sectors of the California economy, including transportation, will need to reduce emissions to meet the 2030 and 2050 GHG emissions targets. Former Governor Edmund G. Brown promoted GHG reduction goals (Figure 8) that involved (1) reducing today's petroleum use in cars and trucks by up to 50 percent; (2) increasing from one-third to 50 percent our electricity derived from renewable sources; (3) doubling the energy efficiency savings achieved at existing buildings and making heating fuels cleaner; (4) reducing the release of methane, black carbon, and other short-lived climate pollutants; (5) managing farms and rangelands, forests, and wetlands so they can store carbon; and (6) periodically updating the state's climate adaptation strategy, *Safeguarding California*.

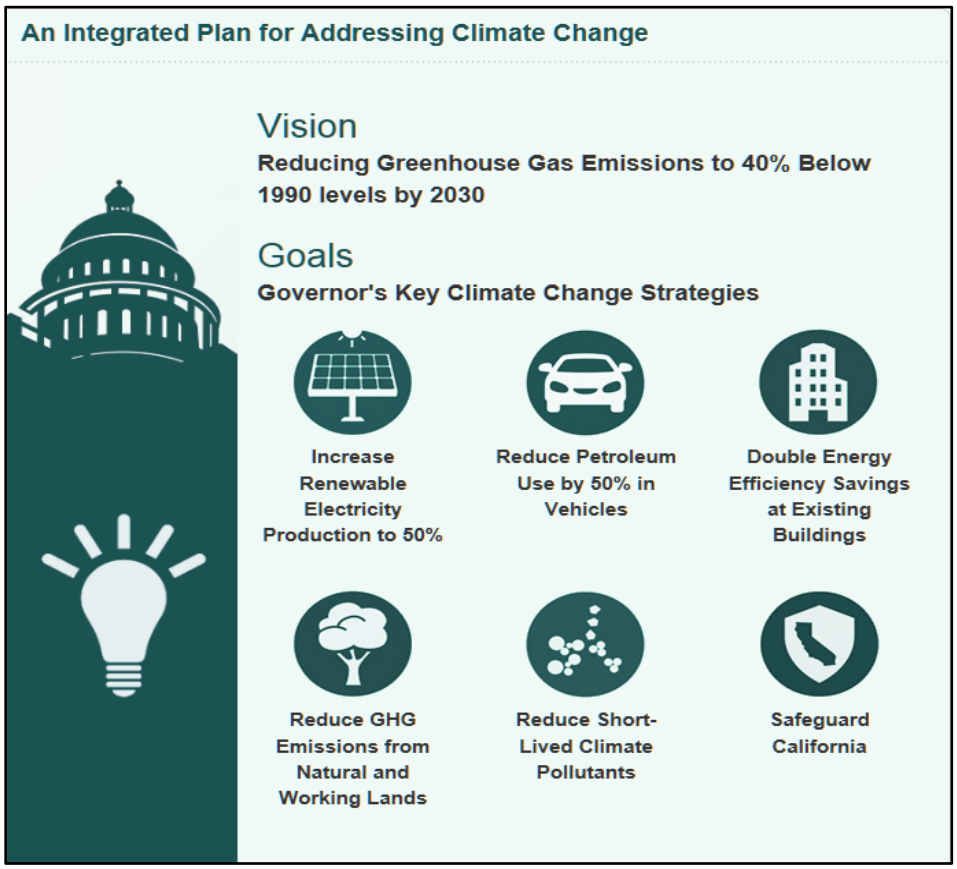

Figure 8. California Climate Strategy

The transportation sector is integral to the people and economy of California. To achieve GHG emission reduction goals, it is vital the state build on past successes in reducing criteria and toxic air pollutants from transportation and goods movement. GHG emission reductions will come from cleaner vehicle technologies, lower-carbon fuels, and reduction of vehicle miles traveled (VMT). A key state goal for reducing greenhouse gas emissions is to reduce today's petroleum use in cars and trucks by up to 50 percent by 2030 (State of California 2019).

In addition, SB 1386 established as state policy the protection and management of natural and working lands and requires state agencies to consider that policy in their own decision-making. Trees and vegetation on forests, rangelands, farms, and wetlands remove carbon dioxide from the atmosphere through biological processes and sequester the carbon in above- and below-ground matter.

Caltrans Activities

Caltrans continues to be involved on the Governor's Climate Action Team as the CARB works to implement EOs S-3-05 and S-01-07 and help achieve the targets set forth in AB 32. EO B-30-15, issued in April 2015, and SB 32 (2016), set an interim target to cut GHG emissions to 40 percent below 1990 levels by 2030. The following major initiatives are underway at Caltrans to help meet these targets.

California Transportation Plan (CTP 2040)

The California Transportation Plan (CTP) is a statewide, long-range transportation plan to meet our future mobility needs and reduce GHG emissions. In 2016, Caltrans completed the *California Transportation Plan 2040*, which establishes a new model for developing ground transportation systems, consistent with CO_2 reduction goals. It serves as an umbrella document for all the other statewide transportation planning documents. Over the next 25 years, California will be working to improve transit, reduce long-run repair and maintenance costs of roadways, and developing a comprehensive assessment of climate-related transportation demand management and new technologies rather than continuing to expand capacity on existing roadways.

SB 391 (Liu 2009) requires the CTP to meet California's climate change goals under AB 32. Accordingly, the CTP 2040 identifies the statewide transportation system needed to achieve maximum feasible GHG emission reductions while meeting the state's transportation needs. While MPOs have primary responsibility for identifying land use patterns to help reduce

GHG emissions, CTP 2040 identifies additional strategies in Pricing, Transportation Alternatives, Mode Shift, and Operational Efficiency.

Caltrans Strategic Management Plan

The Strategic Management Plan, released in 2015, creates a performance-based framework to preserve the environment and reduce GHG emissions, among other goals. Specific performance targets in the plan that will help to reduce GHG emissions include:

- Increasing percentage of non-auto mode share
- Reducing VMT
- Reducing Caltrans' internal operational (buildings, facilities, and fuel) GHG emissions

Funding and Technical Assistance Programs

In addition to developing plans and performance targets to reduce GHG emissions, Caltrans also administers several sustainable transportation planning grants. These grants encourage local and regional multimodal transportation, housing, and land use planning that furthers the region's RTP/SCS; contribute to the State's GHG reduction targets and advance transportation-related GHG emission reduction project types/strategies; and support other climate adaptation goals (e.g., *Safeguarding California*).

Caltrans Policy Directives and Other Initiates

Caltrans Director's Policy 30 (DP-30) Climate Change (June 22, 2012) is intended to establish a Department policy that will ensure coordinated efforts to incorporate climate change into Departmental decisions and activities. Caltrans *Activities to Address Climate Change* (April 2013) provides a comprehensive overview of Caltrans' statewide activities to reduce GHG emissions resulting from agency operations.

Project-Level Greenhouse Gas Reduction Strategies

The following measures will also be implemented in the project to reduce GHG emissions and potential climate change impacts from the project.

- The construction contractor must comply with Caltrans Standard Specifications Section 14-9 (Caltrans 2015). Section 14-9.02 specifically requires compliance by the contractor with all applicable laws and regulations related to air quality. Certain

common regulations, such as equipment idling restrictions, that reduce construction vehicle emissions also help reduce GHG emissions.

- Compliance with Title 13 of the California Code of Regulations, which includes restricting idling of construction vehicles and equipment to no more than 5 minutes.
- Caltrans Standard Specification 7-1.02C "Emissions Reduction" ensures that construction activities adhere to the most recent emissions reduction regulations mandated by the California Air Resource Board.
- Use a Transportation Management Plan to minimize vehicle delays and idling emissions.
- Construction traffic would be scheduled and routed to reduce congestion and related air quality impacts caused by idling vehicles along local roads during peak travel times.

Adaptation Strategies

Reducing GHG emissions is only one part of an approach to addressing climate change. Caltrans must plan for the effects of climate change on the state's transportation infrastructure and strengthen or protect the facilities from damage. Climate change is expected to produce increased variability in precipitation, rising temperatures, rising sea levels, variability in storm surges and their intensity, and in the frequency and intensity of wildfires. Flooding and erosion can damage or wash out roads; longer periods of intense heat can buckle pavement and railroad tracks; storm surges, combined with a rising sea level, can inundate highways. Wildfire can directly burn facilities and indirectly cause damage when rain falls on denuded slopes that landslide after a fire. Effects will vary by location and may, in the most extreme cases, require a facility be relocated or redesigned. Accordingly, Caltrans must consider these types of climate stressors in how highways are planned, designed, built, operated, and maintained.

Federal Efforts

Under NEPA assignment, Caltrans is obligated to comply with all applicable federal environmental laws and FHWA NEPA regulations, policies, and guidance.

The U.S. Global Change Research Program (USGCRP) delivers a report to Congress and the President every 4 years, in accordance with the Global Change Research Act of 1990 (15 U.S.C. Ch. 56A § 2921 et seq). The *Fourth National Climate Assessment*, published in 2018, presents the foundational science and the "human welfare, societal, and environmental

elements of climate change and variability for 10 regions and 18 national topics, with particular attention paid to observed and projected risks, impacts, consideration of risk reduction, and implications under different mitigation pathways." Chapter 12, "Transportation," presents a key discussion of vulnerability assessments. It notes that "asset owners and operators have increasingly conducted more focused studies of particular assets that consider multiple climate hazards and scenarios in the context of asset-specific information, such as design lifetime" (USGCRP 2018).

U.S. DOT Policy Statement on Climate Adaptation in June 2011 committed the federal Department of Transportation to "integrate consideration of climate change impacts and adaptation into the planning, operations, policies, and programs of DOT in order to ensure that taxpayer resources are invested wisely, and that transportation infrastructure, services and operations remain effective in current and future climate conditions." (U.S. DOT 2011).

FHWA Order 5520 (*Transportation System Preparedness and Resilience to Climate Change and Extreme Weather Events,* December 15, 2014) established FHWA policy to strive to identify the risks of climate change and extreme weather events to current and planned transportation systems. FHWA has developed guidance and tools for transportation planning that foster resilience to climate effects and sustainability at the federal, state, and local levels (FHWA 2019).

State Efforts

Climate change adaptation for transportation infrastructure involves long-term planning and risk management to address vulnerabilities in the transportation system. *California's Fourth Climate Change Assessment* (State of California 2018) is the state's latest effort to "translate the state of climate science into useful information for action" in a variety of sectors at both statewide and local scales. It adopts the following key terms used widely in climate change analysis and policy documents:

> *Adaptation* to climate change refers to adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities.
>
> *Adaptive capacity* is the "combination of the strengths, attributes, and resources available to an individual, community, society, or organization that can be used to prepare for and undertake actions to reduce adverse impacts, moderate harm, or exploit beneficial opportunities."

Exposure is the presence of people, infrastructure, natural systems, and economic, cultural, and social resources in areas that are subject to harm.

Resilience is the "capacity of any entity—an individual, a community, an organization, or a natural system—to prepare for disruptions, to recover from shocks and stresses, and to adapt and grow from a disruptive experience". Adaptation actions contribute to increasing resilience, which is a desired outcome or state of being.

Sensitivity is the level to which a species, natural system, or community, government, etc., would be affected by changing climate conditions.

Vulnerability is the "susceptibility to harm from exposure to stresses associated with environmental and social change and from the absence of capacity to adapt." Vulnerability can increase because of physical (built and environmental), social, political, and/or economic factors. These factors include, but are not limited to, ethnicity, class, sexual orientation and identification, national origin, and income inequality. Vulnerability is often defined as the combination of sensitivity and adaptive capacity as affected by the level of exposure to changing climate.

Several key state policies have guided climate change adaptation efforts to date. Recent state publications produced in response to these policies draw on these definitions.

EO S-13-08, issued by then-governor Arnold Schwarzenegger in November 2008, focused on sea-level rise and resulted in the *California Climate Adaptation Strategy* (2009), updated in 2014 as *Safeguarding California: Reducing Climate Risk* (Safeguarding California Plan). The Safeguarding California Plan offers policy principles and recommendations and continues to be revised and augmented with sector-specific adaptation strategies, ongoing actions, and next steps for agencies.

EO S-13-08 also led to the publication of a series of sea-level rise assessment reports and associated guidance and policies. These reports formed the foundation of an interim *State of California Sea-Level Rise Interim Guidance Document* (SLR Guidance) in 2010, with instructions for how state agencies could incorporate "sea-level rise (SLR) projections into planning and decision making for projects in California" in a consistent way across agencies. The guidance was revised and augmented in 2013. *Rising Seas in California – An Update on Sea-Level Rise Science* was published in 2017 and its updated projections of sea-level rise and new understanding of processes and potential impacts in California were incorporated into the *State of California Sea-Level Rise Guidance Update* in 2018.

EO B-30-15, signed in April 2015, requires state agencies to factor climate change into all planning and investment decisions. This EO recognizes that effects of climate change other than sea-level rise also threaten California's infrastructure. At the direction of EO B-30-15, the Office of Planning and Research published *Planning and Investing for a Resilient California: A Guidebook for State Agencies* in 2017, to encourage a uniform and systematic approach. Representatives of Caltrans participated in the multi-agency, multidisciplinary technical advisory group that developed this guidance on how to integrate climate change into planning and investment.

AB 2800 created the multidisciplinary Climate-Safe Infrastructure Working Group, which in 2018 released its report, *Paying it Forward: The Path Toward Climate-Safe Infrastructure in California*. The report provides guidance to agencies on how to address the challenges of assessing risk in the face of inherent uncertainties still posed by the best available science on climate change. It also examines how state agencies can use infrastructure planning, design, and implementation processes to address the observed and anticipated climate change impacts.

Caltrans Adaptation Efforts

Vulnerability Assessments

Caltrans is conducting climate change vulnerability assessments to identify segments of the State Highway System vulnerable to climate change effects including precipitation, temperature, wildfire, storm surge, and sea-level rise. The approach to the vulnerability assessments was tailored to the practices of a transportation agency, and involves the following concepts and actions:

- *Exposure* – Identify Caltrans assets exposed to damage or reduced service life from expected future conditions.
- *Consequence* – Determine what might occur to system assets in terms of loss of use or costs of repair.
- *Prioritization* – Develop a method for making capital programming decisions to address identified risks, including considerations of system use and/or timing of expected exposure.

The climate change data in the assessments were developed in coordination with climate change scientists and experts at federal, state, and regional organizations at the forefront of climate science. The findings of the vulnerability assessments will guide analysis of at-risk assets and development of adaptation plans to reduce the likelihood of damage to the State Highway System, allowing Caltrans to both reduce the costs of storm damage and to provide and maintain transportation that meets the needs of all Californians.

Project Adaptation Efforts

Sea Level Rise

The proposed project is outside the Coastal Zone and is not in an area subject to sea-level rise. Accordingly, direct impacts to transportation facilities due to projected sea-level rise are not expected.

Floodplains

The proposed project follows the north bank of the North Fork Big River between the cities of Willits and Fort Bragg. Historic average annual precipitation is about 52 inches, falling mainly between October and April. The project's Floodplain Evaluation Report Summary reported that the project falls in a FEMA Zone X floodplain, defined as areas outside the 0.2% (1-in-500 year) annual chance floodplain, an area of minimal flood hazard.

Climate change is expected to bring fewer but potentially heavier individual precipitation events in the project region. The *Caltrans District 1 Climate Change Pilot Study* (2014) estimated the potential increase in average daily precipitation in the project region could be 10% or more by 2099 under a wet global climate model, compared to the 1970–1999 historic period (Caltrans and Humboldt County Association of Governments 2014). However, different models produce different results, ranging from increasing to decreasing rainfall. The report explains that "Rainfall and runoff changes varied depending upon models. Models predicting increased rainfall were used as a conservative measure to assess asset exposure." Adding to the uncertainty, many other factors (such as riverbed geology, geography, and slopes) influence the potential effects of higher rainfall on a river and how it interacts with roadway infrastructure.

The project does not involve any water crossings and would not place components in a floodplain or waterway; therefore, no adverse floodplain impacts are anticipated. The roadway runs approximately 200 feet upslope of the river, and the proposed curve realignment would move the realigned portion of the roadway approximately 50 feet north

(away) from the river. Given the location and scope of the project, it is anticipated to be resilient to potential future changes in rainfall under climate change.

Wildfire

The proposed project lies within the Jackson Demonstration State Forest, a State Responsibility Area designated by CAL FIRE as of moderate fire hazard severity. Project fire-resilience features include fire-resistant metal posts and concrete vegetation control on the new guardrail. To address fire risk during construction, the contractor will comply with Caltrans Standard Specification 7-1.02M(2) (revised October 18, 2019) regarding fire prevention procedures.

2.9. Hazards and Hazardous Materials

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?				✓
Would the project: b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?				✓
Would the project: c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?				✓
Would the project: d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?				✓
Would the project: e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?				✓
Would the project: f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?				✓

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?				✓

"No Impact" determinations in this section are based on the description and location of the proposed project, as well as the Initial Site Assessment dated August 27, 2019 (Caltrans 2019e). The proposed project is not near a school, an airport, or located on a listed hazardous site. The project would not interfere with emergency response plans and emergency vehicles would be accommodated during construction. The project would not expose the public to risk of loss due to wildfire. Potential impacts from Hazards and Hazardous Materials are not anticipated.

Mitigation Measures

Based on the determinations made in the CEQA Environmental Checklist, mitigation measures have not been proposed for the project.

2.10. Hydrology and Water Quality

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?				✓
Would the project: b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?				✓
Would the project: c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: (i) result in substantial erosion or siltation on- or off-site;				✓
(ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;				✓
(iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or				✓
(iv) impede or redirect flood flows?				✓
Would the project: d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?				✓

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?				✓

"No Impact" determinations in this section are based on the scope, description, and location of the proposed project, as well as the Floodplain Evaluation Report Summary dated June 30, 2018 (Caltrans 2018a), the Preliminary Drainage Report dated March 29, 2019 (Caltrans 2019f), and Water Quality Assessment Memo dated May 14, 2020 (Caltrans 2020c). The project is outside the zone for 0.2% chance of annual flooding, so risks from flooding are minimal. Potential impacts to Hydrology and Water Quality are not anticipated.

Mitigation Measures

Based on the determinations made in the CEQA Environmental Checklist, mitigation measures have not been proposed for the project.

2.11. Land Use and Planning

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: a) Physically divide an established community?				✓
Would the project: b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?				✓

"No Impact" determinations in this section are based on the scope, description, and location of the proposed project. The project does not conflict with existing zoning, plans, and other applicable land use controls (CEQA Guidelines Section 15063(d)(5)); therefore, potential impacts to Land Use and Planning are not anticipated.

Mitigation Measures

Based on the determinations made in the CEQA Environmental Checklist, mitigation measures have not been proposed for the project.

2.12. Mineral Resources

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?				✓
Would the project: b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?				✓

"No Impact" determinations in this section are based on the location of the proposed project, and California Geological Survey Maps. Potential impacts to Mineral Resources are not anticipated because mineral resources were not identified within the project limits.

Mitigation Measures

Based on the determinations made in the CEQA Environmental Checklist, mitigation measures have not been proposed for the project.

2.13. Noise

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project result in: a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?				✓
Would the project result in: b) Generation of excessive groundborne vibration or groundborne noise levels?				✓
Would the project result in: c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?				✓

"No Impact" determinations in this section are based on the scope, description, and location of the proposed project, as well as the Environmental Impact Assessment—Noise, Air Quality, Greenhouse Gas, and Energy Memo dated August 30, 2019 (Caltrans 2019b). Potential impacts from Noise are not anticipated because traffic noise impacts are not anticipated, and construction noise would be temporary.

Mitigation Measures

Based on the determinations made in the CEQA Environmental Checklist, mitigation measures have not been proposed for the project.

2.14. Population and Housing

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?				✓
Would the project: b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?				✓

"No Impact" determinations in this section are based on the scope and location of the proposed project. Potential impacts to Population and Housing are not anticipated because there is no housing or populated area within the project area.

Mitigation Measures

Based on the determinations made in the CEQA Environmental Checklist, mitigation measures have not been proposed for the project.

2.15. Public Services

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services: Fire protection?				✓
Police protection?				✓
Schools?				✓
Parks?				✓
Other public facilities?				✓

"No Impact" determinations in this section are based on the scope, description, and location of the proposed project. This safety project would make using this segment of road safer for emergency vehicles and the traveling public. Potential adverse impacts to Public Services are not anticipated because no public facilities are in the project area.

Mitigation Measures

Based on the determinations made in the CEQA Environmental Checklist, mitigation measures have not been proposed for the project.

2.16. Recreation

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?				✓
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?				✓

"No Impact" determinations in this section are based on the scope, description, and location of the proposed project. This safety project is not expected to impact use of the campgrounds nearby and no new recreational facilities are proposed. Potential impacts to Recreation are not anticipated.

Mitigation Measures

Based on the determinations made in the CEQA Environmental Checklist, mitigation measures have not been proposed for the project.

2.17. Transportation/Traffic

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: a) Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?				✓
Would the project: b) Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?				✓
Would the project: c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?				✓
Would the project: d) Result in inadequate emergency access?				✓

"No Impact" determinations in this section are based on the scope, description, and location of the proposed project, as well as the Transportation Management Plan Update dated May 23, 2019 (Caltrans 2019g). Emergency vehicles, public transit, bicyclists, and pedestrians would be accommodated through the project area. The project does not propose to add a vehicle lane and would not increase vehicle miles traveled (VMT). The geometry of the compound curve between PM 19.34 and PM 19.52 would be improved and would adhere to current design standards. Emergency service providers would receive prior notification of lane closures. Potential adverse impacts to Transportation and Traffic are not anticipated because temporary construction delays are expected to be 10 minutes or less in each direction.

Long-term results from this project are expected to be positive. The purpose of this project is to reduce collisions on this segment of highway, which would improve transportation efficiency and safety of the traveling public. Operational improvements, such as this curve improvement, can reduce injuries and loss of life, improve emergency vehicle access, reduce traffic delays due to collisions, and reduce maintenance costs.

Mitigation Measures

Based on the determinations made in the CEQA Environmental Checklist, mitigation measures have not been proposed for the project.

2.18. Tribal Cultural Resources

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is: a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k), or				✓
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.				✓

"No Impact" determinations in this section are based on the scope, description, and location of the proposed project, as well as the Archaeological Survey Report dated December 11, 2019 (Caltrans 2019c). An extensive historical records search and correspondence with 11 tribes resulted in no known archaeological or cultural sites in the area of potential effects. Therefore, potential impacts to Tribal Cultural Resources are not anticipated.

Mitigation Measures

Based on the determinations made in the CEQA Environmental Checklist, mitigation measures have not been proposed for the project.

2.19. Utilities and Service Systems

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Would the project: a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities—the construction or relocation of which could cause significant environmental effects?				✓
Would the project: b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?				✓
Would the project: c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?				✓
Would the project: d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?				✓
Would the project: e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?				✓

"No Impact" determinations in this section are based on the scope, description, and location of the proposed project. Potential impacts to Utilities are not anticipated because no utilities would be relocated and the project does not require water supplies, wastewater services, or solid waste discharge.

Mitigation Measures

Based on the determinations made in the CEQA Environmental Checklist, mitigation measures have not been proposed for the project.

2.20. Wildfire

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project: a) Substantially impair an adopted emergency response plan or emergency evacuation plan?				✓
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?				✓
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?				✓
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?				✓

"No Impact" determinations in this section are based on the location of the proposed project, as well as the Mendocino County Fire Hazard Severity Map dated November 6, 2007 (CAL FIRE 2007). Potential impacts to Wildfire are not anticipated because the proposed project is not located in an area designated as a "very high" wildfire hazard severity zone.

Mitigation Measures

Based on the determinations made in the CEQA Environmental Checklist, mitigation measures have not been proposed for the project.

2.21. Mandatory Findings of Significance

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?				✓
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)				✓
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?				✓

Discussion of Environmental Evaluation Question 2.21—Mandatory Findings of Significance

a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

The proposed project would occur in an area where sensitive resources could be present; however, due to the minimal scope of the project and the careful consideration of work windows, the analysis indicates the construction of this project would not have the potential to substantially degrade the quality of the environment or to substantially reduce habitat or species populations to below self-sustaining levels. No cultural resources are anticipated to be impacted by the proposed project. Based on this analysis, a "No Impact" determination was made for this Question a).

b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)

Per Section 15130 of CEQA, a Cumulative Impact Analysis (CIA) discussion is only required in "…situations where the cumulative effects are found to be significant." An Environmental Impact Report (EIR) is required in all situations when a project might result in a "significant" direct, indirect, or cumulative impact on any resource. Due to the minimal scope of the project, the proposed project is not anticipated to have a cumulative impact on any resource; therefore, an EIR and CIA were not required. Given this, a "No Impact" determination was made for this Question b).

c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

A "No Impact" determination for this question c) is based on the scope, description, and location of the proposed project. The project would be built in an area that is not residential, and the transportation delays would be short and temporary. The project is not expected to have any adverse effects on human beings, either directly or indirectly.

2.22. Cumulative Impacts

Cumulative impacts are those that result from past, present, and reasonably foreseeable future actions, combined with the potential impacts of this proposed project. A cumulative impact assessment looks at the collective impacts posed by individual land use plans and projects. Cumulative impacts can result from individually minor but collectively substantial impacts taking place over a period of time (CEQA § 15355).

Cumulative impacts to resources may result from residential, commercial, industrial, and highway development, as well as from agricultural development and the conversion to more intensive agricultural cultivation. These land use activities can degrade habitat and species diversity through consequences such as displacement and fragmentation of habitats and populations, alteration of hydrology, contamination, erosion, sedimentation, disruption of migration corridors, changes in water quality, and introduction or promotion of predators. They can also contribute to potential community impacts identified for the project, such as changes in community character, traffic patterns, housing availability, and employment.

Per § 15130 of CEQA, a Cumulative Impact Analysis (CIA) discussion is only required in "…situations where the cumulative effects are found to be significant." An EIR is required in all situations when a project might result in a "significant" direct, indirect, or cumulative impact on any resource. The analysis indicates that the construction of this project would not have the potential to significantly impact any resource. Given this, an EIR and CIA were not required for this project.

Chapter 3. Agency and Public Coordination

Early and continuing coordination with the general public and public agencies is an essential part of the environmental process. It helps planners determine the necessary scope of environmental documentation and the level of analysis required, and to identify potential impacts and avoidance, minimization and/or mitigation measures, and related environmental requirements. Agency consultation and public participation for this project have been accomplished through a variety of formal and informal methods, including Project Development Team (PDT) meetings, interagency coordination meetings, tribal outreach and notification letters, and public noticing. This chapter summarizes the results of Caltrans' efforts to identify, address, and resolve project-related issues through early and continuing coordination.

The following agencies, organizations, and individuals were consulted in the preparation of this environmental document.

Coordination with Resource Agencies

Coordination Effort	Date	Personnel
NSO/MAMU survey effort discussion.	June 17, 2019; e-mail	Will Ragan, Caltrans Tina Fabula, CAL FIRE
Discuss potential affects to NSO/MAMU and potential use of the PLOC.	July 25, 2019; email.	Greg Schmidt, USFWS Will Ragan, Caltrans
Discussion of tree removal, use of the PLOC and spoils dumping locations.	September 11, 2019; site visit	Greg Schmidt, USFWS Will Ragan, Caltrans Mike Powers, CAL FIRE
Discuss potential affects to NSO/MAMU and potential use of the PLOC.	November 21, 2019; phone call	Greg Schmidt, USFWS Will Ragan, Caltrans
Discuss potential affects to the sensitive salmonid species/habitats and use of the PBO.	December 3, 2019; email	Mike Kelly, NOAA/NMFS Elena Meza, NOAA/NMFS Will Ragan, CAL FIRE Stephanie Frederickson, Caltrans
Discuss project impacts toward Jackson Demonstration State Forest and sensitive species.	December 9, 2019; email	Jennifer Garrison, CDFW Will Ragan, Caltrans

Coordination with Property Owners

Coordination Effort	Date	Personnel
Request to conduct environmental studies in the project area.	March 5, 2019; email	Yvonne Becker, Caltrans Mike Powers, CAL FIRE
Request to conduct environmental studies in the project area.	April 20, 2020; email	Yvonne Becker, Caltrans Mike Powers, CAL FIRE

Chapter 4. List of Preparers

The following individuals performed the environmental work on the project:

California Department of Transportation, District 1

Bryan Atkinson	Associate Environmental Planner (Natural Sciences) Contribution: Natural Environment Study, June 16, 2020
Jessica Bailey	Landscape Associate Contribution: Visual Impact Assessment, June 3, 2019
Julie East	Senior Environmental Planner Contribution: Environmental Branch Chief
Christian Figueroa	Hazardous Waste Coordinator/Paleontology Contribution: Paleontology Screening, March 27, 2019
Brian James	Associate Environmental Planner (Archaeology) Contribution: Cultural Studies, December 11, 2019
Brandon Larsen	Senior Environmental Planner Contribution: Environmental Office Chief
Cathy McKeon	Senior Transportation Planner Contribution: Project Coordination
Mark Melani	Hazardous Waste Coordinator Contribution: Initial Site Assessment, August 27, 2019
Artin Merati	Transportation Engineer (Hydraulics) Contribution: Preliminary Drainage Report, March 29, 2019
Kristine Pepper	Transportation Engineer (Hydraulics) Contribution: Floodplain Evaluation Report Summary, June 30, 2018
Sumandeep Sudini	Project Engineer Contribution: Project Design
Oscar Rodriguez	Transportation Engineer (NPDES Coordinator) Contribution: Water Quality Assessment Memo, May 14, 2020
Cari Williams	Environmental Planner (Coordinator) Contribution: Environmental Document Preparation

Saeid Zandian	Transportation Engineer (Air and Noise) Contribution: Air, Noise, Energy, and Greenhouse Gas Memo, August 30, 2019

Chapter 5. Distribution List

Federal and State Agencies

California Department of Fish and Wildlife (CDFW)
619 2nd Street
Eureka, CA 95501

Jackson Demonstration State Forest
California Department of Forestry and Fire Protection (CAL FIRE)
802 North Main Street
Fort Bragg, CA 95437

National Marine Fisheries Service (NOAA/NMFS)
1655 Heindon Road
Arcata, CA 95521

United States Fish and Wildlife Service (USFWS)
1655 Heindon Road
Arcata, CA 95521

Regional/County/Local Agencies

Mendocino Council of Governments
367 N State Street, Suite 206
Ukiah, CA 95482

Mendocino County Planning Department
501 Low Gap Road
Ukiah, CA 95482

Chapter 6. References

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_____. 2020b. Paleontology Screening. Author: Christian Figueroa. March 27, 2020.

_____. 2020c. Water Quality Assessment Memo. Author: Oscar Rodriguez. May 14, 2019.

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U.S. Environmental Protection Agency (U.S. EPA). 2018. *Inventory of U.S. Greenhouse Gas Emissions and Sinks.* https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks. Accessed: August 21, 2019.

U.S. Global Change Research Program (USGCRP). 2018. *Fourth National Climate Assessment*. https://nca2018.globalchange.gov/. Accessed: August 21, 2019.

Appendix A. Project Layouts

NOTE:
FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

LEGEND:

- RIGHT OF WAY
- METAL BEAM GUARD RAIL
- EXISTING CULVERT
- WIDENING
- COLD PLANE AND OVERLAY
- STAGING AREA

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	20	19.1/19.6		

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

REGISTERED PROFESSIONAL ENGINEER — No. — Exp. — CIVIL — STATE OF CALIFORNIA

LAYOUT
SCALE : 1" = 20'

L-1

STATE OF CALIFORNIA -- DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED-DESIGNED BY	CHECKED BY	REVISED BY	DATE REVISED
Caltrans DESIGN	ELIAS KARAM	RICHARD LY-LEE	SUMANDEEP SUDINI		

USERNAME =>s148059 — RELATIVE PLOTTED SCALE 0 1 2 3 — UNIT 0770 — PROJECT NUMBER & PHASE — LAST REVISION DATE PLOTTED =>05 JUL 2022

NOTE:

FOR ACCURATE RIGHT OF WAY DATA, CONTACT
RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

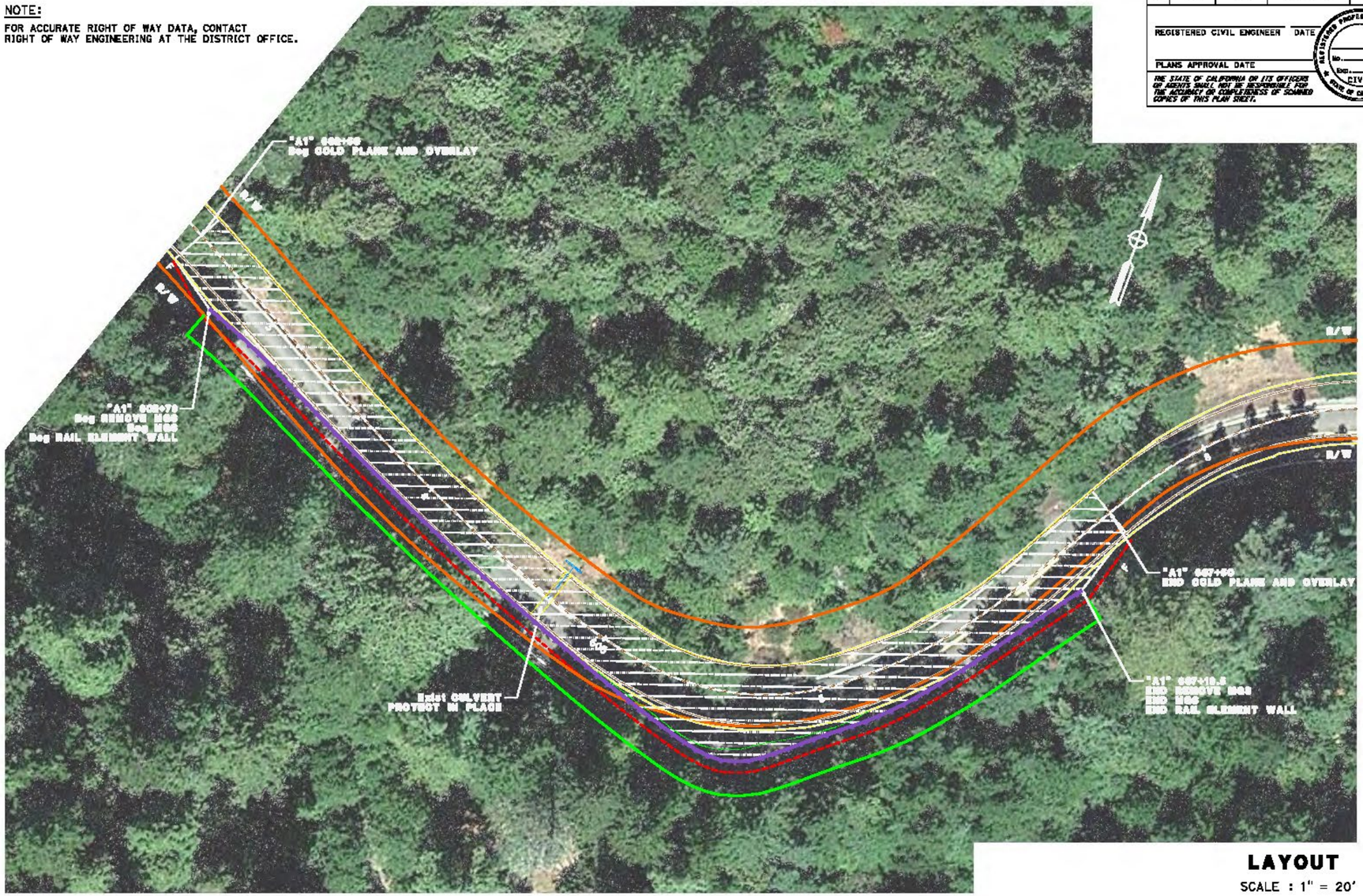
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	20	19.1/19.6		

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

REGISTERED PROFESSIONAL ENGINEER — No. — EXP. — CIVIL — STATE OF CALIFORNIA



LAYOUT

SCALE : 1" = 20'

L-2

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	CALCULATED-DESIGNED BY	RICHARD LY-LEE	REVISED BY	
DESIGN	CHECKED BY	SUMANDEEP SUDAN	DATE REVISED	
FUNCTIONAL SUPERVISOR: ELIAS KARAM				

LAST REVISED: DATE PLOTTED => 05-MAR-2020, TIME PLOTTED => 15:47, 02-17-20

BORDER LAST REVISED 7/2/2010 | USERNAME => e132285, DGN FILE => D:\1170000225ec0102.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0332 | PROJECT NUMBER & PHASE 0117000225

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	20	19.1/19.6		

REGISTERED CIVIL ENGINEER DATE

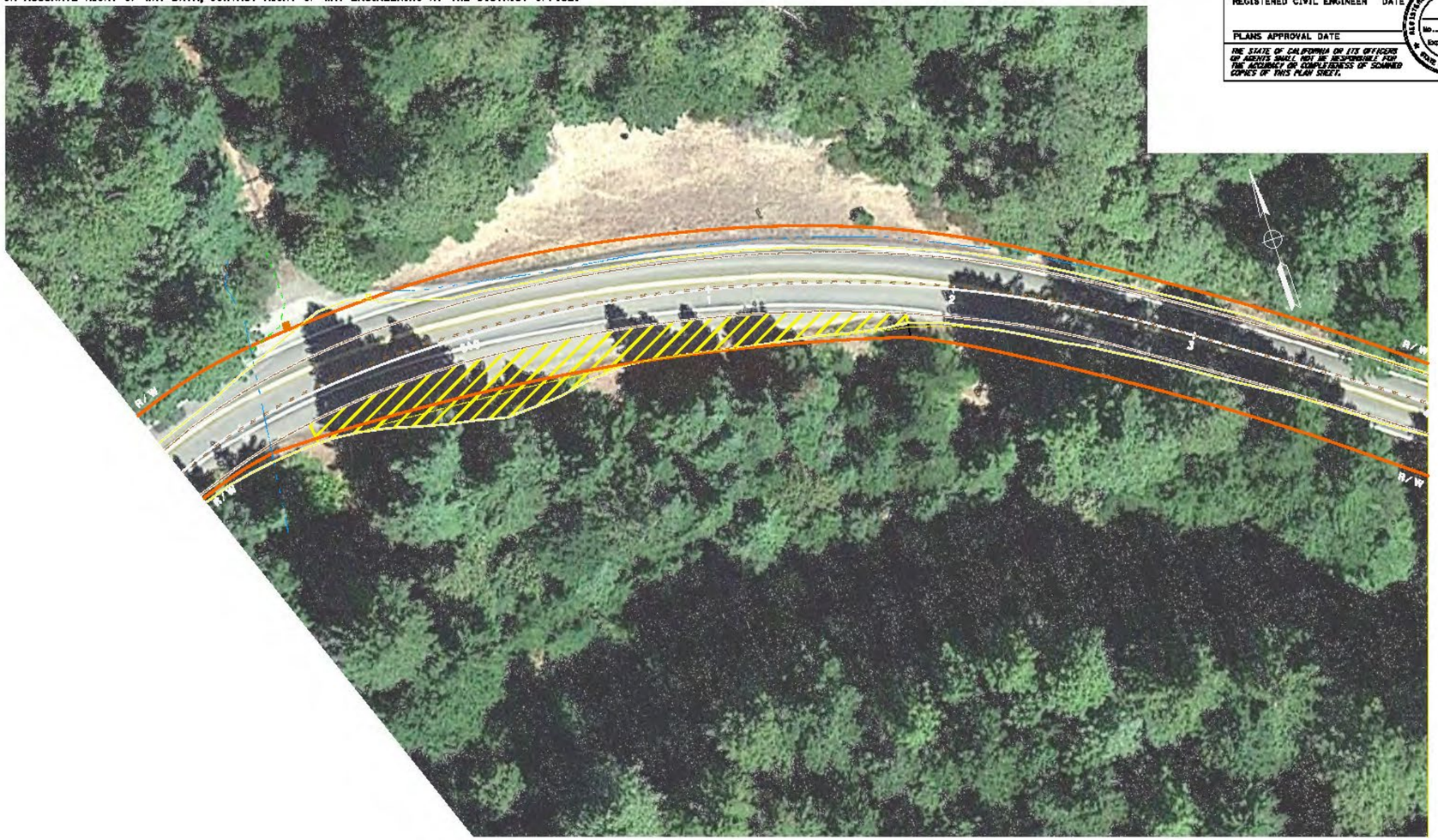
PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

REGISTERED PROFESSIONAL ENGINEER No. Exp. CIVIL STATE OF CALIFORNIA

NOTE:

FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.



LAYOUT

SCALE : 1" = 20'

L-3

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED-DESIGNED BY	RICHARD LY-LEE	REVISED BY	
DESIGN	ELIAS KARAM	CHECKED BY	SUMANDEEP SUDINI	DATE REVISED	

LAST REVISED 02-17-20 DATE PLOTTED => 06-MAR-2020 TIME PLOTTED => 19:47

BORDER LAST REVISED 7/2/2010 | USERNAME => s132295 DGN FILE => D1170000225sd003.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0332 | PROJECT NUMBER & PHASE 0117000225

NOTE:
FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

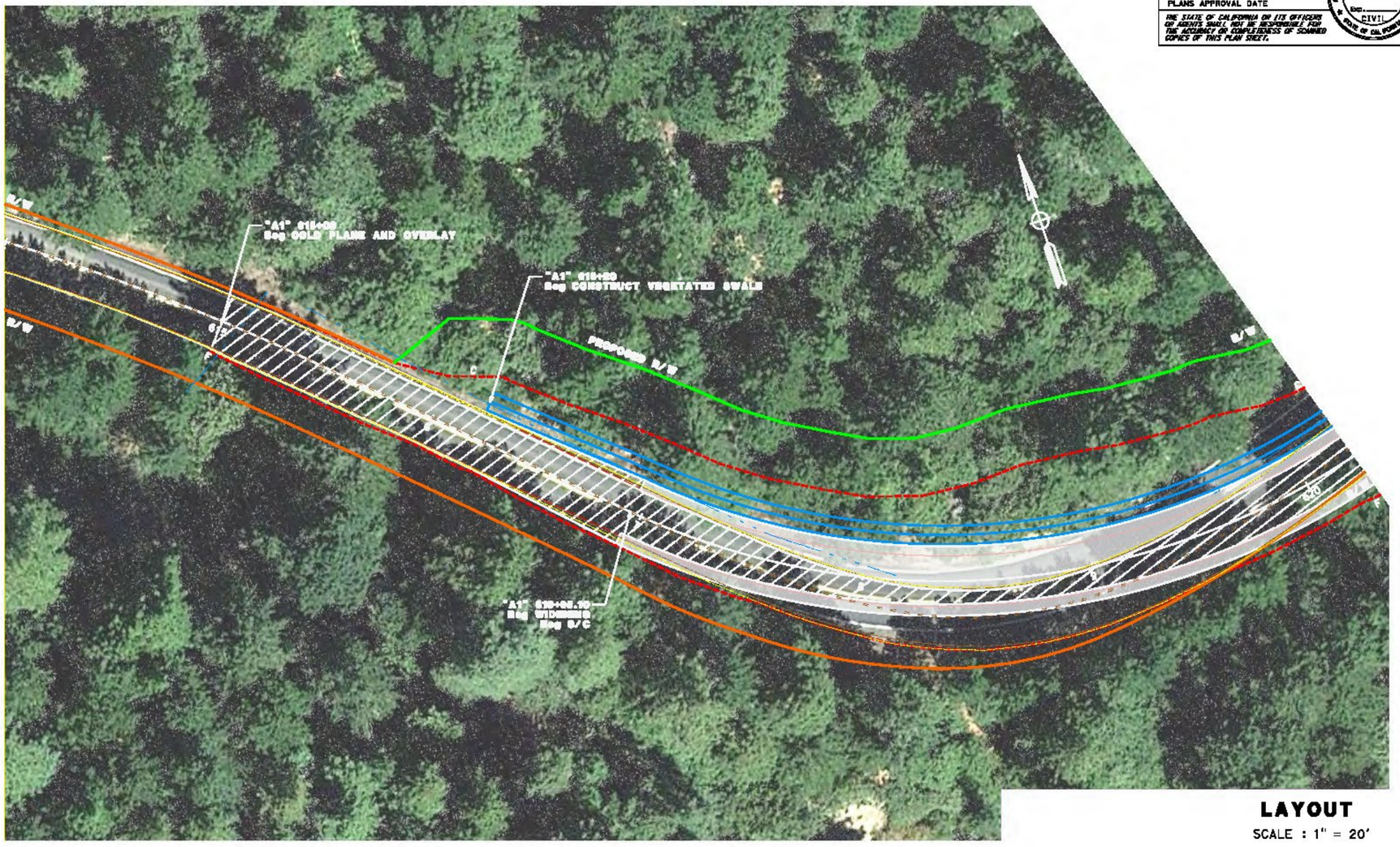
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	20	19.1/19.6		

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

REGISTERED PROFESSIONAL ENGINEER — No. — Exp. — CIVIL — STATE OF CALIFORNIA



LAYOUT
SCALE : 1" = 20'

L-4

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED-DESIGNED BY	REVISED BY	
DESIGN	ELIAS KARAM	CHECKED BY	DATE REVISED	
		RICHARD LY-LEE		
		SUMANDEEP SUDINI		

DATE PLOTTED => 06-MAR-2020
TIME PLOTTED => 19:49
LAST REVISED 02-17-20

BORDER LAST REVISED 7/2/2010	USERNAME => s132265 DGN FILE => 0117000225sed004.dgn	RELATIVE BORDER SCALE IS IN INCHES (0 1 2 3)	UNIT 0332	PROJECT NUMBER & PHASE	0117000225

NOTE:
FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

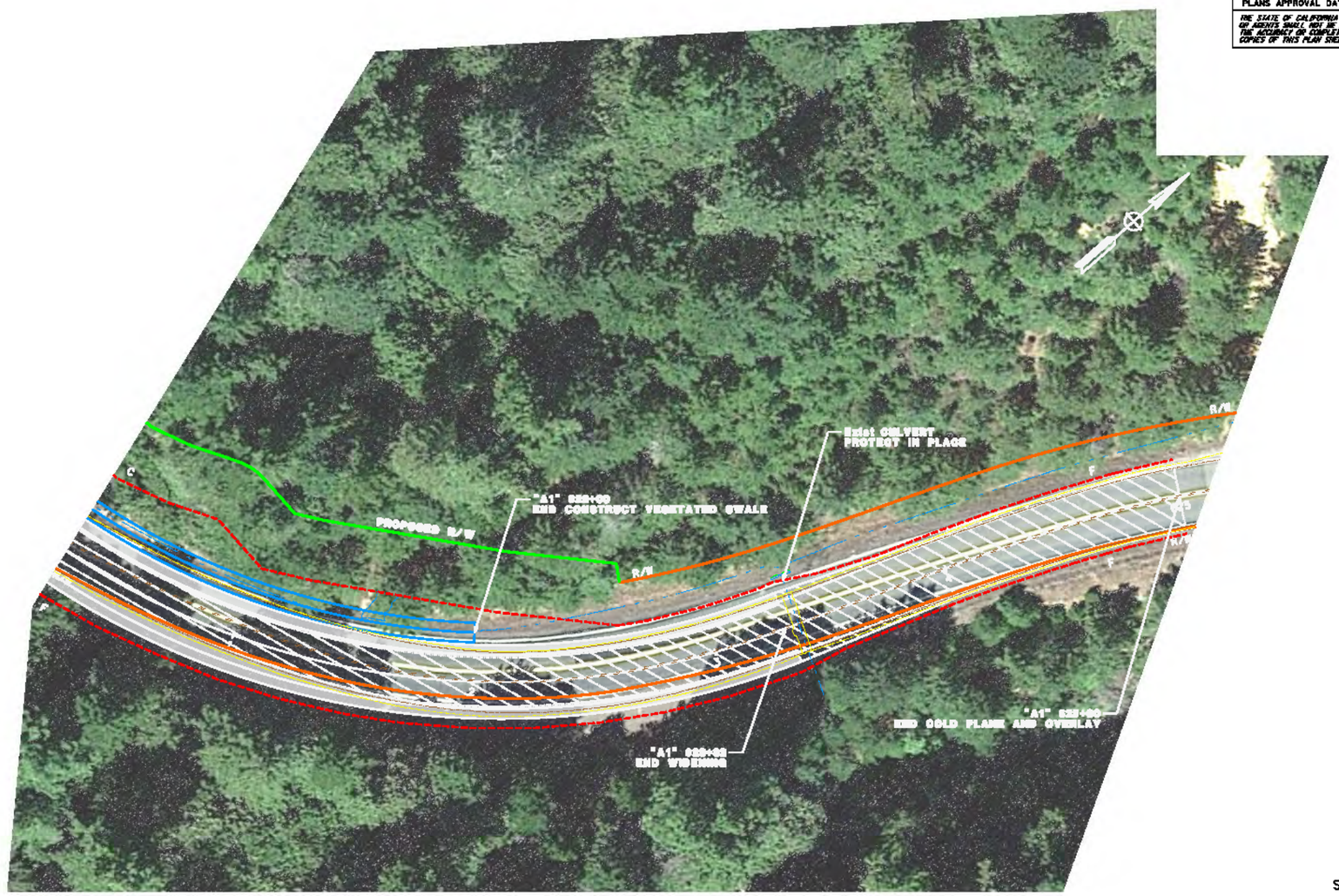
Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	20	19.1/19.6		

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

REGISTERED PROFESSIONAL ENGINEER — No. — EXP. — CIVIL — STATE OF CALIFORNIA



LAYOUT
SCALE : 1" = 20'

L-6

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED/ DESIGNED BY	REVISED BY	LAST REVISION
DESIGN	ELIAS KARAM	RICHARD LY-LEE	DATE REVISED	DATE PLOTTED => 06-MAR-2020
		CHECKED BY		TIME PLOTTED => 1151
		SUMANDEEP SUDINI		02-17-20

BORDER LAST REVISED 7/2/2010 | USERNAME => e132205 DGN FILE => 0117000225ec005.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0332 | PROJECT NUMBER & PHASE 0117000225

NOTE:
FOR ACCURATE RIGHT OF WAY DATA, CONTACT RIGHT OF WAY ENGINEERING AT THE DISTRICT OFFICE.

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	20	19.1/19.6		

REGISTERED CIVIL ENGINEER DATE

PLANS APPROVAL DATE

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

REGISTERED PROFESSIONAL ENGINEER
No.
Exp.
CIVIL
STATE OF CALIFORNIA

LAYOUT
SCALE : 1" = 20'

L-6

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	FUNCTIONAL SUPERVISOR	CALCULATED/ DESIGNED BY	REVISED BY	DATE REVISED
DESIGN	ELIAS KARAM	CHECKED BY	SUMANDEEP SUDINI	

LAST REVISION 02-17-20 DATE PLOTTED => 06-MAR-2020 TIME PLOTTED => 19:58

BORDER LAST REVISED 7/2/2010 | USERNAME => s132266 DGN FILE => 0117000225sec006.dgn | RELATIVE BORDER SCALE IS IN INCHES 0 1 2 3 | UNIT 0332 | PROJECT NUMBER & PHASE 0117000225

Appendix B. Title VI Policy Statement

DEPARTMENT OF TRANSPORTATION
OFFICE OF THE DIRECTOR
P.O. BOX 942873, MS-49
SACRAMENTO, CA 94273-0001
PHONE (916) 654-6130
FAX (916) 653-5776
TTY 711
www.dot.ca.gov

Making Conservation a California Way of Life.

November 2019

NON-DISCRIMINATION POLICY STATEMENT

The California Department of Transportation, under Title VI of the Civil Rights Act of 1964, ensures "*No person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance.*"

Related federal statutes, remedies, and state law further those protections to include sex, disability, religion, sexual orientation, and age.

For information or guidance on how to file a complaint, or obtain more information regarding Title VI, please contact the Title VI Branch Manager at (916) 324-8379 or visit the following web page: https://dot.ca.gov/programs/business-and-economic-opportunity/title-vi.

To obtain this information in an alternate format such as Braille or in a language other than English, please contact the California Department of Transportation, Office of Business and Economic Opportunity, at 1823 14th Street, MS-79, Sacramento, CA 95811; (916) 324-8379 (TTY 711); or at Title.VI@dot.ca.gov.

Toks Omishakin
Director

"Provide a safe, sustainable, integrated and efficient transportation system to enhance California's economy and livability"

Appendix C. USFWS, NOAA/NMFS, CNDDB, CNPS Species Lists

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:
Consultation Code: 08EACT00-2020-SLI-0199
Event Code: 08EACT00-2020-E-00559
Project Name: James Creek West Safety Improvement

May 04, 2020

Subject: List of threatened and endangered species that may occur in your proposed project location, and/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: 08EACT00-2020-SLI-0199

Event Code: 08EACT00-2020-E-00559

Project Name: James Creek West Safety Improvement

Project Type: TRANSPORTATION

Project Description: Curve correction project on SR 20; between PM 19.10 and 19.60 in Mendocino County. Improve curve and upgrade metal beam guardrail. Involves tree removal and ground disturbance. The project is scheduled to be constructed in 2021.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/39.34716129257596N123.52723868293653W

Counties: Mendocino, CA

Endangered Species Act Species

There is a total of 12 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.

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
Fisher *Pekania pennanti* Population: West coast DPS No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/3651	Proposed Threatened

Birds

NAME	STATUS
Northern Spotted Owl *Strix occidentalis caurina* There is **final** critical habitat for this species. Your location overlaps the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/1123	Threatened
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. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8035	Threatened
Yellow-billed Cuckoo *Coccyzus americanus* Population: Western U.S. DPS There is **proposed** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/3911	Threatened

Amphibians

NAME	STATUS
California Red-legged Frog *Rana draytonii* There is **final** critical habitat for this species. Your location is outside the critical habitat. 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. Your location is outside the critical habitat. 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

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. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/7058	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 2 critical habitats wholly or partially within your project area under this office's jurisdiction.

NAME	STATUS
Marbled Murrelet *Brachyramphus marmoratus* For information on why this critical habitat appears for your project, even though Marbled Murrelet is not on the list of potentially affected species at this location, contact the local field office. https://ecos.fws.gov/ecp/species/4467#crithab	Final
Northern Spotted Owl *Strix occidentalis caurina* https://ecos.fws.gov/ecp/species/1123#crithab	Final

Quad Name **Comptche**
Quad Number **39123-C5**

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 -

CALIFORNIA DEPARTMENT OF FISH and WILDLIFE **RareFind**

Query Summary:
Quad IS (Burbeck (3912344) OR Northspur (3912345) OR Noyo Hill (3912346) OR Greenough Ridge (3912334) OR Comptche (3912335) OR Mathison Peak (3912336) OR Elk (3912326) OR Navarro (3912325) OR Bailey Ridge (3912324))

Print Close

CNDDB Element Query Results

Scientific Name	Common Name	Taxonomic Group	Element Code	Total Occs	Returned Occs	Federal Status	State Status	Global Rank	State Rank	CA Rare Plant Rank	Other Status	Habitats
Accipiter gentilis	northern goshawk	Birds	ABNKC12060	433	2	None	None	G5	S3	null	BLM_S-Sensitive, CDF_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern, USFS_S-Sensitive	North coast coniferous forest, Subalpine coniferous forest, Upper montane coniferous forest
Accipiter striatus	sharp-shinned hawk	Birds	ABNKC12020	22	1	None	None	G5	S4	null	CDFW_WL-Watch List, IUCN_LC-Least Concern	Cismontane woodland, Lower montane coniferous forest, Riparian forest, Riparian woodland
Agelaius tricolor	tricolored blackbird	Birds	ABPBXB0020	955	1	None	Threatened	G2G3	S1S2	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_EN-Endangered, NABCI_RWL-Red Watch List, USFWS_BCC-Birds of Conservation Concern	Freshwater marsh, Marsh & swamp, Swamp, Wetland
Agrostis blasdalei	Blasdale's bent grass	Monocots	PMPOA04060	62	1	None	None	G2	S2	1B.2	BLM_S-Sensitive, SB_UCSC-UC Santa Cruz	Coastal bluff scrub, Coastal dunes, Coastal prairie
Alisma gramineum	grass alisma	Monocots	PMALI01010	14	1	None	None	G5	S3	2B.2	null	Marsh & swamp, Wetland
Arborimus pomo	Sonoma tree vole	Mammals	AMAFF23030	222	32	None	None	G3	S3	null	CDFW_SSC-Species of Special Concern, IUCN_NT-Near Threatened	North coast coniferous forest, Oldgrowth, Redwood
Arctostaphylos nummularia ssp. mendocinoensis	pygmy manzanita	Dicots	PDERI04280	7	3	None	None	G3?T1	S1	1B.2	null	Closed-cone coniferous forest
Ascaphus truei	Pacific tailed frog	Amphibians	AAABA01010	491	16	None	None	G4	S3S4	null	CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern	Aquatic, Klamath/North coast flowing waters, Lower montane coniferous forest, North coast coniferous forest, Redwood, Riparian forest
Astragalus agnicidus	Humboldt County milk-vetch	Dicots	PDFAB0F080	64	19	None	Endangered	G2	S2	1B.1	BLM_S-Sensitive, SB_BerrySB-Berry Seed Bank, SB_RSABG-Rancho Santa Ana Botanic Garden	Broadleaved upland forest, North coast coniferous forest
Atractelmis wawona	Wawona riffle beetle	Insects	IICOL58010	80	1	None	None	G1G3	S1S2	null	null	Aquatic

Bombus caliginosus	obscure bumble bee	Insects	IIHYM24380	181	1	None	None	G4?	S1S2	null	IUCN_VU-Vulnerable	null
Bombus occidentalis	western bumble bee	Insects	IIHYM24250	279	2	None	Candidate Endangered	G2G3	S1	null	USFS_S-Sensitive, XERCES_IM-Imperiled	null
Brasenia schreberi	watershield	Dicots	PDCAB01010	43	1	None	None	G5	S3	2B.3	null	Marsh & swamp, Wetland
Calileptoneta wapiti	Mendocino leptonetid spider	Arachnids	ILARAU6040	2	1	None	None	G1	S1	null	null	North coast coniferous forest
Campanula californica	swamp harebell	Dicots	PDCAM02060	139	15	None	None	G3	S3	1B.2	BLM_S-Sensitive	Bog & fen, Closed-cone coniferous forest, Coastal prairie, Marsh & swamp, Meadow & seep, North coast coniferous forest, Wetland
Carex californica	California sedge	Monocots	PMCYP032D0	41	12	None	None	G5	S2	2B.2	null	Bog & fen, Closed-cone coniferous forest, Coastal prairie, Freshwater marsh, Marsh & swamp, Meadow & seep, Wetland
Carex lenticularis var. limnophila	lagoon sedge	Monocots	PMCYP037A7	4	1	None	None	G5T5	S1	2B.2	null	Bog & fen, Marsh & swamp, North coast coniferous forest
Carex lyngbyei	Lyngbye's sedge	Monocots	PMCYP037Y0	29	1	None	None	G5	S3	2B.2	null	Marsh & swamp, Wetland
Carex saliniformis	deceiving sedge	Monocots	PMCYP03BY0	18	2	None	None	G2	S2	1B.2	null	Coastal prairie, Coastal scrub, Marsh & swamp, Meadow & seep, Wetland
Castilleja mendocinensis	Mendocino Coast paintbrush	Dicots	PDSCR0D3N0	52	4	None	None	G2	S2	1B.2	BLM_S-Sensitive	Closed-cone coniferous forest, Coastal bluff scrub, Coastal dunes, Coastal prairie, Coastal scrub
Coastal Brackish Marsh	Coastal Brackish Marsh	Marsh	CTT52200CA	30	1	None	None	G2	S2.1	null	null	Marsh & swamp, Wetland
Coastal and Valley Freshwater Marsh	Coastal and Valley Freshwater Marsh	Marsh	CTT52410CA	60	2	None	None	G3	S2.1	null	null	Marsh & swamp, Wetland
Coptis laciniata	Oregon goldthread	Dicots	PDRAN0A020	122	35	None	None	G4?	S3?	4.2	null	Meadow & seep, North coast coniferous forest, Wetland
Corynorhinus townsendii	Townsend's big-eared bat	Mammals	AMACC08010	635	2	None	None	G3G4	S2	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern, USFS_S-Sensitive, WBWG_H-High Priority	Broadleaved upland forest, Chaparral, Chenopod scrub, Great Basin grassland, Great Basin scrub, Joshua tree woodland, Lower montane coniferous forest, Meadow & seep, Mojavean desert scrub, Riparian forest, Riparian woodland, Sonoran desert scrub, Sonoran thorn woodland, Upper montane coniferous forest, Valley & foothill grassland
Elanus leucurus	white-tailed kite	Birds	ABNKC06010	180	1	None	None	G5	S3S4	null	BLM_S-Sensitive, CDFW_FP-Fully Protected, IUCN_LC-Least Concern	Cismontane woodland, Marsh & swamp, Riparian woodland, Valley & foothill grassland, Wetland
Emys marmorata	western pond turtle	Reptiles	ARAAD02030	1385	2	None	None	G3G4	S3	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_VU-Vulnerable, USFS_S-Sensitive	Aquatic, Artificial flowing waters, Klamath/North coast flowing waters, Klamath/North coast standing waters, Marsh & swamp, Sacramento/San Joaquin flowing waters, Sacramento/San Joaquin standing waters, South coast flowing waters, South coast standing waters, Wetland
Erethizon dorsatum	North American porcupine	Mammals	AMAFJ01010	523	1	None	None	G5	S3	null	IUCN_LC-Least Concern	Broadleaved upland forest, Cismontane woodland, Closed-cone coniferous forest, Lower montane coniferous forest, North coast coniferous forest, Upper montane coniferous forest
Erysimum concinnum	bluff wallflower	Dicots	PDBRA160E3	30	1	None	None	G3	S2	1B.2	null	Coastal bluff scrub, Coastal dunes, Coastal prairie
Erythronium	coast fawn lily	Monocots	PMLIL0U0F0	164	3	None	None	G4G5	S3	2B.2	null	Bog & fen, Broadleaved upland forest, North coast

revolutum												coniferous forest, Wetland
Falco peregrinus anatum	American peregrine falcon	Birds	ABNKD06071	56	1	Delisted	Delisted	G4T4	S3S4	null	CDF_S-Sensitive, CDFW_FP-Fully Protected, USFWS_BCC-Birds of Conservation Concern	null
Fissidens pauperculus	minute pocket moss	Bryophytes	NBMUS2W0U0	22	1	None	None	G3?	S2	1B.2	USFS_S-Sensitive	North coast coniferous forest, Redwood
Gilia capitata ssp. pacifica	Pacific gilia	Dicots	PDPLM040B6	83	1	None	None	G5T3	S2	1B.2	null	Chaparral, Coastal bluff scrub, Coastal prairie, Valley & foothill grassland
Grand Fir Forest	Grand Fir Forest	Forest	CTT82120CA	9	3	None	None	G1	S1.1	null	null	null
Helminthoglypta arrosa pomoensis	Pomo bronze shoulderband	Mollusks	IMGASC2033	3	2	None	None	G2G3T1	S1	null	IUCN_DD-Data Deficient	North coast coniferous forest, Redwood
Hemizonia congesta ssp. congesta	congested-headed hayfield tarplant	Dicots	PDAST4R065	52	1	None	None	G5T2	S2	1B.2	SB_UCBG-UC Botanical Garden at Berkeley	Valley & foothill grassland
Hesperevax sparsiflora var. brevifolia	short-leaved evax	Dicots	PDASTE5011	56	1	None	None	G4T3	S2	1B.2	BLM_S-Sensitive	Coastal bluff scrub, Coastal dunes, Coastal prairie
Hesperocyparis pygmaea	pygmy cypress	Gymnosperms	PGCUP04032	37	16	None	None	G1	S1	1B.2	SB_RSABG-Rancho Santa Ana Botanic Garden	Closed-cone coniferous forest
Hesperolinon adenophyllum	glandular western flax	Dicots	PDLIN01010	48	2	None	None	G2G3	S2S3	1B.2	BLM_S-Sensitive	Chaparral, Cismontane woodland, Ultramafic, Valley & foothill grassland
Horkelia marinensis	Point Reyes horkelia	Dicots	PDROS0W0B0	36	1	None	None	G2	S2	1B.2	null	Coastal dunes, Coastal prairie, Coastal scrub
Kopsiopsis hookeri	small groundcone	Dicots	PDORO01010	21	1	None	None	G4?	S1S2	2B.3	null	North coast coniferous forest
Lavinia symmetricus navarroensis	Navarro roach	Fish	AFCJB19023	4	2	None	None	G4T1T2	S2S3	null	CDFW_SSC-Species of Special Concern	Aquatic, Sacramento/San Joaquin flowing waters
Lilium maritimum	coast lily	Monocots	PMLIL1A0C0	80	6	None	None	G2	S2	1B.1	SB_BerrySB-Berry Seed Bank, SB_UCBG-UC Botanical Garden at Berkeley	Broadleaved upland forest, Closed-cone coniferous forest, Coastal prairie, Coastal scrub, Marsh & swamp, North coast coniferous forest
Lycopodium clavatum	running-pine	Ferns	PPLYC01080	120	4	None	None	G5	S3	4.1	null	Lower montane coniferous forest, Marsh & swamp, North coast coniferous forest, Wetland
Mendocino Pygmy Cypress Forest	Mendocino Pygmy Cypress Forest	Forest	CTT83161CA	25	11	None	None	G2	S2.1	null	null	Closed-cone coniferous forest
Mitellastra caulescens	leafy-stemmed mitrewort	Dicots	PDSAX0N020	21	2	None	None	G5	S4	4.2	null	Broadleaved upland forest, Lower montane coniferous forest, Meadow & seep, North coast coniferous forest
Northern Coastal Salt Marsh	Northern Coastal Salt Marsh	Marsh	CTT52110CA	53	1	None	None	G3	S3.2	null	null	Marsh & swamp, Wetland
Oncorhynchus kisutch pop. 4	coho salmon - central California coast ESU	Fish	AFCHA02034	23	1	Endangered	Endangered	G4	S2?	null	AFS_EN-Endangered	Aquatic
Oncorhynchus mykiss irideus pop. 16	steelhead - northern	Fish	AFCHA0209Q	12	2	Threatened	None	G5T2T3Q	S2S3	null	AFS_TH-Threatened	Aquatic, Sacramento/San Joaquin flowing waters

	California DPS											
Packera bolanderi var. bolanderi	seacoast ragwort	Dicots	PDAST8H0H1	70	2	None	None	G4T4	S2S3	2B.2	null	Coastal scrub, North coast coniferous forest
Pandion haliaetus	osprey	Birds	ABNKC01010	504	2	None	None	G5	S4	null	CDF_S-Sensitive, CDFW_WL-Watch List, IUCN_LC-Least Concern	Riparian forest
Pekania pennanti	fisher - West Coast DPS	Mammals	AMAJF01021	743	1	None	Threatened	G5T2T3Q	S2S3	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, USFS_S-Sensitive	North coast coniferous forest, Oldgrowth, Riparian forest
Pinus contorta ssp. bolanderi	Bolander's beach pine	Gymnosperms	PGPIN04081	28	12	None	None	G5T2	S2	1B.2	null	Closed-cone coniferous forest
Piperia candida	white-flowered rein orchid	Monocots	PMORC1X050	188	29	None	None	G3	S3	1B.2	BLM_S-Sensitive	Broadleaved upland forest, Lower montane coniferous forest, North coast coniferous forest, Ultramafic
Pleuropogon hooverianus	North Coast semaphore grass	Monocots	PMPOA4Y070	27	1	None	Threatened	G2	S2	1B.1	BLM_S-Sensitive, SB_BerrySB-Berry Seed Bank, SB_RSABG-Rancho Santa Ana Botanic Garden	Broadleaved upland forest, Meadow & seep, North coast coniferous forest, Wetland
Progne subis	purple martin	Birds	ABPAU01010	71	2	None	None	G5	S3	null	CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern	Broadleaved upland forest, Lower montane coniferous forest
Ramalina thrausta	angel's hair lichen	Lichens	NLLEC3S340	14	1	None	None	G5?	S2S3	2B.1	null	North coast coniferous forest
Rana aurora	northern red-legged frog	Amphibians	AAABH01021	292	19	None	None	G4	S3	null	CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern, USFS_S-Sensitive	Klamath/North coast flowing waters, Riparian forest, Riparian woodland
Rana boylii	foothill yellow-legged frog	Amphibians	AAABH01050	2468	169	None	Candidate Threatened	G3	S3	null	BLM_S-Sensitive, CDFW_SSC-Species of Special Concern, IUCN_NT-Near Threatened, USFS_S-Sensitive	Aquatic, Chaparral, Cismontane woodland, Coastal scrub, Klamath/North coast flowing waters, Lower montane coniferous forest, Meadow & seep, Riparian forest, Riparian woodland, Sacramento/San Joaquin flowing waters
Rhyacotriton variegatus	southern torrent salamander	Amphibians	AAAAJ01020	416	8	None	None	G3G4	S2S3	null	CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern, USFS_S-Sensitive	Lower montane coniferous forest, Oldgrowth, Redwood, Riparian forest
Rhynchospora alba	white beaked-rush	Monocots	PMCYP0N010	11	1	None	None	G5	S2	2B.2	null	Bog & fen, Marsh & swamp, Meadow & seep, Wetland
Sanguisorba officinalis	great burnet	Dicots	PDROS1L060	22	1	None	None	G5?	S2	2B.2	null	Bog & fen, Broadleaved upland forest, Marsh & swamp, Meadow & seep, North coast coniferous forest, Riparian forest, Ultramafic, Wetland
Sidalcea calycosa ssp. rhizomata	Point Reyes checkerbloom	Dicots	PDMAL11012	34	1	None	None	G5T2	S2	1B.2	null	Freshwater marsh, Marsh & swamp, Wetland
Sidalcea malachroides	maple-leaved checkerbloom	Dicots	PDMAL110E0	136	3	None	None	G3	S3	4.2	null	Broadleaved upland forest, Coastal prairie, Coastal scrub, North coast coniferous forest, Riparian forest
Speyeria zerene behrensii	Behren's silverspot butterfly	Insects	IILEPJ6088	9	1	Endangered	None	G5T1	S1	null	XERCES_CI-Critically Imperiled	Coastal prairie

Sphagnum Bog	Sphagnum Bog	Marsh	CTT51110CA	12	2	None	None	G3	S1.2	null	null	Bog & fen, Wetland
Taricha rivularis	red-bellied newt	Amphibians	AAAAF02020	136	27	None	None	G4	S2	null	CDFW_SSC-Species of Special Concern, IUCN_LC-Least Concern	Broadleaved upland forest, North coast coniferous forest, Redwood, Riparian forest, Riparian woodland
Trifolium buckwestiorum	Santa Cruz clover	Dicots	PDFAB402W0	64	2	None	None	G2	S2	1B.1	BLM_S-Sensitive, SB_SBBG-Santa Barbara Botanic Garden, SB_UCSC-UC Santa Cruz, SB_USDA-US Dept of Agriculture	Broadleaved upland forest, Cismontane woodland, Coastal prairie
Trifolium trichocalyx	Monterey clover	Dicots	PDFAB402J0	6	1	Endangered	Endangered	G1	S1	1B.1	SB_USDA-US Dept of Agriculture	Closed-cone coniferous forest
Usnea longissima	Methuselah's beard lichen	Lichens	NLLEC5P420	206	9	None	None	G4	S4	4.2	BLM_S-Sensitive	Broadleaved upland forest, North coast coniferous forest, Oldgrowth, Redwood

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*The database used to provide updates to the Online Inventory is under construction. View updates and changes made since May 2019 here.

Plant List

32 matches found. *Click on scientific name for details*

Search Criteria

California Rare Plant Rank is one of [1A, 1B, 2A, 2B], Found in Quads 3912346, 3912345, 3912344, 3912336, 3912335, 3912334, 3912326 3912325 and 3912324;

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Scientific Name	Common Name	Family	Lifeform	Blooming Period	CA Rare Plant Rank	State Rank	Global Rank
Agrostis blasdalei	Blasdale's bent grass	Poaceae	perennial rhizomatous herb	May-Jul	1B.2	S2	G2
Arctostaphylos nummularia ssp. mendocinoensis	pygmy manzanita	Ericaceae	perennial evergreen shrub	Jan	1B.2	S1	G3? T1
Astragalus agnicidus	Humboldt County milk-vetch	Fabaceae	perennial herb	Apr-Sep	1B.1	S2	G2
Campanula californica	swamp harebell	Campanulaceae	perennial rhizomatous herb	Jun-Oct	1B.2	S3	G3
Carex californica	California sedge	Cyperaceae	perennial rhizomatous herb	May-Aug	2B.3	S2	G5
Carex lenticularis var. limnophila	lagoon sedge	Cyperaceae	perennial herb	Jun-Aug	2B.2	S1	G5T5
Carex lyngbyei	Lyngbye's sedge	Cyperaceae	perennial rhizomatous herb	Apr-Aug	2B.2	S3	G5
Carex saliniformis	deceiving sedge	Cyperaceae	perennial rhizomatous herb	May-Jun(Jul)	1B.2	S2	G2
Castilleja ambigua var. humboldtiensis	Humboldt Bay owl's-clover	Orobanchaceae	annual herb (hemiparasitic)	Apr-Aug	1B.2	S2	G4T2
Castilleja mendocinensis	Mendocino Coast paintbrush	Orobanchaceae	perennial herb (hemiparasitic)	Apr-Aug	1B.2	S2	G2
Erysimum concinnum	bluff wallflower	Brassicaceae	annual / perennial herb	Feb-Jul	1B.2	S2	G3
Erythronium revolutum	coast fawn lily	Liliaceae	perennial bulbiferous herb	Mar-Jul(Aug)	2B.2	S3	G4G5
Fissidens pauperculus	minute pocket moss	Fissidentaceae	moss		1B.2	S2	G3?
Gilia capitata ssp. pacifica	Pacific gilia	Polemoniaceae	annual herb	Apr-Aug	1B.2	S2	G5T3
Gilia millefoliata	dark-eyed gilia	Polemoniaceae	annual herb	Apr-Jul	1B.2	S2	G2
Hemizonia congesta ssp. congesta	congested-headed hayfield tarplant	Asteraceae	annual herb	Apr-Nov	1B.2	S2	G5T2

Hesperevax sparsiflora var. brevifolia	short-leaved evax	Asteraceae	annual herb	Mar-Jun	1B.2	S2	G4T3
Hesperocyparis pygmaea	pygmy cypress	Cupressaceae	perennial evergreen tree		1B.2	S1	G1
Hesperolinon adenophyllum	glandular western flax	Linaceae	annual herb	May-Aug	1B.2	S2S3	G2G3
Horkelia marinensis	Point Reyes horkelia	Rosaceae	perennial herb	May-Sep	1B.2	S2	G2
Kopsiopsis hookeri	small groundcone	Orobanchaceae	perennial rhizomatous herb (parasitic)	Apr-Aug	2B.3	S1S2	G4?
Lilium maritimum	coast lily	Liliaceae	perennial bulbiferous herb	May-Aug	1B.1	S2	G2
Packera bolanderi var. bolanderi	seacoast ragwort	Asteraceae	perennial rhizomatous herb	(Jan-Apr)May-Jul(Aug)	2B.2	S2S3	G4T4
Pinus contorta ssp. bolanderi	Bolander's beach pine	Pinaceae	perennial evergreen tree		1B.2	S2	G5T2
Piperia candida	white-flowered rein orchid	Orchidaceae	perennial herb	(Mar)May-Sep	1B.2	S3	G3
Pleuropogon hooverianus	North Coast semaphore grass	Poaceae	perennial rhizomatous herb	Apr-Jun	1B.1	S2	G2
Ramalina thrausta	angel's hair lichen	Ramalinaceae	fruticose lichen (epiphytic)		2B.1	S2?	G5
Rhynchospora alba	white beaked-rush	Cyperaceae	perennial rhizomatous herb	Jun-Aug	2B.2	S2	G5
Sidalcea calycosa ssp. rhizomata	Point Reyes checkerbloom	Malvaceae	perennial rhizomatous herb	Apr-Sep	1B.2	S2	G5T2
Trifolium buckwestiorum	Santa Cruz clover	Fabaceae	annual herb	Apr-Oct	1B.1	S2	G2
Trifolium trichocalyx	Monterey clover	Fabaceae	annual herb	Apr-Jun	1B.1	S1	G1
Viburnum ellipticum	oval-leaved viburnum	Adoxaceae	perennial deciduous shrub	May-Jun	2B.3	S3?	G4G5

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