

# **Culvert Rehabilitation Project**

State Routes 1, 20, and 101 in Mendocino County

01-MEN-1, 20, 101-Various Locations

EA 01-36432

## **Initial Study with Proposed Negative Declaration**



Prepared by the  
State of California Department of Transportation

January 2010



# General Information About This Document

## ***What's in this document?***

The California Department of Transportation (Caltrans) has prepared this Initial Study, which examines the potential environmental impacts of alternatives being considered for the proposed project located in Mendocino County, California. The document describes the proposed project, the existing environment that could be affected by the project, potential impacts from the project, and the proposed avoidance, minimization, and/or mitigation measures.

## ***What should you do?***

- Please read this Initial Study. Additional copies of this document as well as the technical studies are available for review at the Caltrans District 3 Office of Environmental Management, 703 B Street, Marysville, CA 95901 and the Mendocino County Library, 499 Laurel Street, Fort Bragg, CA 95437.
- We welcome your comments. If you have any concerns regarding the proposed project, please send your written comments to Caltrans by March 8, 2010. Submit comments via U.S. mail to Caltrans at the following address:

Sandra Rosas, Senior Environmental Planner  
Environmental Management Branch M-2  
California Department of Transportation  
703 B Street  
Marysville, CA 95901

- Submit comments via email to: [sandra\\_rosas@dot.ca.gov](mailto:sandra_rosas@dot.ca.gov).
- Submit comments by the deadline: March 8, 2010.

## ***What happens next?***

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

For individuals with sensory disabilities, this document is available in Braille, large print, on audiocassette, or computer disk. To obtain a copy in one of these alternate formats, please call or write to Caltrans, Attn: Sandra Rosas, Senior Environmental Planner, 703 B Street, Marysville, CA 95901; (530) 741-4017 Voice, or use the California Relay Service TTY number, 1-800-735-2929.

Culvert Rehabilitation Project  
State Routes 1, 20, and 101 in Mendocino County  
01-MEN-1, 20, 101-Various Locations  
EA 01-36432

**INITIAL STUDY with Proposed Negative Declaration**

Submitted Pursuant to: (State) Division 13, California Resources Code  
(Federal) 42 USC 4332(2)(C)

THE STATE OF CALIFORNIA  
Department of Transportation

January 25, 2010

Date of Approval



John Webb, Chief

North Region Environmental Services  
California Department of Transportation

## Proposed Negative Declaration

Pursuant to: Division 13, Public Resources Code

### **Project Description**

The California Department of Transportation (Caltrans) proposes to rehabilitate 49 culverts on State Routes (SR) 1, 20, and 101 in Mendocino County. The project proposes to remove and replace or rehabilitate culverts along SR 1 between post mile (PM) 3.87 near the town of Anchor Bay and PM 47.19 near the town of Little River; on SR 20 between PM 13.76 near Fort Bragg and PM 31.99 west of Willits; and on SR 101 at PM 48.90 north of Willits. Other proposed work includes replacing or adding drainage inlet and outlet features at these locations.

### **Determination**

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

- The project would have minimal or no effect on aesthetics, agricultural resources, air quality, cultural resources, geology/soils, hazardous materials, land use, mineral resources, noise, population/housing, public services, recreation, transportation, traffic patterns, and utilities.
- Potential impacts to storm water and water quality would be avoided or minimized through the implementation of avoidance and minimization measures.
- Potential impacts to Point Arena mountain beaver (*Aplodontia rufa nigra*), California red-legged frog (*Rana draytonii*), Central California Coast coho salmon (*Oncorhynchus kisutch*), California Coastal Chinook salmon (*Oncorhynchus tshawytscha*), Northern California steelhead Distinct Population Segment (DPS) (*Oncorhynchus mykiss*), and migratory birds would be avoided or minimized through the implementation of avoidance and minimization measures.
- Impacts to waters of the U. S. and waters of the State would be offset through the restoration of the project area to pre-project conditions.

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John Webb, Chief  
North Region Environmental Services  
California Department of Transportation

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Date

## **Initial Study**

### ***Project Title***

Culvert Rehabilitation Project

### ***Lead Agency Name and Address***

State of California Department of Transportation - Caltrans  
703 B Street  
Marysville, CA 95901

### ***Contact Person***

Sandra Rosas, Senior Environmental Planner  
Environmental Management Branch M-2

### ***Project Location***

The project is located on State Route (SR) 1 between the towns of Anchor Bay and Little River; SR 20 between Fort Bragg and Willits; and SR 101 north of Willits in Mendocino County.

### ***Project Sponsor's Name and Address***

State of California Department of Transportation - Caltrans  
John Webb, Chief  
North Region Office of Environmental Services  
703 B Street  
Marysville, CA 95901

### ***Purpose and Need***

The purpose of the project is to rehabilitate damaged and substandard culverts that convey storm water under the roadway and to reduce the likelihood of culvert failure during future storm events.

### ***Description of Project***

Caltrans proposes to rehabilitate 49 culverts on SR 1, 20, and 101 in Mendocino County. The project proposes to remove and replace or rehabilitate culverts along SR 1 between post mile (PM) 3.87 near the town of Anchor Bay and PM 47.19 near the town of Little River; on SR 20 between PM 13.76 near Fort Bragg and PM 31.99 west of Willits; and on SR 101 at PM 48.90 north of Willits. Other proposed work includes replacing or adding drainage inlet and outlet features at these locations.

The majority of the culverts proposed for rehabilitation will be replaced with similar sized alternative pipe culverts using half-width trenching construction, which involves trenching across one-half of the roadway while maintaining one-way traffic by keeping the other lane(s) open. Three culverts will be rehabilitated, by inserting high-density polyethylene plastic pipe liners into the existing culverts on SR 1 at PM 4.11 and 8.01 and on SR 20 at PM 27.32.

### ***Surrounding Land Uses and Setting***

Land use within the project vicinity includes farming, scattered communities, rural residential, recreational use, and commercial timberlands.

### ***Permits and Approvals Needed***

The following environmental permits are required for this project:

- Section 404 permit from U. S. Army Corps of Engineers for work in jurisdictional wetlands and other waters of the U. S.
- Section 401 Water Quality Certification from the North Coast Regional Water Quality Control Board.
- Section 1602 Stream and Lakebed Alteration Agreement from California Department of Fish and Game.
- Concurrence with a Not Likely to Adversely Affect Determination from U. S. Fish and Wildlife Service under Section 7 of the Federal Endangered Species Act.
- Concurrence with a Not Likely to Adversely Affect Determination from National Oceanic and Atmospheric Administration (NOAA) Fisheries under Section 7 of the Federal Endangered Species Act.
- Coastal Development Permit from the County of Mendocino.

These permits/concurrences may contain restrictions or additional mitigation measures that would be incorporated into the project.

### ***Zoning***

The project is located within the coastal zone and areas that are designated under the 2009 Mendocino County General Plan as forest land, public land, range land, and remote residential.

# Environmental Factors Potentially Affected

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The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a “Potentially Significant Impact” as indicated by the checklist on the following pages.

- Aesthetics
- Agricultural Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Geology/Soils
- Hazards and Hazardous Materials
- Hydrology/Water Quality
- Land Use/Planning
- Mineral Resources
- Noise
- Population/Housing
- Public Services
- Recreation
- Transportation/Traffic
- Utilities/Service Systems
- Mandatory Findings of Significance

# Impacts Checklist

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The impacts checklist starting on the next page identifies physical, biological, social, and economic factors that might be affected by the proposed project. The California Environmental Quality Act impact levels include “potentially significant impact,” “less than significant impact with mitigation,” “less than significant impact,” and “no impact.”

A brief explanation of each California Environmental Quality Act checklist determination follows each checklist item. The checklist is followed by a focused discussion of the biological and water quality/storm water issues as they are related to this project.

Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
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**I. AESTHETICS** — Would the project:

a) Have a substantial adverse effect on a scenic vista?

*Hydro-seeding/mulching will be used where necessary to minimize storm water impacts.*

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

c) Substantially degrade the existing visual character or quality of the site and its surroundings?

d) Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?

*“No Impact” determination in this section is based on the Visual Impact Assessment, July 2007.*

**II. AGRICULTURE 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 Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the project:

a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?

c) Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?

*“No Impact” determinations in this section are based on the scope and location of the project.*

**III. 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. Would the project:

a) Conflict with or obstruct implementation of the applicable air quality plan?

b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?

Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
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c) 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 (including releasing emissions, which exceed quantitative thresholds for ozone precursors)?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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d) Expose sensitive receptors to substantial pollutant concentrations?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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e) Create objectionable odors affecting a substantial number of people?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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*“No Impact” determinations in this section are based on the Air Quality Analysis, January 2010.*

**IV. BIOLOGICAL RESOURCES** — Would the project:

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

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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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?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
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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?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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**Impacts in this section are based on the Natural Environmental Study (NES), December 2009. Discussion of impacts is included in the “Avoidance, Minimization, and/or Mitigation” section of this Initial Study.**

**V. CULTURAL RESOURCES** — Would the project:

a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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d) Disturb any human remains, including those interred outside of formal cemeteries?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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**“No Impact” determinations in this section are based on a review the Historic Property Survey Report, March 2005.**

**VI. GEOLOGY AND SOILS** — Would the project:

a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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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.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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ii) Strong seismic ground shaking?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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iii) Seismic-related ground failure, including liquefaction?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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iv) Landslides?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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b) Result in substantial soil erosion or the loss of topsoil?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
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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 onsite or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse?

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.

e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

*“No Impact” determinations in this section are based the scope and location of the project.*

**VII. HAZARDS AND HAZARDOUS MATERIALS —**

Would the project:

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

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?

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

d) Be located on a site that 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?

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 for people residing or working in the project area?

f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?

Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
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g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

h) Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

***“No Impact” determination in this section is based on review an Initial Site Assessment, July 2009. Naturally Occurring Asbestos and Aerially Deposited Lead are present within the project limits. Impacts will be avoided through with the use of Standard Special Provisions 15-027 and 19-910, and Specification 5-750.***

**VIII. HYDROLOGY AND WATER QUALITY —**

Would the project:

a) Violate any water quality standards or waste discharge requirements?

b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)?

c) 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 that would result in substantial erosion or siltation on- or offsite?

d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or offsite?

e) Create or contribute runoff water that would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?

f) Otherwise substantially degrade water quality?

g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?

Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
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h) Place within a 100-year flood hazard area structures that would impede or redirect flood flows?

i) Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?

j) Result in inundation by a seiche, tsunami, or mudflow?

*“No Impact” determinations in this section are based on the Water Quality Analysis, December 2009.*

**IX. LAND USE AND PLANNING** — Would the project:

a) Physically divide an established community?

b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

c) Conflict with any applicable habitat conservation plan or natural community conservation plan?

*“No Impact” determinations in this section are based on the scope and location of the project.*

**X. MINERAL RESOURCES** — Would the project:

a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

*“No Impact” determinations in this section are based on the scope and location of the project.*

**XI. NOISE** — Would the project result in:

a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
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c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

*“No Impact” determinations in this section are based on the Noise Analysis, January 2010.*

**XII. POPULATION AND HOUSING** — Would the project:

a) Induce substantial 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)?

b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?

c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

*“No Impact” determinations in this section are based on the scope and location of the project.*

**XIII. PUBLIC SERVICES** —

Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:

Fire protection?

	Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

***“No Impact” determinations in this section are based on the scope and location of the project.***

**XIV. RECREATION —**

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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

***“No Impact” determinations in this section are based on the scope and location of the project.***

**XV. TRANSPORTATION/TRAFFIC —** Would the project:

a) Cause an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
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f) Result in inadequate parking capacity?

g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?

*“No Impact” determinations in this section are based on conversations with Project Engineer, July 2009.*

**XVI. UTILITY AND SERVICE SYSTEMS** — Would the project:

a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?

e) Result in a determination by the wastewater treatment provider that 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?

f) Be served by a landfill with sufficient permitted capacity to accommodate the project’s solid waste disposal needs?

g) Comply with federal, state, and local statutes and regulations related to solid waste?

*“No Impact” determinations in this section are based on the scope and location of the project.*

Potentially significant impact	Less than significant impact with mitigation	Less than significant impact	No impact
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**XVII. MANDATORY FINDINGS OF SIGNIFICANCE —**

a) Does the project have the potential to 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, 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?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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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)?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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c) Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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# Affected Environment, Environmental Consequences, and Mitigation Measures

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## **Biological Resources**

### **Natural Communities**

#### ***Regulatory Setting***

Under Section 404 of the Clean Water Act, waters of the U. S. include the following: territorial seas, coastal and inland waters, lakes, rivers and streams that are navigable and their adjacent wetlands, tributaries to navigable waters and their adjacent wetlands, interstate waters and their tributaries including adjacent wetlands, and all other waters of the U. S. (intermittent streams and prairie potholes).

The U. S. Army Corps of Engineers (USACE) and the U. S. Environmental Protection Agency jointly define wetlands as areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.

Waters of the U. S. is the encompassing term for areas under federal jurisdiction as defined in Section 404 of the Clean Water Act. For the purpose of this report, waters of the U. S. are divided into jurisdictional wetlands and “other waters of the U. S.”

According to the State Water Resources Control Board, waters of the State include any surface water or groundwater, including saline waters, within the boundaries of the state. The project locations were surveyed to determine the presence of any waters of the State.

#### ***Affected Environment***

Various wetlands, perennial streams, intermittent channels, and roadside ditches are present at all culvert locations within the project limits.

#### ***Impacts***

The project would permanently impact a total of 0.032 acre of waters of the U. S., 0.001 acre of which is wetlands. The project would temporarily impact a total of 0.141 acre of waters of the U. S., 0.06 acre of which is wetlands. Final waters of the U. S. impact totals would be calculated after the wetlands and other waters of the U. S. delineation is verified by USACE. The project would also temporarily impact 0.05 acre of waters of the State.

### **Avoidance, Minimization, and/or Mitigation Measures**

The following measures would be incorporated into the project to avoid or minimize impacts to the waters of the U. S. and waters of the State during construction:

1. Construction at the following culvert locations would occur between May 15 and October 15 of any construction season in order to minimize runoff during construction and to allow adequate time to restore and revegetate the sites following construction and prior to onset of winter precipitation: PMs 31.22 on SR 1 (Elk Creek), and PMs 17.05, 18.37, 18.82, 18.87, 18.89, 19.16, and 19.50 on SR 20 (North Fork of the Big River).
2. Construction at the following culvert locations would occur between August 1 and October 15 of any construction season in order to take advantage of the intermittent nature of Broaddus Creek: PMs 29.77, 29.85, 30.12, 30.10, 30.14, 30.21, 30.29, 30.59, 30.67, and 31.0 on SR 20 (Broaddus Creek). Construction at these 10 culverts would not commence until the streambeds below these culverts are dry.

### **Compensatory Mitigation**

The overall purpose of the project is to rehabilitate or replace culverts that are no longer functioning well. Implementation of the project would improve stream and wetland conditions directly below the culverts and in higher order waters downstream. Many of the culvert outlets are currently scoured, and hundreds of tons of sediment have been transported to downstream waters during storm events. Placement of culverts that have flared end sections and rock slope protection at the outlets would improve downstream conditions by dissipating the energy of flows and reducing erosive forces. In addition, other scoured areas would be stabilized with placement of structures at inlets and outlets.

Impacts to waters of the U. S. and waters of the State would be offset through the restoration of the project area to pre-project conditions. Areas disturbed for access and construction would be stabilized and revegetated at the completion of construction in order to minimize erosion and restore functions and values of the habitat. A compost blanket would be applied to areas temporarily disturbed by construction activities. The compost blanket would be vegetated by incorporating seeds into the compost before it is placed on the disturbed area or by broadcasting seed after installation of the blanket. Species such as Idaho fescue (*Festuca idahoensis*) and common barley (*Hordeum vulgare*) may be used. Trees removed during construction would be replaced onsite with liner stock or larger. Quantities and container size of the plant material used for revegetation would be determined by

what is available, but would be comprised of species appropriate and representative of the project area.

## **Special Status Plant Species**

### ***Regulatory Setting***

The U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Game (CDFG) share 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 afforded 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 and/or the California Endangered Species Act.

### ***Affected Environment***

A total of 53 plant species of concern, including one non-special-status plant (*Viola adunca*), a known food source of the federal endangered Behren’s silverspot butterfly (*Speyeria zerene behrensii*), were identified as potentially occurring in the project area. None of these species was observed during plant surveys conducted for this project.

### ***Impacts***

None.

### ***Avoidance, Minimization, and/or Mitigation Measures***

None.

## **Special Status Animal Species**

### ***Regulatory Setting***

Many state and federal laws regulate impacts to wildlife. The USFWS, the National Oceanic and Atmospheric Administration (NOAA) Fisheries and the CDFG are responsible for implementing these laws.

Federal laws and regulations pertaining to wildlife include the National Environmental Policy Act, the Migratory Bird Treaty Act, and the Fish and Wildlife Coordination Act. State laws and regulations pertaining to wildlife include the California Environmental Quality Act, Sections 1600 – 1603 of the Fish and Game Code, and Sections 4150 and 4152 of the Fish and Game Code.

## **Behren's Silverspot Butterfly**

### ***Affected Environment***

Behren's silverspot butterfly (*Speyeria zerene behrensii*) is listed as a federal endangered species. Behren's silverspot butterfly is a rare, endemic, and coastal species known only from one location near the town of Point Arena, California. Behren's silverspot butterflies use the genus *Viola* (especially *Viola adunca*) for both food and larval-hosting purposes.

Focused surveys for the presence of all species of *Viola* were carried out at all culvert locations on SR 1 (between PM 3.87 and 47.19) during rare plant surveys conducted for this project. No *Viola* plants were detected at any of the culvert sites.

### ***Impacts***

None.

### ***Avoidance, Minimization, and/or Mitigation Measures***

None.

## **Point Arena Mountain Beaver**

### ***Affected Environment***

The Point Area mountain beaver (*Aplodontia rufa nigra*) is listed as a federal endangered species and a state species of special concern.

Surveys for the Point Arena mountain beaver were conducted in July 2002 at seven culvert locations on SR 1 (PMs 8.09, 24.43, 27.75, 29.27, 29.68, 30.18, and 31.22). Locations within the known Point Arena mountain beaver range, and 5 miles beyond the range, were surveyed. These locations would be resurveyed in January 2010.

During the surveys conducted in July 2002 suitable Point Arena mountain beaver habitat was identified at four of the seven culvert locations surveyed. Good to excellent Point Arena mountain beaver habitat was identified at PM 24.43 and 31.22. Good habitat consists of a lush herbaceous layer with a high relative dominance of cow parsnip (*Heracleum lanatum*), thimbleberry (*Rubus parviflorus*), blackberry (*R. californica*), sword fern (*Polystichum* sp.), stinging nettle (*Urtica dioica*), and hedge nettle (*Stachys ajugoides* var. *rigida*). Moderately suitable habitat was identified at PMs 8.09 and 27.75. Moderately suitable habitat contains the same plant species as good habitat, but vegetation is present in small, isolated patches with no connectivity to other suitable habitat. The three remaining culverts (PMs 29.27, 29.68, and 30.18) did not contain suitable habitat for the Point Arena mountain beaver.

One active and one inactive burrow system was discovered in the vicinity of PM 24.43. This culvert is adjacent to an area where several known Point Arena mountain beaver populations occur within 1 mile. The abandoned burrow is located 93 feet east of the culvert inlet at PM 24.43. Habitat suitability near the culvert at PM 24.43 varies. Habitat at the inlet is unsuitable for Point Arena mountain beaver, while habitat at the outlet is suitable for Point Arena mountain beaver.

### ***Impacts***

Implementation of avoidance and minimization measures would protect the Point Arena mountain beaver and its habitat during construction of the proposed project.

### ***Avoidance, Minimization, and/or Mitigation Measures***

Pursuant to Section 7 of the Federal Endangered Species Act, Caltrans has entered into informal consultation with USFWS. The avoidance and minimization measures discussed below are subject to the review and approval of the USFWS. Caltrans would comply with any new or modified measures developed during the consultation process.

A request for concurrence to a “not likely to adversely affect determination” for the Point Arena mountain beaver was submitted to USFWS on September 25, 2002. USFWS concurred with this determination on January 22, 2003. This concurrence letter can be found in Appendix A. A request for reinitiation of consultation would be submitted to USFWS upon completion of the new Point Arena mountain beaver surveys.

The following measures would be incorporated into the project at locations previously identified in order to protect the Point Arena mountain beaver and its habitat during construction:

1. No construction activities would occur during the Point Arena mountain beaver breeding season (December 15 through June 30).
2. Two weeks prior to the start of construction, the area within 100 feet of the project area would be resurveyed by a qualified biologist to determine if any burrow systems found are still active, or if Point Arena mountain beavers have expanded into habitat closer to the proposed work area. If it is determined that Point Arena mountain beavers have expanded closer to the project area, the USFWS would be consulted prior to the start of any construction activities.

3. Construction personnel would be limited to the defined work area. Exclusionary fencing would be installed to prevent workers from exiting the defined work area.
4. Upon completion of construction, the outlet of any culvert would be flush with the ground to accommodate the passage of Point Arena mountain beavers.
5. No blasting or pile driving would be permitted at PM 24.43.
6. Mowing, brush-clearing, or other temporary habitat disturbance would be limited to the extent feasible around the culvert inlet and outlet.
7. Construction personnel would not be permitted to bring dogs to the project locations.
8. A Caltrans Resident Engineer would oversee portions of the construction to ensure that the required mitigation measures are being properly implemented (for example, placement of temporary fencing, monitoring of vegetation removal activities within the 100-foot buffer area, protection of existing habitat).

Additional measures would be incorporated for the culvert located at PM 24.43:

1. No extended nighttime illumination by lighting within 100 feet of active burrows or unsurveyed potential habitat would occur at any time.
2. No operation of above ground noise-generating equipment within 100 feet of active burrows or unsurveyed potential habitat would occur during the breeding season (December 15 through June 30).
3. No operation of mechanical equipment that is in direct contact with, or below, the ground and causes ground vibrations within 100 feet of active burrows or unsurveyed potential habitat would occur during the breeding season, and none would occur within 50 feet during the remainder of the year.
4. No severe ground vibration disturbance (such as pile driving) would occur within 500 feet of active burrows.
5. Standard best management practices (BMPs) would be incorporated into the project, and may include the following:
  - a. Silt fencing or hay bales would be placed between the area where earthwork is conducted and any sensitive hydrologic feature.

- b. Silt and other debris suspended in accumulated water from dewatering operations would be processed to remove such debris prior to returning the waters to source channels.
- c. Work would be limited to the dry summer season.
- d. Stockpiled soils would be covered or surrounded by silt fencing to prevent erosion in the event of a sudden rain storm.
- e. Water would be applied to dirt-surfaced work areas to control dust.
- f. Fuels and other toxic materials would be stored in staging areas or truck-mounted tanks. Any fuels stored at the staging area would be kept in double-lined tanks.
- g. Absorbent materials would be kept on the site at all times to contain an accidental spill.
- h. Trash would be disposed of properly and not left at the project site.

## **California Red-Legged Frog**

### ***Affected Environment***

The California red-legged frog (*Rana draytonii*) is listed as a federal threatened species and a state species of special concern. According to the USFWS Draft Recovery Plan for the California red-legged frog, the California red-legged frog utilizes a wide variety of habitats within its lifecycle, including aquatic and upland. Breeding sites for the California red-legged frog may include marshes, springs, natural ponds, or artificial features such as a stock pond. California red-legged frog eggs are usually attached to emergent vegetation such as cattails or rushes.

Habitat for the California red-legged frog is potentially located at 16 culvert locations on SR 1 (PMs 3.87, 3.90, 4.11, 5.33, 5.38, 5.48, 6.60, 8.09, 24.43, 27.75, 29.27, 29.68, 30.18, 31.22, 37.74, and 35.04). These locations are within the area described in the guidance issued by the USFWS Arcata office on June 18, 2009, extending regulatory protections to all red-legged frogs that occur in the Point Arena, Garcia, and Gualala hydrographic units (*Extension of Regulatory Protection to the Federally-Listed California Red-Legged Frog (Rana draytonii) in Mendocino County, California*).

Critical habitat for the California red-legged frog was designated on April 13, 2006. A proposal to revise the designated critical habitat for the California red-legged frog

was published on October 8, 2009. This proposal includes an analysis of previous changes made to the MEN-1 unit, located in Mendocino County.

***Impacts***

Implementation of avoidance and minimization measures would protect the California red-legged frog and its habitat during construction of the proposed project.

***Avoidance, Minimization, and/or Mitigation Measures***

Pursuant to Section 7 of the Federal Endangered Species Act, Caltrans would enter into informal consultation with USFWS regarding the California red-legged frog. The avoidance and minimization measures discussed below are subject to the review and approval of the USFWS. Caltrans would comply with any new or modified measures developed during the consultation process.

The following measures would be incorporated into the project in order to protect the California red-legged frog and its habitat during construction:

1. A qualified biologist would conduct Worker Environmental Awareness Training for the construction workers prior to the start of construction activities. The awareness training would include a brief review of the biology of the California red-legged frog and guidelines that must be followed by all construction personnel to avoid take of California red-legged frogs and to minimize potential effects on all sensitive biological resources during the construction period. The qualified biologist would appoint a biological monitor (such as the crew foreman) who would be responsible for ensuring that all crewmembers comply with the guidelines. Worker Environmental Awareness Training would be conducted for new personnel before they join construction activities. The qualified biologist would ensure through the Caltrans Construction Resident Engineer that work is stopped and the USFWS is contacted, if a California red-legged frog at any life stage is encountered.
2. A qualified biologist would be on-site to monitor all initial ground disturbing construction activities. The biologist's duties would include surveying the project area for all life stages of California red-legged frog immediately prior to ground disturbing activities.
3. If a California red-legged frog is encountered during any project activities, construction activities would cease in the area and the USFWS would be notified to determine how to proceed.

4. Water pumps would be screened with wire mesh screens no larger than 0.2 inch to prevent California red-legged frog larvae, juveniles, and adults from entering the pump system.
5. All food-related trash would be disposed of in closed containers and removed from the project area at least twice per week during the construction period.
6. The contractor would implement a toxic materials control and spill response plan. Equipment refueling would only occur at staging areas where fuel would not enter the floodplain.
7. All vegetation removal activities would be done with the use of hand tools only (including chainsaws).
8. The number of access routes, numbers and sizes of staging areas, and the total area of the activity would be limited to the minimum necessary to achieve the project goal. Routes and boundaries would be clearly demarcated.

## **Central California Coast Coho Salmon**

### ***Affected Environment***

The Central California Coast coho salmon (*Oncorhynchus kisutch*) was relisted from a federal threatened species to an endangered species on June 28, 2005. The Central California Coast coho salmon Evolutionarily Significant Unit (ESU) includes all naturally spawned populations of coho salmon from Punta Gorda in northern California south to and including the San Lorenzo River in central California, as well as populations in tributaries to San Francisco Bay, excluding the Sacramento-San Joaquin River system, as well as four artificial propagation programs: the Don Clausen Fish Hatchery Captive Broodstock Program, Scott Creek/Kind Fisher Flats Conservation Program, Scott Creek Captive Broodstock Program, and the Noyo River Fish Station Egg-Take Program Coho Hatchery Programs.

Potential habitat for the Central California Coast coho salmon can be found within the project limits, associated with Elk Creek on SR 1 (PM 31.22) and the North Fork of the Big River (PMs 17.05, 18.37, 18.82, 18.87, 18.89, 19.16, and 19.50) and Broadus Creek (PMs 29.77, 29.85, 30.10, 30.12, 30.14, 30.21, 30.29, 30.59, 30.67, and 31.00) on SR 20.

Critical habitat for the Central California Coast coho salmon was designated on May 5, 1999. Critical habitat for the Central California Coast coho salmon includes accessible reaches of all rivers (including estuarine areas and tributaries) between Punta Gorda in Humboldt County and the San Lorenzo River in Santa Cruz County

(inclusive). The project is located within designated critical habitat for the Central California Coast coho salmon.

### **Impacts**

Implementation of avoidance and minimization measures would protect the Central California Coast coho salmon and its habitat during construction of the proposed project.

### **Avoidance, Minimization, and/or Mitigation Measures**

Pursuant to Section 7 of the Federal Endangered Species Act, Caltrans has entered into informal consultation with NOAA Fisheries. The measures discussed below are subject to the review and approval of NOAA Fisheries. Caltrans would comply with any new or modified mitigation measures developed during the consultation process.

A request for concurrence with a “not likely to adversely affect determination” for the Central California Coast coho salmon was submitted to NOAA Fisheries on September 25, 2002. NOAA Fisheries concurred with this determination on January 22, 2003. This concurrence letter can be found in Appendix B. Caltrans will request reinitiation of consultation because the status of Central California Coast coho salmon (*Oncorhynchus kisutch*) was relisted from threatened to endangered on June 28, 2005. Upon further review of the project, it was determined that six additional culverts are also located close to waterbodies that support anadromous fisheries and should be included in the consultation.

The following measures would be incorporated into the project to minimize impacts to the Central California Coast coho salmon and its habitat:

1. Construction at the following culvert locations would occur between May 15 and October 15 of any construction season in order to minimize runoff during construction and to allow adequate time to restore and revegetate the sites following construction and prior to the onset of winter precipitation: PM 31.22 on SR 1 (Elk Creek), and PMs 17.05, 18.37, 18.82, 18.87, 18.89, 19.16, and 19.50 on SR 20 (North Fork of the Big River).
2. Construction at the following culvert locations would occur between August 1 and October 15 of any construction season in order to take advantage of the intermittent nature of Broaddus Creek: PMs 29.77, 29.85, 30.12, 30.10, 30.14, 30.21, 30.29, 30.59, 30.67, and 31.0 on SR 20. Construction at these 10 culverts would not begin until the streambeds below these culverts are dry.

3. Construction-related activities would avoid encroachment below the ordinary high water mark of streams supporting anadromous salmon runs: Elk Creek, North Fork of the Big River, and Broaddus Creek.
4. Standard water quality BMPs would be implemented at all 49 culvert locations in order to minimize the potential for erosion into streams and rivers.
5. Prior to onset of construction, a Water Pollution Control Plan or a Storm Water Pollution Prevention Plan would be prepared. The plan would prescribe BMPs, appropriate to each culvert, in keeping with the BMPs described in Caltrans' Water Quality Handbook. A copy of the plan would be sent to NOAA Fisheries at least 15 days prior to the start of construction.
6. Areas disturbed for access and construction would be stabilized and revegetated at the completion of construction in order to minimize erosion and restore functions and values of the habitat. A compost blanket would be applied to areas temporarily disturbed by construction activities. The compost blanket would be vegetated by incorporating seeds into the compost before it is placed on the disturbed area or by broadcasting seed after installation of the blanket. Species such as Idaho fescue (*Festuca idahoensis*) and common barley (*Hordeum vulgare*) may be used. Trees removed during construction would be replaced onsite with liner stock or larger. Quantities and container size of the plant material used during the revegetation work would be determined by what is available, but would be comprised of species appropriate for and representative of the project area.

## **California Coastal Chinook Salmon**

### ***Affected Environment***

The California Coastal Chinook salmon (*Oncorhynchus tshawytscha*) was listed as a federal threatened species on September 16, 1999 and reaffirmed on June 28, 2005. The California Coastal Chinook salmon ESU includes all naturally spawned populations of Chinook salmon from rivers and streams south of the Klamath River (exclusive) to the Russian River (inclusive). Seven artificial propagation programs are considered part of the ESU: the Humboldt Fish Action Council (Freshwater Creek), Yager Creek, Redwood Creek, Hollow Tree, Van Arsdale Fish Station, Mattole Salmon Group, and Mad River Hatchery fall-run Chinook hatchery programs.

Potential habitat for the California Coastal Chinook salmon can be found within the project limits, associated with Elk Creek on SR 1 (PM 31.22) and the North Fork of the Big River (PMs 17.05, 18.37, 18.82, 18.87, 18.89, 19.16, and 19.50) and Broaddus Creek (PMs 29.77, 29.85, 30.10, 30.12, 30.14, 30.21, 30.29, 30.59, 30.67, and 31.00) on SR 20.

Critical habitat for the California Coastal Chinook salmon was published on September 2, 2005, with an effective date of January 2, 2006. Big River is designated critical habitat for the California Coastal Chinook salmon. Seven culverts on SR 20 (PMs 17.05, 18.37, 18.82, 18.87, 18.89, 19.16, and 19.50) are located within designated critical habitat for the California Coastal Chinook salmon.

### ***Impacts***

Implementation of avoidance and minimization measures would protect the California Coastal Chinook salmon and its habitat during construction of the proposed project.

### ***Avoidance, Minimization, and/or Mitigation Measures***

Pursuant to Section 7 of the Federal Endangered Species Act, Caltrans has entered into informal consultation with NOAA Fisheries. Avoidance and minimization measures would be incorporated into the project to minimize impacts to the California Coastal Chinook salmon and its habitat during construction. These measures are subject to the review and approval of NOAA Fisheries. Caltrans would comply with any modified or new measures developed during the consultation process.

A request for concurrence with a “not likely to adversely affect determination” for the California Coastal Chinook salmon was submitted to NOAA Fisheries on September 25, 2002. NOAA Fisheries concurred with this determination on January 22, 2003. This concurrence letter can be found in Appendix B. Caltrans will request reinitiation of consultation because it was determined that six additional culverts are located close to waterbodies that support anadromous fisheries and should be included in the consultation.

Please refer to the preceding section regarding the California Central Coast coho salmon for a list of avoidance and minimization measures.

## **Northern California Steelhead DPS**

### ***Affected Environment***

The Northern California steelhead Distinct Population Segment (DPS) (*Oncorhynchus mykiss*) was listed as a federal threatened species on June 7, 2000 and

reaffirmed on January 5, 2006. The Northern California steelhead DPS includes all naturally spawned 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 two artificial propagation programs: the Yager Creek Hatchery and North Fork Gualala River Hatchery (Gualala River Steelhead Project) steelhead hatchery programs.

Potential habitat for the Northern California steelhead can be found within the project limits, associated with Elk Creek on SR 1 (PM 31.22) and the North Fork of the Big River (PMs 17.05, 18.37, 18.82, 18.87, 18.89, 19.16, and 19.50) and Broaddus Creek (PMs 29.77, 29.85, 30.10, 30.12, 30.14, 30.21, 30.29, 30.59, 30.67, and 31.00) on SR 20.

Critical habitat for the Northern California steelhead was published on September 2, 2005, with an effective date of January 2, 2006. Elk Creek and Big River are designated as critical habitat for the Northern California steelhead. Four culvert locations in the project area are within designated critical habitat for the Northern California steelhead.

### ***Impacts***

Implementation of avoidance and minimization measures would protect the Northern California steelhead and its habitat during construction of the proposed project.

### ***Avoidance, Minimization, and/or Mitigation Measures***

Pursuant to Section 7 of the Federal Endangered Species Act, Caltrans has entered into informal consultation with NOAA Fisheries. Avoidance and minimization measures would be incorporated into the project to minimize impacts to the Northern California steelhead and its habitat during construction. These measures are subject to the review and approval of NOAA Fisheries. Caltrans would comply with any modified or new measures developed during the consultation process.

A request for concurrence with a “not likely to adversely affect determination” for the Northern California steelhead was submitted to NOAA Fisheries on September 25, 2002. NOAA Fisheries concurred with this determination on January 22, 2003. This concurrence letter can be found in Appendix B. Caltrans will request reinitiation of consultation because it was determined that six additional culverts are located close to waterbodies that support anadromous fisheries and should be included in the consultation.

Please refer to the preceding section regarding the California Central Coast coho salmon for a list of avoidance and minimization measures.

## **Northern Spotted Owl**

### ***Affected Environment***

The northern spotted owl (*Strix occidentalis caurina*) is a federal threatened species and a state species of special concern. Northern spotted owls generally have large home ranges and use large tracts of land containing significant acreage of older forest to meet their biological needs. The attributes of superior northern spotted owl nesting and roosting habitat typically include a moderate to high canopy closure (60 to 80 percent); a multi-layered, multi-species canopy with large overstory trees; a high incidence of large trees with deformities (large cavities, broken tops, mistletoe infections, and debris accumulations); large accumulations of fallen trees and other debris; and sufficient open space below the canopy for owls to fly.

Suitable habitat for the northern spotted owl is found intermittently adjacent to the project locations. There are documented northern spotted owl territories in the vicinity of the project locations. Most of the known territories are located more than one mile away from project locations, but several territories are located about 0.5 mile away.

Critical habitat for the northern spotted owl was designated by the USFWS on January 15, 1992. Critical habitat for the northern spotted owl is not located within or adjacent to the limits of this project.

### ***Impacts***

The USFWS report, *Estimating the Effects of Auditory and Visual Disturbance to Northern Spotted Owls and Marbled Murrelets in Northwestern California* (July 26, 2006), was consulted for assistance in estimating potential effects to the northern spotted owl and marbled murrelet due to noise and visual disturbance during the construction of this project. According to this report, noise from typical highway traffic is estimated to be 81 to 90 decibels (dB). Equipment expected to be used during the construction of this project would generate noise of the same or a lower level as that of the existing highway traffic. Noise generated during the construction of this project is not expected to be any louder or to occur for a longer duration than the noise generated from vehicles traveling on the adjacent highways. The project is located in areas that are subject to noise from the highway, and frequent highway maintenance activities and other human disturbance. Visual disturbance to northern spotted owls is not expected to occur.

The construction of the proposed project is not expected to disturb or interfere with essential lifecycle activities of the northern spotted owls.

### ***Avoidance, Minimization, and/or Mitigation Measures***

None.

### **Marbled Murrelet**

#### ***Affected Environment***

The marbled murrelet (*Brachyramphus marmoratus*) is a federal threatened species. The majority of marbled murrelets are found within or adjacent to the marine environment, although there have been detections of marbled murrelets on rivers and inland lakes. Marbled murrelets spend the majority of their lives on the ocean and come inland to nest. They typically nest in old-growth forest and commonly occupy large stands (500 acres) of trees.

There are documented occurrences of marbled murrelet in the vicinity of the project locations.

Critical habitat for the marbled murrelet was designated by the USFWS on May 24, 1996. Some of the culvert locations are located within designated critical habitat for the marbled murrelet.

#### ***Impacts***

The USFWS report, *Estimating the Effects of Auditory and Visual Disturbance to Northern Spotted Owls and Marbled Murrelets in Northwestern California* (July 26, 2006), was consulted for assistance in estimating potential effects to the northern spotted owl and marbled murrelet due to noise and visual disturbance during the construction of this project. According to this report, noise from typical highway traffic is estimated to be 81 to 90 dB. Equipment expected to be used during the construction of this project would generate noise of the same or a lower level as that of the existing highway traffic. Noise generated during the construction of this project is not expected to be any louder or to occur for a longer duration than the noise generated from vehicles traveling on the adjacent highways. The project is located in areas that are subject to noise from the highway, and frequent highway maintenance activities and other human disturbance. Visual disturbance to marbled murrelets is not expected to occur.

The construction of the proposed project is not expected to disturb or interfere with essential lifecycle activities of the marbled murrelet.

### ***Avoidance, Minimization, and/or Mitigation Measures***

None.

## **Migratory Birds**

### ***Affected Environment***

Federal and state laws protect migratory birds, their occupied nests, and their eggs from disturbance. The applicable federal law is the Migratory Bird Treaty Act (15 USC 703-711), 50 CFR Part 21, and 50 CFR Part 10. Protection under California law is found in the Fish Game Code Sections 3503, 3513, and 3800.

Although no nests were seen during surveys, it is anticipated that migratory birds could try to nest in vegetation or on structures such as culverts within the project area.

### ***Impacts***

Avoidance and minimization measures would protect nesting migratory birds from impacts during construction of the project.

### ***Avoidance, Minimization, and/or Mitigation Measures***

Migratory birds may nest in trees and riparian vegetation within the project limits. To avoid or minimize impacts to birds nesting in trees and riparian vegetation within the project limits, trees and riparian vegetation would be removed from September 1 through February 1, which would be outside the migratory bird nesting season. If removal of trees and riparian vegetation within the time period of September 1 through February 1 is not feasible, a pre-construction survey for active bird nests would be conducted by a qualified biologist prior to the start of construction. If an active bird nest is found, construction would not begin at that location until after the chicks have fledged.

Migratory birds, including but not limited to swallows, may nest in the larger culverts within the project limits. In order to prevent the disruption of active nests, exclusionary methods would be incorporated into the project's special provisions to prevent birds from nesting in larger culverts during the construction season. If exclusionary measures fail and active bird nests are present on a culvert, construction at that culvert shall not commence until after the chicks have fledged.

## **Hydrology/Water Quality**

### ***Regulatory Setting***

Section 401 of the Clean Water Act requires water quality certification from the State Water Resource Control Board (SWRCB) or a Regional Water Quality Control Board (RWQCB) when the project requires a federal permit. Typically this requires a Clean Water Act Section 404 permit to discharge dredge or fill into a water of the United

States, or a permit from the Coast Guard to construct a bridge or causeway over a navigable water of the United States under the Rivers and Harbors Act.

Along with Clean Water Act Section 401, Section 402 establishes the National Pollutant Discharge Elimination System (NPDES) for the discharge of any pollutant into waters of the United States. The federal Environmental Protection Agency has delegated administration of the NPDES program to the SWRCB and the nine RWQCBs. To ensure compliance with Section 402, the SWRCB has developed and issued the Department an NPDES Statewide Storm Water Permit to regulate storm water and non-storm water discharges from the Department's right-of-way, properties and facilities. This same permit also allows storm water and non-storm water discharges into waters of the State pursuant to the Porter-Cologne Water Quality Act.

Water quality objectives for the North Coast Region are specified in the Water Quality Control Plan for the North Coast Region (Basin Plan) prepared in compliance with the Federal Clean Water Act and the State Porter-Cologne Water Quality Control Act. The Basin Plan establishes water quality objectives and implementation programs to meet stated objectives and to protect the beneficial uses of both surface waters and groundwater.

### ***Affected Environment***

Thirty culverts are located within the Mendocino Coast Hydrologic Unit, the Garcia River, Point Arena, Navarro River, Albion River, Noyo River, and Big River Hydrologic Areas, and the unnamed, Alder Creek, Elk Creek, and Green Wood Creek Hydrologic Sub-Areas. The remaining 19 culvert locations are in the Eel River Hydrologic Unit, Upper Main Eel River Hydrologic Area, and Outlet Creek Hydrologic Sub Area.

Within the Mendocino Coast Hydrologic Unit, 16 culvert locations are in unnamed channels tributary to the Pacific Ocean, 10 in unnamed channels tributary to the North Fork Big River, one in an unnamed channel tributary to Elk Creek, one in an unnamed channel tributary to Laurel Gulch to the Pacific Ocean, one in an unnamed channel tributary to the Navarro River, and one in an unnamed channel tributary to the North Fork Noyo River.

Within the Eel River Hydrologic Unit, the receiving waters for 18 culvert locations are unnamed channels tributary to Broadus Creek and one unnamed channel tributary to the Upp Creek, both tributary to Outlet Creek.

The culvert locations are within the jurisdictional boundary of the North Coast Regional Water Quality Control Board.

### ***Impacts***

The total disturbed soil area for construction and equipment access is estimated at 0.50 acre. The project does not propose to increase the impervious surface of the highway facility and therefore will not generate an increase in storm water runoff. During construction, there could be temporary adverse impacts due to increased erosion and sediment transport to receiving waters.

Dredge and fill impacts to waters of the U. S. and waters of the State will occur as a result of the project. There may be some incidental fill at culvert inlets and outlets, but the fill will usually take the form rock energy dissipaters, which are intended to reduce erosion, thereby acting as a source control best management practice (BMP).

### ***Avoidance, Minimization, and/or Mitigation Measures***

The project will be regulated under the Department's May 2003 Storm Water Management Plan and applicable sections of Department's Statewide NPDES Permit. To comply with the conditions of the Department's Statewide NPDES Permit, and to address the potential temporary water quality impacts resulting from construction activities, Standard Special Provision (SSP) 07-340 will be included in the Plans, Specifications, and Estimates. SSP 07-340 will address water pollution control work and implementation of a Water Pollution Control Plan (WPCP) during construction. Source control issues will be addressed through SSP 07-346, Construction Site Management, which sets forth handling procedures and BMPs for potential sources not addressed by line items in the contract special provisions.

According to the Caltrans 2003 Storm Water Management Plan, locations of proposed work meet the criteria for evaluation of treatment BMP feasibility for traction sand traps. Because the project results in no increase in impervious surface area to the roadway, feasibility analysis of post construction treatment BMPs for this project should be limited to consideration of traction sand traps as part of the 401 Certification application.

The project will be constructed with erosion and water quality control practices necessary to minimize the potential for sedimentation and other construction related impacts through the use of construction BMPs identified in the Department's Water Quality Handbook, Construction Site BMPs Manual. The Department's approved construction BMPs applicable to this project include measures for temporary sediment control (e.g. silt fences, fiber rolls, straw bale barriers), temporary soil stabilization (e.g. hydraulic mulching, hydroseeding, straw mulch), tracking control (stabilized construction entrance/exit, stabilized construction roadway), non-storm water management (water conservation practices, temporary stream crossing, clear

water diversion, illicit connection/illegal discharge detection and reporting, concrete curing, and concrete finishing), and waste management and materials pollution control (material delivery and storage, material use, stockpile management, spill prevention and control, solid waste management, hazardous waste management, concrete waste management, liquid waste management). Specific construction site BMPs to address potential discharges of grout will be specified by the Project Engineer with concurrence by the Construction Storm Water Coordinator for inclusion in the contract.

Storm water from discharges related to the operation of the facility can potentially be minimized with the implementation of feasible treatment BMPs to the standard of Maximum Extent Practicable in accordance with the Department's NPDES Permit. Because the project results in no increase in impervious surface area for the roadway, feasibility analysis of post construction treatment BMPs for this project will be limited to consideration of traction sand traps as part of the 401 Certification application.

In general, culvert rehabilitation provides long-term water quality benefit by significantly reducing the potential for erosion and sedimentation. Design Pollution Prevention BMPs (i.e. headwalls, rock energy dissipators, etc.) would be incorporated into the proposed project. These BMPs have been demonstrated to be effective for reducing erosion and sedimentation.

Coordination with the NRWQCB regarding waters of the State should occur before submittal of the application for the 401 Certification to ensure agreement as to which drainages are jurisdictional.

## **Coastal Zone**

### ***Regulatory Setting***

This project is in the coastal zone. The Coastal Zone Management Act of 1972 (CZMA) is the primary federal law enacted to preserve and protect coastal resources. The CZMA sets up a program under which coastal states are encouraged to develop coastal management programs. States with an approved coastal management plan are able to review federal permits and activities to determine if they are consistent with the state's management plan.

California has developed a coastal zone management plan and has enacted its own law, the California Coastal Act of 1976, to protect the coastline. The policies established by the California Coastal Act are similar to those for the CZMA; they

include the protection and expansion of public access and recreation, the protection, enhancement and restoration of environmentally sensitive areas, protection of agricultural lands, the protection of scenic beauty, and the protection of property and life from coastal hazards. The California Coastal Commission is responsible for implementation and oversight under the California Coastal Act. Just as the federal CZMA delegates power to coastal states to develop their own coastal management plans, the California Coastal Act delegates power to local governments (15 coastal counties and 58 cities) to enact their own local coastal programs (LCPs). LCPs determine the short- and long-term use of coastal resources in their jurisdiction consistent with the California Coastal Act goals.

Within the Mendocino County LCP, Chapter 20.496 of the coastal zoning code includes policies that apply to Environmentally Sensitive Habitat Area (ESHAs). Buffer areas are described and defined in section 20.496.020 as an area that shall be established adjacent to all ESHAs. The purpose of a buffer area shall be to provide for a sufficient area to protect the ESHA from degradation resulting from future developments. The width of the buffer area shall be a minimum of 100 feet, unless an applicant can demonstrate, after consultation and agreement with the California Department of Fish and Game (if applicable), and Mendocino County Planning Department, that 100 feet is not necessary to protect the resources of that particular habitat area and the adjacent upland transitional habitat function of the buffer from possible significant disruption caused by the proposed development. The buffer area shall be measured from the outside edge of the ESHA and shall not be less than 50 feet in width. This section describes a variety of standards for determining the allowable width of the buffer area, including standards for the development permitted within the buffer area. Mendocino County Code Section 20.496.025(7) further specifies development that is allowed in wetlands, including incidental public service purposes.

### ***Affected Environment***

Nine culverts, located on SR 1 between Gualala and Little River (PMs 4.11, 6.60, 8.09, 27.75, 29.27, 31.22, 35.04, 46.18, and 47.19), are within the coastal zone and will require a Coastal Development Permit.

Watercourses, wetlands and/or riparian areas occur on, or within 100 feet of the nine culverts located within the coastal zone. Culverts located at PMs 8.09, 27.75, 29.27, and 31.22 are within the known range of Point Arena mountain beaver. Culverts at PMs 8.09, 27.25, and 31.22 were determined to contain suitable habitat for Point Arena mountain beaver, but no evidence of mountain beaver was found during

surveys for this species. Potential habitat for the California red-legged frog is present at culverts located at PMs 4.11, 6.60, 8.09, 27.75, 29.27, 31.22, 35.04. The culvert located at PM 31.22 is adjacent to Elk Creek, which supports anadromous fish. Rare plant surveys were conducted at all eight culverts and no rare plants were found.

### ***Potential Impacts***

The project would impact waters of the U.S. and waters of the State at each of the culvert locations within the coastal zone. Total impacts to waters of the U.S. would be calculated after the wetland and other waters of the U.S. delineation is verified by the USACE.

An ESHA Report will be prepared as part of the Mendocino County Coastal Development Permit application. The analysis will evaluate possible effects to watercourses, wetlands, and riparian areas; potential habitat for the Point Arena mountain beaver and the California red-legged frog; and anadromous fish in ESHAs designated by the California Coastal Commission.

### ***Avoidance, Minimization, and/or Mitigation Measures***

Avoidance, minimization and mitigation measures are listed in the Biological Resources section.

## **Climate Change (CEQA)**

### ***Regulatory Setting***

While climate change has been a concern since at least 1988, as evidenced by the establishment of the United Nations and World Meteorological Organization's Intergovernmental Panel on Climate Change (IPCC), the efforts devoted to greenhouse gas (GHG) emissions reduction and climate change research and policy have increased dramatically in recent years. These efforts are primarily concerned with the emissions of GHG related to human activity that include carbon dioxide (CO<sub>2</sub>), methane, nitrous oxide, tetrafluoromethane, hexafluoroethane, sulfur hexafluoride, HFC-23 (fluoroform), HFC-134a (s, s, s, 2 –tetrafluoroethane), and HFC-152a (difluoroethane).

In 2002, with the passage of Assembly Bill 1493 (AB 1493), California launched an innovative and pro-active approach to dealing with GHG emissions and climate change at the state level. Assembly Bill 1493 requires the California Air Resources Board (CARB) to develop and implement regulations to reduce automobile and light truck GHG emissions. These stricter emissions standards were designed to apply to automobiles and light trucks beginning with the 2009-model year; however, in order

to enact the standards California needed a waiver from the U.S. Environmental Protection Agency (EPA). The waiver was denied by EPA in December 2007. See *California v. Environmental Protection Agency*, 9th Cir. Jul. 25, 2008, No. 08-70011. However, on January 26, 2009, it was announced that EPA will reconsider their decision regarding the denial of California's waiver. On May 18, 2009, President Obama announced the enactment of a 35.5 mpg fuel economy standard for automobiles and light duty trucks which will take effect in 2012. On June 30, 2009 EPA granted California the waiver. California is expected to enforce its standards for 2009 to 2011 and then look to the federal government to implement equivalent standards for 2012 to 2016. The granting of the waiver will also allow California to implement even stronger standards in the future. The state is expected to start developing new standards for the post-2016 model years later this year. On June 1, 2005, Governor Arnold Schwarzenegger signed Executive Order S-3-05. The goal of this Executive Order is to reduce California's GHG emissions to: 1) 2000 levels by 2010, 2) 1990 levels by the 2020 and 3) 80 percent below the 1990 levels by the year 2050. In 2006, this goal was further reinforced with the passage of Assembly Bill 32 (AB 32), the Global Warming Solutions Act of 2006. AB 32 sets the same overall GHG emissions reduction goals while further mandating that CARB create a plan, which includes market mechanisms, and implement rules to achieve "real, quantifiable, cost-effective reductions of greenhouse gases." Executive Order S-20-06 further directs state agencies to begin implementing AB 32, including the recommendations made by the state's Climate Action Team.

With Executive Order S-01-07, Governor Schwarzenegger set forth the low carbon fuel standard for California. Under this executive order, the carbon intensity of California's transportation fuels is to be reduced by at least 10 percent by 2020.

Climate change and GHG reduction is also a concern at the federal level; however, at this time, no legislation or regulations have been enacted specifically addressing GHG emissions reductions and climate change. California, in conjunction with several environmental organizations and several other states, sued to force the U.S. Environmental Protection Agency (EPA) to regulate GHG as a pollutant under the Clean Air Act (*Massachusetts vs. Environmental Protection Agency et al.*, 549 U.S. 497 (2007)). The court ruled that GHG does fit within the Clean Air Act's definition of a pollutant, and that the EPA does have the authority to regulate GHG. Despite the Supreme Court ruling, there are no promulgated federal regulations to date limiting GHG emissions.

On December 7, 2009, the EPA Administrator signed two distinct findings regarding greenhouse gases under section 202(a) of the Clean Air Act:

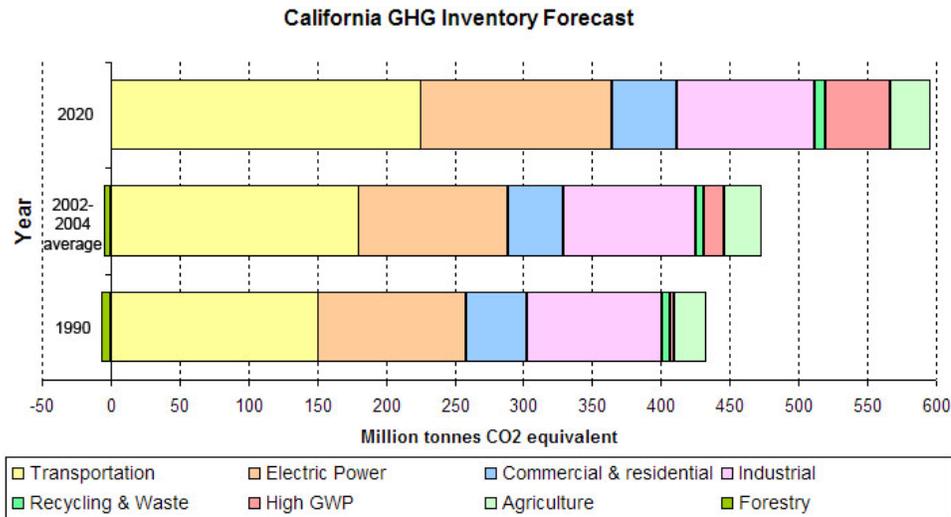
- **Endangerment Finding:** The Administrator finds that the current and projected concentrations of the six key well-mixed greenhouse gases--carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF<sub>6</sub>)--in the atmosphere threaten the public health and welfare of current and future generations.
- **Cause or Contribute Finding:** The Administrator finds that the combined emissions of these well-mixed greenhouse gases from new motor vehicles and new motor vehicle engines contribute to the greenhouse gas pollution which threatens public health and welfare.

These findings do not themselves impose any requirements on industry or other entities. However, this action is a prerequisite to finalizing the EPA's proposed greenhouse gas emission standards for light-duty vehicles, which were jointly proposed by EPA and the Department of Transportation's National Highway Safety Administration on September 15, 2009.<sup>1</sup>

According to Recommendations by the Association of Environmental Professionals on How to Analyze GHG Emissions and Global Climate change in CEQA Documents (March 5, 2007), an individual project does not generate enough GHG emissions to significantly influence global climate change. Rather, global climate change is a cumulative impact. This means that a project may participate in a potential impact through its incremental contribution combined with the contributions of all other sources of GHG. In assessing cumulative impacts, it must be determined if a project's incremental effect is "cumulatively considerable." See CEQA Guidelines sections 15064(i)(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. To gather sufficient information on a global scale of all past, current, and future projects in order to make this determination is a difficult if not impossible task. As part of its supporting documentation for the Draft Scoping Plan, CARB recently released an updated version of the GHG inventory for California (June 26, 2008). Shown below is a graph from that update that shows the total GHG emissions for California for 1990, 2002-2004 average, and 2020 projected if no action is taken.

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<sup>1</sup> <http://www.epa.gov/climatechange/endangerment.html>



**Figure 1. California GREENHOUSE GAS Inventory**

Taken from: <http://www.arb.ca.gov/cc/inventory/data/forecast.htm>

Caltrans and its parent agency, the Business, Transportation, and Housing Agency, have taken an active role in addressing GHG emission reduction and climate change. Recognizing that 98 percent of California’s GHG emissions are from the burning of fossil fuels and 40 percent of all human made GHG emissions are from transportation (see Climate Action Program at Caltrans (December 2006), Caltrans has created and is implementing the Climate Action Program at Caltrans that was published in December 2006. This document can be found at: <http://www.dot.ca.gov/docs/ClimateReport.pdf>

**Project Analysis**

This project will improve water quality by rehabilitating culverts and will not increase or change long-term traffic. Therefore, no increase in operational GHG emissions is anticipated to occur with the project.

**Construction Emissions**

GHG emissions for transportation projects can be divided into those produced during construction and those produced during operations. Construction GHG emissions include emissions produced as a result of material processing, emissions produced by onsite construction equipment, and emissions arising from traffic delays due to construction. Construction of this project will produce a small amount of GHG emissions associated with the operation of construction equipment and construction vehicles. These emissions will be produced at different levels throughout the construction phase; their frequency and occurrence can be reduced through innovations in plans and specifications and by implementing better traffic

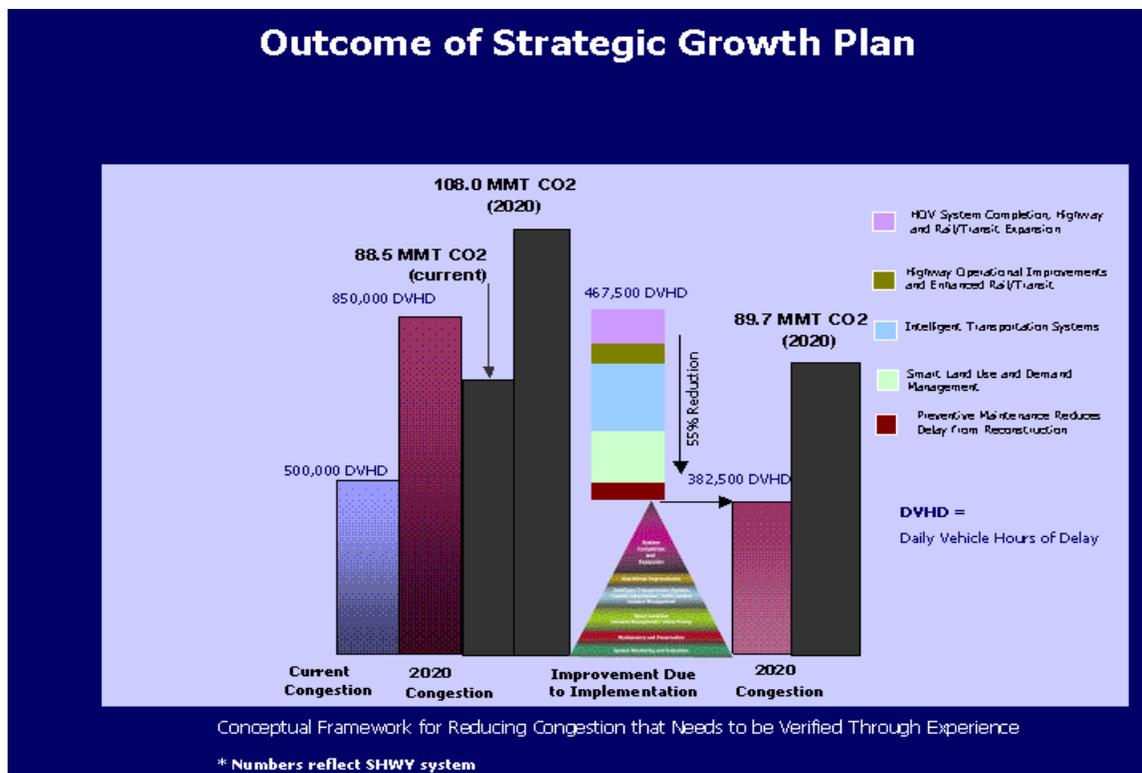
management during construction phases. In addition, with innovations such as longer pavement life, improved traffic management plans, and changes in materials, the GHG emissions produced during construction can be minimized to some degree by longer intervals between maintenance and rehabilitation events.

### ***AB 32 Compliance***

Caltrans continues to be actively involved on the Governor's Climate Action Team as CARB works to implement the Governor's Executive Orders and help achieve the targets set forth in AB 32. Many of the strategies Caltrans is using to help meet the targets in AB 32 come from the California Strategic Growth Plan, which is updated each year. Governor Arnold Schwarzenegger's Strategic Growth Plan calls for a \$238.6 billion infrastructure improvement program to fortify the state's transportation system, education, housing, and waterways, including \$100.7 billion in transportation funding through 2016<sup>2</sup>. As shown in the figure below, the Strategic Growth Plan targets a significant decrease in traffic congestion below today's level and a corresponding reduction in GHG emissions. The Strategic Growth Plan proposes to do this while accommodating growth in population and the economy. A suite of investment options has been created that, combined together, yield the promised reduction in congestion. The Strategic Growth Plan relies on a complete systems approach of a variety of strategies: system monitoring and evaluation, maintenance and preservation, smart land use and demand management, and operational improvements.

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<sup>2</sup> Governor's Strategic Growth Plan, Fig. 1 (<http://gov.ca.gov/pdf/gov/CSGP.pdf>)



As part of the Climate Action Program at Caltrans (December 2006, <http://www.dot.ca.gov/docs/ClimateReport.pdf>), Caltrans is supporting efforts to reduce vehicle miles traveled by planning and implementing smart land use strategies: job/housing proximity, developing transit-oriented communities, and high density housing along transit corridors. Caltrans is working closely with local jurisdictions on planning activities; however, Caltrans does not have local land use planning authority. Caltrans is also supporting efforts to improve the energy efficiency of the transportation sector by increasing vehicle fuel economy in new cars, light and heavy-duty trucks; Caltrans is doing this by supporting on-going research efforts at universities, by supporting legislative efforts to increase fuel economy, and by its participation on the Climate Action Team. It is important to note, however, that the control of the fuel economy standards is held by EPA and CARB. Lastly, the use of alternative fuels is also being considered; the Department is participating in funding for alternative fuel research at the UC Davis.

### **Adaptation Strategies**

“Adaptation strategies” refer to how Caltrans and others can 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, storm surges and

intensity, and the frequency and intensity of wildfires. These changes may affect the transportation infrastructure in various ways, such as damaging roadbeds by longer periods of intense heat; increasing storm damage from flooding and erosion; and inundation from rising sea levels. These effects will vary by location and may, in the most extreme cases, require that a facility be relocated or redesigned. There may also be economic and strategic ramifications as a result of these types of impacts to the transportation infrastructure.

Climate change adaptation must also involve the natural environment. Efforts are underway on a statewide-level to develop strategies to cope with impacts to habitat and biodiversity through planning and conservation. The results of these efforts will help California agencies plan and implement mitigation strategies for programs and projects.

On November 14, 2008, Governor Schwarzenegger signed Executive Order S-13-08 which directed a number of state agencies to address California's vulnerability to sea level rise caused by climate change.

The California Resources Agency [now the Natural Resources Agency, (Resources Agency)], through the interagency Climate Action Team, was directed to coordinate with local, regional, state and federal public and private entities to develop a state Climate Adaptation Strategy. The Climate Adaptation Strategy will summarize the best known science on climate change impacts to California, assess California's vulnerability to the identified impacts and then outline solutions that can be implemented within and across state agencies to promote resiliency.

As part of its development of the Climate Adaptation Strategy, Natural Resources Agency was directed to request the National Academy of Science to prepare a Sea Level Rise Assessment Report by December 2010 to advise how California should plan for future sea level rise. The report is to include:

- relative sea level rise projections for California, taking into account coastal erosion rates, tidal impacts, El Niño and La Niña events, storm surge and land subsidence rates;
- the range of uncertainty in selected sea level rise projections;
- a synthesis of existing information on projected sea level rise impacts to state infrastructure (such as roads, public facilities and beaches), natural areas, and coastal and marine ecosystems;
- a discussion of future research needs regarding sea level rise for California.

Furthermore Executive Order S-13-08 directed the Business, Transportation, and Housing Agency to prepare a report to assess vulnerability of transportation systems to sea level affecting safety, maintenance and operational improvements of the system and economy of the state. Caltrans continues to work on assessing the transportation system vulnerability to climate change, including the effect of sea level rise.

Prior to the release of the final Sea Level Rise Assessment Report, all state agencies that are planning to construct projects in areas vulnerable to future sea level rise were directed to consider a range of sea level rise scenarios for the years 2050 and 2100 in order to assess project vulnerability and, to the extent feasible, reduce expected risks and increase resiliency to sea level rise. However, all projects that have filed a Notice of Preparation, and/or are programmed for construction funding the next five years (through 2013), or are routine maintenance projects as of the date of Executive Order S-13-08 may, but are not required to, consider these planning guidelines. Sea level rise estimates should also be used in conjunction with information regarding local uplift and subsidence, coastal erosion rates, predicted higher high water levels, storm surge and storm wave data. (Executive Order S-13-08 allows some exceptions to this planning requirement.)

Climate change adaptation for transportation infrastructure involves long-term planning and risk management to address vulnerabilities in the transportation system from increased precipitation and flooding; the increased frequency and intensity of storms and wildfires; rising temperatures; and rising sea levels. Caltrans is an active participant in the efforts being conducted as part of Governor Schwarzenegger's Executive Order on Sea Level Rise and is mobilizing to be able to respond to the National Academy of Science report on Sea Level Rise Assessment, which is due to be released by December 2010.

On August 3, 2009, Natural Resources Agency in cooperation and partnership with multiple state agencies, released the 2009 California Climate Adaptation Strategy Discussion Draft, which summarizes the best known science on climate change impacts in seven specific sectors and provides recommendations on how to manage against those threats. The release of the draft document set in motion a 45-day public comment period. Led by the Natural Resources Agency, numerous other state agencies were involved in the creation of discussion draft, including Environmental Protection; Business, Transportation and Housing; Health and Human Services; and the Department of Agriculture. The discussion draft focuses on sectors that include: Public Health; Biodiversity and Habitat; Ocean and Coastal Resources; Water Management; Agriculture; Forestry; and Transportation and Energy Infrastructure.

The strategy is in direct response to Governor Schwarzenegger's November 2008 Executive Order S-13-08 that specifically asked the Natural Resources Agency to identify how state agencies can respond to rising temperatures, changing precipitation patterns, sea level rise, and extreme natural events. As data continues to be developed and collected, the state's adaptation strategy will be updated to reflect current findings.

Currently, Caltrans is working to assess which transportation facilities are at greatest risk from climate change effects. However, without statewide planning scenarios for relative sea level rise and other climate change impacts, Caltrans has not been able to determine what change, if any, may be made to its design standards for its transportation facilities. Once statewide planning scenarios become available, Caltrans will be able to review its current design standards to determine what changes, if any, may be warranted in order to protect the transportation system from sea level.

## List of Preparers

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The following Caltrans North Region staff contributed to the preparation of this Initial Study:

Jim Hibbert, Associate Landscape Architect. Contribution: Visual Impact Analysis.

Timothy Keefe, Associate Environmental Planner (Archaeology). Contribution: Historic Property Survey Report.

Mark Melani, Associate Environmental Planner. Contribution: Hazardous Waste Initial Site Investigation.

Jennifer Olah, Associate Environmental Planner (Natural Science). Contribution: Natural Environment Study.

Adele Pommerenck, Associate Environmental Planner. Contribution: Coordinator and Document Preparation.

Ted Schultz, Storm Water Coordinator. Contribution: Water Quality Assessment.

Benjamin Tam, Transportation Engineer. Contribution: Noise Analysis.

Sharon Tang, Transportation Engineering Technician. Contribution: Air Quality Analysis.

# Appendix A USFWS Concurrence Letter

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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  
(707) 822-7201  
FAX (707) 822-8411

In Reply Refer To:  
1-14-2002-1190.2

January 22, 2003

Deborah L. Harmon  
Chief, Environmental Management Branch E1  
Caltrans District 1  
P.O. Box 3700  
Eureka, CA 95502-3700

**Subject: Informal Consultation on the Effects of the Highway 1 Culvert Replacement Project (EA 01-364300) on Point Arena Mountain Beaver**

Dear Ms. Harmon:

This letter responds to your September 24, 2002, letter requesting the U.S. Fish and Wildlife Service's (Service) concurrence with your determination of effects on Federally listed species for the Highway 1 culvert replacement project, Mendocino County, California. You have determined that the project may affect but is not likely to adversely affect the endangered Point Arena mountain beaver (*Aplodontia rufa nigra*).

The California Department of Transportation (Caltrans) has submitted a biological assessment (BA) and initiated informal section 7 consultation on behalf of the Federal Highway Administration (FHWA) consistent with FHWA's April 24, 2002, delegation of authority to conduct informal consultation to your Department per 50CFR402.08 (*Designation of Non-Federal Representative*).

This consultation is based on information provided in your September 2002, BA and other information shared among staff of the Arcata Fish and Wildlife Office (AFWO), Peter Lewendal of your staff, and Julian Colescott of North State Resources, Mt. Shasta, California. The BA contains a complete description of the proposed action and its effects on the species. A complete administrative record for this consultation is on file in this office. This response is prepared in accordance with section 7 of the Endangered Species Act of 1973, as amended (Act).

As part of the development of the BA and project design, surveys were conducted July 1, 2 and 3, 2002, by biologists Julian Colescott of North State Resources and Kim Fitts of Bioconsultant, near the seven culverts. The surveys were conducted in habitat within 100 feet of the area of potential effects (APE), which includes staging areas and the locations of all other work activities proposed at each culvert location. A 100 percent search was conducted in all habitats,

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suitable and unsuitable, in the APE.

The overall project proposes to replace up to 77 failing culverts along Highways 1, 20 and 101 in Mendocino County, California. Seven of these culverts along Highway 1 are located within the known range of the Point Arena mountain beaver, or within its suspected range (i.e., within approximately 5 miles of the known range). Of the seven culverts within this range only one, at post mile (PM) 24.43, has evidence of Point Arena mountain beaver in the vicinity, based on the 2002 surveys. The 900 mm-diameter, 17.7 m-long culvert at this site will be replaced using equipment including, but not limited to, backhoes, excavators, dump trucks, pavement saws, and mechanical brushers. Culvert design calls for a 7.9 percent slope, with ground level inlet and outlet placement to reduce erosion and facilitate the movement of Point Arena mountain beaver and other wildlife under the roadway. Construction is anticipated to take less than one week per culvert, and is scheduled to occur during the summer of 2004.

During surveys, suitable habitat was found near four of the culverts, at PMs 24.43, 31.22, 8.09 and 27.75. One active and one inactive burrow system were found near the PM 24.43 culvert, adjacent to Irish Gulch, where several Point Arena mountain beaver populations are known to occur within 1 mile of this proposed project site. The active burrow system is located 95 feet from the edge of the APE, and the inactive burrow system is located 93 feet east of the APE. No other active or inactive burrows were found near the six other work sites. These surveys and their results are described in detail in the BA.

The following measures were incorporated into the project design to minimize potential adverse effects to occupied burrows of mountain beavers near the PM 24.43 site. Culvert replacement activities are limited to the period July 1 through December 14 to avoid the breeding season of the species. Habitat disturbance shall be limited to the smallest area feasible around the culvert inlet and outlet in which the work can be done; exclusionary fence shall be installed to delineate the work area. Dogs will not be allowed on the site. At the PM 24.43 site, surveys will be conducted within 2 weeks prior to construction to determine if the burrow system has expanded further into the proposed work area. If it is determined that Point Arena mountain beaver have expanded their burrow system closer to the actual work area, Caltrans shall reinitiate consultation prior to any construction activities.

A complete description of the project design and mitigation measures can be found in the BA.

We concur with your determination that the proposed project may affect but is not likely to adversely affect the Point Arena mountain beaver. Our concurrence is based on the following factors:

1. Surveys for Point Arena mountain beaver in the vicinity of culverts within the known and suspected range of the species located only one active burrow system, at the PM 24.43 culvert replacement site. This active burrow system was located 95 ft (29 m) from the edge of the proposed work area. Habitat near the work site is suitable for Point Arena mountain beaver use, but habitat on the opposite side of the road is marginal due to its more xeric nature and small size, as evidenced by an abandoned burrow system. Caltrans has

incorporated measures into its project design to effectively minimize the risk of adverse effects to these burrows and this habitat, as described in the BA and summarized above. No occupied suitable habitat of the species will be modified by the proposed action. Suitable habitat within the actual work area, currently unoccupied, may be temporarily modified by cutting or mowing to facilitate work at the culvert inlet and outlet, but is anticipated to rapidly regrow following construction. In addition, the project calls for surveys within 2 weeks prior to actual construction to ensure that any expansion of the known burrow system closer to the work area following this consultation are addressed through reinitiation of consultation, if needed. These measures ensure that Point Arena mountain beaver have a low and unquantifiable likelihood of being directly or indirectly affected by the proposed action, and have a very low risk of being taken.

2. The proposed project will not use equipment capable of generating sounds or vibrations substantially exceeding ambient conditions on the existing highway. The project will not entail the use of explosives. Pile driving will not occur as part of this project. Guard rails and similar structures, if needed, will be installed by the use of other techniques, such as to auger individual post holes. Proposed work activities are limited to an area not less than 95 ft from the current location of active burrows for the species. All construction activities will occur outside of the breeding season. Thus, Point Arena mountain beaver are not likely to be adversely affected by noise or vibrations generated as part of this construction activity.

This concludes informal consultation on the proposed Highway 1 culvert replacement project. Unless new information reveals that the proposed actions (1) may affect listed species in a manner or to an extent not considered in your correspondence, (2) the action is modified in a manner that causes an effect on the listed species or critical habitat not considered in your correspondence, or (3) a new species or critical habitat is designated that may be affected by the proposed action, no further action pursuant to the Act is necessary. Please contact staff biologist Ray Bosch at (707) 822-7201 if you should have further questions regarding this consultation.

The Service appreciates the efforts of Caltrans to protect the Point Arena mountain beaver at this project site, and your agencies' efforts to contribute to the available data on this species through survey activities.

Sincerely,

  
Randy A. Brown  
Acting Project Leader

cc:

Caltrans District I, Eureka, CA (Attn: Peter Lewendal)  
FHWA, Sacramento (Attn: Harry Khani)  
North State Resources, Redding (Attn: Julian Colescott)  
Bioconsultant, Santa Rosa (Attn: Kim Fitts)

# Appendix B NOAA Fisheries Concurrence Letter

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**UNITED STATES DEPARTMENT OF COMMERCE**  
**National Oceanic and Atmospheric Administration**  
NATIONAL MARINE FISHERIES SERVICE  
Southwest Region  
501 West Ocean Boulevard, Suite 4200  
Long Beach, California 90802-4213

April 2, 2003 151422SWR02SR8515:TKD

Deborah H. Harmon  
Department of Transportation  
North Region, Eureka Office  
P.O. Box 3700  
Eureka, California 95502-3700

Dear Ms. Harmon:

This letter is in response to your October 6, 2002 request for concurrence with the California Department of Transportation's (Caltrans) determination that the proposed culvert rehabilitation work proposed by Caltrans is are not likely to adversely affect threatened Central California Coast coho salmon, or threatened California Coastal Chinook salmon. Caltrans, acting as a designated non-Federal representative for the Federal Highway Administration has also determined that the proposed project is not likely to adversely affect critical habitat designated for coho salmon.

Caltrans proposes to rehabilitate 77 failing culverts on State Routes 1, 20, and 101 in Mendocino County, California. The culverts proposed for repair are damaged and are subject to frequent blockage with debris or silt and do not meet current design standards. Caltrans has made an effects determination on 65 of the culverts of "no effect" to federally protected salmonids based on the proximity and the proposed work at these sites. Twelve of the culvert repair/rehabilitation sites are located in areas that may affect salmonids or designated critical habitat.

Construction methods proposed by Caltrans include both half-width trenching and bore-and-jack to accomplish the work. Standard Caltrans Best Management Practices will be implemented at all 77 culvert rehabilitation sites. Half-width trenching is proposed for all 12 culvert sites that may affect salmonids. The 12 "may affect" culvert sites will have additional mitigation measures as described in Caltrans' letter to the National Marine Fisheries Service, (NOAA Fisheries) dated March 23, 2003. These measures, along with previously proposed measures include storm water pollution prevention plans, avoidance of riparian and sensitive areas, erosion prevention and specific construction windows to reduce potential impacts to salmonid habitat.

Based on the available information, I concur that the project, as proposed, is not likely to adversely affect threatened coho salmon, Chinook salmon or steelhead. In addition, the project is not likely to adversely affect critical habitat designated for coho salmon. This concludes the

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consultation pursuant to section 7 of the Endangered Species Act for the proposed Culvert repairs on State Route 1, 20, and 101. Should the project plans change, or if additional information becomes available, this determination may be reconsidered.

Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA)

Amendments to the MSFCMA in 1996 require Federal agencies to consult with NOAA Fisheries regarding any action or proposed action that may adversely affect EFH for federally-managed fish species. For more information on EFH, see our website at "<http://swr.nmfs.noaa.gov>".

NOAA Fisheries has evaluated the proposed project for potential adverse effects to Essential Fish Habitat (EFH) pursuant to section 305(b)(2) of the MSFCMA. The area affected by the project is part of EFH designated by the Pacific Fisheries Management Council for Pacific Coast Salmon. Based on the best available information, EFH Conservation Recommendations are not necessary. However, if the proposed action is modified in a manner that may adversely affect EFH, the Federal Highway Administration will need to reinitiate EFH consultation with NOAA Fisheries.

If you have any questions concerning these comments, please contact Mr. Thomas Daugherty at (707) 468-4057.

Sincerely,



Rodney R. McInnis *FSN*  
Acting Regional Administrator

cc: J. Lecky, NOAA Fisheries  
H. Khani, FHWA