

# **SOUTH EEL RIVER BRIDGE SEISMIC PROJECT**

**MENDOCINO COUNTY, CALIFORNIA  
DISTRICT 1 – MEN – 162 (Post Mile 8.2)  
01-0A131 / 0117000223**

## **INITIAL STUDY with Proposed Mitigated Negative Declaration**



**Prepared by the  
State of California Department of Transportation**



**March 2020**



## General Information about this Document

### What is in this document?

The California Department of Transportation (Caltrans) has prepared this Initial Study with proposed Mitigated Negative Declaration (IS/MND) which examines the potential environmental effects of a proposed project on State Route 162 in Mendocino, 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 at:
  - Caltrans District 1 Office, 1656 Union Street, Eureka, CA
- We'd like to hear what you think. If you have any comments about the proposed project, please attend the public open house and/or send your written comments to Caltrans by the deadline **May 8, 2020**.
- Please send comments via U.S. mail to:

California Department of Transportation  
Attention: Cassie Nichols  
North Region Environmental–District 1  
1656 Union Street  
Eureka, CA 95501
- Send comments via e-mail to: [cassie.nichols@dot.ca.gov](mailto:cassie.nichols@dot.ca.gov)
- Be sure to send comments by the deadline: **May 8, 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: Cassie Nichols, North Region Environmental-District 1, 1656 Union Street, Eureka, CA 95501; (707) 441-4570 Voice, or use the California Relay Service TTY number, 711 or 1-800-735-2929.



# **SOUTH EEL RIVER BRIDGE SEISMIC PROJECT**

Upgrade the South Eel River Bridge to an earthquake-resistant bridge structure capable of resisting a maximum credible earthquake

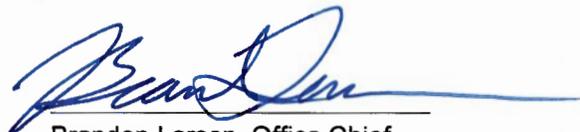
Located on State Route 162 in Mendocino County,  
at post mile 8.2, approximately 8 miles east of Longvale, CA

## **INITIAL STUDY WITH PROPOSED MITIGATED NEGATIVE DECLARATION**

Submitted Pursuant to: Division 13, California Public Resources Code

THE STATE OF CALIFORNIA  
Department of Transportation

03/27/20  
Date of Approval

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

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

Cassie Nichols, North Region Environmental-District 1  
1656 Union Street, Eureka, CA 95501  
(707) 441-4570  
or use the California Relay Service TTY number, 711 or 1-800-735-2929.



# Proposed Mitigated Negative Declaration

Pursuant to: Division 13, California Public Resources Code

SCH Number: Pending

## Project Description

The California Department of Transportation (Caltrans) proposes to provide the project site with an earthquake-resistant bridge structure capable of resisting a maximum credible earthquake.

## Determination

This proposed Mitigated Negative Declaration (MND) is included to give notice to interested agencies and the public that it is Caltrans' intent to adopt an MND for this project. This does not mean that Caltrans' decision regarding the project is final. This MND 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 Agriculture and Forest Resources, Air Quality, Cultural Resources, Energy, Geology and Soils, Hazards and Hazardous Materials, Land Use/Planning, Mineral Resources, Noise, Population/Housing, Public Services, Recreation, Transportation/Traffic, Tribal Cultural Resources, Utilities/Service Systems, and Wildfire.

The project would have *less than significant* impacts with regard to Aesthetics, Greenhouse Gas Emissions, and Hydrology and Water Quality.

With the following mitigation measures incorporated, the project would have *less than significant* impacts with regard to biological resources.

- If Alternative B is chosen, housing for species of special concern (bats) would be implemented outside of the project disturbed area.
- If Alternative C is chosen, the new bridge would have design features that would provide habitat similar to the existing bridge for bat species of special concern.

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

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Date

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## List of Abbreviated Terms

<b>Abbreviatio</b>	<b>Description</b>
AB	Assembly Bill
ADA	Americans with Disabilities Act
ARB	Air Resources Board
ASR	Archaeological Survey Report
BLM	Bureau of Land Management
BMPs	Best Management Practices
BSA	Biological Study Area
°C	degrees Celsius
CAFE	Corporate Average Fuel Economy
Caltrans	California Department of Transportation
CC	California Coastal
CCR	California Code of Regulations
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 <sub>4</sub>	Methane
CNDDB	The California Natural Diversity Database
CNPS	California Native Plant Society
CO	carbon monoxide
CO <sub>2</sub>	carbon dioxide
CRHR	California Register of Historical Resources
CRLF	California Red-legged Frog
CTP	California Transportation Plan
CWA	Clean Water Act
DP	Directors' Policy
DSA	Disturbed Soil Area
DPS	Distinct Population Segment
EFH	Essential Fish Habitat
EIR	Environmental Impact Report
EO	Executive Order
ESL	Environmental Study Limits
ESU	Evolutionarily Significant Unit
°F	degrees Fahrenheit
FED	Final Environmental Document
FERC	Federal Energy Regulatory Commission

<b>Abbreviation</b>	<b>Description</b>
FESA	Federal Endangered Species Act
FHWA	Federal Highway Administration
FYLF	Foothill Yellow-legged Frog
GHG	greenhouse gas
H <sub>2</sub> S	hydrogen sulfide
HFC	hydrofluorocarbons
HFC-23	Fluoroform
HFC-134a	s,s,s,2-tetrafluoroethane
HFC-152a	Difluoroethane
HSA	Hydrologic Sub-Area
HU	Hydrologic Unit
IPCC	Intergovernmental Panel on Climate Change
IS	Initial Study
LCFS	low carbon fuel standard
LSAA	Lake or Streambed Alteration Agreement
MBTA	Migratory Bird Treaty Act
MLD	Most Likely Descendent
MMTC02e	million metric tons of carbon dioxide equivalent
MND	Mitigated Negative Declaration
MPO	Metropolitan Planning Organization
MRZ	Mineral Resource Zone
MS4s	Municipal Separate Storm Sewer Systems
MSA	Magnuson-Stevens Fishery Conservation and Management Act
N <sub>2</sub> O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
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
NO <sub>2</sub>	nitrogen dioxide
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
NPS	National Park Service
NSO	Northern Spotted Owl
O <sub>3</sub>	Ozone
OHWM	Ordinary High Water Mark
OPR	Office of Planning and Research
Pb	Lead
PDT	Project Development Team

<b>Abbreviation</b>	<b>Description</b>
PM(s)	post mile(s)
Porter-Cologne Act	Porter-Cologne Water Quality Control Act
PRC	Public Resources Code
PTE	Permission to Enter
RTP	Regional Transportation Plan
PVP	Potter Valley Project
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
SCS	Sustainable Communities Strategy
SF6	sulfur hexafluoride
SLR	Sea Level Rise
SO <sub>2</sub>	sulfur dioxide
SONCC	Southern Oregon/Northern California Coast
SR	State Route
SSC	Species of Special Concern
STRAIN	Structure Replacement and Improvement Needs
SWMP	Storm Water Management Plan
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
THPO	Tribal Historic Preservation Officer
TMDLs	Total Maximum Daily Loads
TMP	Transportation Management Plan
U.S. or US	United States
U.S. 101	U.S. (United States) Highway 101
USACE	U.S. Army Corps of Engineers
USC	United States Code
USDOT	U.S. Department of Transportation
USGRCP	U.S. Global Change Research Program
U.S. EPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
VMT	Vehicle Miles Traveled
WDRs	Waste Discharge Requirements
WSP	Western Snowy Plover
WPT	Western Pond Turtle
WQOs	Water Quality Objectives
YBCU	Yellow Billed Cuckoo



# Chapter 1. Proposed Project

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## 1.1. Project History

The South Eel River Bridge structure (Br. No. 10-0236) was constructed over the Eel River on State Route 162 in 1938. The South Eel River bridge has two 10-foot-wide lanes and approximately 1-foot-wide shoulders. Since construction, the bridge has undergone upgrades, such as guardrail replacement in 1994. Bridge inspection reports in 2009 and 2015 recommended a seismic upgrade.

The Department of Transportation (Caltrans) is the lead agency under the California Environmental Quality Act (CEQA).

## 1.2. Project Description

### *Project Objectives (Purpose and Need)*

The South Eel River Bridge Seismic Project (project) is on State Route (SR) 162 in Mendocino County, near the unincorporated city of Longvale, approximately 8.2 to 8.3 miles east of U.S. Highway 101 at the South Eel River Bridge (Br. No. 10- 0236) over the Eel River (Figures 1 and 2). The Statewide Seismic Safety Program is a program mandated by the Governor and State Legislature. The program assesses and identifies the seismic safety needs of the State Highway System and provides improvements to the system where necessary. The purpose of the project is to provide the project site with an earthquake-resistant bridge structure capable of resisting a maximum credible earthquake. The project is needed because the South Eel River Bridge (Br. No. 10-0236) was identified in the Structure Replacement and Improvement Needs (STRAIN) Report as a bridge with seismic vulnerability.

### *Proposed Project*

#### *Alternative A—Seismic Retrofit of Existing Structure*

Alternative A would perform retrofit work to improve the integrity of the structure to enable this bridge capable of resisting a maximum credible earthquake. This alternative involves various retrofits to the structure that include:

- Pier seat extension
  - Pier column retrofit
  - Pier retrofit
  - Pier retrofit fill pier cap / wall voids
  - Footing retrofit
-

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For this alternative, during construction, traffic would pass through the construction site using lane closures on the existing bridge. The bridge would be accessed through a temporary road onto the area under the northern side of the bridge that would be used for staging. Dewatering would occur during construction (e.g. cofferdams, or water bladders). Construction is anticipated to be completed within one season. See Appendix B for project layouts.

### *Alternative B—Staged Replacement of Existing Structure*

This alternative replaces the existing bridge using staged construction to minimize the roadway realignment and acquired right of way needed for complete replacement. Shoulders on the bridge would be increased from 1 to 4 feet, thereby improving bicycle lanes. This alternative would meet existing design standards for lane and shoulder widths, both of which are currently below standard. Under this alternative, the bridge would be reduced to one lane and would require 24-hour traffic control in the form of a temporary signal. Construction of a partial width of the new bridge would be completed on the southeast side of the existing bridge. Once the partial section of the new bridge is completed, the one lane of traffic would be moved to the new bridge and the remainder of the existing bridge would be removed, followed by completion of the new bridge.

Staged replacement would shift the alignment of the roadway by approximately 10-feet to the southeast. Permanent acquisition of new right of way is not anticipated; however, temporary easements and permits to enter may be required for construction.

Road work for this alternative would require realignment of the road and possible cut of the adjacent slope. The intersections on each side of the bridge would also be affected. Shifting the alignment of the road would require steepening of the intersecting road or moving the intersection location. The bridge would be accessed through a temporary road onto the area under the northern side of the bridge that would be utilized for staging. Dewatering would occur during construction (e.g. cofferdams, or water bladders). A temporary trestle would be constructed to facilitate removal of the existing bridge. Construction is anticipated to be completed within two construction seasons. See Appendix B for project layouts.

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### *Alternative C—Replacement of Existing Structure on New Alignment*

Alternative C would replace the existing bridge with a new bridge to the south. Shoulders would be increased from 1 to 4 feet, thereby improving bicycle lanes. This alternative would require the largest roadway realignment and is the only alternative anticipated to require acquisition of right of way. The centerline of the roadway would shift southeast by approximately 40 feet. This alternative would allow traffic to continue to use the existing bridge throughout construction of the new one. Once complete, traffic would be moved to the new bridge and the old bridge removed.

Construction of Alternative C would require a centerline shift that affects roads on each side of the bridge, resulting in a substantial amount of earthwork necessary to maintain access to the road on the west side. The earthwork required would occur on what is currently private property. As part of this alternative, roadway excavation would be required to realign the highway. Erosion control would be required on exposed slopes and drainages to minimize sediment traveling to the river.

The bridge would be accessed through a temporary road onto the area under the northern side of the bridge that will be utilized for staging. Dewatering would occur during construction (e.g. cofferdams, or water bladders). A temporary trestle would be constructed to facilitate the removal of the existing bridge and access. Construction is anticipated to be completed within two to three construction seasons. See Appendix B for project layouts.

### *Alternative D—No Build at Eel River*

A no build alternative does not fulfill the purpose and need of the project. The existing bridge would continue to not meet standards for seismic design. Bridge #10-0236 over the Eel River would continue to be vulnerable to seismic forces. 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. Therefore, the “No Build” alternative will not be discussed further in this document.

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### ***Equipment***

Typical equipment used for construction include pavers, cranes, hoe rams, pile drivers, vibratory hammers, excavators, backhoes, hauling and dump trucks, compactors, portable generators, boom trucks, concrete trucks, saws, pumps, jackhammers, and site trailers.

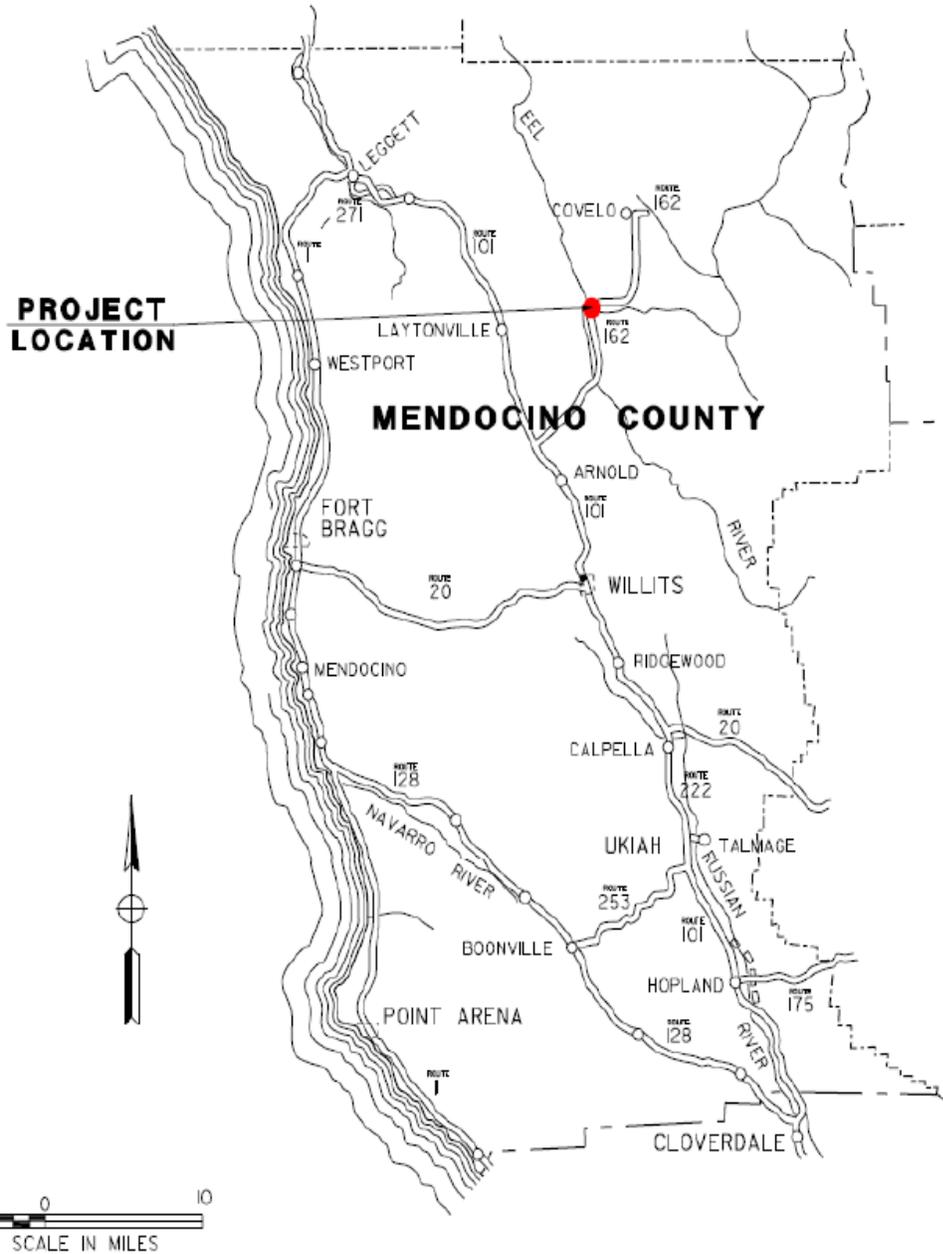
### ***Site Cleanup and Revegetation***

After completion, all cofferdam and/or trestle piles would be completely removed and hauled from the site. All material from temporary access roads (gravel pads) would be removed from the site. The site would then be restored to a natural setting by grading and revegetation as required by the approved revegetation and final erosion control plans.

### ***Alternatives Considered but Eliminated from Further Consideration***

A new bridge alignment to the north of the existing bridge was also considered. It was removed from consideration for the following reasons:

1. If the northern alternative was chosen, the length of the bridge would be increased substantially due to the presence of a curve immediately after the bridge and bridge conform issues warranting a lengthier alignment. This could substantially increase construction, as well as future maintenance costs.
  2. The northern alternative would have a greater environmental impact due to the presence of dense vegetation and trees at the immediate north side of the bridge that would need to be removed permanently.
  3. The right of way footprint would be increased dramatically due to the length of the bridge.
  4. Earthwork would be increased dramatically if the bridge was realigned to the north instead of the south due to the length of the bridge and the resultant footprint.
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BRIDGE REPLACEMENT / SEISMIC RETROFIT  
 01 - MEN 162 - PM 8.0/8.41 / BRIDGE 10-0236  
 EA: 01 - 0A131

**1.3. Project Maps**

**Figure 1. Project Vicinity Map**

01-0A131  
South Eel River Bridge  
MEN 162 Postmile 8.2

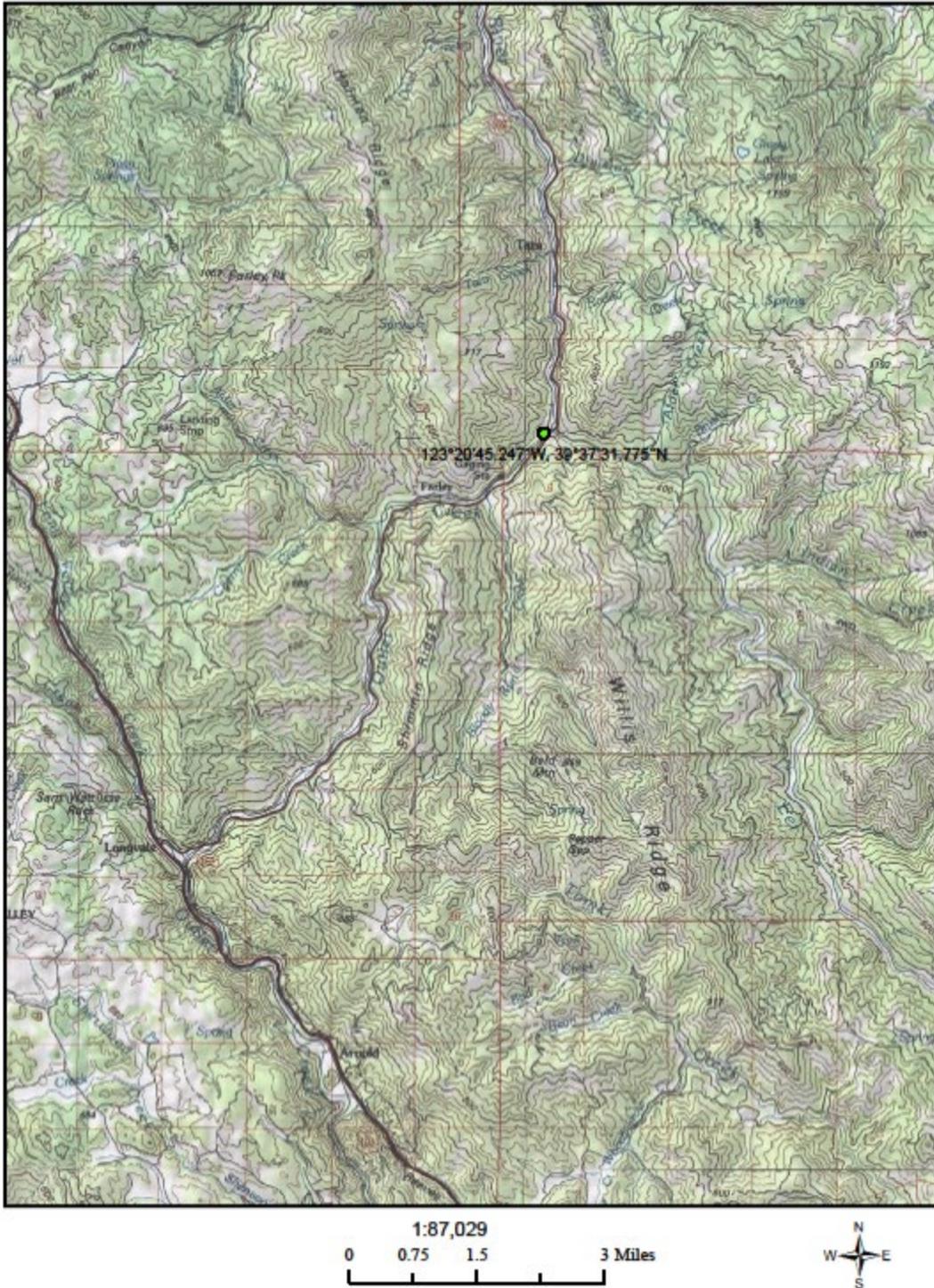


Figure 2. Project Location Map

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## 1.4. Permits and Approvals Needed

The following permits, consultations, and approvals would be required.

**Table 1. Agency Approvals**

California Department of Fish and Wildlife (CDFW)	1602 Agreement for Streambed Alteration	Obtain after Final Environmental Document (FED) approval.
California Department of Fish and Wildlife (CDFW)	Incidental Take Permit	May be required.
National Marine Fisheries Service	Section 7 Consultation for Threatened and Endangered Species	Consultation initiated after Draft Environmental Document (DED) circulation.
Regional Water Quality Control Board (RWQCB)	Clean Water Act Section 401 Water Quality Certification	Obtain after FED approval.
U.S. Army Corps of Engineers (USACE)	Clean Water Act Section 404 Permit for filling or dredging waters of the United States	Obtain after FED approval.
National Park Service	Wild and Scenic Rivers Act	Obtained September 11, 2019.
Bureau of Land Management	Wild and Scenic Rivers Act	Obtained September 17, 2019.
California Natural Resources Agency	California Wild and Scenic Rivers Act determination	May be required
State Historic Preservation Office	No Historic Properties Affected	Per Caltrans 2014 Programmatic agreement.

## 1.5. Measures and Best Management Practices Included in All Alternatives

### *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 State Route 162 throughout the construction period.

### *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.

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### *Visual Aesthetics*

**VA-1:** Architectural treatment would be included on the bridge barrier railings.

**VA-2:** Reestablish vegetative cover on any disturbed soil areas that are currently vegetated.

**VA-3:** Any temporary access roads would be restored to a natural contour and revegetated with appropriate native plants.

### *Cultural Resources*

**CR-1:** A tribal monitor would be on site as needed.

**CR-2:** 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.

**CR-3:** If human remains were 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.

### *Noise*

**NO-1:** Construction noise is regulated by Caltrans Standard Specifications Section 14-8.02, "Noise Control." These requirements state, "Do not exceed 86 dBA Lmax at 50 feet from the job site activities from 9:00 p.m. to 6:00 a.m."

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### ***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, 2013, and the Construction General Permit (Order 2009-0009-DWQ).

Before any ground-disturbing activities, the contractor would prepare a Stormwater Pollution Prevention Plan (SWPPP) (per the Construction General Permit Order 2009-0009-DWQ) that includes erosion control measures and construction waste containment measures so that waters of the State are protected during and after project construction.

The SWPPP 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 SWPPP 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.
  - Water would be removed by means of dewatering the individual pipe piles or cofferdams.
  - Water generated from the dewatering operations would be trucked off-site to an appropriate facility or treated and used on-site for dust control and/or discharged to an infiltration basin or used to irrigate agricultural lands.
  - Fiber rolls or silt fences would be installed.
  - Existing vegetated areas would be maintained to the maximum extent practicable.
  - Clearing, grubbing, and excavation would be limited to specific locations, as delineated on the plans, to maximize the preservation of existing vegetation.
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- Vegetation reestablishment or other stabilization measures would be implemented on disturbed soil areas, per the Erosion Control Plan.
  - Soil disturbing work would be limited during the rainy season.

**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 would likely include the following permanent stormwater treatment 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 and bridge drainage systems currently discharge stormwater to receiving waters through bridge deck drains and/or discharge to 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.

### ***Hazardous Waste and Material***

**HW-1:** If lead is found in sampling, 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-2:** If asbestos containing construction material is found to be present in sampling, per Caltrans requirements, the Contractor (s) would submit a work plan for the removal and management of asbestos, and an asbestos compliance plan for preventing or minimizing workers' exposure to asbestos during demolition or renovation activities.

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### *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 were 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.

### *Threatened and Endangered Species*

**TS-1:** To protect the most vulnerable life stages of sensitive fish species that occur within the project area, in-stream work would be restricted to the period between June 15 and October 15. Construction activities restricted to this period include any work within the bed, bank or channel.

**TS-2:** A qualified biologist would monitor in-stream construction activities. The biological monitor would be present during bridge demolition, hoe-ramming, drilling for bridge foundations, and concrete pours to ensure adherence to all environmental permit conditions.

**TS-3:** The contractor would be required to prepare and submit a Construction Site Dewatering/Diversion Plan to Caltrans for authorization prior to any dewatering. The dewatering plan would include specifications for the relocation of sensitive aquatic species or an "Aquatic Species Relocation Plan".

**TS-5:** Artificial night lighting 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 bridge actively under construction to 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.)

**TS-6:** Conduct hydroacoustic monitoring during construction activities with the potential to produce impulsive sound waves. Hoe-ramming or jackhammering associated with bridge demolition may be included. Hydroacoustic monitoring must comply with the terms and conditions of federal and state ESA consultations.

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If warranted, a hydroacoustic monitoring plan would be prepared prior to construction that addresses the frequency of monitoring, positions that hydrophones would be deployed, and techniques for gathering and analyzing acoustic data, quality control measures, and reporting activities.

### ***Plant Species***

**PS-1:** After all construction materials are removed, the project area would be revegetated. Replanting would be subject to a plant establishment period as defined by project permits, which could require Caltrans to 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.

**PS-2:** If Alternative C is chosen, a Revegetation Plan would be prepared to address any revegetation of common manzanita chaparral.

**PS-3:** Environmentally Sensitive Area (ESA) fencing would be placed around areas containing congested-headed hayfield tarweed where feasible.

### ***Animal Species***

**AS-1:** To protect migratory and nongame birds, 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 (February 1 through September 15) or, if vegetation removal is required during the breeding season, a nesting bird survey would be conducted by a qualified biologist within five days of vegetation removal. If an active nest were located, the biologist would coordinate with the 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 to 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:** Prior to any construction activities or grading below the Ordinary High-Water Mark (OHWM) of the Eel River or within the associated drainages, a qualified Contractor Supplied Biologist (CSB) would survey the anticipated work area for the presence of Foothill yellow-

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legged frog (FYLF), California red-legged frog (CRLF), western pond turtle (WPT), and any other potentially present aquatic species. Any frogs and turtles located would have a temporary disturbance buffer of 25 feet until the animal vacates the area. If the animal is in imminent danger or expected to delay construction, then the animal may be safely relocated by the biologist to suitable habitat outside the project area. The biologist would be present during all work occurring below the OHWM of the Eel River and associated drainages.

**AS 4:** Prior to any dewatering or diversion, the contractor would be required to provide to Caltrans for approval an Aquatic Species Relocation Plan as part of the Construction Site Dewatering and Diversion Plan. The plan would also include provisions for a pre-construction survey for fish and amphibians by a qualified biologist. Any frogs, tadpoles, and egg masses found during the initial survey would be netted by the biologist and relocated to suitable habitat downstream of the project area prior to conducting electrofishing for salmonids or lamprey. Gravel or any other material added for construction purposes would be introduced slowly starting upstream, giving frogs an opportunity to escape downstream. The biologist would be present during all phases of in-stream construction to assist with frog relocation efforts as they arise.

**AS-5:** 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 from 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 were 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-6:** A bat exclusion plan will be prepared by the contractor. Exclusion devices would be installed after the maternity season but before hibernation. Exclusion devices would be installed and monitored by a Contractor Supplied Biologist.

### ***Invasive Species***

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

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**PS-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 could require Caltrans to 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.

### ***Dust and Air Quality***

**DA-1:** Dust would be prevented and alleviated during construction following Caltrans Standard Specifications Section 10-5 that include use of dust palliatives (e.g., water, dust suppressant, dust control binder), erosion control, and managing material stockpiles. If dust palliatives (such as a dust suppressant or dust control binder) are used, the contractor will prepare a Dust Control Plan.

**DA-2:** This project will Comply with all air pollution-control rules, regulations, ordinances, and statutes that apply to work performed, and material will not be disposed of by burning.

## **1.6. 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).

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# Chapter 2. CEQA Environmental Checklist

## 2.1. Environmental Factors Potentially Affected

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

Potential Impact Area	Impacted: Yes / No
<b>Aesthetics</b>	<b>Yes</b>
Agriculture and Forestry	No
Air Quality	No
<b>Biological Resources</b>	<b>Yes</b>
Cultural Resources	No
Energy	No
Geology/Soils	No
<b>Greenhouse Gas Emissions</b>	<b>Yes</b>
Hazards and Hazardous Materials	No
<b>Hydrology/Water Quality</b>	<b>Yes</b>
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

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CEQA 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.

## **2.2. Project Impact Analysis Under CEQA for Initial Study**

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 a particular area of environmental review can make this determination.

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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 process 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).

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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.

### 2.3. Aesthetics

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
<b>Would the project:</b> a) Have a substantial adverse effect on a scenic vista?	N/A	N/A	N/A	√
<b>Would the project:</b> b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	N/A	N/A	√	N/A
<b>Would the project:</b> 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?	N/A	N/A	√	N/A
<b>Would the project:</b> d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	N/A	N/A	N/A	√

#### *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] Section 21001[b]).

#### *Environmental Setting*

The proposed project is located on State Route (SR) 162 in Mendocino County at post mile (PM) 8.2. SR 162 is a rural, two-lane highway that travels through mixed forest, oak woodlands, grassland hills, grazing land, and small town rural residential landscapes. The Eel River and Outlet Creek parallel the roadway from Longvale to Dos Rios where river and creek views are common and expansive. Rocky side slopes and gravel bars are commonly seen along the roadway.

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The Eel River Bridge is approximately 8 miles northeast of the community of Longvale and crosses the Eel River at the confluence of the Eel River and Outlet Creek. At the project location, the Eel River has National and State Wild and Scenic Rivers status as a recreational corridor. There are enduring views of the river from the project site with views of the river and creek are considered scenic resources. East of the bridge, and in the viewshed of the project site, is an abandoned railroad line and trestle structure owned by Northwestern Pacific. There is a moderate amount of vegetation surrounding the roadway and abutments of the bridge. There are several gravel bars near the project which are often used by recreationists. Large pullouts are east and west of the bridge on the westbound side. Recreationists utilize the pullouts as parking areas to access the creek and river below.

The existing bridge is approximately 22.67 feet wide. The bridge has concrete girders with four concrete piers, two of which are in the channel. The bridge rail is solid concrete and 2.67 feet high. Vehicular barrier rails on the roadway have a variety of different types, such as solid concrete barrier rails, metal railings, low see-through wooden rails painted white, and see-through concrete rails with tribal patterns. It is anticipated that viewers would have a moderate viewer response to any uncharacteristic changes within the visual environment due to the scenic quality of the route and type of viewers. Viewers primarily consist of recreationists and locals (Caltrans 2019b)

### ***Discussion of Environmental Evaluation Question 2.3.—Aesthetics***

#### ***Discussion of CEQA Checklist Questions a) and d)***

A “No Impact” determination was made for Part A and Part D of the CEQA Checklist based on the project scope, description, and Visual Impact Assessment dated November 2019. The project would not create a new source of substantial light or glare which would adversely affect day or nighttime views in the area. The project would not impact a scenic vista.

#### ***Discussion of CEQA Checklist Questions b) and c)***

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

*b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway??*

*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?*

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### *Alternative A*

Alternative A would require some tree and vegetation removal near the abutments and at the access road which would be visible to highway users and highway neighbors. Tree and vegetation removal proposed for this alternative would not result in high negative visual impacts. It is not anticipated that pier work on the bridge would change the visual character or visual quality of the bridge. Pier work would be visible to river recreationists.

### *Alternative B and C*

Alternative B would require tree and vegetation removal near the abutments, at the location of the construction trestle, in the area where the bridge would be widened southeasterly, in embankment work to support the shifted roadway, and at the access road. Alternative C would result in the same areas of tree and vegetation removal except would be more extensive southeast of the bridge and roadway as the alignment is shifted 30 feet further than Alternative B. Trees and vegetation scoped to be removed do not have a unique visual character or quality, and it is not uncharacteristic of the SR 162 or the site to have patchy vegetation. Disturbed areas would be reseeded to establish vegetation cover. River and creek views from the project location would become more expansive due to tree removal. It is not anticipated that tree and vegetation removal would result in high negative visual impacts.

The alignment shift would result in some slope regrading at either end of the bridge and at the intersections. There would be more regrading work in Alternative C. It is not anticipated that these graded embankments would result in high negative visual impacts.

Bridge widening would result in a visual change as the existing bridge is currently very narrow. The traveled way would be upgraded from two 10-foot lanes to two 12-foot lanes. The existing 1-foot shoulders would be widened to 4 feet. As the proposed bridge would still have a rural character, it is not anticipated that substantial negative visual impacts would result due to bridge widening.

Proposed barrier rails would have similar visual character to the existing rails. The rails would be 3 feet tall—four inches taller than existing barrier rails. Proposed rail upgrades would not result in substantial negative visual impacts.

Upgraded concrete bridge elements may contrast with the existing roadway until natural weathering occurs.

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Midwest Guardrail System would be placed at the concrete end blocks of the bridge. New guardrail would potentially cause glare until natural weathering occurs.

### ***DESIGN PRACTICES***

The following standard practices would be incorporated into the project:

- Restore any temporary access roads to a natural contour and reestablish vegetation.
- Reestablish vegetative cover on any disturbed soil areas that are currently vegetated.
- Architectural treatment will be included on the bridge barrier railings.

Review of the proposed project indicates the project would not result in high negative impacts to visual resources. There would be minor changes to the visual environment caused by the proposed project; subsequently a low to low-moderate level of visual impacts to viewers. Views from State Route 162 and from the river and creek would not be impacted (Caltrans 2019b). Given this, a “Less than significant Impact” determination was made for CEQA checklist Questions B and C.

### ***Mitigation Measures***

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

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## 2.4. 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 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.

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
<p><b>Would the project:</b> 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?</p>	N/A	N/A	N/A	√
<p><b>Would the project:</b> b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?</p>	N/A	N/A	N/A	√
<p><b>Would the project:</b> 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))?</p>	N/A	N/A	N/A	√

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Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
<p><b>Would the project:</b> d) Result in the loss of forest land or conversion of forest land to non-forest use?</p>	N/A	N/A	N/A	√
<p><b>Would the project:</b> 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? (Farmland is defined as prime farmland, unique farmland, and land of statewide or local importance)</p>	N/A	N/A	N/A	√

“No Impact” determinations in this section are based on the scope, description, and location of the proposed project. Potential impacts to Agriculture and Forest Resources are not anticipated due to the lack of prime farmland, unique farmland, or farmland of statewide importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency within or adjacent to the project area. The scope of work would not conflict with the zoning of or result in the loss or conversion of timberland (California Department of Conservation 2019).

## 2.5. 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
<b>Would the project:</b> a) Conflict with or obstruct implementation of the applicable air quality plan?	N/A	N/A	N/A	√
<b>Would the project:</b> 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?	N/A	N/A	N/A	√
<b>Would the project:</b> c) Expose sensitive receptors to substantial pollutant concentrations?	N/A	N/A	N/A	√
<b>Would the project:</b> d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	N/A	N/A	N/A	√

“No Impact” determinations in this section are based on the scope, description, and location of the proposed project, as well as the Air Quality Memorandum dated February, 2020. Mendocino County is designated as attainment or is unclassified for all current National Ambient Air Quality Standards. Potential impacts to this resource are not anticipated because the proposed modifications would not result in changes to the traffic volume, fleet mix, speed, or any other factor that would cause an increase in emissions; therefore, this project would not cause an increase in operational emissions. There would be temporary construction emissions associated with the project. For more information on greenhouse gas emissions, please see Section 2.10- Greenhouse Gas Emissions. Project construction may result in temporary generation of windblown dust, which would be controlled by standard dust and air quality measures featured in Section 1.5 (Caltrans 2020b).

## 2.6. Biological Resources

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
<p><b>Would the project:</b> 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 Fisheries?</p>	N/A	√	N/A	N/A
<p><b>Would the project:</b> 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?</p>	N/A	N/A	√	N/A
<p><b>Would the project:</b> 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?</p>	N/A	N/A	N/A	√
<p><b>Would the project:</b> 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?</p>	N/A	√	N/A	N/A
<p><b>Would the project:</b> e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?</p>	N/A	N/A	N/A	√
<p><b>Would the project:</b> 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?</p>	N/A	N/A	N/A	√

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## *Regulatory Setting*

### *Natural Communities*

This section of the document discusses natural communities of concern. The focus of this section is on biological communities, not individual plant or animal species. The Eel River supports sensitive biological resources associated with forested lands and waterways of California's North Coast region. Sensitive aquatic habitat and special-status species are found within and adjacent to the project area.

Habitat areas that have been designated as critical habitat under the Federal Endangered Species Act are discussed below in the Threatened and Endangered Species section. Wetlands and other waters are also discussed below.

### *Wetlands and Other Waters*

#### **FEDERAL**

Waters of the United States (including wetlands) are protected under a number of laws and regulations. At the federal level, the Federal Water Pollution Control Act, more commonly referred to as the Clean Water Act (CWA) (33 United States Code [USC] 1344), is the primary law regulating wetlands and surface waters. One purpose of the CWA is to regulate the discharge of dredged or fill material into waters of the United States, including wetlands. Waters of the U.S. include navigable waters, interstate waters, territorial seas, and other waters that may be used in interstate or foreign commerce. The lateral limits of jurisdiction over non-tidal water bodies extend to the ordinary high water mark (OHWM), in the absence of adjacent wetlands. When adjacent wetlands are present, CWA jurisdiction extends beyond the OHWM to the limits of the adjacent wetlands. To classify wetlands for the purposes of the CWA, a three-parameter approach is used that includes the presence of hydrophytic (water-loving) vegetation, wetland hydrology, and hydric soils (soils formed during saturation/inundation). All three parameters must be present, under normal circumstances, for an area to be designated as a jurisdictional wetland under the CWA.

Section 404 of the CWA establishes a regulatory program that provides that discharge of dredged or fill material cannot be permitted if a practicable alternative exists that is less damaging to the aquatic environment or if the nation's waters would be significantly degraded. The Section 404 permit program is run by the U.S. Army Corps of Engineers (USACE) with oversight by the U.S. Environmental Protection Agency (U.S. EPA).

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The USACE issues two types of 404 permits: General and Individual. There are two types of General permits: Regional and Nationwide. Regional permits are issued for a general category of activities when they are similar in nature and cause minimal environmental effect. Nationwide permits are issued to allow a variety of minor project activities with no more than minimal effects.

Ordinarily, projects that do not meet the criteria for a Regional or Nationwide Permit may be permitted under one of USACE's Individual permits. There are two types of Individual permits: Standard permits and Letters of Permission. For Individual permits, the USACE decision to approve is based on compliance with *U.S. EPA's Section 404(b)(1) Guidelines (40 Code of Federal Regulations [CFR] 230)*, and whether permit approval is in the public interest. The Section 404 (b)(1) Guidelines (Guidelines) were developed by the U.S. EPA in conjunction with the USACE, and allow the discharge of dredged or fill material into the aquatic system (waters of the U.S.) only if there is no practicable alternative which would have less adverse effects. The Guidelines state that the USACE may not issue a permit if there is a "least environmentally damaging practicable alternative" (LEDPA) to the proposed discharge that would have lesser effects on waters of the U.S., and not have any other significant adverse environmental consequences.

The Executive Order (EO) for the Protection of Wetlands (EO 11990) also regulates the activities of federal agencies with regard to wetlands. Essentially, EO 11990 states that a federal agency, such as the Federal Highway Administration (FHWA) and/or Caltrans, as assigned, cannot undertake or provide assistance for new construction located in wetlands unless the head of the agency finds: 1) that there is no practicable alternative to the construction and 2) the proposed project includes all practicable measures to minimize harm. A Wetlands Only Practicable Alternative Finding must be made.

## **STATE**

At the state level, wetlands and waters are regulated primarily by the State Water Resources Control Board (SWRCB), the Regional Water Quality Control Boards (RWQCBs), and the California Department of Fish and Wildlife (CDFW). In certain circumstances, the Coastal Commission (or Bay Conservation and Development Commission or the Tahoe Regional Planning Agency) may also be involved.

Sections 1600–1607 of the California Fish and Game Code (CFGC) require any agency that proposes a project that will substantially divert or obstruct the natural flow of or substantially change the bed or bank of a river, stream, or lake to notify CDFW before beginning construction. If CDFW determines the project may substantially and adversely affect fish or

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wildlife resources, a Lake or Streambed Alteration Agreement (LSAA) will be required. CDFW jurisdictional limits are usually defined by the tops of the stream or lake banks, or the outer edge of riparian vegetation, whichever is wider. Wetlands under jurisdiction of the USACE may or may not be included in the area covered by a Streambed Alteration Agreement obtained from the CDFW.

The RWQCBs were established under the Porter-Cologne Water Quality Control Act to oversee water quality. Discharges under the Porter-Cologne Act are permitted by Waste Discharge Requirements (WDRs) and may be required even when the discharge is already permitted or exempt under the CWA. In compliance with Section 401 of the CWA, the RWQCBs also issue water quality certifications for activities which may result in a discharge to waters of the U.S. This is most frequently required in tandem with a Section 404 permit request. Please see the Hydrology and Water Quality section for additional details.

### *Plant Species*

The U.S. Fish and wildlife Service (USFWS) and California Department of Fish and Wildlife (CDFW) 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). Please see the Threatened and Endangered Species Section 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), Section 1531, et seq. See also 50 CFR Part 402. The regulatory requirements for CESA can be found at California Fish and Game Code, Section 2050, et seq. Caltrans projects are also subject to the Native Plant Protection Act, found at California Fish and Game Code, Sections 1900–1913, and the California Environmental Quality Act (CEQA), found at California Public Resources Code, Sections 21000–21177.

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## *Animal Species*

Many state and federal laws regulate impacts to wildlife. The USFWS, National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA 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 species of special concern, and USFWS or NMFS candidate species.

Federal laws and regulations pertaining to wildlife include the following:

- National Environmental Policy Act
- Migratory Bird Treaty Act
- Fish and Wildlife Coordination Act

State laws and regulations pertaining to wildlife include the following:

- California Environmental Quality Act
- Sections 1600–1603 of the California Fish and Game Code
- Sections 4150 and 4152 of the California Fish and Game Code

## *Threatened and Endangered Species*

The primary federal law protecting threatened and endangered species is FESA: 16 United States Code (USC) Section 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.”

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California has enacted a similar law at the state level, the California Endangered Species Act (CESA), California Fish and Game Code Section 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 (CDFW) 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 under Section 2080.1 of the California Fish and Game Code.

Another federal law, the Magnuson-Stevens Fishery Conservation and Management Act of 1976, 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*

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.

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### *Environmental Setting*

The project is in Mendocino County in the Dos Rios United States (U.S.) Geological Survey (USGS) Quadrangle at 39°37'34.71" North Latitude and 123°20'41.30" West Longitude. The South Eel River Bridge is south of the small, unincorporated community of Dos Rios and sits just south of the confluence of the Eel River and Outlet Creek. Private property surrounds the project area outside the SR 162 right of way. The South Eel River Bridge spans the Eel River. The project area is in the Northern California Coast Ranges Ecological Province, a steep mountainous area that spans south from Humboldt Bay to the Russian River. The predominant land use in the immediate project vicinity is rural residential and private agricultural areas.

The Eel River represents California's third largest watershed. The mainstem flows more than 200 air miles and travels over 800 river miles from the headwaters above Lake Pillsbury in Lake County to the ocean. The river flows mainly from south to north and is approximately 197 miles long, receiving flows from 832 perennial tributaries. Numerous large and productive sub-basins and tributaries join the Eel River, including the North Fork Eel River, the Middle Fork Eel River, the South Fork Eel River, and the Van Duzen River. Lake Pillsbury sits approximately 40 miles upstream from the South Eel River Bridge and is formed by Scott Dam.

Scott Dam, Cape Horn Dam and the Van Arsdale reservoir and fish ladder are a part of the Potter Valley Project (PVP), a small hydropower project in the headwaters of the Eel River. In 2019, PG&E announced it is withdrawing its formal notice of intent to seek relicensing of the PVP before the Federal Energy Regulatory Commission (FERC), and ceasing its efforts to sell off the two dams and associated diversion works. The two dams and diversion-works of the PVP divert water from the upper mainstem Eel River to the Russian River. With this announcement, it has become likely that the Scott Dam could be decommissioned and removed within the next 10 years. The removal of this dam has the potential to impact the South Eel River bridge project area biologically by increasing flows during the both the summer and winter months.

The project elevation ranges between approximately 995 feet at the bottom of the river bed and 1,044 feet at the end supports. The area has a warm-summer Mediterranean climate, giving this region very hot and dry summers and mild winters. Most of the precipitation is in the winter with an annual average of around 46 inches. Runoff is rapid, and the river flows drop considerably when many smaller tributaries dry up by the end of the summer. Temperatures range from about 33.0 degrees Fahrenheit (°F) [0.5 degrees Celsius (°C)] in the winter to about 90.0°F (32.2°C) in the summer.

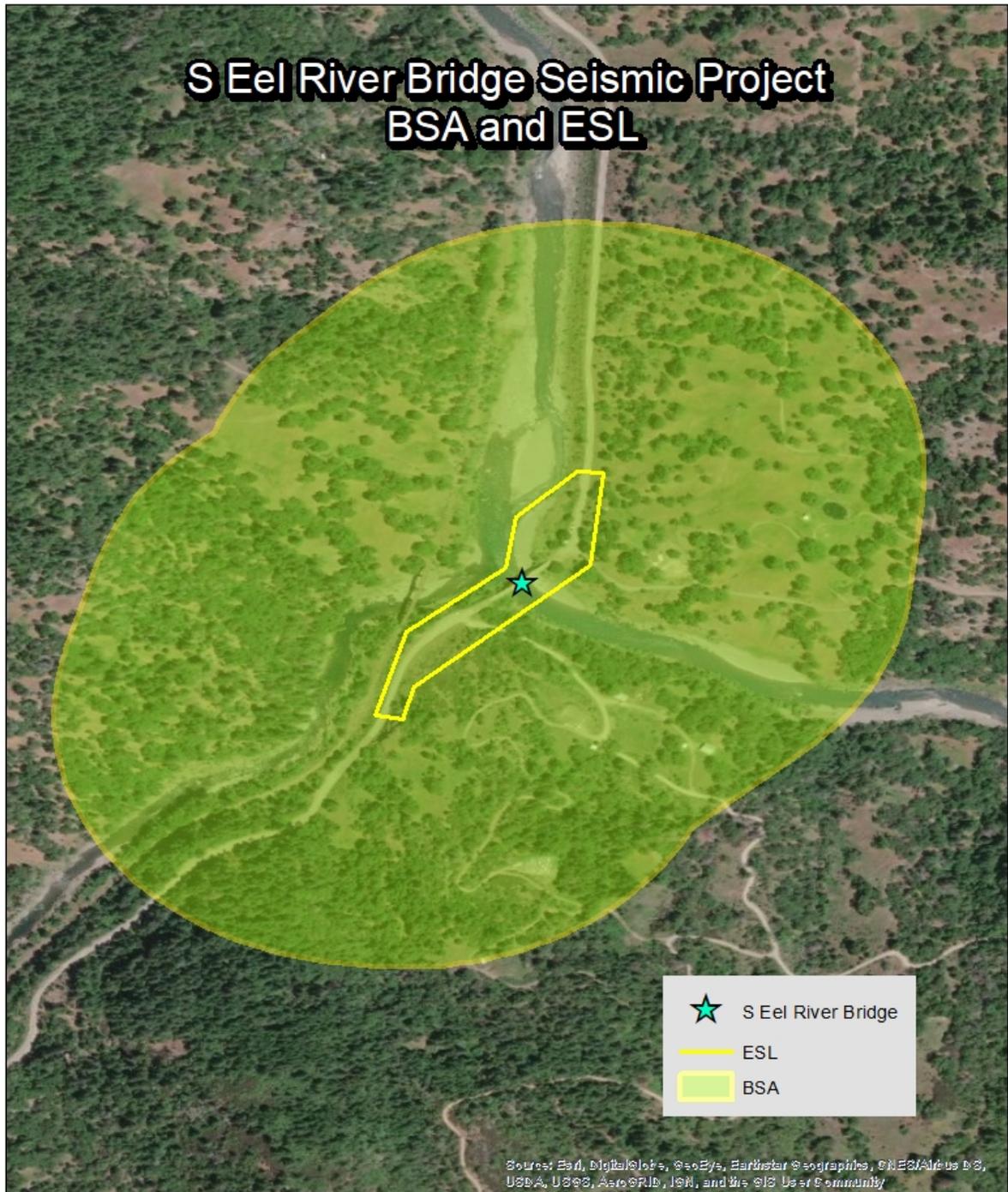
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The Environmental Study Limits (ESL) and Biological Study Area (BSA) (Figure 3) were established to evaluate the potential presence of sensitive natural communities, aquatic resources, and special-status plants and animals. The ESL includes the anticipated work area. The BSA consists of the Project ESL and a 0.25-mile buffer.

To comply with the provisions of various state and federal environmental statutes and Executive Orders, potential impacts to natural resources of the project area were investigated and documented. Field reviews were conducted to identify existing habitat types and natural communities, potential jurisdictional waters and wetlands, rare species and/or factors indicating the potential for rare species (i.e., presence of suitable habitat), sensitive water quality receptors, and existing ambient noise levels (Caltrans 2020a).

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**Figure 3. South Eel River Bridge Environmental Study Limits and Biological Study Area**

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### Natural Communities

Several natural communities exist within the biological study area. The dominant community is within the project area is riverine, which includes the wetted river channel and un-vegetated river bars and banks. A white alder (*Alnus rhombifolia*) – Oregon ash (*Fraxinus latifolia*) community is present along the southwestern riverbank in the riparian corridor, with an understory including pacific willow (*Salix lasiandra*), arroyo willow (*Salix lasiolepis*), narrow-leaved willow (*Salix exigua*), California wild grape (*Vitis californica*), tule (*Schoenoplectus acutus var. occidentalis*), torrent sedge (*Carex nudata*) and wild licorice (*Glycyrrhiza lepidota*). The upland areas are dominated by an interior live oak (*Quercus wislizeni*) – gray pine (*Pinus sabiniana*) / common manzanita (*Arctostaphylos manzanita*) community. Oregon white oak (*Quercus garryana*), California bay (*Umbellularia californica*) and madrone (*Arbutus menziesii*) present in lower cover, while the understory consists of manzanita (*Arctostaphylos manzanita spp.*), coyote brush (*Baccharis pilularis*), poison oak (*Toxicodendron diversilobum*), toyon (*Heteromeles arbutifolia*), Utah service-berry (*Amelanchier utahensis*) and various herbaceous plants. A common manzanita chaparral (*Arctostaphylos manzanita*) community is present on the top of the slope southeast of the roadway on the south side of the bridge. Common manzanita (*Arctostaphylos manzanita ssp. manzanita*) is dominant, with Stanford's manzanita (*Arctostaphylos stanfordiana*), green leaf manzanita (*Arctostaphylos patula*), white leaf common manzanita (*Arctostaphylos manzanita ssp. glaucescens*), Oregon white oak (*Quercus garryana*), and interior live oak (*Quercus wislizeni*) present in lower cover. The SR 162 roadway shoulders are ruderal habitats, dominated by common exotic grasses and herbs. Areas where invasive exotic plant species are present may be subject to vegetation removal and restoration efforts post construction.

Natural Communities of Special Concern (NCSC) 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 NCSC are globally (G) and state (S) ranked 1 to 3, where 1 is critically imperiled, 2 is imperiled, and 3 is vulnerable. Global and state ranks of 4 and 5 are considered apparently secure and demonstrably secure, respectively (CDFW 2010).

The white alder (*Alnus rhombifolia*) – Oregon ash (*Fraxinus latifolia*) community (G4S4) that is present within the project area is apparently secure globally and statewide.

The interior live oak (*Quercus wislizeni*) – gray pine (*Pinus sabiniana*) / common manzanita (*Arctostaphylos manzanita*) community is unranked but listed as sensitive. Oregon white oak (*Quercus garryana*), California bay (*Umbellularia californica*) and madrone (*Arbutus*

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*menziesii*) are present in lower cover, while the understory consists of manzanita (*Arctostaphylos manzanita* spp.), coyote brush (*Baccharis pilularis*), poison oak (*Toxicodendron diversilobum*), toyon (*Heteromeles arbutifolia*), Utah service-berry (*Amelanchier utahensis*) and various herbaceous plants.

The common manzanita chaparral (*Arctostaphylos manzanita*) community (G3S3) is listed as vulnerable globally and statewide. Common manzanita (*Arctostaphylos manzanita* ssp. *manzanita*) is dominant in this community, with Stanford's manzanita (*Arctostaphylos stanfordiana*), green leaf manzanita (*Arctostaphylos patula*), white leaf common manzanita (*Arctostaphylos manzanita* ssp. *glaucescens*), Oregon white oak (*Quercus garryana*), and interior live oak (*Quercus wislizeni*) present in lower cover. Although this species is known as common, communities of it have not been frequently documented across California.

### Wetlands and Other Waters

The Eel River supports sensitive biological resources associated with forested lands and waterways of California's North Coast region. Sensitive aquatic habitat and special-status species are found within and adjacent to the project area.

The Eel River is a federally and state-recognized jurisdictional water that, at the project site, is part of the Riverine system, Upper Perennial subsystem, Unconsolidated Shore subclass. The United States Army Corp of Engineers (USACE) regulates waters of the U.S. under Section 404 of the Clean Water Act (CWA). Waters of the U.S. include wetlands, special aquatic sites, and other non-wetland waters such as bays, rivers, and lakes. The river and its associated riparian habitat are considered sensitive natural communities because they are of limited distribution in California and provide important habitat for special-status wildlife and plant species. These communities are frequently regulated by state and federal agencies. The Eel River and its associated riparian corridors fall into this category.

Waters of the U.S and state are present in the area of the South Eel River Bridge project and within the Environmental Study Limits (ESL). All adjacent vegetated uplands within the ESL are considered riparian, regardless of species composition or origin, owing to their connectivity to the project area waters and relative functional values for improving water quality and habitat for aquatic species. No wetlands were identified within the ESL. Other waters of the U.S. identified within the ESL include the Eel River, a Riverine system with an Upper Perennial subsystem and Unconsolidated Bottom. This system represents approximately 1.58 acres within the ESL. Two intermittent streams that convey water from adjacent hillslopes also occur within the ESL that have been classified as Riverine, Intermittent, Streambed, Seasonally Flooded. These systems total approximately 0.008 acre (Figure 4).

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**Figure 4. Waters within the ESL**

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### Plant Species

The California Native Plant Society (CNPS) inventory (CNPS 2019), California Natural Diversity Database (CNDDDB) (California Natural Diversity Database 2020), and USFWS Information for Planning and Conservation (IPaC) species list indicate several rare plants have the potential to occur within the project region (Appendix C). However, none of the plants in these records have been detected within the project area. The congested-headed hayfield tarweed (*Hemizonia congesta ssp. congesta*, 1B.2) did not occur on these records but was discovered within the project area in multiple locations. Botanical survey results, which document the results of seasonally appropriate floristic surveys carried out for the proposed project, are provided in Appendix D.

The congested-headed hayfield tarweed (*Hemizonia congesta ssp. congesta*) is a spindly annual herb in the sunflower family (*Asteraceae*) with white flowers and glandular leaves that blooms from May through November. This species is native and endemic to California and has a California Rare Plant Rank (CRPR) of 1B.2, meaning it is rare, threatened or endangered in California and elsewhere. While rare, this is not a federally or state listed species. This subspecies grows in northern and central California, with the highest concentration of CNDDDB occurrences located in Sonoma and Marin counties. *Hemizonia congesta ssp. congesta* tends to grow in open valley and foothill grasslands and sometimes roadsides, indicating that it may be tolerant of disturbance. This species is known to hybridize with *H. c. ssp. lutescens*. Threats to this species include development, habitat alteration, and competition from non-native plants.

### Animal and Threatened/Endangered Species

The Biological Study Area (Figure 3) supports various wildlife species including black-tailed deer (*Odocoileus hemionus*), coyote (*Canis latrans*), grey fox (*Urocyon cinereoargenteus*), river otter (*Lontra canadensis*), black bear (*Ursus americanus*), raccoon (*Procyon lotor*), plus several smaller mammals. Western tanager (*Piranga ludoviciana*), acorn woodpecker (*Melanerpes formicivorus*), California towhee (*Melospiza crissalis*), oak titmouse (*Baeolophus inornatus*), and California quail (*Callipepla californica*) are common in the upland areas. Black-headed grosbeak (*Pheucticus melanocephalus*), black phoebe (*Sayornis nigricans*), yellow warbler (*Dendroica petechia*), common mergansers (*Mergus merganser*), spotted sandpiper (*Actitis macularius*), and other songbirds inhabit the riparian corridor. Western fence lizards (*Sceloporus occidentalis*) are commonly seen in the upland areas. On the bridge, habitat is available for bats, nesting swallows, and swifts.

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The proposed project is in essential fish habitat (EFH) for Pacific salmon managed under the Magnuson-Stevens Fishery Conservation and Management Act (MSA). Caltrans requested and received a list of species potentially occurring within the regional area from the U.S. Fish and Wildlife Survey (USFWS) and National Marine Fisheries Service (NMFS) (Appendix C). California Department of Fish and Wildlife (CDFW) also maintains a list of animal Species of Special Concern (SSC), most of which are species whose breeding populations in California may face extirpation. Although these species have no legal status, CDFW recommends their consideration during analysis of the impacts of proposed projects to protect declining populations and avoid the need to list them as endangered in the future. Based upon this records search, site reconnaissance and surveys, a list of federally listed species with potential for occurrence in the Biological Study Area (BSA) was developed (Figure 3).

Further discussion of special-status and threatened and endangered species is provided below including their Federal ESA and/or State ESA listing status and relative sensitivity along with their potential to occur in the project area.

### **Bald Eagle (*Haliaeetus leucocephalus*)**

Though the bald eagle (*Haliaeetus leucocephalus*) was delisted from federal status, in California it is still considered state endangered. They remain 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 (Buehler 2000). CNDDDB lists no observations within the nine-quad search. The eBird database (eBird 2019) lists three detections within the project BSA. No bald eagles or their nests were observed in the BSA.

### **Pallid Bat (*Antrozous pallidus*) and other Bats (*Chiropterans*)**

In California, fourteen species of bats are either considered Species of Special Concern (SSC) by CDFW or currently proposed for such status. 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 Section 4150 provides further protection to bats (non-game mammals) from take or possession.

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All 25 bat species that occur in California use one or more natural features or anthropogenic structures for roosting and 15 species are known to use bridges. Of these 15 bat species, 4 species commonly use bridges, 8 species occasionally use bridges, and 3 species rarely use bridges (Figure 5). Bats also forage in habitats near bridges such as riparian communities and open water, and along transportation corridors (e.g., roadside tree canopies).

Roosting Patterns for California Bat Species									
Species Name	Common Name	Status	Bridge	Cave/ Mine	Building	Cliff/ Rock Crevice	Tree Bark/ Hollow	Tree Foliage	Riprap/ Dry Rock Wall
<b>Family Phyllostomidae (leaf-nosed bats)</b>									
<i>Choeronycteris mexicana</i>	Mexican long-tongued bat	SSC, SC		1	2				
<i>Leptonycteris curasoae</i>	Lesser long-nosed bat			1					
<i>Macrotus californicus</i>	California leaf-nosed bat	SSC, SC	3	1					
<b>Family Molossidae (free-tailed bats)</b>									
<i>Eumops perotis</i>	Western mastiff bat	SSC, SC			3	1			
<i>Nyctinomops femorosaccus</i>	Pocketed free-tailed bat	SSC				1			
<i>Nyctinomops macrotis</i>	Big free-tailed bat	SSC, SC				1			
<i>Tadarida brasiliensis mexicana</i>	Mexican free-tailed bat		1	2	1	1	3		
<b>Family Vespertilionidae (mouse-eared bats)</b>									
<i>Antrozous pallidus</i>	Pallid bat	FSS, SSC	1	2	1	2	1		
<i>Corynorhinus townsendii</i>	Townsend's big-eared bat	FSS, SSC, SC	2	1	2		3		
<i>Eptesicus fuscus</i>	Big brown bat		1	2	1	2	1		
<i>Euderma maculatum</i>	Spotted bat	SSC, SC				1			
<i>Lasionycteris noctivagans</i>	Silver-haired bat		3				1		
<i>Lasiurus blossevillii</i>	Western red bat	FSS, PSSC							1
<i>Lasiurus cinereus</i>	Hoary bat								1
<i>Lasiurus xanthinus</i>	Northern yellow bat	PSSC, SC						1	
<i>Myotis californicus</i>	California myotis		2	2	1	1	2		3
<i>Myotis ciliolabrum</i>	Small-footed myotis	SC	2	2		1			
<i>Myotis evotis</i>	Long-eared myotis	SC	2	2	2	2	1		2
<i>Myotis lucifugus</i>	Little brown myotis		2	2	1	2	2		
<i>Myotis occultus</i>	Arizona myotis	SSC, SC	2		?		1		
<i>Myotis thysanodes</i>	Fringed myotis	PSSC, SC	2	1	2	2	1		
<i>Myotis velifer</i>	Cave myotis	SSC, SC	2	1	?				
<i>Myotis volans</i>	Long-legged myotis	PSSC, SC	2	2	2		1		
<i>Myotis yumanensis</i>	Yuma myotis	SC	1	2	1	3	2		3
<i>Pipistrellus hesperus</i>	Western pipistrelle		3	2	3	1			

Notes:  
 \* 1 = use frequently; 2 = use sometimes; 3 = use rarely; Blank = not known to use  
 Adapted from Johnston et al. [2004]  
 Status:  
 FSS = U.S. Forest Service Sensitive  
 SSC = California Department of Fish and Wildlife, Mammal Species of Special Concern  
 PSSC = Proposed, California Department of Fish and Wildlife, Mammal Species of Special Concern  
 SC = Former Candidate (Category 2) for listing under U.S. Endangered Species Act; Species of Concern

**Figure 5. Roosting Patterns for California Bat Species**

Bridges are the transportation structures most commonly associated with bat species. Bats use bridge cavities for roosting during the day and for bearing and rearing young (i.e., maternal roost) typically from February through August. At night, bats often roost in the open on the concrete undersides of bridges. 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.

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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. Buildings and other structures that are adjacent to a transportation project may also provide potential habitat for crevice or cavern roosting species.

Three species of bats considered to be SSC by CDFW were documented within the twelve-quad database searches: Pallid bat (*Antrozous pallidus*), Townsend's big-eared bat (*Corynorhinus townsendii*) and western red bat (*Lasirurs blossevillii*). These species have the potential to occur within the project limits.

The project location is also within range of fringed myotis (*Myotis thysanodes*), little brown bat (*Myotis lucifugus*), Mexican free-tailed bats (*Tadarida brasiliensis*), silver-haired bat (*Lasionycteris noctivagans*), California myotis (*Myotis californicus*) and Yuma myotis (*Myotis yumanensis*) (CNDDDB 2018). All these species are known to use bridge structures for day roost, maternity roost, and/or night roost where habitat is suitable (Erickson et al., 2002).

The CNDDDB RareFind database shows one Pallid bat occurrence less than a mile downstream of the project area. The closest recorded observations of Townsend's big-eared bat and western red bat are approximately 12 miles north of the project area in Round Valley, near Covelo. Caltrans biologists conducted presence and absence surveys, exit surveys, and Sonobat acoustical detection surveys at the South Eel River Bridge throughout 2019. Both day and night roosting bats were found to be present inside the structure. It is likely that the colonies occupy various locations throughout the inside of the entire box girder. Night roosting occurs in the same areas, in addition to the vertical faces of the bridge structure.

During surveys on April 25, 2019, approximately 132 bats were counted exiting from the box girder bridge through a weep hole in the north side directly underneath support number 4. Throughout the survey, it became clear that bats were also exiting the bridge from other weep holes along the entire length of the structure. Caltrans biologists estimate that at least 250 bats were using the structure as a day roost at that time. This pattern of activity is consistent with day and maternity roosting, where bats are recorded immediately upon or before emergence from the day roost and where activity of bats coming and going to the roost continues all night (e.g., potentially feeding young, socializing, and using other portions of the bridge as a night roost).

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Using Sonobat technology during exit surveys, Caltrans biologists confirmed that Pallid bat, California myotis, Yuma myotis, and Mexican free-tailed bat were all using the inside of the box girder section as a day roost. Using the Sonobat Live and Sonobatch programs, likelihood of presence for each bat with range within the project area was generated from the call data taken throughout the season (Table 2).

Bats with a detection confidence rate over a 0.95 (95 percent) are assumed to be present. Bats detected entering and exiting the bridge structure during summer months are assumed to be part of a maternity colony that raise their young in the box girder. Western red bats were confirmed to be present at the site, however these bats are not known to roost in bridges and are most likely roosting in nearby trees.

**Table 2. Likelihood of Bat Species Presence**

Species	Likelihood of presence
Yuma myotis	1 (100%)
California myotis	1 (100%)
long legged myotis	0.02 (2%)
Little Brown bat	0.02 (2%)
long eared myotis	0
western red bat	0.98 (98%)
Pallid bat	1 (100%)
big brown bat	0
Silver haired bat	0.86 (86%)
Townsend's bat	0.04 (4%)
Fringed myotis	0.04 (4%)
Mexican free tailed bat	1 (100%)
hoary bat	0.02 (4%)

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### **California Red-legged Frog (*Rana draytonii*)**

California red-legged frog (CRLF) (*Rana draytonii*) is federally listed as threatened and is a SSC. CRLF habitat includes nearly any area within 1-2 miles of a breeding site that stays moist and cool through the summer. This includes non-breeding aquatic habitat in pools of slow-moving streams, perennial or ephemeral ponds, and upland sheltering habitat such as rocks, small mammal burrows, logs, densely vegetated areas, and even man-made structures (i.e., culverts, livestock troughs, spring-boxes, abandoned sheds). No CNDDDB detections have been recorded within the nine-quad search radius. This species was not observed within the BSA in 2019. The aquatic habitat present on-site is a larger river system in an area that becomes very hot and dry during the summer months, which does not provide suitable breeding habitat. Predators such as the bullfrog have also been observed on-site.

### **Chinook Salmon (*Oncorhynchus tshawytscha*), California Coastal Evolutionary Significant Unit**

The California Coastal (CC) Evolutionarily Significant Unit (ESU) of Chinook salmon (*Oncorhynchus tshawytscha*) is federally listed as threatened and is a state SSC. Chinook salmon were once the most abundant and probably most genetically diverse anadromous salmonid in the Eel River basin, with large effects on the ecology of both the aquatic and riparian systems. In the past, this ESU contained both spring-run and fall-run components. There are historical documentations of spring-runs in the Mad River and North and Middle Forks of the Eel River. However, the spring-run component is now thought to be nonexistent. Most fall-run Chinook salmon return to their home streams between September and February, and spawn soon after freshwater entry. The typical life cycle for CC Chinook salmon is to out migrate as smolts during the spring/summer after hatching, then spend one to five years in the ocean before returning to spawn. Most return as three-year-olds, and a few return as two-year-olds, or four-year-olds. Very few spend five years in the ocean (Lacy et al., 2016).

The Van Arsdale reservoir and fish ladder is approximately 30 miles upstream of the project site. The Chinook salmon count at this facility from the 2018-2019 season stands at 95, the count from 2017-2018 stands at 232 (Harris 2020). Snorkel surveys were conducted within the BSA to assess fish presence and document temporal trends of target species. The survey area was 400 feet (122 meters) downstream and 510 feet (155 meters) upstream of the South Eel River Bridge. No salmonids at any life stage were observed during these surveys. Chinook salmon critical habitat is present in the Eel River below the structure.

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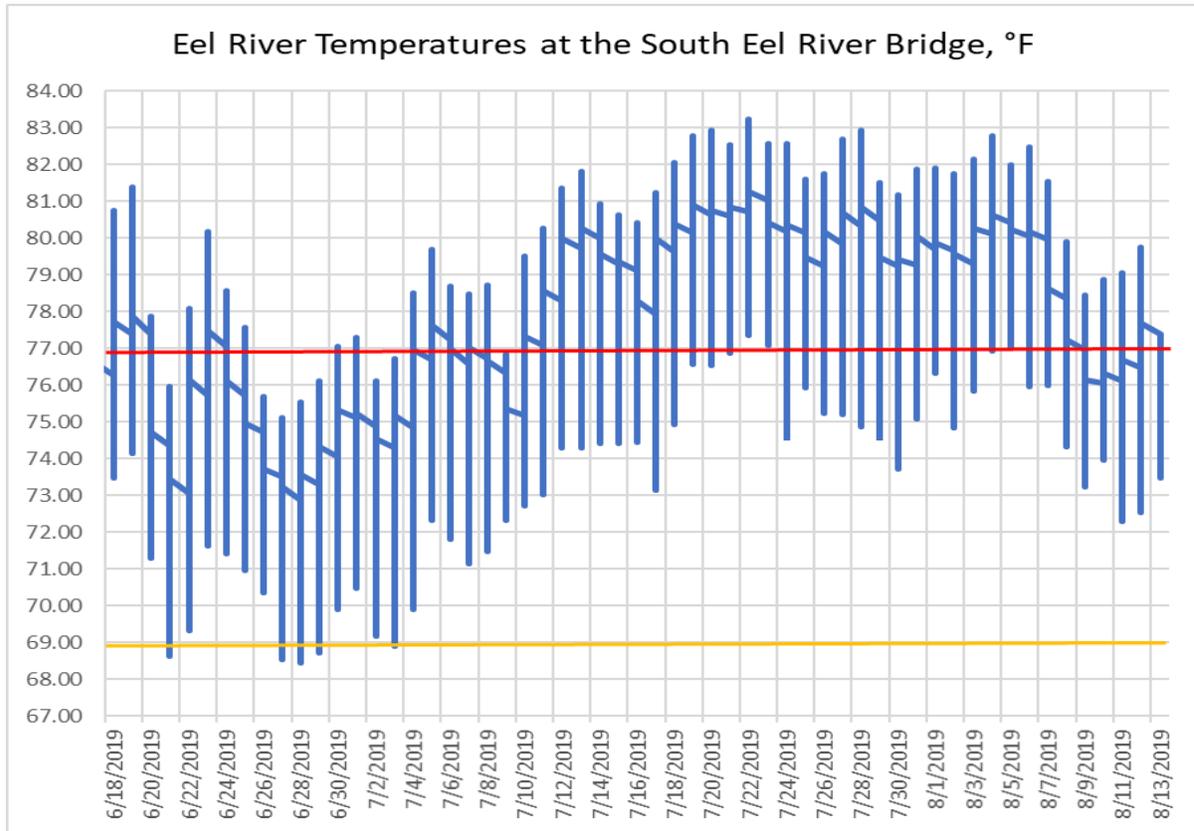
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Juvenile Chinook salmon may be present in the Eel River year-round; however, they are expected only to persist in areas of cool water refuge (e.g., creek mouths or upwelling spring water) during summer. No known thermal refugia suitable for Chinook salmon are located within the BSA.

Water temperature is one of the most important environmental influences on salmonids at all life stages, affecting physiological processes and timing of life history events (Spence et al., 1996). Adult fall-run Chinook salmon tolerate water temperatures ranging from 51°F–67°F (10°C–19.4°C). Based on studies of steelhead and coho salmon, water temperature ranging from 50°F–55°F (10°C–12.8°C) has been recommended as the optimal thermal range for smoltification and emigration. Juvenile Chinook salmon prefer water temperatures less than 71.6°F (22°C) (DWR 2005). The United States Environmental Protection Agency (U.S. EPA) cited various literature sources in a 2001 paper that identified thermal blockages to Chinook salmon migration at temperatures ranging from 66–75°F (19–23.9°C), with the majority of references citing migration barriers at temperatures around 69.8°F (21°C) (Carter 2005). In a review of numerous studies, Bell (1986) concluded that the upper lethal temperature for Chinook salmon was 77°F (25.1°C). Over the past 30 years, lethal water temperatures have been reported in the section along the Eel River between Tomki Creek and Outlet Creek during the summer months. In 1980 and 1981, lethal temperatures were recorded near the project area. A maximum daily temperature of 82.4°F (28.0°C) or greater for at least 100 continuous minutes was considered lethal during the study; temperatures from 78.08°F (26.5°C) up to, but not including, 82.4°F (28.0°C) were considered marginal; and temperatures less than 78.08°F (26.5°C) were considered satisfactory (Yoshiyama and Moyle 2010). As noted above, much lower water temperatures have since proven to be lethal.

Caltrans biologists deployed temperature data loggers below the bridge during the summer of 2019 to obtain river temperatures (Figure 6). Temperatures within the proposed work area were determined to be above lethal limits for salmonid species during the in-stream work windows of June 15 to October 15. Therefore, listed salmonids are likely to be rare in the action area during summer months when construction activities would occur.

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**Figure 6. Temperatures at the South Eel River Bridge 2019**

*The yellow line shows the temperature (69.8°F (21°C)) at which Chinook salmon, coho salmon, and Steelhead will all experience stress and migration barriers. The red line shows the temperature that is lethal for the above salmonid species at all life stages.*

### **Coho Salmon (*Oncorhynchus kisutch*), Southern Oregon/Northern California Coast ESU**

The Southern Oregon/Northern California Coast (SONCC) ESU of coho salmon (*Oncorhynchus kisutch*) includes all naturally spawned populations of coho salmon in coastal streams between Cape Blanco, Oregon, and Punta Gorda, California, as well as salmon produced by three artificial propagation programs: the Cole River Hatchery near the Rogue River in Oregon and the Trinity River and Iron Gate (Klamath River) hatcheries in California. The SONCC ESU is listed as threatened at the state and federal level.

NMFS published its final decision to list the SONCC ESU of coho salmon as threatened under the Federal Endangered Species Act (FESA) on May 6, 1997 (62 FR 24588), a status that was reaffirmed on August 15, 2011 (76 FR 50447). The listing initiated the

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development of a recovery plan for the ESU that includes delisting goals. The final recovery plan for the SONCC coho salmon was published by NMFS in 2014.

Critical habitat for the SONCC coho salmon was designated in 1999 (64 FR 24049) as encompassing accessible reaches of all rivers (including estuarine areas and tributaries) between the Mattole River in California and the Elk River in Oregon. Critical habitat includes all waterways, substrate, and adjacent riparian zones, but excludes 1) areas above specific dams, 2) areas above longstanding, naturally impassible barriers, and 3) tribal lands. The proposed South Eel River Bridge Seismic Project is within designated critical habitat for SONCC coho salmon.

In the Eel River system, the coho salmon spawning run occurs from December to February. Spawning is predominantly confined to the upper South Fork Eel River and its tributaries, and lower tributaries of the mainstem Eel and Van Duzen rivers. Fry (larval fish that are ready to start eating on their own) emergence takes place between March and July, with peak emergence between March and May. Juvenile coho salmon typically feed and rear within the streams of their natal watershed for a year before migrating to the ocean. Coho salmon fry may move upstream or downstream to rear after emergence. Coho salmon rearing areas include lakes, sloughs, side channels, estuaries, beaver ponds, low-gradient tributaries to large rivers, and large areas of slack water (Pacific Fishery Management Council 2014).

In the mainstem Eel River, coho salmon were known to have spawned in several small tributaries of Outlet Creek during the 1988-1989 season. Surveys conducted on 42.9 miles (69 km) of Outlet Creek and on 12 of its tributaries during the 1989-1990 season were unable to find any coho salmon (Yoshiyama and Moyle 2010). Coho salmon presence in the mainstem Eel River within the BSA is unlikely during the summer due to unsuitably high temperatures, even in areas of cooler water inputs where tributaries such as Outlet Creek may enter the river. Coho salmon were last documented at the Van Arsdale fish ladder approximately 30 miles upstream during the 2001-2002 season.

Snorkel surveys were conducted within the BSA to assess fish presence and document temporal trends of target species. The survey area was 400 feet (122 meters) downstream and 510 feet (155 meters) upstream of the South Eel River Bridge. No salmonids at any life stage were observed during these surveys.

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### **Foothill Yellow-legged Frog (*Rana Boylii*)**

Foothill yellow-legged frog (FYLF) (*Rana boylii*) is a SSC. The species is characteristically found very close to water in association with perennial streams and seasonal creeks that retain perennial pools through the end of summer (California Herps 2019). CNDDDB documents 12 occurrences of this species within a nine-quad search radius, with the closest detection recorded approximately 2.7 miles upstream of the South Eel River Bridge. Two species-specific surveys were conducted in May of 2019. Surveys consisted of two or more qualified Caltrans biologists walking for a minimum distance of 300 feet downstream and 300 feet upstream from the temporary impact limits of construction to search for all life stages of FYLF (particularly egg masses). No capture or handling of any life stages of FYLF occurred and substrate potentially covering egg masses was not disturbed. No egg masses were detected during these surveys, and no adults were detected on the river bar within the BSA from May through October of 2019. It should be noted that multiple adult bullfrogs (an invasive species and FYLF predator) were heard vocalizing within the BSA and 100+ bullfrog tadpoles were observed in shallow areas directly below the bridge.

### **Humboldt Marten (*Martes caurina humboldtensis*)**

The Humboldt marten (*Martes caurina humboldtensis*) is a federally proposed threatened and state candidate endangered species. It is a carnivorous mammal that historically occupied the coastal mountains of California from Sonoma County north to the Oregon border. The current distribution is limited to areas of Humboldt, Del Norte, and Siskiyou counties. Humboldt marten are associated with late successional conifer stands with dense shrub layers with abundant downed tree structures used for resting, denning, and escape cover (Hamlin et al., 2010). The CNDDDB RareFind database shows the nearest Humboldt marten detection approximately 11 miles southeast of the project area. Protocol level surveys were not performed for this species due to the lack of suitable habitat. Any trees that would be removed do not provide suitable denning habitat for marten. The habitat within the ESL does not contain suitable denning sites or day resting sites for Humboldt marten, and the proximity to a heavily traveled roadway and human habitation would also likely deter marten from utilizing the ESL.

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## Northern California Coast Steelhead (*Oncorhynchus mykiss irideus*)

The Northern California Coast steelhead (*Oncorhynchus mykiss irideus*) Distinct Population Segment (DPS) is a federally threatened species and a state SSC. The Northern California Coast DPS includes all naturally spawned *anadromous* *O. mykiss* (steelhead) populations below natural and manmade impassable barriers in California coastal river basins from Redwood Creek southward to, but not including, the Russian River, as well as some state and federal propagation programs. Steelhead in this DPS include both winter and summer run types, and what is presently considered to be the southernmost population of summer steelhead in the Middle Fork Eel River. The summer run steelhead are a state candidate threatened population within this DPS. Immature steelhead that return to freshwater after only spending a few months in the ocean (half-pounder) also occur within the range of this DPS, specifically in the Mad River and Eel River. The Eel River is considered critical habitat for this DPS of steelhead.

The Van Arsdale reservoir and fish ladder is approximately 30 miles upstream of the project site. The steelhead count at this facility from the 2018-2019 season stands at 309, the count from 2017-2018 stands at 169 (Harris 2020). Snorkel surveys were conducted within the BSA during the summer months of 2019 to assess fish presence and document temporal trends of target species. The survey area was 400 feet (122 meters) downstream and 510 feet (155 meters) upstream of the South Eel River Bridge. No salmonids at any life stage were observed within the BSA during these surveys.

Juvenile steelhead may be present in the Eel River year-round; however, they are expected only to persist in areas of cool water refuge (e.g., creek mouths or upwelling spring water) during summer. Historically, a riffle pool approximately 550 feet downstream from the bridge has acted as thermal refugia for juvenile steelhead during the summer months (J. Jahn, personal communication, August 2019).

For at least 30 years, lethal water temperatures have been reported along the section of the Eel river between Tomki and Outlet Creeks during the summer months. In 1980 and 1981, lethal temperatures were recorded in the vicinity of the project area. A maximum daily temperature of 82.4°F (28.0°C) or greater for at least 100 continuous minutes was considered lethal to steelhead trout during the study; temperatures from 78.08°F (26.5°C) up to, but not including, 82.4°F (28.0°C) were considered marginal; and temperatures less than 82.4°F (26.5°C) were considered satisfactory (Yoshiyama and Moyle 2010).

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Caltrans biologists deployed temperature data loggers below the bridge during the summer of 2019 to obtain river temperatures (Figure 6). Temperatures within the proposed work area were determined to be above lethal limits for salmonid species during the in-stream work windows. Therefore, listed salmonids are likely to be rare in the action area during summer months when construction activities would occur.

### **Northern Spotted Owl (*Strix occidentalis caurina*)**

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. No species-specific surveys were performed for this species due to the lack of suitable nesting habitat. CNDDDB lists one observation approximately 2.7 miles northwest of the project in upland Douglas-fir habitat. No NSO nests, potential nest structures, suitable nesting trees, or individuals were observed in the BSA. Habitat for NSO is not present within the BSA. In addition, there would be no removal of potential nesting trees, critical habitat Primary Constituent Element (PCEs), or nest structures associated with this project.

### **Osprey (*Pandion haliaetus*)**

Osprey (*Pandion haliaetus*) are treated as “taxa to watch” by CDFW due to their former inclusion on special concern lists. While they have demonstrated population declines, they are still common and widespread in the state and are currently at a low risk for extinction. The current population trends for osprey are steadily increasing (International Union for Conservation of Nature (IUCN) 2016). No species-specific surveys were performed for this species. CNDDDB lists no observations within the nine-quad search. The eBird database (eBird 2019) lists one observation of this species within the project BSA. No osprey nests or individuals were observed in the BSA during 2019 surveys.

### **Pacific Lamprey (*Entosphenus tridentatus*)**

A Species of Special Concern (SSC), Pacific lamprey (*Entosphenus tridentatus*) are parasitic, anadromous fish (born in freshwater streams, migrate out to the ocean, and return to fresh water as mature adults to spawn) (CDFW 2015; Calfish 2016). Focused surveys for Pacific lamprey have not been conducted for the proposed project; however, summer surveys were conducted for salmonids in 2019. No lamprey were observed during the surveys. The CNDDDB RareFind database (California Natural Diversity Database 2020) did not contain records within the nine-quad search, however this species is known to be present in the Eel River and has been observed

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30 miles upstream of the project site attempting to climb the van Arsdale fish ladder. This species may be present in the water course within the BSA.

### **Pacific Coast Salmon 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 Eel 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 and Chinook salmon consists of four major components: (1) spawning and incubation; (2) juvenile rearing; (3) juvenile migration corridors; and (4) adult migration corridors. EFH for Chinook salmon also includes adult holding habitats. This section of the SF Eel River serves only as a migration corridor for juveniles and adults for both species. There is no suitable spawning habitat in the project area. There is also no juvenile rearing in the project area because water temperatures in the summer exceed lethal levels for salmonids (Figure 6).

The Eel River supports EFH for species regulated under the federal Pacific Coast Salmon Fishery Management Plan. This section of the Eel River serves as a migration corridor for juveniles and adults for both species.

### **Ring-tailed Cat (*Bassariscus astutus*)**

Ring-tailed cat (ringtail) (*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 dens inside buildings and other manmade structures (Myers 2010). Ring-tail cats are nocturnal carnivores that forage at night for a variety of prey—primarily small mammals, invertebrates, birds, and reptiles. Ring-tail cats may supplement their diet with plants or fruit (Poglayen-Neuwall and Toweill 1988). No species-specific surveys were conducted for this species. No CNDDDB occurrence information is available, as CNDDDB does not track ring-tail cat observations.

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### **Vaux's Swift (*Chaetura vauxi*)**

The Vaux's swift (*Chaetura vauxi*) is a state SSC. The range of Vaux's swift in coastal California generally follows the distribution of redwood trees where it occurs primarily as a migrant and summer resident from mid-April to mid-October (Hunter et al., 2005). Vaux's swift nest sites are usually inside hollow trees, reached via broken-off tops or woodpecker holes. This species also occasionally nests in chimneys and bridge structures. No species-specific surveys were performed for this species, but Vaux's swift have been observed within the project area during other surveys in 2019. Swifts were observed flying in and out of the bridge structure via weep holes. This behavior indicates they are likely nesting in the open areas inside the box girder of the South Eel River Bridge. There are no CNDDDB records of Vaux's swift within the nine quad search radius. The eBird database (eBird 2019) lists five documented observations of Vaux's swift within the project area.

### **Western Pond Turtle (*Emys marmorata*)**

Western pond turtle (WPT) (*Emys marmorata*) is a state SSC. This species can be found near permanent ponds, lakes, streams, and irrigation ditches. They favor habitats with large numbers of emergent logs or boulders, where they gather to bask. WPT are omnivorous and most of their animal diet includes insects, crayfish, and other aquatic invertebrates. Fish, tadpoles, and frogs are eaten occasionally, and carrion is eaten when available. Plant foods include filamentous algae, lily pads, tule, and cattail roots. Females typically move overland for up to 100 feet (30 meters) to find suitable nesting sites for egg laying. No species-specific surveys were conducted for WPT. This species was observed during field visits in 2019. A single adult was observed on the western bank of the river in April, while at least six adults were observed within the channel during snorkel surveys Eel River in June and July 2019.

### **Western Snowy Plover (*Charadrius nivosus nivosus*), Pacific Coast Distinct Population Segment**

Pacific Coast Distinct Population Segment (DPS) of the western snowy plover (WSP) (*Charadrius nivosus nivosus* formerly *C. alexandrinus nivosus*) is federally listed as threatened (58 FR 12864) and is a state SSC. The Pacific Coast DPS population is defined as those individuals that nest within 50 miles of the Pacific Ocean from southern Washington to southern Baja California, Mexico (USFWS 2007a). Sand spits, dune-backed beaches, beaches at creek and river mouths, and salt pans at lagoons and estuaries above the high tide line are the main coastal habitats for nesting.

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Nests typically occur in flat, open areas with sandy or saline substrates; vegetation and driftwood are usually sparse or absent. WSP also regularly nest on gravel bars along the coastal regions of the Eel River in northern California (USFWS 2007a). There is no critical habitat for WSP within the BSA.

### **Western Yellow-Billed Cuckoo (*Coccyzus americanus occidentalis*), Western Distinct Population Segment**

The western yellow-billed cuckoo (YBCU) (*Coccyzus americanus occidentalis*) is federally listed as threatened and state listed as endangered. These birds breed in large blocks of riparian habitats (particularly woodlands with mature cottonwoods and willows). The optimal size of habitat patches for the species is generally greater than 200 acres in extent and have dense canopy closure (Laymon and Halterman, 1989). Rarely do YBCU use sites less than 50 acres for nesting, and sites less than 37 acres are considered unsuitable habitat (Laymon and Halterman 1989). In coastal northern California, YBCU have occurred during the breeding season intermittently over the last 15 years, and there is some indication that YBCU occurrences in the region may be correlated with presence of tent caterpillars.

Critical habitat for YBCU was proposed by the USFWS in 2014 (79 FR 48547). The nearest proposed critical habitat to the project site is Unit 1, located along the Eel River in Humboldt County, California. There is no proposed critical habitat within or adjacent to the project area. No species-specific survey was performed for yellow-billed cuckoo. No CNDDDB detections have been recorded within the nine-quad search radius. eBird lists the closest nesting season observations in Albion, CA, approximately 36 miles southwest of the BSA along the coast. Suitable nesting habitat is not present in the BSA and YBCC have not been observed within the project area, thus they are not expected to occur. Habitat for YBCC is not present within the BSA of this project.

### **Yellow-breasted Chat (*Icteria virens*)**

The yellow-breasted chat (*Icteria virens*) is a SSC. This species is known to breed in northern California. Chats start arriving in Humboldt County in mid-April and depart by mid-September. Chats prefer dense, riparian thickets of willow and other brushy tangles near watercourses. Breeding occurs between May and July. Nests are built in low, dense riparian habitats consisting of willow, blackberry, and wild grape. This species usually forages and nests within 10 feet of ground (Hunter et al., 2005). Prey items typically consist of berries, grasshoppers, bugs, beetles, weevils, bees, wasps, tent caterpillars, ants, moths and mayflies.

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No species-specific surveys were performed for yellow-breasted chat. No CNDDDB detections have been recorded within the nine-quad search radius. The eBird database (eBird 2019) contains eight occurrences of yellow-breasted chat within the project area. This species was observed singing within the BSA during the 2019 breeding season and nesting is suspected within the BSA.

### **Yellow Warbler (*Setophaga petechia*)**

The yellow warbler (*Setophaga petechia*) is a SSC. This bird species is known to breed within Del Norte, Mendocino, and Humboldt counties. Yellow warblers usually breed in riparian habitats containing cottonwoods, willows, alders, and other small trees and shrubs typical of low, open-canopy riparian woodland habitats. Territories often include tall trees for singing and foraging with a heavy brush understory for nesting. In northern California, willow cover and Oregon ash are important predictors of high yellow warbler abundance (Hunter et al., 2005). Yellow warblers typically forage on ants, bees, wasps, caterpillars, beetles, true bugs, flies, and spiders.

No species-specific surveys were performed for yellow warbler. No CNDDDB detections have been recorded within the nine-quad search radius (California Natural Diversity Database 2020). The eBird database (eBird 2019) contains thirteen occurrences of yellow warbler within the project area. Yellow warblers were observed singing within the BSA during the 2019 breeding season and are presumed to be nesting within the BSA.

### **Invasive Species**

Introduction and naturalization of non-native species is one of the most important threats to global biodiversity. The Eel 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 giant reed (*Arundo donax*), yellow star-thistle (*Centaurea solstitialis*), jubata grass and pampas grass (*Cortaderia spp.*), Scotch broom, (*Cytisus scoparius*), French broom (*Genista monspessulana*), Harding grass (*Phalaris aquatica*), water primrose (*Ludwigia sp.*), and Spanish broom (*Spartium junceum*). Table 3 lists the invasive plant species identified by the United States Department of Agriculture (USDA) and the California Invasive Plant Council (Cal-IPC) for the State of California that are known to occur in the ESL (USDA 2019; Cal-IPC 2020).

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**Table 3. Invasive Plant Species Occurring Within the ESL**

<b>Scientific Name</b>	<b>Common Name</b>	<b>USDA State Noxious Status</b>	<b>Cal-IPC Rating</b>
<i>Avena barbata</i>	Slender oat	None	Moderate
<i>Avena fatua</i>	Wild oat	None	Moderate
<i>Avena sterilis</i>	Animated oat	Q	None
<i>Bellardia trixago</i>	Mediterranean linseed	None	Limited
<i>Brassica nigra</i>	Black mustard	None	Moderate
<i>Briza maxima</i>	Rattlesnake grass	None	Limited
<i>Bromus diandrus</i>	Ripgut grass	None	Moderate
<i>Bromus hordeaceus</i>	Soft chess	None	Limited
<i>Bromus tectorum</i>	Cheat grass	None	High
<i>Carduus pycnocephalus</i>	Italian thistle	None	Moderate
<i>Centaurea solstitialis</i>	Yellow star-thistle	CW	High
<i>Convolvulus arvensis</i>	Field bindweed	CW	None
<i>Cynodon dactylon</i>	Bermudagrass	CW	Moderate
<i>Cynosurus echinatus</i>	Bristly dogtail grass	None	Moderate
<i>Erodium cicutarium</i>	Redstem filaree	None	Limited
<i>Festuca arundinacea</i>	Tall fescue	None	Moderate
<i>Festuca myuros</i>	Rattail sixweeks grass	None	Moderate
<i>Geranium dissectum</i>	Cut-leaved geranium	None	Moderate
<i>Hirschfeldia incana</i>	Mediterranean mustard	None	Moderate
<i>Hypericum perforatum</i> subsp. <i>Perforatum</i>	Klamathweed	CW	Moderate
<i>Medicago polymorpha</i>	California burclover	None	Limited
<i>Mentha pulegium</i>	Pennyroyal	None	Moderate
<i>Parentucellia viscosa</i>	Yellow parentucellia	None	Limited
<i>Phalaris aquatica</i>	Harding grass	None	Moderate
<i>Plantago lanceolata</i>	English plantain	None	Limited
<i>Rubus ursinus</i>	California blackberry	None	Limited
<i>Torilis arvensis</i>	Tall sock-destroyer	None	Moderate
<i>Trifolium hirtum</i>	Rose clover	None	Moderate

High – These species have severe ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal and establishment. Most are widely distributed ecologically.

Moderate – These species have substantial and apparent-but generally not severe-ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal, though establishment is generally dependent upon ecological disturbance. Ecological amplitude and distribution may range from limited to widespread.

Limited – These species are invasive, but their ecological impacts are minor on a statewide level or there was not enough information to justify a higher score. Their reproductive biology and other attributes result in low to moderate rates of invasiveness. Ecological amplitude and distribution are generally limited, but these species may be locally persistent and problematic.

Alert – An Alert is listed on species with High or Moderate impacts that have limited distribution in California but may have the potential to spread further.

Watch – These species have been assessed as posing a high risk of becoming invasive in the future within California.

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<b>Code</b>	<b>Noxious Status</b>
AW	A list (noxious weeds)
BW	B list (noxious weeds)
CW	C list (noxious weeds)
NAW	Noxious aquatic weed
PN	Public nuisance
Q	Quarantine
QW	Q list (temporary "A" list noxious weed, pending final determination)

Invasive bird species identified in or adjacent to the ESL include the brown-headed cowbird (*Molothrus ater*). This species is a native North American species but invasive to California. 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 egg(s) 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, 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*) (Shuford and Gardali 2008). California's vireos, warblers, and small flycatchers may be jeopardized if the cowbird population continues to increase and expand its range.

The Sacramento pikeminnow is a large piscivorous cyprinid (minnow) native to the Sacramento-San Joaquin drainage and several smaller coastal drainages in California. Pikeminnow were introduced into the Eel River system in Pillsbury Lake in 1979 and have since become widespread throughout the Eel River Basin (Brown and Moyle 1997). Adult pikeminnow are known to consume native salmonid species and native amphibians. During snorkel surveys for salmonids, biologists observed over 1,000 juvenile pikeminnow, along with many adults that were over one foot in length.

American bullfrogs (*Rana catesbeiana*) are large frogs that are native to the central and eastern United States and invasive to California. They were intentionally introduced into the western United States as both a food source and for biological control of insects (Kupferberg 1997). More individuals may have been accidentally introduced into some areas during fish stocking. They also likely spread to new areas when they escaped from frog farming

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operations and/or were released by pet owners. Bullfrogs are widely considered one of the most ecologically destructive vertebrate species, with “a pernicious influence on the survival of native species due to their adaptability, proliferation and consequent ecological impacts through competition and predation” (Jancowski and Orchard 2013). Bullfrogs prey on native amphibians such as Foothill yellow-legged frog (Jancowski and Orchard 2013). Predation of juvenile coho salmon by bullfrogs has also been documented within Humboldt County and researchers rank coho salmon within the top 14 vertebrate prey species in the bullfrog diet (Garwood et al., 2010; Jancowski and Orchard 2013). Bullfrog tadpoles have been observed within the project area in masses along the vegetated river banks during low flows and periods of stagnate water. Adult calls from multiple individuals have also been heard within the project area.

Invasive species are present in the BSA.

#### ***Discussion of Environmental Evaluation Question 2.6—Biological Resources***

“No Impact” determinations for CEQA Checklist Questions c), e), and f) are based on the scope, description, and location of the proposed project, as well as the Natural Environment Study dated March 2020 (Caltrans 2020a).

#### ***Discussion of Biological CEQA Checklist Questions a), b), and d)***

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

- 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 Fisheries?*
  - 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?*
  - 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?*
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## **Natural Communities**

The common manzanita chaparral community is present on the top of the slope southeast of the roadway on the south side of the bridge. The white alder – Oregon ash community is present along the southern river bank. The interior live oak – gray pine / common manzanita community is minimally present within the ESL, mainly on top of the most north eastern slope. However, it does dominate most of the upland areas within the larger BSA. Ruderal habitat is also present and lines the roadways within the ESL. Areas where invasive exotic plant species are present may be subject to vegetation removal and restoration efforts.

Alternatives A and B would not result in impacts to any sensitive natural communities. Slope cuts necessary for the roadway realignment associated with Alternative C have the potential to impact both the common manzanita community and the interior live oak – gray pine / common manzanita community. Caltrans currently estimates that up to 0.05 acre of the 1.74-acre common manzanita community could be removed during construction, which would not have a substantial impact on the overall quality, characteristics, or structure of the community. Similarly, the interior live oak – gray pine / common manzanita community would be minimally impacted by the proposed cuts, as this community is dominant throughout the BSA. A revegetation plan would be prepared addressing any impacts to these communities, including plans for seed collection and replanting.

## **Other Waters**

There would be temporary impacts to Riverine habitat within the Eel River for all of the alternatives being considered. All alternatives would require work in the channel using cofferdams and dewatering. This system represents approximately 1.58 acres within the ESL. However, work could temporarily impact up to 1.28 acres of Riverine habitat (Figure 4). Alternatives 2 and 3 would have some permanent impacts in the form of new bridge footings and piers in the bank. Work associated with Alternatives 2 and 3 could permanently impact up to 0.2 acre of Riverine habitat with the construction of the new bridge footings and piers. No other permanent impacts or fill within the Eel River are anticipated for these alternatives.

Permanent impacts to other waters of the US and State would occur due to roadway realignment associated with Alternative 3. Approximately 127 feet of Drainage 2 (Figure 4-D2) would need to be permanently directed into a culvert to realign the roadway. The existing culvert, under the roadway near Drainage 1 (Figure 4-D1), would need to be extended up to 74 feet due to the roadway realignment.

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There would be approximately 0.003 acre of permanent impacts to D1 and 0.005 acre of permanent impacts to D2 for Alternative 3. No temporary or permanent impacts are expected to these drainages as a result of Alternatives 1 and 2. See Figure 4 for waters within the ESL.

### ***Riparian Vegetation***

Due to construction access associated with all alternatives, the proposed project would temporarily impact up to approximately 0.64 acre of riparian vegetation (consisting mostly of white alder, Oregon ash, willows, and herbaceous vegetation) on the banks of the channel above Ordinary High-Water Mark (OHWM) and up to approximately 0.71 acre of upland riparian vegetation (consisting mostly of interior live oak (*Quercus wislizeni*), coyote brush (*Baccharis pilularis*), poison oak (*Toxicodendron diversilobum*), and herbaceous vegetation) that occurs on the banks of the channel at the estimated high water mark. There are no anticipated permanent impacts to any riparian vegetation.

The small amount of riparian vegetation potentially impacted by the project occurs next to the existing bridge where it is subject to periodic disturbance from bridge maintenance and public recreational activities (e.g., fishing, swimming, off-roading), and ongoing noise and visual impacts from the highway. Removal of this small portion of vegetation would not have an adverse impact on the quality or function of the adjacent wetland or riverine systems, affect wildlife corridors, or result in fragmentation of essential fish habitat.

***Given the above discussion of natural communities and riparian habitat, a “Less Than Significant Impact” determination was made for CEQA Checklist Question b.***

- 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?).*

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### Plant Species

Special-status plant species identified in the region (Appendix C) were evaluated for their potential to occur in the project area.

**Based on the lack of suitable habitat and seasonally-appropriate floristic surveys indicating no presence, it was determined the project would have “No Impact” on the following species: Burke’s goldfields (*Lasthenia burkei*), contra costa goldfields (*Lasthenia conjugens*), Milo Baker’s lupine (*Lupinus milo-bakeri*), North Coast semaphore grass (*Pleuropogon hooverianus*), and showy Indian clover (*Trifolium amoenum*).**

### **Congested-headed Hayfield Tarweed (*Hemizonia congesta ssp. congesta*)**

Seasonally appropriate floristic surveys were completed within the project area in 2019 for congested-headed hayfield tarweed and other regionally-occurring special-status plants (Attachment D). This species was observed in four different locations within the project area, one of which contained over 1,000 flowering plants. This species has not been previously documented in this area. The closest CNDDDB record of this species is 23 miles southwest of the project area near the town of Glen Blair on the outskirts of Fort Bragg on the Mendocino coast, dated 1938.

This species occurs in multiple areas throughout the project area. The population on the northernmost hillside has the potential to be affected by the construction scenario associated with Alternative C. If the slope needs to be cut to make way for a new alignment, it is possible that a few individual plants would be lost. Due to the strong health and number of *H. congesta ssp. congesta* within the BSA, particularly within that population, the project is not likely to have a permanent negative impact on this species. Environmentally Sensitive Area (ESA) fencing would be placed around areas containing this species where feasible.

***Given this, it was determined the project would have a “Less Than Significant Impact” on Congested-headed Hayfield Tarweed.***

### Animal and Threatened/Endangered Species

A discussion of special-status and threatened and endangered species is provided below given their Federal ESA and/or State ESA listing status and relative sensitivity along with their potential to occur in the project area.

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### **Bald Eagle (*Haliaeetus leucocephalus*)**

No bald eagles or their nests were observed in the BSA. Because there would be no nest removal associated with this project, the proposed work would have “no impact” on bald eagles or their habitat. Pre-construction nest surveys would be performed to identify any new bald eagle nests from project activities and to provide opportunity to develop appropriate avoidance measures.

*Given this, it was determined the project would have “No Impact” to the bald eagle.*

### **Pallid Bat (*Antrozous pallidus*) and other Bats (*Chiropterans*)**

Under all alternatives, prior to construction, exclusionary devices (e.g., exclusionary foam, one-way exits) would be installed over each weep hole on the existing structure to prevent bat species from roosting where they could be impacted by project activities. To ensure no hibernating or flightless bats (i.e., too young to fly) are trapped in the bridge, these devices would be installed between winter hibernation and the formation of maternity roosts. These devices would prevent bats from roosting where they could be impacted by project activities. Exclusionary devices would only be installed by, or under the supervision of, a Caltrans approved bat biologist. An exclusion plan would be developed directing pre-installation surveys and monitoring of exclusion devices throughout construction.

Further impacts to bat species would vary depending on the selected alternative.

### **Alternative A—Seismic Retrofit**

Prior to construction and at the appropriate timing (after pups are volant and before maternity roosting occurs), bat exclusion devices would be installed. No habitat would be available on the bridge during the single season of construction. Habitat within the bridge would be available to bats post construction once exclusion devices are removed. Temporary exclusion from habitat for one breeding season is not expected to cause permanent impacts to the maternity roosting colonies.

### **Alternative B—Staged Replacement**

Prior to construction and at the appropriate timing (after pups are volant and before maternity roosting occurs), bat exclusion devices would be installed. No habitat would be available on the bridge during two seasons of construction. Lack of habitat throughout two breeding seasons could cause permanent impacts to bat species and may prevent the return of maternity roosting colonies. Temporary or permanent replacement bat housing may be

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required as a result of this loss. A full mitigation and monitoring plan would likely be required for this alternative.

### ***Proposed Mitigation for Bat Species under Alternative B***

Under Alternative B, work would include replacement of the structure using half-width construction. Loss of habitat would occur for multiple species of bats that include species of special concern. If Alternative B is chosen, a plan will be developed, in coordination with CDFW, for bat housing outside of the project disturbed area.

### ***Alternative C: New Bridge on New Alignment***

The habitat on the current bridge would remain available throughout construction of the new structure. The new structure would be built with habitat either inside the box girder or on the outside in the form of species-specific bat boxes. This habitat would be available to bat species prior to being excluded from the old structure before demolition. Because habitat would be available throughout the duration of the project, impacts to crevice/cavity roosting bat species would be minimal.

### ***Proposed Mitigation for Bat Species under Alternative C***

Under Alternative C, the project would require removal of the existing bridge habitat. Species of Special Concern would lose their current habitat. A new bridge would be constructed on a new alignment with design features that provide habitat similar to the existing bridge. After construction of the new bridge, bats would be excluded from the existing bridge to allow species to move to the new structure. The existing structure would then be removed from the project area. It is anticipated the bat species would colonize the new bridge due to the new bridge bat habitat and the advantageous qualities of the bridge's location (e.g., proximity to the creek, climate, and prey base). No temporal loss of habitat would occur to species of special concern under Alternative C.

***Given this, it was determined the project would have a “Less Than Significant Impact with Mitigation” on Pallid bat (*Antrozous pallidus*) and other bats (Chiropterans).***

### ***California Red-legged Frog (*Rana draytonii*)***

This species was not observed within the BSA in 2019. The aquatic habitat present on-site is a larger river system in an area that becomes very hot and dry during the summer months, which does not provide suitable breeding habitat. Predators, such as the bullfrog, have also been observed on-site. As CRLF or their habitat would not be affected by the proposed work, this project would have “no effect” on CRLF.

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*Under CESA, it was determined the project would have “No Impact” on the California Red-legged frog. On the rare chance CRLF are present, the Aquatic Species Relocation Plan would further reduce any potential impacts.*

### **Chinook Salmon (*Oncorhynchus tshawytscha*), California Coastal Evolutionary Significant Unit**

Construction would take place during the summer months when fish abundance is at its lowest and when temperatures in past years were determined above the lethal limits for salmonid species. However, several activities associated with the proposed project could negatively impact Chinook salmon occupying the Eel River during this period. These include dewatering and associated fish relocation, noise and visual disturbance, and water quality impacts, as described below. Vegetation removal, noise and visual disturbance, and/or water quality impacts could temporarily affect designated critical habitat for Chinook salmon.

Temporary cofferdams and dewatering at the South Eel River Bridge may require fish capture and relocation using electrofishing. Electrofishing could potentially harm individual fish, rarely resulting in mortality. The cofferdam itself could temporarily restrict the movement of rearing juvenile salmonids, potentially making them more vulnerable to stress and predation; however, avoids the late fall-winter migration period for adult salmon that may pass through the project area to spawn, and most of the spring-early summer smolt out-migration. Juvenile Chinook salmon are not expected to be present in the channel when cofferdams or dewatering devices are deployed.

Construction activities may cause behavioral responses to stress associated with noise and visual disturbance in juvenile Chinook salmon if any are present during the in-stream work period of June 15 to October 15. Physical changes to the water column caused by shading, vibration from construction equipment and/or workers walking in or near the channels could disrupt feeding, delay migration, or flush fish from suitable habitat, potentially making them more vulnerable to predation. Impact noise (such as hoe-ramming, jackhammering and impact pile driving) conducted near the wetted channels could cause abrupt and extreme changes in water pressure that could be harmful or fatal to fish.

Increases in suspended sediment or turbidity could affect water quality, which in turn could affect fish health and behavior. All work in the channel and associated cofferdams and water diversions would increase the amount of suspended sediment in the water. Salmonids typically avoid areas of higher suspended sediment, which means they displace themselves from their preferred habitat to seek areas with less suspended sediment. However, with

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implementation of the Standard Measures and Best Management Practices (Section 1.5), the proposed project is not likely to result in significant excursions of suspended sediment and turbidity relative to baseline conditions that would result in acute physical or behavioral effects on individual salmonids. These measures also include scheduling BMPs to avoid the most vulnerable periods of adult and smolt migration and coincide with the period when juvenile salmonid populations are lowest.

The contractor would be required to prepare and submit a Construction Site Dewatering/Diversion Plan to Caltrans for authorization prior to any dewatering. The Dewatering Plan would include specifications for the relocation of sensitive aquatic species or an Aquatic Species Relocation Plan. Most project impacts identified above are expected to result in discountable and/or insignificant effects to Chinook salmon and Chinook salmon critical habitat with incorporation of the standard measures designed to protect water quality, limit noise and visual disturbance, and restore riparian habitat. Chinook salmon are not anticipated to be within the BSA during construction.

***Given this, it was determined the project would have a “Less Than Significant Impact” on Chinook salmon and their habitat.***

***Based on the standard measures included as part of the project description and technical assistance with NMFS, per FESA, Caltrans anticipates the proposed project “may affect, not likely to adversely affect” Chinook salmon. Caltrans would initiate consultation with NMFS after circulation of this Initial Study.***

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## **Coho Salmon (*Oncorhynchus kisutch*), Southern Oregon/Northern California Coast ESU**

Construction would take place during the summer months when fish abundance is at its lowest and when temperatures in past years were determined above the lethal limits for salmonid species. However, several activities associated with the proposed project could negatively impact coho salmon occupying the Eel River during this period. These include dewatering and associated fish relocation, noise and visual disturbance, and water quality impacts, as described below. Vegetation removal, noise and visual disturbance, and/or water quality impacts could temporarily affect designated critical habitat for coho salmon.

The temporary cofferdams and dewatering at the South Eel River Bridge may require fish capture and relocation using electrofishing. Electrofishing could potentially harm individual fish, rarely resulting in mortality. The cofferdam itself could temporarily restrict the movement of rearing juvenile salmonids (if present), potentially making them more vulnerable to stress and predation; but avoids the late fall-winter migration period for adult salmon that may pass through the project area to spawn, and most of the spring-early summer smolt out-migration. Juvenile coho salmon are not expected to be present in the channel when cofferdams or dewatering devices are deployed.

Construction activities may cause behavioral responses to stress associated with noise and visual disturbance in juvenile coho if any are present during the in-stream work period of June 15 to October 15. Physical changes to the water column caused by shading, vibration from construction equipment and/or workers walking in or near the channels could disrupt feeding, delay migration, or flush fish from suitable habitat, potentially making them more vulnerable to predation. Impact noise (such as hoe-ramming, jackhammering and impact pile driving) conducted near the wetted channels could cause abrupt and extreme changes in water pressure that could be harmful or fatal to fish.

Increases in suspended sediment or turbidity could affect water quality, which in turn could affect fish health and behavior. All work in the channel and associated cofferdams and water diversions would increase the amount of suspended sediment in the water. Salmonids typically avoid areas of higher suspended sediment which means they displace themselves from their preferred habitat to seek areas with less suspended sediment. However, with implementation of the Standard Measures and Best Management Practices (Section 1.5), the proposed project is not likely to result in significant excursions of suspended sediment and turbidity relative to baseline conditions that would result in acute physical or behavioral effects on individual salmonids.

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These measures also include scheduling BMPs to avoid the most vulnerable periods of adult and smolt migration and coincide with the period when juvenile salmonid populations are lowest.

The contractor would be required to prepare and submit a Construction Site Dewatering/Diversion Plan to Caltrans for authorization prior to any dewatering. The dewatering plan would include specifications for the relocation of sensitive aquatic species or an Aquatic Species Relocation Plan. Most project impacts identified above are expected to result in discountable and/or insignificant effects to coho salmon and coho salmon Essential Fish Habitat (EFH) with incorporation of the standard measures designed to protect water quality, limit noise and visual disturbance, and restore riparian habitat. Coho salmon are not anticipated to be within the BSA during construction.

***Given this, it was determined the project would have a “Less Than Significant Impact” on coho salmon and their habitat.***

***Based on the standard measures included as part of the project description and technical assistance with NMFS, per FESA, Caltrans anticipates the proposed project “may affect, not likely to adversely affect” coho salmon. Caltrans would initiate consultation with NMFS after circulation of this Initial Study.***

### **Foothill Yellow-legged Frog (*Rana Boylii*)**

It is possible that adult FYLF would be within the BSA during construction activities. Field surveys found no egg masses within the BSA or within 300 feet of any proposed construction or access road. Due to the temporary nature of construction and the abundance of suitable habitat in the project vicinity where frogs could relocate if necessary, impacts to FYLF from this project would be minimal; however, preconstruction surveys for and relocation of this species would be required at all active construction areas under the Aquatic Species Relocation Plan.

***Given this, it was determined the project would have a “Less Than Significant Impact” on Foothill yellow-legged frog.***

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### **Humboldt Marten (*Martes caurina humboldtensis*)**

The habitat within the ESL does not contain suitable denning sites or day resting sites for Humboldt marten, and the proximity to a heavily traveled roadway and human habitation would also likely deter marten from utilizing the ESL. Additionally, this project is outside the current known population distribution, therefore this project would not likely impact Humboldt marten.

***Given this, it was determined the project would have “No Impact” on Humboldt Marten and its habitat.***

### **Northern California Steelhead (*Oncorhynchus mykiss irideus*)**

Construction would take place during the summer months when fish abundance is at its lowest and when temperatures in past years were determined above the lethal limits for salmonid species. However, several activities associated with the proposed project could negatively impact steelhead occupying the Eel River during this period. These include dewatering and associated fish relocation, noise and visual disturbance, and water quality impacts, as described below. Vegetation removal, noise and visual disturbance, and/or water quality impacts could temporarily affect designated critical habitat for steelhead.

The temporary cofferdams and dewatering at the South Eel River Bridge may require fish capture and relocation using electrofishing. Electrofishing could potentially harm individual fish, rarely resulting in mortality. The cofferdam itself could temporarily restrict the movement of rearing juvenile steelhead, potentially making them more vulnerable to stress and predation; but avoids the late fall-winter migration period for adult salmon that may pass through the project area to spawn, and most of the spring-early summer smolt out-migration.

Construction activities may cause behavioral responses to stress associated with noise and visual disturbance of juvenile steelhead present during the in-stream work period of June 15 to October 15. Physical changes to the water column caused by shading, vibration from construction equipment, and/or workers walking in or near the channels could disrupt feeding, delay migration, or flush fish from suitable habitat, potentially making them more vulnerable to predation. Impact noise (such as hoe-ramming, jackhammering and impact pile driving) conducted near the wetted channels could cause abrupt and extreme changes in water pressure that could be harmful or fatal to fish.

Increases in suspended sediment or turbidity could affect water quality, which in turn could affect fish health and behavior. All work in the channel and associated cofferdams and water diversions would increase the amount of suspended sediment in the water. Salmonids typically

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avoid areas of higher suspended sediment, which means they displace themselves from their preferred habitat to seek areas with less suspended sediment. However, with implementation of the Standard Measures and Best Management Practices (Section 1.5), the proposed project is not likely to result in significant excursions of suspended sediment and turbidity relative to baseline conditions that would result in acute physical or behavioral effects on individual salmonids. These measures also include scheduling BMPs that avoid the most vulnerable periods of adult and smolt migration and coincide with the period when juvenile salmonid populations are lowest.

The contractor would be required to prepare and submit a Construction Site Dewatering/Diversion Plan to Caltrans for authorization prior to any dewatering. The Dewatering Plan would include specifications for the relocation of sensitive aquatic species or an Aquatic Species Relocation Plan.

Most project impacts identified above are expected to result in discountable and/or insignificant effects to steelhead and steelhead critical habitat with incorporation of the standard measures designed to protect water quality, limit noise and visual disturbance, and restore riparian habitat. Steelhead are not anticipated to be within the BSA during construction.

***Given this, it was determined the project would have a “Less Than Significant Impact” on steelhead and their habitat.***

***Based on the standard measures included as part of the project description and technical assistance with NMFS, per FESA, Caltrans anticipates the proposed project “may affect, not likely to adversely affect” steelhead. Caltrans would initiate consultation with NMFS after circulation of this Initial Study.***

### **Northern Spotted Owl (*Strix occidentalis caurina*)**

Habitat for NSO is not present within the BSA. In addition, there would be no removal of potential NSO nesting trees or nest structures associated with this project. Given this, a determination was made that the project would have “No Impact” on NSO and its habitat.

***Per FESA, it was determined the project would have “No Effect” on Northern spotted owl.***

### **Osprey (*Pandion haliaetus*)**

No osprey nests or individuals were observed in the BSA during 2019 surveys. There would be no nest removal associated with this project.

***Given this, it was determined the project would have “No Impact” on osprey.***

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## **Pacific Lamprey (*Entosphenus tridentatus*)**

Dewatering and stream flow management for work in the Eel River could cause a rapid fluctuation in the water level and strand lamprey ammocoetes (larva stage) in the substrate. Dewatering could also impede upstream migrations by adult lamprey and downstream movement of ammocoetes. Work within the dewatered creek channel on bridge piers could affect all age classes of ammocoetes, if present.

There have been no studies to determine responses of lamprey to sound, but lamprey do not have the typical hearing structures of other fish. Lamprey, as other vertebrates, may use their auditory sense to learn about their environment, but their behavioral repertoire is generally limited, and it may be possible that sound is not relevant. Ammocoetes are partially buried in the substrate, which dampens vibration and noise. As a result, at least some life stages of lamprey may be less susceptible to injury from impulsive sound waves than other fish species.

Relocation efforts in response to dewatering activities are expected to preclude potential impacts to lamprey from any pile driving or hoe-ramming activities performed in that system, but electrofishing performed in conjunction with relocation efforts could harm individual fish. Given the small amount of habitat affected, the short duration/intermittent nature of the work, and implementation of standard measures to reduce project impacts, the proposed project is not likely to result in substantial population-level effects to Pacific lamprey. The methods employed for dewatering and fish relocation would be outlined in a Caltrans-approved Construction Site Dewatering and Diversion Plan and Aquatic Species Relocation Plan prepared by the contractor prior to construction.

***Given this, it was determined the project would have “Less than Significant Impact” on Pacific Lamprey.***

## **Pacific Salmon Essential Fish Habitat**

Water quality may be temporarily impaired due to short term, localized increases in turbidity from activities that involve ground disturbance, or by contaminants in roadway stormwater runoff or accidental spills during construction, which could potentially compromise safe passage conditions for fish migration and reduce the quality of localized rearing habitat. However, the standard measures to protect water quality identified in Section 1.5 would minimize the magnitude and duration of any turbidity increases, provide for site stabilization post construction, and ensure proper handling and storage of contaminants to avoid accidental spills.

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Cover/shelter, foraging potential, and safe passage conditions may also be temporarily compromised due to noise (e.g., vibration from construction equipment, hoe ramming) and visual stressors (e.g., artificial light, sudden movements) during construction. There would also be a temporal loss of vegetation that provides riparian function. The scale of these effects would be small, resulting in no measurable decrease in the quality of the rearing habitat or migration corridors for EFH species. Elements of EFH would also be impacted by the temporary water diversions needed to construct and demolish bridge piers.

*Caltrans anticipates the proposed project “may affect, not likely to adversely affect” EFH for Pacific Salmon. No measurable, long-term permanent impacts to waters, substrates, food production and availability, cover conditions, or vegetation would be expected. Caltrans anticipates there would be no long-term, permanent impacts to EFH for Pacific salmon after construction that would reduce the quality of habitat to an extent that individual salmon would be impacted. Caltrans would initiate consultation with NMFS after circulation of this Initial Study.*

#### **Ring-tailed Cat (*Bassariscus astutus*)**

No potential natal dens were observed within the ESL, but potential den sites are present within the BSA. 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 preclude ring-tail cats from denning in the project area.

*Given this, it was determined the project would have “No Impact” to the ring-tailed cat.*

#### **Vaux’s Swift (*Chaetura vauxi*)**

Bird species would be excluded from nesting on or within the bridge structure before the nesting season begins. Because there would be no suitable nesting vegetation, or nest structure occupied, nest removal during the nesting season would not be associated with this project.

*Given this, it was determined the project would have “No Impact” to Vaux’s swift or their habitat.*

#### **Discussion of Western Pond Turtle (*Emys marmorata*)**

Due to the temporary nature of construction and the abundance of suitable habitat in the project vicinity for which turtles could relocate if necessary, no impacts to Western pond turtle from this project are anticipated. Additionally, the access road locations would be surveyed for signs of

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nesting before they are graded, and if present, would be marked for avoidance under the Aquatic Species Relocation Plan.

*Given this, it was determined the project would have a “Less than Significant Impact” on Western pond turtle.*

### **Western Snowy Plover (*Charadrius nivosus nivosus*), Pacific Coast Distinct Population Segment**

There is suitable habitat for Western snowy plover (WSP) in the BSA, however this species is not expected to breed as far inland as the project area (personal communication with Greg Schmidt 2019). The nearest occurrence records in CNDDDB are from around Fort Bragg, approximately 25 miles southwest of the project site. The eBird database lists the closest nesting season observations in the same area near Newport, approximately 235 miles southwest of the BSA along the coast. Given the habitat within or adjacent to the project area is outside the known breeding range of WSP, the project would have “No Impact” on WSP or WSP habitat.

*Given this, it was determined the project would have “No Effect” on the Western snowy plover, Pacific Coast DPS.*

### **Western Yellow-Billed Cuckoo (*Coccyzus americanus occidentalis*), Western Distinct Population Segment**

Habitat for Yellow-billed cuckoo (YBCU) is not present within the BSA of this project.

*Given this, it was determined the project would have “No Effect” on the Western yellow-billed cuckoo.*

### **Yellow-breasted Chat (*Icteria virens*)**

This species was observed singing within the BSA during the 2019 breeding season and nesting is suspected within the BSA. Riparian vegetation directly under the bridge would be cleared to provide access for construction. Pre-construction nesting bird surveys would be performed prior to any vegetation removal, or all vegetation would be removed outside of the nesting season. (removal from September 16 through January 31). Permanent impacts to Yellow-breasted chat are not anticipated given the temporary nature of the project and the Standard Measures identified in Section 1.5 to avoid disturbing active nests.

*Given this, it was determined the project would have a “Less than Significant Impact” on Yellow-breasted chat.*

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### **Yellow Warbler (*Setophaga petechia*)**

Yellow warblers were observed singing within the BSA during the 2019 breeding season and are presumed to be nesting within the BSA. Riparian vegetation directly under the bridge would be cleared to provide access for construction. Pre-construction nesting bird surveys would be performed prior to any vegetation removal, or all vegetation would be removed outside of the nesting season (removal from September 16 through January 31). Permanent impacts to yellow warbler are not anticipated given the temporary nature of the project and the Standard Measures (Section 1.5) to avoid disturbing active nests.

***Given this, it was determined the project would have “Less than Significant Impact” on the Yellow warbler.***

***Based on the above species discussion and individual determinations of No Impact, Less than Significant Impact and Less Than Significant with Mitigation; CEQA Checklist Questions a) and d) were determined to be Less Than Significant with Mitigation.***

- 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 Fisheries? and*
  
- 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?*

### **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.

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## *Mitigation Measures*

### *Alternative B*

Under Alternative B, work would include replacement of the structure using half-width construction. Loss of habitat would occur for bats listed as Species of Special Concern. If Alternative B is chosen, a plan would be developed, in coordination with CDFW, for bat housing outside of the project disturbed area.

### *Alternative C*

Under Alternative C, the project would require removal of the existing bridge habitat. Species of Special Concern would lose their current habitat. A new bridge would be constructed on a new alignment with design features that provide habitat similar to the existing bridge. After construction of the new bridge, bats would be excluded from the existing bridge to allow species to move to the new structure. The existing structure would then be removed from the project area. It is anticipated the bat species would colonize the new bridge due to the new bridge bat habitat and the advantageous qualities of the bridge's location (e.g., proximity to the creek, climate, and prey base).

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## 2.7. Cultural Resources

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

“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 (ASR) dated August 30, 2019. Literature review, Native American consultation, and field surveys were performed finding that potential impacts to historical or archaeological resources are not anticipated due to the absence of cultural and archaeological resources in the project area (DZC Consulting 2019).

## 2.8. Energy

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

“No Impact” determinations in this section are based on the scope, description, and location of the proposed project, as well as the project’s analysis on energy dated February, 2020. Transportation energy is generally described in terms of direct and indirect energy. For direct energy, this project would not increase capacity or provide congestion relief when compared to the no-build alternative. As such, it is unlikely to increase direct energy consumption through increased fuel usage.

The proposed project would not result in maintenance activities which would result in long-term indirect energy consumption; thus, it is not anticipated to increase indirect energy consumption through increased fuel usage. Moreover, construction-related energy consumption would be temporary and not a permanent new source of energy demand. Therefore, the project would not result in an inefficient, wasteful, and unnecessary consumption of energy (Caltrans 2020b).

## 2.9. Geology and Soils

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
<p><b>Would the project:</b></p> <p>a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:</p> <p>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.</p>	N/A	N/A	N/A	√
<p><b>Would the project:</b></p> <p>a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:</p> <p>ii) Strong seismic ground shaking?</p>	N/A	N/A	N/A	√
<p><b>Would the project:</b></p> <p>a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:</p> <p>iii) Seismic-related ground failure, including liquefaction?</p>	N/A	N/A	N/A	√
<p><b>Would the project:</b></p> <p>a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:</p> <p>iv) Landslides?</p>	N/A	N/A	N/A	√
<p><b>Would the project:</b></p> <p>b) Result in substantial soil erosion or the loss of topsoil?</p>	N/A	N/A	N/A	√

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
<p><b>Would the project:</b> 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?</p>	N/A	N/A	N/A	√
<p><b>Would the project:</b> 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?</p>	N/A	N/A	N/A	√
<p><b>Would the project:</b> 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?</p>	N/A	N/A	N/A	√
<p><b>Would the project:</b> f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?</p>	N/A	N/A	N/A	√

The “No Impact” determinations for geology and soils made in this section are based on the scope, description, location of the proposed project, and the Paleontological Identification Report prepared for the project (Cogstone Resource Management Inc. 2019).

## 2.10. Greenhouse Gas Emissions

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

### *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 (also referred to as 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<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), tetrafluoromethane, hexafluoroethane, sulfur hexafluoride (SF<sub>6</sub>), and various hydrofluorocarbons (HFCs). CO<sub>2</sub> 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<sub>2</sub>.

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

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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.

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*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 (ARB) 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 ARB 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. ARB re-adopted the LCFS regulation in September 2015, and the changes went into effect 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.

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*SB 375, Chapter 728, 2008, Sustainable Communities and Climate Protection:* This bill requires ARB 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 the Air Resources Board (ARB), 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 ARB to update the Climate Change Scoping Plan to express the 2030 target in terms of million metric tons of carbon dioxide equivalent (MMTCO<sub>2e</sub>).<sup>1</sup> 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.

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<sup>1</sup> GHGs differ in how much heat each trap in the atmosphere (global warming potential, or GWP). CO<sub>2</sub> is the most important GHG, so amounts of other gases are expressed relative to CO<sub>2</sub>, using a metric called "carbon dioxide equivalent" (CO<sub>2e</sub>). The GWP of CO<sub>2</sub> is assigned a value of 1, and the GWP of other gases is assessed as multiples of CO<sub>2</sub>.

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*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.”

*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 ARB 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 ARB 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.

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### ***Environmental Setting***

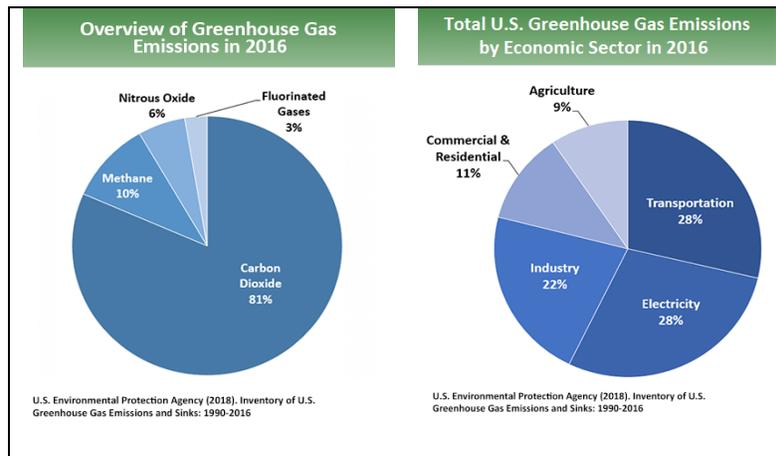
This project is located in a rural part of Mendocino County on State Route (SR) 162 that connects U.S. Highway 101 to the town of Covelo. SR 162 is a rural, two-lane highway that travels through mixed forest, oak woodlands, grassland hills, grazing land, and small town rural residential landscapes. The Mendocino Regional Transportation Plan (RTP) guides transportation development in the project area. This project is located in the Mendocino County Air Quality Management District.

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 ARB 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 7). The inventory provides a comprehensive accounting of all human-produced sources of GHGs in the United States, reporting emissions of CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, HFCs, perfluorocarbons, SF<sub>6</sub>, and nitrogen trifluoride. It also accounts for emissions of CO<sub>2</sub> that are removed from the atmosphere by “sinks” such as forests, vegetation, and soils that uptake and store CO<sub>2</sub> (carbon sequestration). The 1990–2016 inventory found that of 6,511 MMTCO<sub>2</sub>e GHG emissions in 2016, 81% consist of CO<sub>2</sub>, 10% are CH<sub>4</sub>, and 6% are N<sub>2</sub>O; 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.

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**Figure 7. U.S. 2016 Greenhouse Gas Emissions**

## State GHG Inventory

The California ARB collects GHG emissions data for transportation, electricity, commercial/residential, industrial, agricultural, and waste management sectors each year. 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<sub>2</sub>e 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 (California ARB 2019b).

AB 32 required ARB 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. ARB 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 the subsequent updates contain the main strategies California will use to reduce GHG emissions.

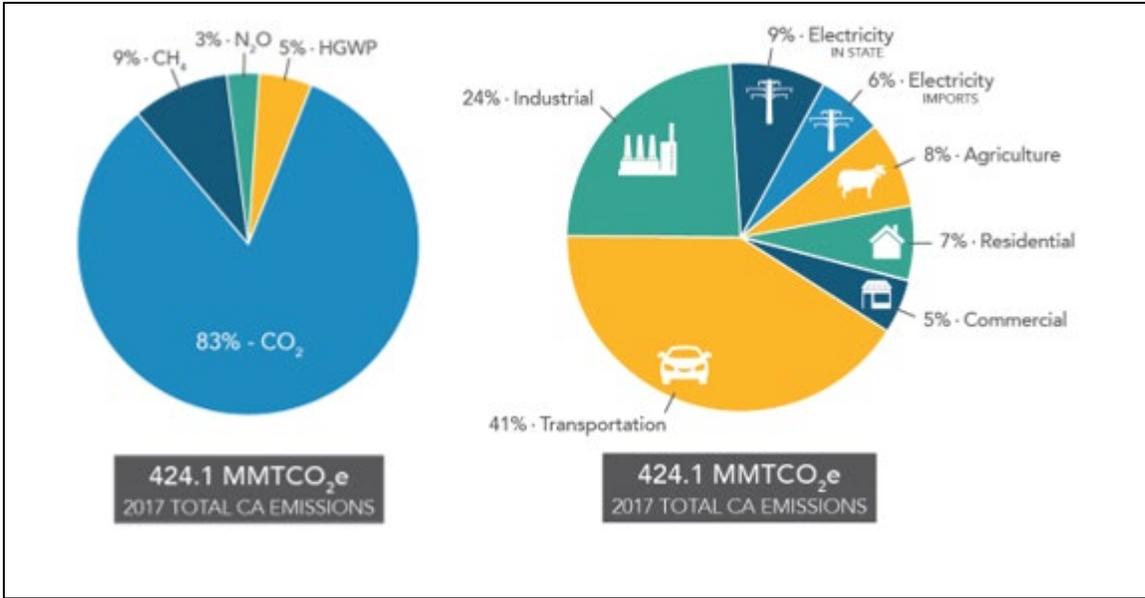


Figure 8. California 2017 Greenhouse Gas Emissions

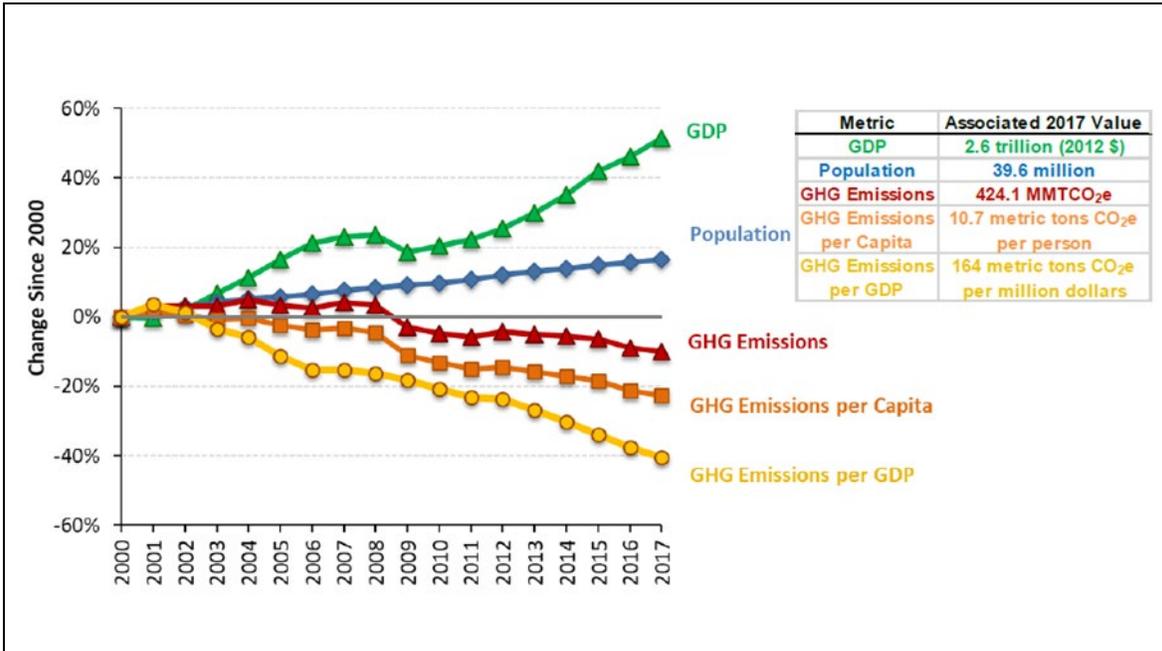


Figure 9. Change in California GDP, Population and GHG Emissions since 2000

## Regional Plans

The proposed project is within the jurisdiction of Mendocino Council of Governments, which is the Regional Transportation Planning Agency for Mendocino County. The 2017 RTP climate change goal is to build a combination of transportation facilities that, when evaluated as a group, will result in improved air quality, reduce transportation-related air toxins and greenhouse gas emissions in Mendocino County, and create a more resilient transportation network (Mendocino County Transportation Plan 2017).

**Table 4. Regional Plans Air Quality Goals**

Objectives	GHG Reduction Policies or Strategies
Coordinate transportation planning with air quality planning	<ul style="list-style-type: none"> <li>• Continue to include Air Quality representation on the Technical Advisory Committee and in the decision-making process.</li> <li>• As feasible, evaluate air quality impacts of proposed transportation improvements in the transportation modeling process.</li> </ul>
Invest in transportation projects and participate in regional planning efforts that will help Mendocino County residents to proportionately contribute to the California greenhouse gas reduction targets established by Assembly Bill 32 and SB 375 (ARB 2019c)	<ul style="list-style-type: none"> <li>• Evaluate transportation projects based on their ability to reduce Mendocino County's transportation-related greenhouse gas emissions.</li> <li>• Prioritize transportation projects which lead to reduced greenhouse gas emissions.</li> <li>• Monitor new technologies and opportunities to implement energy efficient and nonpolluting transportation infrastructure.</li> <li>• Continue to consider bicycle transportation, pedestrian, and transit projects for funding in the State Transportation Improvement program (STIP).</li> <li>• Continue administrative, planning, and funding support for the Region's transit agency, Mendocino Transit Authority.</li> <li>• Encourage private and public investment in a countywide electric vehicle charging station network and seek funding to fill gaps in the network.</li> </ul>
Ensure transportation improvements are subject to adequate environmental review and standards	<ul style="list-style-type: none"> <li>• Monitor transportation projects funded through Mendocino Council of Governments to ensure that CEQA and NEPA requirements are being met.</li> <li>• Coordinate and consult with resource agencies when implementing transportation projects.</li> </ul>
Improve resiliency of the region's transportation system to climate related impacts	<ul style="list-style-type: none"> <li>• Consider grant opportunities that would provide capital or planning funding for projects to identify and implement climate change adaptation strategies.</li> <li>• Encourage implementing agencies to consider strategies for climate change adaptation when designing improvements or additions to transportation networks.</li> </ul>

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### ***Project Analysis***

GHG emissions from transportation projects can be divided into those produced during operation of the SHS and those produced during construction. The primary GHGs produced by the transportation sector are CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, and HFCs. CO<sub>2</sub> emissions are a product of the combustion of petroleum-based products, like gasoline, in internal combustion engines. Relatively small amounts of CH<sub>4</sub> and N<sub>2</sub>O 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 this project is to provide the project location with an earthquake resistant bridge structure capable of resisting a maximum credible earthquake. The proposed project was assessed for potential to increase operational Greenhouse Gas (GHG) emissions. Because the project would not increase the number of travel lanes on SR 162, project implementation would not increase in vehicle miles traveled (VMT) and would not result in additional trips or change the speed or alignment of the roadway. Accordingly, operational GHG emissions are not expected to increase from the project.

### ***Construction Emissions***

Construction GHG emissions would result from material processing, on-site construction equipment, and traffic delays due to construction. These emissions would 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.

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In addition, with innovations such as longer pavement lives, improved traffic 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.

Based on the alternative chosen, the proposed project is expected to last up to three construction seasons, with the estimated total GHG emissions shown in Table 5.

**Table 5. Maximum Greenhouse Gas Emissions from Construction**

Construction	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O	HFC
Alternative A: Tons	40	<1	<1	<1
Alternative B: Tons	50	<1	<1	<1
Alternative C : Tons	185	<1	<1	<1

All construction contracts include Caltrans Standard Specifications Sections 7-1.02A and 7 1.02C, Emissions Reduction, which require contractors to comply with all laws applicable to the project and to certify they are aware of and will comply with all ARB emission reduction regulations; and Section 14-9.02, Air Pollution Control, which requires contractors to comply with all air pollution control rules, regulations, ordinances, and statutes. Certain common regulations, such as equipment idling restrictions, that reduce construction vehicle emissions also help reduce GHG emissions (Caltrans 2020b).

### ***CEQA Conclusion***

While the proposed project would result in GHG emissions during construction, it is anticipated the project would 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.

***Given this, the GHG impact would be “Less Than Significant”.***

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

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## 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*.

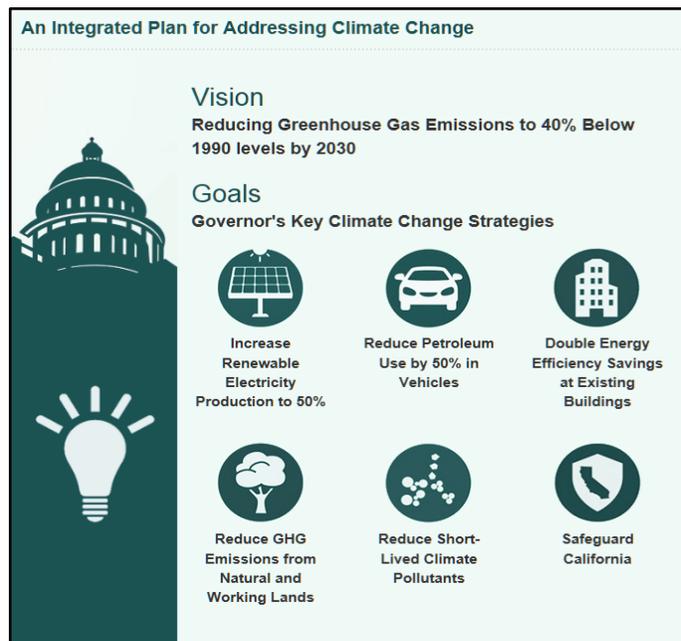


Figure 10. California Climate Strategy

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The transportation sector is integral to the people and economy of California. To achieve GHG emission reduction goals, it is vital that 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.

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 ARB 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<sub>2</sub> 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 and 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 greenhouse gas emission reductions while meeting the state's transportation needs. While MPOs have primary responsibility for identifying land use patterns to help reduce greenhouse gas emissions, CTP 2040 identifies additional strategies in Pricing, Transportation Alternatives, Mode Shift, and Operational Efficiency.

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## **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 INITIATIVES**

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 greenhouse gas emissions and potential climate change impacts from the project.

- Areas of disturbed vegetation would be replanted with regionally appropriate native plants. Plants absorb CO<sub>2</sub> from the atmosphere.
  - A Traffic Management Plan (TMP) would be applied to project to minimize delays and idling emissions.
  - Pedestrian and bicycle access would be maintained on SR 162 during project activities.
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## **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 (USGRCP) 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. Department of Transportation (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).

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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* (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.
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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 (Quirk 2016)* 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.

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## STATE EFFORTS

### Caltrans 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 Analysis

### *Sea Level Rise*

According to the California Coastal Commission Statewide Sea Level Rise Vulnerability Synthesis (2016), this project is not susceptible to sea-level rise. The proposed project is outside the Coastal Zone. Accordingly, direct impacts to transportation facilities due to projected sea-level rise are not expected.

The proposed project does not conflict with any of the recommendations for sea-level rise planning and adaptation approaches identified in the *State of California Sea-Level Rise Guidance 2018 Update*.

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### **Floodplains**

The South Eel River Bridge crosses the Eel River south of its confluence with Outlet Creek. The bridge is in rural terrain at an elevation of approximately 1,000 feet. Average annual precipitation in the project area is approximately 51.4 inches, with an average of 3.6 inches falling as snow. This project area can be found on the Flood Insurance Rate Map (FIRMette) 06045C0725F (Figure 11). The project lies within Zone A and Zone X. Zone A corresponds to the 100-year floodplain. Zone X is outside of the 100-year floodplain and considered an area of minimal flood hazard. The contributing watershed covers approximately 530 square miles. Construction activities would take place within the base floodplain.

The proposed bridge replacement design would be similar to the existing structure design and would have a negligible impact on the floodplain (Caltrans 2019a). Climate change is expected to bring more rainfall in fewer, but more intense, storm events. Design pollution prevention measures include climate-appropriate landscaping that reduces the need for irrigation and runoff and promotes surface infiltration (Caltrans 2019c—*Water Quality Assessment Report*). The project as designed is expected to be resilient to climate change.

### **Wildfire**

Based on the fire hazard severity zone maps provided by the California Department of Forestry and Fire Protection (CALFIRE 2020), this project is not within a Very High Fire Hazard Severity Zone in state responsibility area lands. The proposed project would not add permanent structures or features that would increase the risk of wildfire if average temperatures were to increase under climate change.

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## 2.11. Hazards and Hazardous Materials

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
<p><b>Would the project:</b> a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?</p>	N/A	N/A	N/A	√
<p><b>Would the project:</b> 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?</p>	N/A	N/A	N/A	√
<p><b>Would the project:</b> c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?</p>	N/A	N/A	N/A	√
<p><b>Would the project:</b> 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?</p>	N/A	N/A	N/A	√
<p><b>Would the project:</b> 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?</p>	N/A	N/A	N/A	√

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Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
<b>Would the project:</b> f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	N/A	N/A	N/A	√
<b>Would the project:</b> g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	N/A	N/A	N/A	√

“No Impact” determinations in this section are based on the scope, description, and location of the proposed project, as well as the Initial Site Investigation prepared for this project. Sampling will be conducted for aerially deposited lead, asbestos-containing construction material and lead-containing paint. Based on the results of sampling, the appropriate Special Standard Provisions for management of lead- and asbestos-containing material will be applied to the project. There are no hazardous waste sites or businesses commonly associated with hazardous waste generation nearby. This project would not impair implementation or physically interfere with emergency response or expose people or structures to a significant risk of loss injury or death involving wildland fires (Caltrans 2017a).

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## 2.12. Hydrology and Water Quality

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
<p><b>Would the project:</b> a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?</p>	N/A	N/A	√	N/A
<p><b>Would the project:</b> b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?</p>	N/A	N/A	N/A	√
<p><b>Would the project:</b> 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:</p> <p>(i) result in substantial erosion or siltation on- or off-site;</p>	N/A	N/A	√	N/A
<p>(ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;</p>	N/A	N/A	N/A	√
<p>(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</p>	N/A	N/A	N/A	√
<p>(iv) impede or redirect flood flows?</p>	N/A	N/A	√	N/A
<p><b>Would the project:</b> d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?</p>	N/A	N/A	N/A	√
<p><b>Would the project:</b> e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?</p>	N/A	N/A	N/A	√

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## *Regulatory Setting*

### *Federal*

#### **CLEAN WATER ACT**

In 1972, Congress amended the federal Water Pollution Control Act, making the addition of pollutants to waters of the United States from any point source<sup>2</sup> unlawful unless the discharge is in compliance with a National Pollutant Discharge Elimination System (NPDES) permit. This act and its amendments are known today as the Clean Water Act (CWA). Congress has amended the act several times. In the 1987 amendments, Congress directed dischargers of stormwater from municipal and industrial/construction point sources to comply with the NPDES permit program. The following are important CWA sections.

- Sections 303 and 304 require states to issue water quality standards, criteria, and guidelines.
- Section 401 requires an applicant for a federal license or permit to conduct any activity that may result in a discharge to waters of the United States to obtain certification from the state that the discharge will comply with other provisions of the act. This is most frequently required in tandem with a Section 404 permit request (see below).
- Section 402 establishes the NPDES, a permitting system for the discharges (except for dredge or fill material) of any pollutant into waters of the United States. RWQCBs administer this permitting program in California. Section 402(p) requires permits for discharges of stormwater from industrial/construction and municipal separate storm sewer systems (MS4s).
- Section 404 establishes a permit program for the discharge of dredge or fill material into waters of the United States. This permit program is administered by USACE.

The goal of the CWA is “to restore and maintain the chemical, physical, and biological integrity of the Nation’s waters.”

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<sup>2</sup> A *point source* is any discrete conveyance such as a pipe or a human-made ditch.

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USACE issues two types of 404 permits: General and Standard Permits. There are two types of General Permits: Regional Permits and Nationwide Permits. Regional permits are issued for a general category of activities when they are similar and cause minimal environmental effect. Nationwide Permits are issued to allow a variety of minor project activities with no more than minimal effects.

Ordinarily, projects that do not meet the criteria for a Nationwide Permit may be permitted under one of USACE's Standard Permits. There are two types of Standard Permits: Individual Permits and Letters of Permission. For Standard Permits, the USACE decision to approve is based on compliance with EPA's Section 404 (b)(1) Guidelines (40 CFR § 230), and whether the permit approval is in the public interest. The Guidelines were developed by EPA in conjunction with USACE and allow the discharge of dredged or fill material into the aquatic system (waters of the United States) only if no practicable alternative exists that would have less adverse effects. The Guidelines state that USACE may not issue a permit if there is a least environmentally damaging practicable alternative to the proposed discharge that would have lesser effects to waters of the United States and not cause any other significant adverse environmental consequences.

According to the Guidelines, documentation is needed that a sequence of avoidance, minimization, and compensation measures has been followed, in that order. The Guidelines also restrict permitting activities that violate water quality or toxic effluent<sup>3</sup> standards, jeopardize the continued existence of listed species, violate marine sanctuary protections, or cause "significant degradation" to waters of the United States. In addition, every permit from the USACE, even if not subject to the Guidelines, must meet general requirements. See 33 CFR Part 320.4.

## **State**

### **PORTER-COLOGNE WATER QUALITY CONTROL ACT**

California's Porter-Cologne Water Quality Control Act (Porter-Cologne Act), enacted in 1969, provides the legal basis for water quality regulation in California. This act requires a "Report of Waste Discharge" for any discharge of waste (liquid, solid, or gaseous) to land or surface waters that may impair beneficial uses for surface and/or groundwater of the state. The act predates the CWA and regulates discharges to waters of the state. Waters of the state include more than just waters of the United States, such as groundwater and surface waters

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<sup>3</sup> The EPA defines *effluent* as "wastewater, treated or untreated, that flows out of a treatment plant, sewer, or industrial outfall."

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not considered waters of the United States. Additionally, the Porter-Cologne Act prohibits discharges of “waste” as defined and this definition is broader than the CWA definition of “pollutant.” Discharges under the Porter-Cologne Act are permitted by Waste Discharge Requirements (WDRs) and may be required even when the discharge is already permitted or exempt under the CWA.

The State Water Board and Regional Water Quality Control Boards (RWQCBs) are responsible for establishing the water quality standards (objectives and beneficial uses) required by the CWA, and for regulating discharges to ensure compliance with the water quality standards. Details about water quality standards in a project area are included in the applicable RWQCB Basin Plan. In California, the RWQCBs designate beneficial uses for all water body segments and then set the criteria necessary to protect these uses. As a result, the water quality standards developed for particular water segments are based on the designated use and vary depending on that use. In addition, the State Water Board identifies waters failing to meet standards for specific pollutants. These waters are then state-listed in accordance with CWA Section 303(d). If a state determines that waters are impaired for one or more constituents and that the standards cannot be met through point source or non-point source controls (NPDES permits or WDRs), the CWA requires establishment of Total Maximum Daily Loads (TMDLs). TMDLs specify allowable pollutant loads from all sources (point, non-point, and natural) for a given watershed.

### **STATE WATER RESOURCES CONTROL BOARD AND REGIONAL WATER QUALITY CONTROL BOARDS**

The State Water Board administers water rights, sets water pollution control policy, issues water board orders on matters of statewide application, and oversees water quality functions throughout the state by approving Basin Plans, TMDLs, and NPDES permits. RWQCBs are responsible for protecting beneficial uses of water resources within their regional jurisdiction using planning, permitting, and enforcement authorities to meet this responsibility.

### **NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PROGRAM**

#### **MUNICIPAL SEPARATE STORM SEWER SYSTEMS**

Section 402(p) of the CWA requires issuance of NPDES permits for five categories of stormwater discharges, including Municipal Separate Storm Sewer Systems (MS4s). An MS4 is defined as “any conveyance or system of conveyances (roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, human-made channels, and storm drains) owned or operated by a state, city, town, county, or other public body having jurisdiction over stormwater, that is designed or used for collecting or conveying

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stormwater.” The State Water Board has identified Caltrans as an owner/operator of an MS4 under federal regulations. Caltrans’ MS4 Permit covers all Caltrans rights-of-way, properties, facilities, and activities in the state. The State Water Board or the RWQCB issues NPDES permits for five years, and permit requirements remain active until a new permit has been adopted.

Caltrans’ MS4 Permit (Order No. 2012-0011-DWQ) was adopted on September 19, 2012, and became effective July 1, 2013. The permit has three basic requirements.

1. Caltrans must comply with the requirements of the Construction General Permit (see below);
2. Caltrans must implement a year-round program in all parts of the state to effectively control stormwater and non-stormwater discharges; and
3. Caltrans’ stormwater discharges must meet water quality standards through implementation of permanent and temporary (construction) BMPs, to the maximum extent practicable, and other measures the State Water Board determines necessary to meet the water quality standards.

To comply with the permit, Caltrans developed the Statewide Storm Water Management Plan (SWMP) to address stormwater pollution controls related to highway planning, design, construction, and maintenance activities throughout California. The SWMP assigns responsibilities within Caltrans for implementing stormwater management procedures and practices as well as training, public education and participation, monitoring and research, program evaluation, and reporting activities. The SWMP describes the minimum procedures and practices Caltrans uses to reduce pollutants in stormwater and non-stormwater discharges. It outlines procedures and responsibilities for protecting water quality, including selection and implementation of BMPs. Further, in recent years, hydromodification control requirements and measures to encourage low impact development have been included as a component of new development permit requirements. The proposed project will be programmed to follow the guidelines and procedures outlined in the latest SWMP to address stormwater runoff.

#### **CONSTRUCTION GENERAL PERMIT**

Construction General Permit (Order No. 2009-009-DWQ), adopted on September 2, 2009, became effective July 1, 2010. The Construction General Permit was amended by 2010-0014-DWQ and 2012-0006-DWQ on February 14, 2011, and July 17, 2012, respectively. The permit regulates stormwater discharges from construction sites that result in a disturbed soil area (DSA) of 1 acre or greater and/or are smaller sites that are part of a larger common

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plan of development. By law, all stormwater discharges associated with construction activity where clearing, grading, and excavation result in soil disturbance of at least 1 acre must comply with the provisions of the Construction General Permit. Operators of regulated construction sites are required to develop Storm Water Pollution Prevention Plans (SWPPPs); to implement sediment, erosion, and pollution prevention control measures; and to obtain coverage under the Construction General Permit.

The 2009 Construction General Permit separates projects into Risk Levels 1, 2, or 3. Risk levels are determined during the planning and design phases, and are based on potential erosion and transport to receiving waters and whether the receiving water has been designated by the SWRCB as sediment-sensitive. SWPPP requirements vary according to the risk level. For example, a Risk Level 3 (highest risk) project would require compulsory stormwater runoff pH and turbidity monitoring and certain BMPs, and, in some cases, before-construction and after-construction aquatic biological assessments during specified seasonal windows. For all projects subject to the permit, applicants are required to develop and implement an effective SWPPP. In accordance with Caltrans' Standard Specifications, a Water Pollution Control Program rather than a SWPPP is necessary for projects with a disturbed soil area (DSA) of less than 1 acre.

#### **SECTION 401 PERMITTING**

Under Section 401 of the CWA, any project requiring a federal license or permit that may result in a discharge to a water of the United States must obtain a 401 Certification, which certifies that the project will be in compliance with state water quality standards. The most common federal permits triggering a 401 Certification are CWA Section 404 permits issued by USACE. The 401 Certifications are obtained from the appropriate RWQCB, dependent on the project location, and are required before USACE issues a Section 404 permit.

In some cases, the RWQCB may have specific concerns with discharges associated with a project. As a result, the RWQCB may issue a set of requirements known as Waste Discharge Requirements (WDRs) under the State Water Code (Porter-Cologne Act) that define activities, such as the inclusion of specific features, effluent limitations, monitoring, and plan submittals that are to be implemented for protecting or benefiting water quality. WDRs can be issued to address both permanent and temporary discharges of a project.

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### *Environmental Setting*

The project is on SR 162 at PM 8.2 in an unincorporated area of Mendocino County. The roadway is a two-lane highway in rural terrain at approximately 1,000-foot in elevation. The South Eel River Bridge spans the Eel River directly next to the confluence of the Eel River and Outlet Creek. The project would involve vegetation removal, road removal and construction, cut and fill, bridge removal and construction, installation of drainage inlets and ditches, installation of new signs and striping, installation of railing and safety systems, construction of new roadway, and installation of a cofferdam or clear water diversion within the waterbody.

The North Coast RWQCB's Water Quality Control Plan for the North Coast Region (Basin Plan), version updated June 2018, regulates surface and groundwater quality in the region, lists beneficial uses, and water quality objectives (WQOs) to protect those uses. Mendocino County is a permittee covered under the Phase II Small MS4 General Permit, which includes the unincorporated areas of the County (Mendocino County Planning and Building Services 2014). The project is not within the unincorporated urban boundary areas subject to this permit.

Specific WQOs for the Eel River Hydrologic Unit (HU) and the Outlet Creek Hydrologic Sub-Area (HSA) are identified in Chapter 3 of the Basin Plan. Table 6 below shows the numerical WQOs for the Eel River HU and Outlet Creek HSA. The Basin Plan lists existing and potential beneficial uses for surface waters within both the Outlet Creek and Tomki Creek HSAs. The beneficial uses for are summarized in Table 6.

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**Table 6. Specific Water Quality Objectives for Russian River Hydrologic Unit (Upstream)**

Waterbody	Specific Conductance (micromhos) @77°F		Total Dissolved Solids (mg/L)		Hardness (mg/L)	Hydrogen Ion (pH)	
	90% Upper Limit <sup>2</sup>	50% Upper Limit <sup>1</sup>	90% Upper Limit <sup>2</sup>	50% Upper Limit <sup>1</sup>	50% Upper Limit <sup>1</sup>	Max	Min
Eel River HU	375	225	275	140	-	8.5	6.5
Outlet Creek HSA	400	200	230	125	-	8.5	6.5

1. 50% upper and lower limits represent the 50 percentile values of the monthly means for a calendar year. 50% or more of the monthly means must be less than or equal to an upper limit and greater than or equal to a lower limit.
2. 90% upper and lower limits represent the 90 percentile values for a calendar year. 90% or more of the values must be less than or equal to an upper limit and greater than or equal to a lower limit.

Source: North Coast RWQCB 2018

HSA No.	HYDROLOGIC SUBAREA NAME	BENEFICIAL USES																		
		MUN	AGR	IND	PRO	GWR	FRSH	NAV	POW	REC1	REC2	COMM	WARM	COLD	WILD	RARE	MIGR	SPWN	SHELL	AQUA
111.61	Outlet Creek HSA	E	E	E	P	E	-	E	P	E	E	E	E	E	E	E	E	E	-	E
114.31	Tomki Creek HSA	E	E	E	P	E	E	E	P	E	E	E	E	E	E	E	E	E	-	E

MUN - Municipal and Domestic Supply  
 AGR - Agricultural Supply  
 IND - Industrial Service Supply  
 PRO - Industrial Process Supply  
 GWR - Groundwater Recharge  
 FRSH - Freshwater Replenishment  
 NAV - Navigation  
 POW - Hydropower Generation  
 REC1 - Water Contact Recreation  
 REC2 - Non-Contact Water Recreation  
 COMM - Commercial and Sport Fishing  
 WARM - Warm Freshwater Habitat  
 COLD - Cold Freshwater Habitat  
 WILD - Wildlife Habitat  
 RARE - Rare, Threatened, or Endangered Species  
 MIGR - Migration of Aquatic Organisms  
 SPWN - Spawning, Reproduction, and/or Early Development  
 SHELL - Shellfish Harvesting  
 AQUA - Aquaculture  
 E - Existing  
 P - Potential

Source: North Coast RWQCB 2018

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## ***Discussion of Environmental Evaluation Question 2.12. —Hydrology and Water Quality***

### ***Discussion of CEQA Checklist Questions b), c) ii and iii, d), and e)***

“No Impact” determinations for Questions b), c) *ii and iii*, d), and e) are based on the scope, description, and location of the proposed project, and the water quality exemption prepared for the project (Caltrans 2019c). Project activities would not affect groundwater, alter existing drainage patterns, or conflict with any water quality control plan or sustainable groundwater management plan.

### ***Discussion of CEQA Checklist Questions a), c) i and iv***

The following CEQA Checklist items were used to evaluate the impacts of the proposed projection Hydrology and Water Quality:

- a) Would this project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?*
- c) Would this project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would:
  - (i.) result in substantial erosion or siltation on- or off-site?*
  - (iv.) impede or redirect flood flows?**

### ***Suspended Particulates (Turbidity)***

Temporary, short-term increases in turbidity to receiving waters could occur during construction. Soil erosion, especially during heavy rainfall, can increase the suspended solids, dissolved solids, and organic pollutants in stormwater runoff generated within the project limits. Potential for turbidity impacts are specifically of concern from construction-related activities for the proposed structures. These conditions would persist until the completion of construction activities, as well as implementation of long-term erosion control measures and the proposed permanent structures. Potential permanent impacts related to increased turbidity within the Eel River may result from roadway widening, fill material, and bridge removal and construction. These permanent impacts would be minimal and would be addressed by implementing standard erosion control practices and other permanent project measures (permanent BMPs) for all alternatives.

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### ***Oil, Grease, and Chemical Pollutants***

During construction, there is the potential for accidental releases of oil, grease, wash water, solvents, cement, sanitary wastes (which could be seen as visible film, coating on the surface, or floating material), and other construction materials to receiving waters. Materials and wastes could be tracked offsite by vehicles, deposited onto roads, and eventually picked up and transported into waterways. Temporary impacts to water quality could occur during access road construction, dewatering, excavation, cofferdam or clear water diversion, saw cutting, and waste management. Routinely used project features (temporary BMPs) are included to protect water quality. No permanent impacts to water quality of the Eel River related to oil, grease, and chemical pollutants are expected from the project with implementation of project measures (permanent BMPs) for all alternatives.

### ***Temperature and Dissolved Oxygen***

Vegetation removal would be necessary to accommodate work activities within or near the banks of the Eel River. The removal of vegetation could potentially cause a reduction in shade to adjacent waters, temporarily increase temperature, and decrease dissolved oxygen levels. Tree removal would be needed to accommodate work activities within or near the banks of the Eel River. Existing vegetation would be preserved to the maximum extent practicable. No permanent adverse impacts to the temperature and dissolved oxygen levels within the Eel River are anticipated with the implementation of project measures (permanent BMPs) for all alternatives.

### ***Erosion and Accretion Patterns***

Temporary increases in suspended particulates and turbidity during storm events may occur due to disturbed soil close to and work within the Eel River during construction. These short-term impacts would be addressed using various construction site project measures (temporary BMPs). Project activities may affect natural erosion and accretion patterns. Permanent impacts to erosion and accretion patterns from the project are anticipated to be minimal with the implementation of standard erosion control practices and other project (permanent BMPs) measures for all alternatives.

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### **Baseflow**

The project will require work within the Eel River, which could potentially temporarily alter baseflow. Routinely used project measures (permanent BMPs—dewatering and installation of cofferdam) to protect water quality when work within a waterbody would be conducted. Groundwater baseflow impacts could potentially result from dewatering of groundwater during construction in areas of excavation near or within the Eel River. These activities could result in a drawdown in groundwater, which could temporarily disrupt or alter baseflow. Impacts to groundwater baseflow would be minimal and limited to the construction period. No permanent adverse impacts to baseflow are anticipated from the project for all alternatives.

### **Floodplain**

The project is located on the Flood Insurance Rate Map (FIRMette) 06045C0725F within Zone A and Zone X. Zone A corresponds to the 100-year floodplain. Zone X is outside of the 100-year floodplain (Figure 11—*National Flood Hazard Layer*). Construction activities within the floodplain are considered to be an encroachment of the base floodplain. All alternatives would be similar to the existing bridge design, having similar supports and embankments. The proposed project would have a negligible impact on the floodplain for all alternatives (Caltrans 2019a).

***Based on the above, it was determined the project would have a “Less Than Significant Impact” for CEQA Checklist Questions a) and c) (i) and (iv) for Alternatives A, B and C.***

### **Mitigation Measures**

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

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### 2.13. Land Use and Planning

<b>Question</b>	<b>Potentially Significant Impact</b>	<b>Less Than Significant with Mitigation</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
<b>Would the project:</b> a) Physically divide an established community?	N/A	N/A	N/A	√
<b>Would the project:</b> 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?	N/A	N/A	N/A	√

“No Impact” determinations in this section are based on the scope, description, and location of the proposed project. Potential impacts to Land Use and Planning are not anticipated as the proposed project would not conflict with the established land use plan or affect conservation planning.

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## 2.14. Mineral Resources

<b>Question:</b>	<b>Potentially Significant Impact</b>	<b>Less Than Significant with Mitigation</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
<b>Would the project:</b> 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?	N/A	N/A	N/A	√
<b>Would the project:</b> 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?	N/A	N/A	N/A	√

“No Impact” determinations in this section are based on the scope, description, and location of the proposed project. Potential impacts to mineral resources are not anticipated as there are no known mineral resources present.

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## 2.15. Noise

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
<b>Would the project result in:</b> 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?	N/A	N/A	N/A	√
<b>Would the project result in:</b> b) Generation of excessive groundborne vibration or groundborne noise levels?	N/A	N/A	N/A	√
<b>Would the project result in:</b> 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?	N/A	N/A	N/A	√

“No Impact” determinations in this section are based on the scope, description, and location of the proposed project, as well as the Noise Analysis report prepared for this project in February 2020. The project meets the criteria for a Type III project as defined in 23 CFR 772. Potential impacts are not anticipated as traffic volumes, composition, and speeds would be the same pre and post construction of the proposed project.

During construction, noise may be generated from the contractors’ equipment and vehicles. Construction noise is regulated by Caltrans Standard Specifications Section 14-8.02, “Noise Control.” These requirements state, “Do not exceed 86 dBA Lmax at 50 feet from the job site activities from 9:00 p.m. to 6:00 a.m. (Caltrans 2018; Caltrans 2020b).

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## 2.16. Population and Housing

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
<b>Would the project:</b> 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)?	N/A	N/A	N/A	√
<b>Would the project:</b> b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	N/A	N/A	N/A	√

“No Impact” determinations in this section are based on the scope, description, and location of the proposed project. Potential impacts to Population and Housing are not anticipated as the project does not involve activities that would directly or indirectly affect population growth or housing.

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## 2.17. Public Services

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
<p>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:</p> <p>Fire protection?</p>	N/A	N/A	N/A	√
Police protection?	N/A	N/A	N/A	√
Schools?	N/A	N/A	N/A	√
Parks?	N/A	N/A	N/A	√
Other public facilities?	N/A	N/A	N/A	√

“No Impact” determinations in this section are based on the scope, description, and location of the proposed project. Impacts to Public Services are not anticipated as the proposed project does not have the potential to adversely affect public services, including the ability of Caltrans to operate and maintain the State Highway System.

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## 2.18. Recreation

<b>Question</b>	<b>Potentially Significant Impact</b>	<b>Less Than Significant with Mitigation</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
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?	N/A	N/A	N/A	√
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?	N/A	N/A	N/A	√

“No Impact” determinations in this section are based on the scope, description, and location of the proposed project. Due to the scope and footprint of the project, potential impacts to recreation as described in the CEQA Checklist are not anticipated.

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## 2.19. Transportation/Traffic

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

“No Impact” determinations in this section are based on the scope, description, and location of the proposed project. If Alternatives A or B are chosen, Caltrans would utilize a temporary lane and shoulder closure. Traffic control would result in temporary delays. If Alternative C is chosen, there would be no temporary traffic delays associated with lane closure. The project would follow a Transportation Management Plan and comply with Caltrans Standard Specifications Section 7-1.03 “Public Convenience”(Caltrans 2018). Access to driveways, houses, and cross streets would be maintained. Emergency service vehicles, pedestrians, and bicyclists would be accommodated through the work zone.

## 2.20. Tribal Cultural Resources

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
<p><b>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:</b></p> <p>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</p>	N/A	N/A	N/A	√
<p>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.</p>	N/A	N/A	N/A	√

“No Impact” determinations in this section are based on the scope, description, and location of the proposed project. Native American consultation was initiated on May 29, 2019, through written notifications from Caltrans to representatives of the Cahto Tribe, Coyote Valley Band of Pomo Indians, Guidiville Band of Pomo Indians, Hopland Band of Pomo Indians, Kashia Band of Pomo Indians of the Stewarts Point Rancheria, Manchester Band of Pomo Indians, Pinoleville Pomo Nation, Potter Valley Tribe, Redwood Valley or Little River Band of Pomo Indians, Round Valley Reservation/ Covelo Indian Community, and Sherwood Valley Band of Pomo Indians. No response was received.

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Consultation occurred with the Round Valley Indian Tribes beginning with a discussion of the proposed project with tribal representatives in Ukiah. On March 14, 2019, Caltrans staff and the Round Valley Tribal Historic Preservation Officer (THPO) presented the undertaking to the Tribal Council. The Tribal Council expressed interest and was in support of the project. Council members also provided some insight as to tribal-related events that occur in the area. Caltrans continues to coordinate with the Round Valley Indian Tribes THPO regarding ground disturbance, biological impacts, revegetation, aesthetic treatments. The Tribe was assured tribal monitoring could be requested when the project proceeds to construction (DZC consulting 2019).

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## 2.21. Utilities and Service Systems

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
<p><b>Would the project:</b> 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?</p>	N/A	N/A	N/A	√
<p><b>Would the project:</b> b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?</p>	N/A	N/A	N/A	√
<p><b>Would the project:</b> 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?</p>	N/A	N/A	N/A	√
<p><b>Would the project:</b> 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?</p>	N/A	N/A	N/A	√
<p><b>Would the project:</b> e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?</p>	N/A	N/A	N/A	√

“No Impact” determinations in this section are based on the scope, description, and location of the proposed project. Potential impacts to utilities and service systems are not anticipated due to lack of utilities or service systems associated with the South Eel River Bridge.

## 2.22. Wildfire

Question	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
<p><b>If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:</b></p> <p>a) Substantially impair an adopted emergency response plan or emergency evacuation plan?</p>	N/A	N/A	N/A	√
<p><b>If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:</b></p> <p>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?</p>	N/A	N/A	N/A	√
<p><b>If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:</b></p> <p>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?</p>	N/A	N/A	N/A	√
<p><b>If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:</b></p> <p>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?</p>	N/A	N/A	N/A	√

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“No Impact” determinations in this section are based on the scope, description, and location of the proposed project. The project is in a high fire danger area within the state responsibility (CALFIRE 2020). This project will not impair emergency evacuation, increase the spread of a wildfire, exacerbate fire risk, or expose people or structures to significant fire risks. Seismic stability of the South Eel River Bridge could improve evacuation procedures.

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## 2.23. 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?	N/A	N/A	N/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)?	N/A	N/A	N/A	√
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	N/A	N/A	N/A	√

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### ***Discussion of Environmental Evaluation Question 2.23—Mandatory Findings of Significance***

The California Environmental Quality Act of 1970 (CEQA) requires preparation of an Environmental Impact Report (EIR) when certain specified impacts may result from construction or implementation of a project. The analysis indicated the potential impacts associated with this project would not require an EIR. Mandatory Findings of Significance are not required for projects where an EIR has not been prepared.

#### **2.24. 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 effect 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.

Cumulative impacts to resources in the project area may result from residential, commercial, industrial, and highway development, as well as 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 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 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 the activities associated with the geotechnical investigation do not have the potential to have a direct, indirect, or cumulative impact on any resource. Given this, an EIR and CIA were not required for this project.

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## Chapter 3. Coordination and Comments

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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. 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*

February 28, 2019	Level 1 meeting presenting the project to CDFW, USFWS, and NMFS.
May 30, 2019	Level 1 meeting with CDFW, USFWS, and NMFS.
July 29, 2019	Email communication to NPS and BLM about project.
August 29, 2019	Level 1 meeting with CDFW, USFWS, and NMFS.
September 3, 2019	Evaluation of Proposed South Eel River Bridge Seismic Project pursuant to Section 7(a) of the Wild and Scenic Rivers Act mailed to BLM and NPS.
September 11, 2019	NPS concurred the project is consistent with the Wild and Scenic Rivers Act.
September 17, 2019	BLM concurred the project is consistent with the Wild and Scenic Rivers Act.
October 10, 2019	Email to California Natural Resources Agency (the agency managing the California Wild and Scenic Rivers Act) with project information.

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- October 16, 2019      Email from California Natural Resources Agency asking for coordination after the 1600 permit is completed.
- November 18, 2019    Coordination about project between Mike Kelly (NMFS) and Annie Allen (Caltrans).
- December 5, 2019    Level 1 meeting with CDFW, USFWS, and NMFS.

***Coordination with Property Owners***

- January 2, 2019      Permit to Enter (PTE) Kane and Gallagher properties.
- January 10, 2019     PTE for Kappler property.

## Chapter 4. List of Preparers

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The following individuals performed the environmental work on the project:

### *California Department of Transportation, District 1*

Brandon Larsen	Supervising Environmental Planner (Office Chief)
Dana York	Senior Environmental Planner
Cassie Nichols	Associate Environmental Planner, Coordinator
Alabi Kazeem	Project Engineer
Steven Blair	Transportation Engineer (Project Manager)
Whitney Petrey	Associate Environmental Planner, Cultural
Annie Allen	Associate Environmental Planner, Biologist
Alex Arevalo	Caltrans District 1 NPDES Coordinator, Water Quality
Phlora Barbash	Landscape Associate (Aesthetics)
Saeid Zandian	Transportation Engineer (Air, Noise, GHG, and Energy)
Katie Everett	Floodplain Evaluation Report Summary
Mark Melani	Engineering Geologist (Hazardous Waste)

### *Consultants*

Kim Scott, M.S., Qualified Principal Paleontologist, Cogstone Resource Management Inc.

Dimitra Zalarvis-Chase (RPA, M.A.), DZC Archaeology & Cultural Resource Consulting.

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## Chapter 6. References

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### ***PERSONAL COMMUNICATIONS***

Gregory Schmidt, Fish & Wildlife Biologist, Endangered Species Program, U.S. Fish and Wildlife Service.

Mike Kelly, Fisheries Biologist, National Marine Fisheries Service

Jeff Jahn, Senior Fisheries Biologist, National Marine Fisheries Service

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## **Appendix A. Title VI Policy Statement**

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**DEPARTMENT OF TRANSPORTATION**

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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 14<sup>th</sup> Street, MS-79, Sacramento, CA 95811; (916) 324-8379 (TTY 711); or at Title.VI@dot.ca.gov.

A handwritten signature in blue ink, appearing to read "Toks Omishakin".

Toks Omishakin  
Director

# Appendix B. Layouts of Proposed Work

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Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	162	8.0/8.4		

REGISTERED CIVIL ENGINEER	DATE
PLANS APPROVAL DATE	

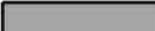
REG. NO.	Exp. DATE

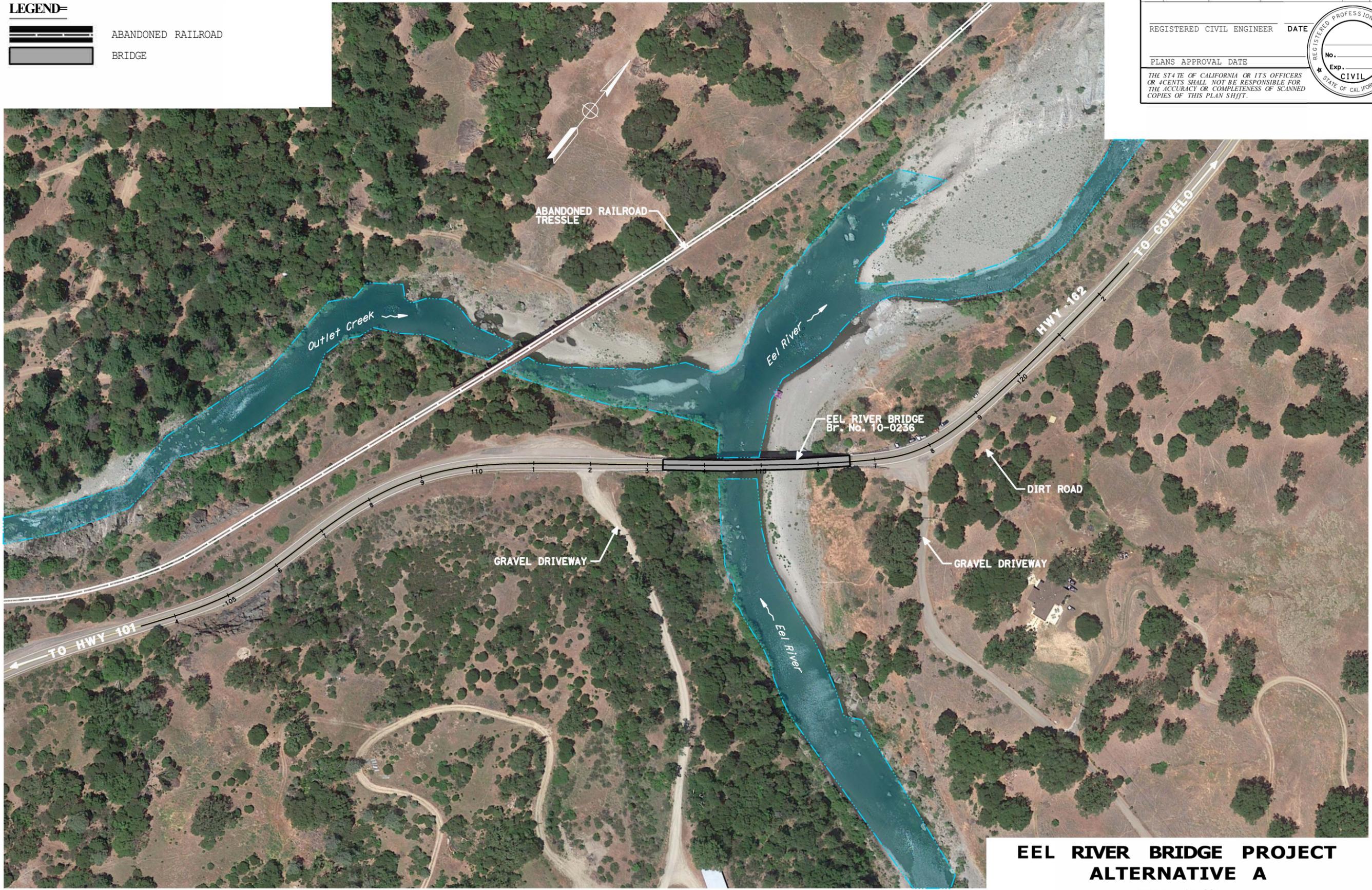
  

THE STATE OF CALIFORNIA OR ITS OFFICERS OR AGENTS SHALL NOT BE RESPONSIBLE FOR THE ACCURACY OR COMPLETENESS OF SCANNED COPIES OF THIS PLAN SHEET.

**LEGEND=**

 ABANDONED RAILROAD

 BRIDGE



**EEL RIVER BRIDGE PROJECT  
ALTERNATIVE A**

SCALE: 1"=80'

COUNTY OF MENARD  
 DISTRICT OF TOWNSHIP  
 SECTION 36  
 RANGE 10N  
 MERIDIAN 10W

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**St. Gobans**  
 FUNCTIONAL SUPERVISOR: KAZEEM B. ALABI  
 BEHROUZ SOHRABI  
 REIMOND H. GARCIA  
 CALCULATED-DESIGNED BY: [Blank]  
 CHECKED BY: [Blank]  
 REVISED BY: [Blank]  
 DATE REVISED: [Blank]

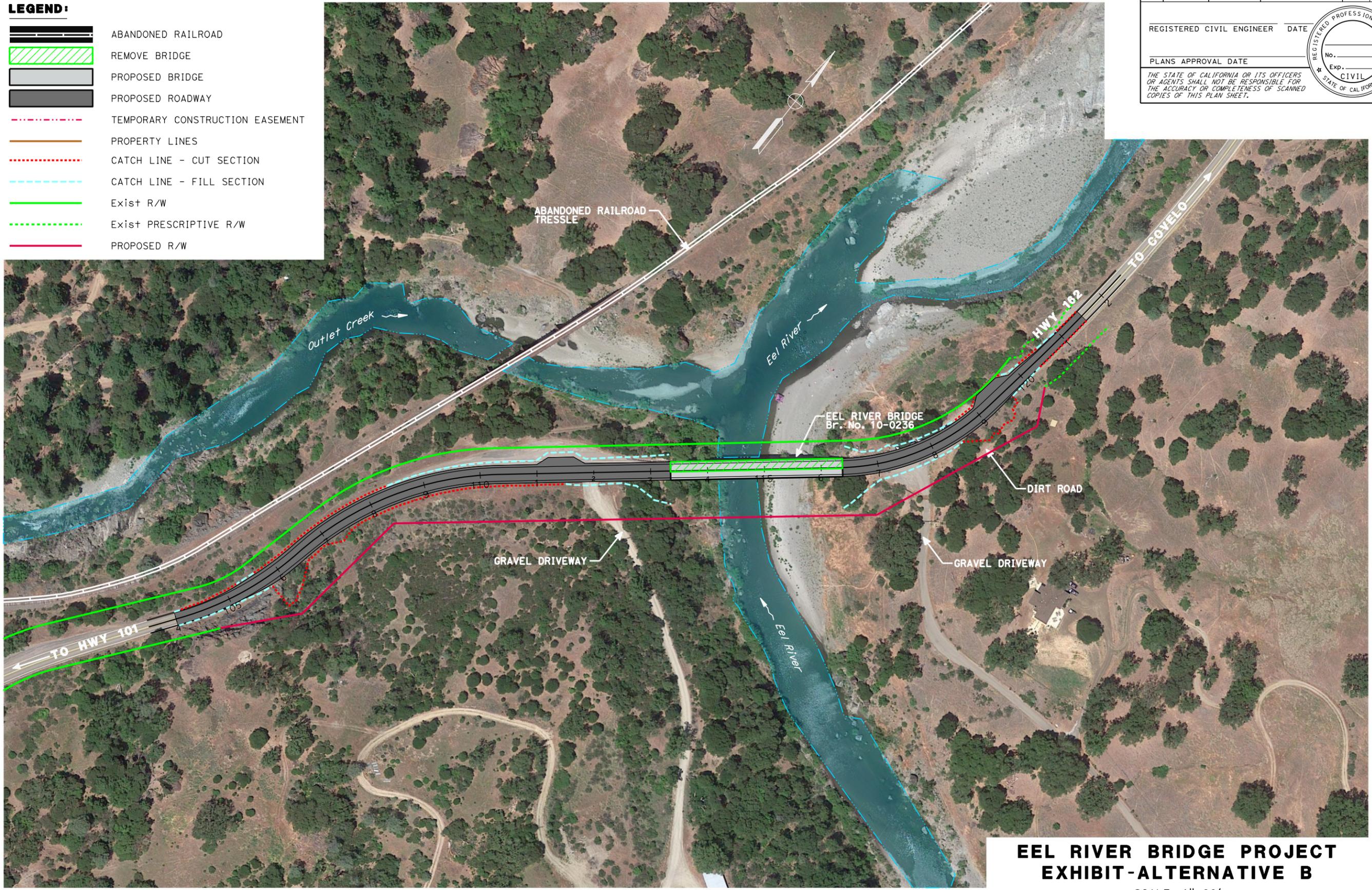
- LEGEND:**
- ABANDONED RAILROAD
  - REMOVE BRIDGE
  - PROPOSED BRIDGE
  - PROPOSED ROADWAY
  - TEMPORARY CONSTRUCTION EASEMENT
  - PROPERTY LINES
  - CATCH LINE - CUT SECTION
  - CATCH LINE - FILL SECTION
  - Exist R/W
  - Exist PRESCRIPTIVE R/W
  - PROPOSED R/W

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	MEN	162	8.2/8.2		

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.



**EEL RIVER BRIDGE PROJECT  
 EXHIBIT-ALTERNATIVE B**  
 SCALE: 1"=80'

LAST REVISION: 00-00-00      DATE PLOTTED => 18-MAR-2020      TIME PLOTTED => 15:55

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
**St. Gobran**

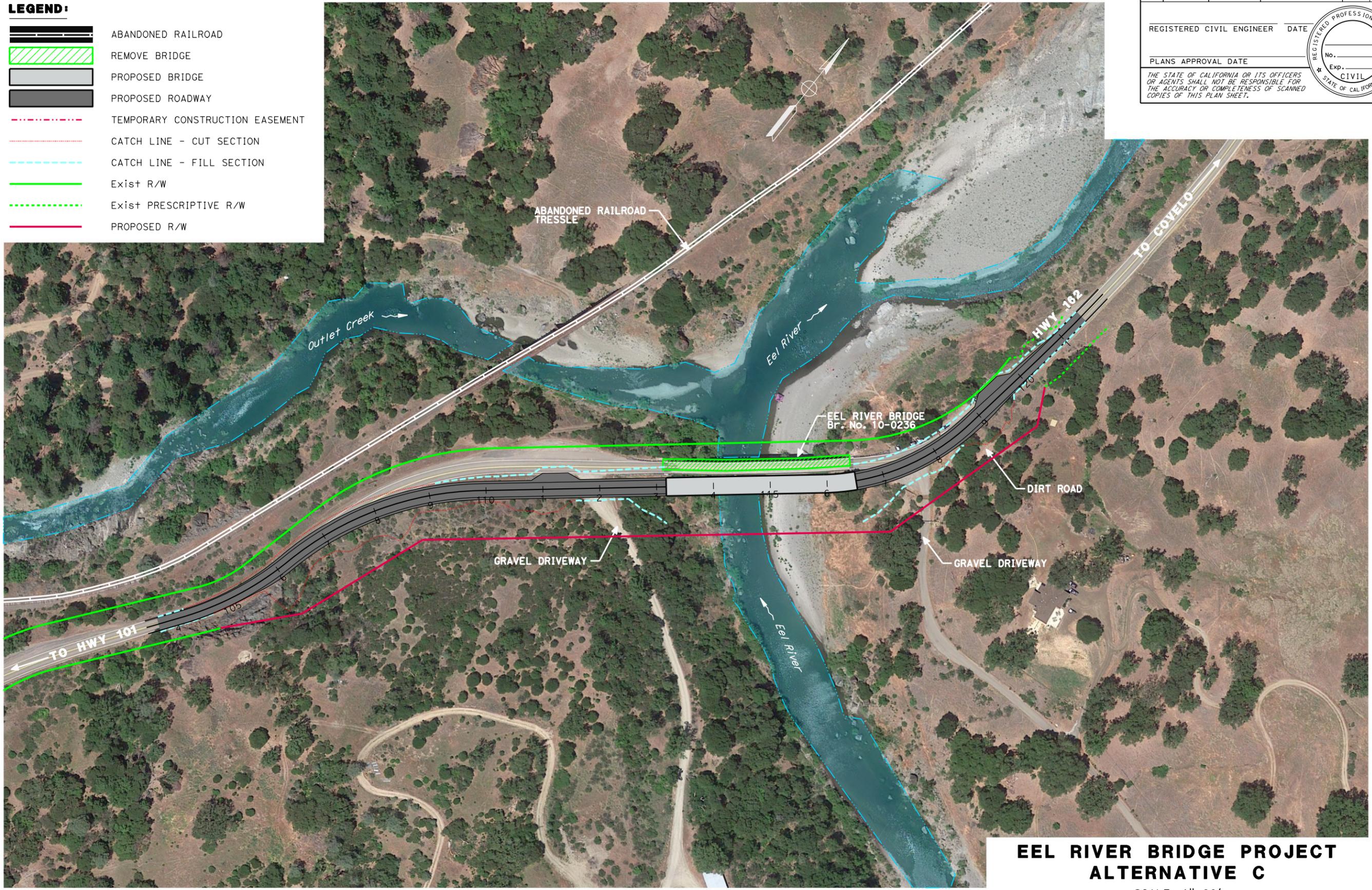
- LEGEND:**
-  ABANDONED RAILROAD
  -  REMOVE BRIDGE
  -  PROPOSED BRIDGE
  -  PROPOSED ROADWAY
  -  TEMPORARY CONSTRUCTION EASEMENT
  -  CATCH LINE - CUT SECTION
  -  CATCH LINE - FILL SECTION
  -  Exist R/W
  -  Exist PRESCRIPTIVE R/W
  -  PROPOSED R/W

Dist	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET No.	TOTAL SHEETS
01	Men	162	8.0/8.4		

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.

**EEL RIVER BRIDGE PROJECT  
 ALTERNATIVE C**  
 SCALE: 1"=80'

LAST REVISION      DATE PLOTTED => 19-MAR-2020  
 01-15-20      TIME PLOTTED => 12:11

# Appendix C. Species Lists

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# 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: 08EACT00-2019-SLI-0245  
Event Code: 08EACT00-2020-E-00170  
Project Name: MEN 162 Eel River Bridge

December 06, 2019

Subject: Updated 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](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: 08EACT00-2019-SLI-0245

Event Code: 08EACT00-2020-E-00170

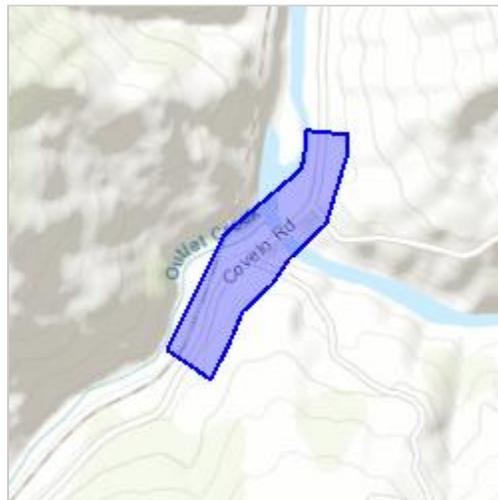
Project Name: MEN 162 Eel River Bridge

Project Type: TRANSPORTATION

Project Description: MEN 162 pm 8.2

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/39.6257923371587N123.34547468004826W>



Counties: Mendocino, CA

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## Endangered Species Act Species

There is a total of 8 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<sup>1</sup>, 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 <i>Pekania pennanti</i> Population: West coast DPS No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/3651">https://ecos.fws.gov/ecp/species/3651</a>	Proposed Threatened

### Birds

NAME	STATUS
Northern Spotted Owl <i>Strix occidentalis caurina</i> There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/1123">https://ecos.fws.gov/ecp/species/1123</a>	Threatened
Western Snowy Plover <i>Charadrius nivosus nivosus</i> Population: Pacific Coast population DPS-U.S.A. (CA, OR, WA), Mexico (within 50 miles of Pacific coast) There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/8035">https://ecos.fws.gov/ecp/species/8035</a>	Threatened
Yellow-billed Cuckoo <i>Coccyzus americanus</i> Population: Western U.S. DPS There is <b>proposed</b> critical habitat for this species. Your location is outside the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/3911">https://ecos.fws.gov/ecp/species/3911</a>	Threatened

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## Amphibians

NAME	STATUS
California Red-legged Frog <i>Rana draytonii</i> There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/2891">https://ecos.fws.gov/ecp/species/2891</a>	Threatened

## Flowering Plants

NAME	STATUS
Burke's Goldfields <i>Lasthenia burkei</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/4338">https://ecos.fws.gov/ecp/species/4338</a>	Endangered
Contra Costa Goldfields <i>Lasthenia conjugens</i> There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/7058">https://ecos.fws.gov/ecp/species/7058</a>	Endangered
Showy Indian Clover <i>Trifolium amoenum</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/6459">https://ecos.fws.gov/ecp/species/6459</a>	Endangered

## Critical habitats

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

NMFS Species List

Quad Name **Dos Rios**

Quad Number **39123-F3**

**ESA Anadromous Fish**

SONCC Coho ESU (T) - **X**  
CCC Coho ESU (E) -  
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 - **X**  
CCC Coho Critical Habitat -  
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 -

**Essential Fish Habitat**

Coho EFH - **X**

Chinook Salmon EFH -



Groundfish EFH -

Coastal Pelagics EFH -

Highly Migratory Species EFH -



# Selected Elements by Common Name

California Department of Fish and Wildlife

California Natural Diversity Database



Query Criteria: Quad (Covelo East (3912372) OR Covelo West (3912373) OR Iron Peak (3912374) OR Laytonville (3912364) OR Longvale (3912354) OR Willis Ridge (3912353) OR Brushy Mtn. (3912352) OR Jamison Ridge (3912362) OR Dos Rios (3912363))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<b>American badger</b> <i>Taxidea taxus</i>	AMAJF04010	None	None	G5	S3	SSC
<b>angel's hair lichen</b> <i>Ramalina thrausta</i>	NLLEC3S340	None	None	G5?	S2S3	2B.1
<b>Baker's meadowfoam</b> <i>Limnanthes bakeri</i>	PDLIM02020	None	Rare	G1	S1	1B.1
<b>Baker's navarretia</b> <i>Navarretia leucocephala ssp. bakeri</i>	PDPLM0C0E1	None	None	G4T2	S2	1B.1
<b>Cascade downingia</b> <i>Downingia willamettensis</i>	PDCAM060E0	None	None	G4	S2	2B.2
<b>fisher - West Coast DPS</b> <i>Pekania pennanti</i>	AMAJF01021	None	Threatened	G5T2T3Q	S2S3	SSC
<b>foothill yellow-legged frog</b> <i>Rana boylei</i>	AAABH01050	None	Candidate Threatened	G3	S3	SSC
<b>glandular western flax</b> <i>Hesperolinon adenophyllum</i>	PDLIN01010	None	None	G2G3	S2S3	1B.2
<b>grass alisma</b> <i>Alisma gramineum</i>	PMALI01010	None	None	G5	S3	2B.2
<b>hoary bat</b> <i>Lasiurus cinereus</i>	AMACC05030	None	None	G5	S4	
<b>Humboldt marten</b> <i>Martes caurina humboldtensis</i>	AMAJF01012	None	Endangered	G5T1	S1	SSC
<b>Konocti manzanita</b> <i>Arctostaphylos manzanita ssp. elegans</i>	PDERI04271	None	None	G5T3	S3	1B.3
<b>long-eared myotis</b> <i>Myotis evotis</i>	AMACC01070	None	None	G5	S3	
<b>Milo Baker's lupine</b> <i>Lupinus milo-bakeri</i>	PDFAB2B4E0	None	Threatened	G1Q	S1	1B.1
<b>North American porcupine</b> <i>Erethizon dorsatum</i>	AMAFJ01010	None	None	G5	S3	
<b>North Central Coast Summer Steelhead Stream</b> <i>North Central Coast Summer Steelhead Stream</i>	CARA2634CA	None	None	GNR	SNR	
<b>North Coast semaphore grass</b> <i>Pleuropogon hooverianus</i>	PMPOA4Y070	None	Threatened	G2	S2	1B.1
<b>Nuttall's ribbon-leaved pondweed</b> <i>Potamogeton epihydrus</i>	PMPOT03080	None	None	G5	S2S3	2B.2
<b>obscure bumble bee</b> <i>Bombus caliginosus</i>	IIHYM24380	None	None	G4?	S1S2	



## Selected Elements by Common Name

California Department of Fish and Wildlife

California Natural Diversity Database



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<b>oval-leaved viburnum</b> <i>Viburnum ellipticum</i>	PDCPR07080	None	None	G4G5	S3?	2B.3
<b>pallid bat</b> <i>Antrozous pallidus</i>	AMACC10010	None	None	G5	S3	SSC
<b>scabrid alpine tarplant</b> <i>Anisocarpus scabridus</i>	PDASTDU020	None	None	G3	S3	1B.3
<b>Sonoma tree vole</b> <i>Arborimus pomo</i>	AMAFF23030	None	None	G3	S3	SSC
<b>thin-lobed horkelia</b> <i>Horkelia tenuiloba</i>	PDR0S0W0E0	None	None	G2	S2	1B.2
<b>three-fingered morning-glory</b> <i>Calystegia collina ssp. tridactylosa</i>	PDCON04036	None	None	G4T1	S1	1B.2
<b>Townsend's big-eared bat</b> <i>Corynorhinus townsendii</i>	AMACC08010	None	None	G3G4	S2	SSC
<b>Upland Douglas Fir Forest</b> <i>Upland Douglas Fir Forest</i>	CTT82420CA	None	None	G4	S3.1	
<b>Valley Oak Woodland</b> <i>Valley Oak Woodland</i>	CTT71130CA	None	None	G3	S2.1	
<b>watershield</b> <i>Brasenia schreberi</i>	PDCAB01010	None	None	G5	S3	2B.3
<b>western pond turtle</b> <i>Emys marmorata</i>	ARAAD02030	None	None	G3G4	S3	SSC
<b>western red bat</b> <i>Lasiurus blossevillii</i>	AMACC05060	None	None	G5	S3	SSC
<b>white-flowered rein orchid</b> <i>Piperia candida</i>	PMORC1X050	None	None	G3	S3	1B.2

Record Count: 32

<b>Scientific Name</b>	<b>Common Name</b>	<b>CNPS List</b>
<i>Alisma gramineum</i>	grass alisma	List 2B.2
<i>Anisocarpus scabridus</i>	scabrid alpine tarplant	List 1B.3
<i>Arctostaphylos manzanita ssp. elegans</i>	Konocti manzanita	List 1B.3
<i>Brasenia schreberi</i>	watershield	List 2B.3
<i>Calystegia collina ssp. tridactylosa</i>	three-fingered morning-glory	List 1B.2
<i>Hesperolinon adenophyllum</i>	glandular western flax	List 1B.2
<i>Horkelia tenuiloba</i>	thin-lobed horkelia	List 1B.2
<i>Limnanthes bakeri</i>	Baker's meadowfoam	List 1B.1
<i>Lupinus milo-bakeri</i>	Milo Baker's lupine	List 1B.1
<i>Navarretia leucocephala ssp. bakeri</i>	Baker's navarretia	List 1B.1
<i>Piperia candida</i>	white-flowered rein orchid	List 1B.2
<i>Pleuropogon hooverianus</i>	North Coast semaphore grass	List 1B.1
<i>Potamogeton epihydrus</i>	Nuttall's ribbon-leaved pondweed	List 2B.2
<i>Ramalina thrausta</i>	angel's hair lichen	List 2B.1
<i>Sanguisorba officinalis</i>	great burnet	List 2B.2
<i>Sidalcea oregana ssp. hydrophila</i>	marsh checkerbloom	List 1B.2
<i>Viburnum ellipticum</i>	oval-leaved viburnum	List 2B.3

# **Appendix D. Botanical Survey Results**

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Scientific Name	Common Name
<i>Achillea millefolium</i>	Common yarrow
<i>Achyraea mollis</i>	Blow-wives
<i>Acmispon americanus</i> var. <i>americanus</i>	Spanish lotus
<i>Acmispon brachycarpus</i>	Short podded lotus
<i>Acmispon parviflorus</i>	Small-flowered lotus
<i>Adiantum jordanii</i>	California maidenhair fern
<i>Agrostis</i> sp.	Bent grass
<i>Aira caryophyllea</i>	Silver hair grass
<i>Alisma lanceolatum</i>	Lanceleaf water plantain
<i>Allium</i> sp.	Onion
<i>Alnus rhombifolia</i>	White alder
<i>Amelanchier utahensis</i>	Utah service-berry
<i>Amsinckia intermedia</i>	Common fiddleneck
<i>Anaphalis margaritacea</i>	Pearly everlasting
<i>Anthriscus caucalis</i>	Bur-chervil
<i>Apocynum androsaemifolium</i>	Bitter dogbane
<i>Aquilegia formosa</i>	Crimson columbine
<i>Arbutus menziesii</i>	Pacific madrone
<i>Arctostaphylos manzanita</i> subsp. <i>glaucescens</i>	Whiteleaf manzanita
<i>Arctostaphylos manzanita</i> subsp. <i>manzanita</i>	Shiny-leaf whiteleaf manzanita
<i>Arctostaphylos manzanita</i> subsp. <i>Roofii</i>	Roof's manzanita
<i>Arctostaphylos patula</i>	Greenleaf manzanita
<i>Arctostaphylos stanfordiana</i> subsp. <i>stanfordiana</i>	Stanford's manzanita
<i>Artemisia douglasiana</i>	Mugwort
<i>Avena barbata</i>	Slender wild oat
<i>Avena fatua</i>	Wild oat grass
<i>Avena Sterilis</i>	Animated oat, sterile oat
<i>Baccharis pilularis</i>	Coyote brush
<i>Bellardia trixago</i>	Mediterranean linseed
<i>Brassica nigra</i>	Black mustard
<i>Briza maxima</i>	Rattlesnake grass
<i>Brodiaea elegans</i> subsp. <i>elegans</i>	Harvest brodiaea
<i>Bromus carinatus</i>	California brome
<i>Bromus diandrus</i>	Ripgut grass
<i>Bromus hordeaceus</i>	Soft chess
<i>Bromus tectorum</i>	Cheat grass or Downy chess
<i>Calochortus amabilis</i>	Diogene's lantern
<i>Calochortus tolmiei</i>	Pussy ears
<i>Cardamine oligosperma</i>	Western bittercress
<i>Carduus pycnocephalus</i>	Italian thistle
<i>Carex nudata</i>	Torrent sedge
<i>Castilleja attenuata</i>	Valley tassels
<i>Centaurea solstitialis</i>	Yellow star-thistle
<i>Cerastium arvense</i>	Field chickweed
<i>Cercis occidentalis</i>	Redbud
<i>Chenopodium album</i>	Lamb's quarters

<i>Chlorogalum pomeridianum</i> var. <i>pomeridianum</i>	Soap plant
<i>Cichorium intybus</i>	Chicory
<i>Clarkia affinis</i>	Chaparral clarkia
<i>Clarkia amoena</i> subsp. <i>huntiana</i>	Whitney's farewell-to-spring
<i>Clarkia</i> sp.	Clarkia
<i>Claytonia perfoliata</i>	Miner's lettuce
<i>Collinsia heterophylla</i>	Chinese houses
<i>Collomia heterophylla</i>	Varied-leaf collomia
<i>Convolvulus arvensis</i>	Field bindweed
<i>Croton setigerus</i>	Turkey- mullein
<i>Cynodon dactylon</i>	Bermudagrass
<i>Cynosurus echinatus</i>	Bristly dogtail grass
<i>Cyperus eragrostis</i>	Tall flat-sedge
<i>Cyperus strigosus</i>	Straw colored flatsedge
<i>Danthonia californica</i>	California oat grass
<i>Daucus carota</i>	Queen Anne's lace
<i>Daucus pusillus</i>	Wild carrot
<i>Delphinium hesperum</i> ssp. <i>hesperum</i>	Western larkspur
<i>Delphinium</i> sp.	Larkspur
<i>Dichelostemma capitatum</i>	Blue dicks
<i>Draba verna</i>	Spring draba
<i>Dysphania botrys</i>	Jerusalem oak
<i>Eleocharis</i> sp.	Spike-rush
<i>Elymus glaucus</i> subsp. <i>glaucus</i>	Blue wildrye
<i>Epilobium brachycarpum</i>	Annual fireweed
<i>Epipactis gigantea</i>	Stream orchid
<i>Equisetum arvense</i>	Common horsetail
<i>Equisetum hyemale</i> subsp. <i>affine</i>	Common scouring rush
<i>Equisetum telmateia</i> subsp. <i>braunii</i>	Giant horsetail
<i>Eriogonum nudum</i> var. <i>nudum</i>	Naked wild buckwheat
<i>Eriophyllum lanatum</i> var. <i>achilleoides</i>	Yarrow leaved woolly sunflower
<i>Erodium botrys</i>	Long-beaked storksbill
<i>Erodium cicutarium</i>	Redstem filaree
<i>Euphorbia maculata</i>	Spotted spurge
<i>Euthamia occidentalis</i>	Western goldenrod
<i>Festuca arundinacea</i>	Tall fescue
<i>Festuca myuros</i>	Rattail sixweeks grass
<i>Frangula californica</i>	California coffee berry
<i>Fraxinus latifolia</i>	Oregon ash
<i>Fritillaria</i> sp.	fritillary
<i>Galium aparine</i>	Goose grass
<i>Galium californicum</i>	California bedstraw
<i>Galium trifidum</i>	Trifid bedstraw
<i>Geranium dissectum</i>	Cut-leaved geranium
<i>Geranium molle</i>	Dovefoot geranium
<i>Glycyrrhiza lepidota</i>	Wild licorice
<i>Grindelia camporum</i>	Great valley gumweed

<i>Hemizonia congesta</i> subsp. <i>congesta</i>	Pale-yellow hayfield tarplant
<i>Heteromeles arbutifolia</i>	Toyon
<i>Hirschfeldia incana</i>	Mediterranean mustard
<i>Hordeum brachyantherum</i>	Meadow barley
<i>Hordeum marinum</i> subsp. <i>gussoneanum</i>	Mediterranean barley
<i>Hypericum perforatum</i> subsp. <i>perforatum</i>	Klamathweed
<i>Iris purdyi</i>	Purdy's iris
<i>Juncus bufonius</i>	Toad rush
<i>Juncus patens</i>	Spreading rush
<i>Juncus</i> sp.	Rush
<i>Lactuca serriola</i>	Prickly lettuce
<i>Lathyrus latifolius</i>	Perennial sweet pea
<i>Lathyrus sulphureus</i>	Sulphur pea
<i>Leersia oryzoides</i>	Rice cutgrass
<i>Leontodon saxatilis</i>	Hairy hawkbit
<i>Leptosiphon acicularis</i>	Bristly leptosiphon
<i>Leptosiphon bicolor</i>	True babystars
<i>Linum bienne</i>	Western blue flax
<i>Lithophragma affine</i>	Common woodland star
<i>Lomatium</i> sp.	Lomatium
<i>Lonicera hispidula</i>	Pink honeysuckle
<i>Lotus corniculatus</i>	Bird's-foot treefoil
<i>Lupinus bicolor</i>	Miniature lupine
<i>Lupinus microcarpus</i>	Chick lupine
<i>Lupinus</i> sp.	Lupine
<i>Luzula comosa</i>	Pacific woodrush
<i>Madia gracilis</i>	Slender tarweed
<i>Madia</i> sp.	Tarweed
<i>Marah</i> sp.	Wild cucumber
<i>Matricaria discoidea</i>	Pineapple weed
<i>Medicago polymorpha</i>	California burclover
<i>Melilotus albus</i>	White sweetclover
<i>Mentha pulegium</i>	Pennyroyal
<i>Micranthes californica</i>	Greene's saxifrage
<i>Micropus californicus</i> var. <i>californicus</i>	Slender cottonweed, Q tips
<i>Mimulus guttatus</i>	Seep monkeyflower
<i>Mimulus pilosus</i>	Snouted monkey flower
<i>Monardella purpurea</i>	Siskiyou monardella
<i>Myosotis</i> sp.	forget-me-not
<i>Nasturtium officinale</i>	Water cress
<i>Nemophila parviflora</i>	Small-flowered nemophila
<i>Parentucellia viscosa</i>	Yellow parentucellia
<i>Pentagramma triangularis</i> subsp. <i>triangularis</i>	Goldback fern
<i>Persicaria maculosa</i>	Spotted ladythumb
<i>Petrorhagia nanteuillii</i>	tubercle seeded pink grass
<i>Phacelia heterophylla</i> var. <i>virgata</i>	Varied-leaf phacelia
<i>Phacelia</i> sp.	Phacelia

<i>Phalaris</i> sp.	Canary-grass
<i>Pinus sabiniana</i>	Gray, ghost, or foothill pine
<i>Plantago coronopus</i>	Cut-leaf plantain
<i>Plantago erecta</i>	Dotseed plantain or California plantain
<i>Plantago lanceolata</i>	English plantain
<i>Plectritis congesta</i>	Sea blush
<i>Poa bulbosa</i>	Bulbous blue grass
<i>Polygala californica</i>	California milkwort
<i>Polypodium</i> sp.	Polypody
<i>Populus fremontii</i> subsp. <i>fremontii</i>	Fremont cottonwood
<i>Poterium sanguisorba</i>	Garden burnet
<i>Poterium sanguisorba</i>	Garden burnet
<i>Prunella vulgaris</i>	Common self-heal
<i>Pseudotsuga menziesii</i> var. <i>menziesii</i>	Douglas-fir
<i>Quercus chrysolepis</i>	Maul oak or canyon live oak
<i>Quercus garryana</i>	Oregon oak
<i>Quercus wislizenii</i>	Interior live oak
<i>Ranunculus occidentalis</i>	Western buttercup
<i>Ranunculus</i> sp.	Buttercup
<i>Rubus ursinus</i>	California blackberry
<i>Rumex crispus</i>	Curly dock
<i>Salix exigua</i>	Narrow-leaved willow
<i>Salix laevigata</i>	Red willow
<i>Salix lasiandra</i> var. <i>lasiandra</i>	Pacific willow
<i>Salix lasiolepis</i>	Arroyo willow
<i>Salix</i> sp.	Willow
<i>Sanicula bipinnatifida</i>	Purple sanicle
<i>Sanicula crassicaulis</i>	Pacific snakeroot
<i>Schoenoplectus acutus</i> var. <i>occidentalis</i>	Tule
<i>Scirpus microcarpus</i>	Small fruited bulrush
<i>Sidalcea calycosa</i> subsp. <i>calycosa</i>	Vernal pool checkerbloom
<i>Silene laciniata</i> subsp. <i>californica</i>	California pink
<i>Sisyrinchium bellum</i>	Western blue-eyed-grass
<i>Sonchus asper</i> subsp. <i>asper</i>	Prickly sow thistle
<i>Stachys</i> sp.	Hedge-nettle
<i>Stellaria media</i>	Common chickweed
<i>Symphoricarpos albus</i> var. <i>laevigatus</i>	Common snowberry
<i>Symphoricarpos mollis</i>	Creeping snowberry or Trip vine
<i>Taraxacum officinale</i>	Common dandelion
<i>Torilis arvensis</i>	Tall sock-destroyer
<i>Toxicodendron diversilobum</i>	Poison-oak
<i>Toxicoscordion micranthum</i>	Small flowered star lily
<i>Trichostema laxum</i>	Turpentine weed
<i>Trifolium dubium</i>	Little hop clover
<i>Trifolium fucatum</i>	Bull clover
<i>Trifolium hirtum</i>	Rose clover
<i>Trifolium incarnatum</i>	Crimson clover

<i>Trifolium pratense</i>	Red clover
<i>Trifolium repens</i>	White clover
<i>Trifolium subterraneum</i>	Subterranean clover
<i>Trifolium willdenovii</i>	Tomcat clover
<i>Triteleia hyacinthina</i>	White brodiaea or fool's onion
<i>Triteleia laxa</i>	Ithurial's spear or common triteleia
<i>Typha latifolia</i>	Broadleaf cattail
<i>Umbellularia californica</i>	California-bay
<i>Valerianella locusta</i>	Corn salad
<i>Verbena lasiostachys</i>	Western verbena
<i>Veronica scutellata</i>	Marsh speedwell
<i>Vicia sativa</i> subsp. <i>nigra</i>	Narrow-leaved vetch
<i>Vicia villosa</i> subsp. <i>villosa</i>	Winter vetch
<i>Vitis californica</i>	California wild grape
<i>Xanthium strumarium</i>	Cocklebur

# Appendix E. Wild and Scenic Rivers

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# Memorandum

*Making Conservation  
a California Way of Life*

To: Wild and Scenic River Managing Agencies

Date: 09/03/2019

File: South Eel River Bridge Seismic Project  
MEN 162 PM 8.2  
01-0A131

From: Cassie Nichols  
North Region Environmental

**SUBJECT: EVALUATIONS OF PROPOSED SOUTH EEL RIVER BRIDGE SEISMIC PROJECT PURSUANT TO SECTION 7(a) OF THE WILD AND SCENIC RIVERS ACT**

## *PROJECT DESCRIPTION*

This project is located in Mendocino County, near the unincorporated city of Longvale, approximately 8.2 to 8.3 miles east of U.S. Highway 101 (US 101), at the South Eel River Bridge (Br. No. 10-0236). Constructed in 1938, the bridge has two 10-foot lanes and approximately 1-foot-wide shoulders. A seismic upgrade of the bridge was recommended in the inspection report in 2009. The Statewide Seismic Safety Program is a program mandated by the Governor and State Legislature. The purpose of this program is to assess and identify the seismic safety needs of the State Highway System and to provide improvements to the system where necessary. This project is needed because the South Eel River Bridge was identified in the Structure Replacement and Improvement Needs (STRAIN) report as a bridge with seismic vulnerability. The purpose of the project is to upgrade the South Eel River Bridge to an earthquake-resistant bridge structure capable of resisting a maximum credible earthquake.

## *Alternative A – Seismic Retrofit of Existing Structure*

Alternative A would perform retrofit work to improve the structural integrity of the bridge to resist a maximum credible earthquake. This alternative involves various retrofits to the structure that include:

- Pier seat extension
- Pier column retrofit
- Pier retrofit fill pier cap / wall voids
- Pier retrofit (steel plate and HS threaded rods, both sides top only)
- Footing retrofit (add top reinforcement)

For this alternative, during construction, traffic would pass through the construction site using lane closures on the existing bridge. The bridge would be accessed through a temporary road constructed under the northern side of the bridge. The graveled area (river bar) would be used for

staging. Cofferdams would be in place during construction. See Figure 1—Layout of Alternative A.

### ***Alternative B – Staged Replacement of Existing Structure***

This alternative would replace the existing bridge using staged construction to minimize the roadway realignment and acquired right of way needed for complete replacement. Shoulders on the bridge would be increased from one to four feet to improve bicycle facilities. Wider shoulders would also allow for traffic to pass by in the event that a vehicle becomes disabled on the bridge. This alternative would meet existing design standards for lane and shoulder widths, both of which are currently below standard. The southeast side of the existing bridge would be removed partially. This would cause the bridge to become one lane and require 24-hour traffic control in the form of a temporary signal. Construction of a partial width of the new bridge would be completed on the southeast side of the existing bridge. Once the partial section of the new bridge is completed, the one lane of traffic would be moved to the new bridge and the remainder of the existing bridge would be removed. This would make room to complete the new bridge and once again reopen the road to two-way traffic.

Staged replacement would shift the alignment of the roadway by approximately 10' to the southeast. To complete this alternative, Caltrans does not expect to require acquired right of way; however, temporary easements and permits to enter may be required for construction. Road work for this alternative requires realignment of the road and possible cut of the adjacent slope. Intersections on each side of the bridge would also be affected. Shifting the alignment of the road would require steepening of the intersecting road or moving the intersection location.

An access road would be installed from the north side of the road leading down to the gravel bar on the north bank. The gravel bar would be used for staging. Cofferdams would be in place during construction. A temporary trestle would be constructed to facilitate the removal of the existing bridge and catchment and access. See Figure 2—Layout of Alternative B.

### *Alternative C – Replacement of Existing Structure*

Alternative C would replace the existing bridge with a new one to the south of the existing bridge. Shoulders would be increased from one to four feet to improve bicycle facilities. This alternative would meet existing design standards for lane and shoulder widths, both of which are currently below standard. This alternative would also require the largest roadway realignment and is the only alternative that would require acquiring Caltrans right of way. The centerline of the roadway would shift southeast by approximately 40'. This alternative would allow traffic to continue to use the existing bridge throughout construction of the new one. To construct this alternative, a new bridge would be built to the southeast of the existing bridge. Once complete, traffic would be moved to the new bridge and the old bridge removed.

Earthwork that is necessary to build this alternative is substantially greater than the other alternatives. Similar to Alternative B, this alternative would require a centerline shift that affects roads on each side of the bridge. This shift would increase the amount of earthwork necessary to maintain the access of the road on the west side. The earthwork required would occur on what is currently private property and erosion control measures would be in place.

There will be a significant amount of roadway excavation required to realign the highway as part of this alternative. Erosion control would be required on exposed slopes and drainages to minimize sediment traveling to the river. Cut slopes created on each side of the bridge and exposed slopes necessary for regrading of the intersecting road on the south side would require erosion control to prevent erosion and promote new growth of vegetation to provide permanent erosion control. It is not anticipated that earth retaining systems would be required as part of this alternative.

The bridge would be accessed through a temporary road constructed under the northern side of the existing bridge. The gravel bar would be utilized for staging. Cofferdams would be in place to create a clear water diversion during construction. A temporary trestle would be constructed to facilitate the removal of the existing bridge and catchment and access. See Figure 3—Layout of Alternative C.

### *Alternative D - No Build*

A No Build alternative does not fulfill the purpose and need of the project. The existing bridge would continue to not meet standards for seismic design. Bridge 10- 0236 over the Eel River would be increasingly vulnerable to seismic forces.

### *Equipment*

Typical equipment used for construction includes pavers, cranes, hoe rams, pile drivers, vibratory hammers, excavators, backhoes, hauling and dump trucks, compactors, portable generators, boom trucks, concrete trucks, saws, pumps, jackhammers, and site trailers.

### *Site Cleanup and Revegetation*

After completion, all cofferdam and/or trestle piles would be completely removed and hauled from the site. All material from temporary access roads (gravel pads) would be removed from the site. The site would then be restored to a natural setting by regrading and revegetation as required by the approved revegetation and final erosion control plans.

## ***ANALYSIS OF THE PROPOSED ACTIVITY***

### *Wild and Scenic Designation of the Eel River*

The Eel River represents California's third largest watershed. The mainstem flows more than two hundred air miles and travels over 800 river miles from the headwaters above Lake Pillsbury in Lake County to the ocean. The Eel River has received both state (1972) and federal (1981) Wild and Scenic River designation, which protects the river from dams and ensures that environmental concerns rank equally with development and industry.

The three forks of the Eel River illustrate several river types: originating in high mountain pine forests; flowing through steep canyons and coastal redwood forests; and emptying into the Pacific in a gently sloping valley with virgin redwood stands. The North Fork flows 35 miles, completely in Trinity County. The Middle Fork, the Eel's largest tributary, travels a total of 70 miles before joining the mainstem Eel River. The South Fork begins in Mendocino County and travels through ancient redwood forests to join the mainstem.

The South Eel River Bridge Seismic Project is located in Mendocino County on Highway 162 over the Eel River. Highway 162 is a two lane highway in rural terrain at approximately 1,000 feet in elevation. While the bridge is physically over the Eel River, this location is next to the confluence of the Eel River and Outlet Creek. Both the Eel River and Outlet Creek are designated under the Wild and Scenic Rivers Act. (Eel River, California, 2019).

### ***Within Channel Conditions***

Seismic work under any of the alternatives would involve temporary cofferdams to be in place during construction. Alternative B or C would result in the same number of piers in the water as the existing bridge. Caltrans uses standard Best Management Practices in all of its projects to protect water quality. Every Caltrans project is required to have a Stormwater Pollution Prevention Plan (SWPPP) or Water Pollution Control Plan (WPCP). This project would also be regulated under the Clean Water Act (CWA), Section 404 under the U.S. Army Corps of Engineers, and Section 401 with the North Coast Regional Water Quality Control Board. This project is not expected to alter the water quality in the Eel River or Outlet Creek.

### ***Riparian and Floodplain Conditions***

Existing vegetation consists of many invasive species, native and non-native grasses, native herbaceous plants, willows, oak woodlands and pines. The area would be revegetated with native plants and/or a native seed mix. A Streambed Alteration Agreement would be obtained from the California Department of Fish and Wildlife for work within the bed, bank, and channel of the river.

The proposed project is located on a Flood Insurance Rate Map (FIRMette) 06045C0725F. The project lies within Zone A and Zone X. Zone A corresponds to the 100-year floodplain. Zone X is outside of the 100-year floodplain and considered an area of minimal flood hazard. Construction activities would take place within the base floodplain. The proposed bridge replacement design would be similar to the existing structure design, having two supports in the channel and similar embankments. The proposed replacement structure would have a negligible impact on the floodplain. (Hydraulics, 2019) See Figure 4—National Flood Hazard Layer FIRMette.

### ***Free-Flowing Conditions***

A retrofit of the existing bridge would not change the free-flowing characteristics of the river as it is already existing. The replacement of the bridge over the Eel River would be similar to what currently exists, and would continue to allow free-flowing conditions. The free-flowing conditions of the river would not be changed as a result of this project.

### ***Outstanding Remarkable Values***

- ***Fisheries***

The primary fish of interest for the mainstem of the Eel include winter-run and summer-run steelhead, coho, Chinook, and cutthroat trout. Historically, Chinook begin arriving in August and remain until rains allow them upstream. The run continues through December, with the peak in late October. The Eel River water, fish and ecosystem have faced development challenges and sections of the river are closed to fishing to protect juvenile steelhead. Caltrans would implement special provisions and work windows to avoid and minimize impacts to fish.

- ***Recreational***

Dos Rios, located at the confluence of the Middle Fork of the Eel River and the mainstem, is the put-in location for a popular four-day trip through the Eel River Canyon to Alderpoint. A number of trails access the river, and the highest public use is by summer swimmers downstream near the Eel River Work Center and Eel River Campground. The river would continue to be accessible to the public and available for recreation. This project would not change the recreational value of the river.

### ***DETERMINATION OF EFFECTS OF THE PROPOSED ACTIVITY***

Caltrans does not anticipate this project would have a permanent effect on water quality, the free-flowing characteristics of the river, and outstanding remarkable values. This project would not affect the river's ability to meet the criteria that classify it as wild, scenic, or recreational.

### ***REFERENCES***

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