Appendices

Eureka Slough Bridges Replacement Project
U.S. 101, Post Miles 79.5/80.2, Humboldt County, CA



Appendix A Section 4(f)

Depending on the alternative selected, the project would either temporarily and/or permanently affect the Humboldt Bay National Wildlife Refuge. In addition, the City of Eureka's Waterfront Trail and Eureka Slough Boat Ramp would be temporarily affected during construction.

Section 4(f) evaluations for both properties are attached in this appendix.

SECTION 6(F)

Section 6(f) refers to a provision in the Land and Water Conservation Fund (LWCF) Act of 1965. It protects certain recreation lands that received LWCF assistance from being converted into non-recreational uses. Any property acquired or developed with LWCF funds cannot be converted to other than public outdoor recreation use without the approval of the Secretary. No Section 6(f) lands exist within the project limits.



Replace the Eureka Slough Bridges on U.S. Highway 101 in Humboldt County from Post Mile 79.5 to Post Mile 80.2

Programmatic Section 4(f) Evaluation

Submitted Pursuant to 49 USC 303



THE STATE OF CALIFORNIA
Department of Transportation as assigned

_____ _____
Matthew K. Brady Date of Approval
District Director
California Department of Transportation

The environmental review, consultation, and any other actions required by applicable Federal laws for this project are being, or have been, carried out by Caltrans pursuant to 23 USC 327 and the Memorandum of Understanding dated May 27, 2022, and executed by FHWA and Caltrans.



TABLE OF CONTENTS

1.0 Introduction 4
2.0 Description of the Proposed Project and Alternatives 7
3.0 Description of Section 4(f) Property 14
4.0 Impacts on Section 4(f) Property 19
5.0 Applicability of Programmatic Section 4(f) 27
6.0 Avoidance Alternative 32
7.0 Measures to Minimize Harm to the Section 4(f) Property 38
8.0 Coordination 41
9.0 Findings 42
10.0 Agency Concurrence 44

LIST OF FIGURES

Figure 1. Project Vicinity Map 9
Figure 2. Alternative 2A Project Layout 12
Figure 3. Alternative 2B Project Layout 13
Figure 4. Humboldt Bay National Wildlife Refuge Map 16
Figure 5. Humboldt Bay National Wildlife Refuge Parcels Near Project Limits 17
Figure 6. Layout of Alt. 2A Temporary Use of Refuge 25
Figure 7. Layout of Alt. 2B Temporary and Permanent Use of Refuge 26
Figure 8. Avoidance Alternative: Shift Entire Highway to the South Layout 37

LIST OF TABLES

Table 1. Summary of Properties Subject to Section 4(f) Consideration 6
Table 2. Humboldt Bay National Wildlife Refuge Land Use Acreages 19
Table 3. Section 4(f) Allowable Acquisition 28
Table 4. Humboldt Bay National Wildlife Refuge Coordination 42

1.0 Introduction

Through the replacement of the Eureka Slough bridges (Bridge Nos. 04-0022L&R), located in Humboldt County on U.S. Highway 101 between Post Miles 79.5 and 80.2, the proposed project would include the temporary and/or permanent use (depending on alternative selected) of the Humboldt Bay National Wildlife Refuge (Refuge), with the United States Fish and Wildlife Service (USFWS) being the administering agency and official with jurisdiction. The purpose of the project is to improve the function and geometrics of the Eureka Slough bridges to ensure uninterrupted traffic movement in the event of a collision or emergency incident, a seismic event, or any other catastrophic event. The project would enhance safe mobility for all modes of transportation by upgrading the structures to include separated bicycle/pedestrian lanes. The project is needed to address structural and geometric deficiencies in the bridges.

Section 4(f) of the Department of Transportation Act of 1966, codified in federal law at 49 USC 303, declares that "*it is the policy of the United States Government that special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites*."

To determine whether Section 4(f) applies to a federal transportation project, the project must involve a resource that is protected by the provisions of Section 4(f) and there must be use of that resource. Section 4(f) specifies that the Secretary [of Transportation] may approve a transportation program or project . . . requiring the use of publicly owned land of a public park, recreation area, or wildlife and waterfowl refuge of national, state, or local significance, or land of an historic site of national, state, or local significance (as determined by the federal, state, or local officials having jurisdiction over the park, area, refuge, or site) only if:

- There is no prudent and feasible alternative to using that land; and
- The program or project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge, or historic site resulting from the use.

Section 4(f) relies on the term "use" when discussing how a Section 4(f) property might be affected. The term use denotes an adverse impact to, or occupancy of, a Section 4(f) property. There are three conditions under which use occurs:

- ***Permanent Incorporation*** (actual use)– when a Section 4(f) property is acquired outright for a transportation project.

- ***Temporary Occupancy***[1] – when there is temporary occupancy of a Section 4(f) resource that does not meet the five criteria of temporary use.
- ***Constructive Use*** – when the proximity impacts of a transportation project on a Section 4(f) property, even without acquisition of the property, are so great that the activities, features and attributes of the property are substantially impaired. Substantial impairment occurs only when the protected activities, features or attributes of the resource are substantially diminished.

When a transportation project results in a "use" of land from a Section 4(f) property, the state Department of Transportation (DOT) generally acquires interest in land by one of the following methods:

- ***Fee simple:*** This type of use involves a Right of Way (ROW) acquisition of Section 4(f) land as part of a transportation project. In other words, the transportation agency or project sponsor directly purchases the property (fee simple acquisition), and the property sustains a permanent impact—typically, changing from Section 4(f) property to a transportation facility.
- ***Permanent easement:*** With this type of use, the transportation agency acquires a permanent easement on the Section 4(f) property for transportation or related purposes. Although the underlying ownership of the land may remain with the original owner, the transportation owner or operator acquires a permanent interest in the use or maintenance of some portion of the property that disrupts its Section 4(f) function. Examples of permanent easement use include maintenance access, utility access, or placement of and/or maintenance of drainage features such as stream outfall structures.

[1] Temporary occupancy is not a Section 4(f) use if the following five conditions exist:

- The land use is of short duration (defined as less than the time needed for the construction of the project) and there is no change in ownership of the land.
- The scope of the work must be minor.
- There are no temporary or permanent adverse changes to the activities, features, or attributes of the property.
- The land must be fully restored to a condition at least as good as prior to the project.
- There must be documented agreement from the official(s) with jurisdiction over the property with the above conditions.

- ***Temporary easement:*** During the construction of a highway project, a temporary occupancy of a Section 4(f) property may be necessary for activities such as regrading slopes or to provide staging or access areas. Depending upon conditions, such activities—even though temporary in nature—may be considered adverse in terms of the Section 4(f) statute's preservation purpose, and therefore would be considered a Section 4(f) use. Once the easement is no longer needed, the Section 4(f) property must be restored to the condition in which it was originally found. This may involve re-grading or re-vegetating the area.

Table 1 identifies the properties within the project vicinity potentially subject to Section 4(f) consideration; however, please note that this Programmatic Evaluation only evaluates the Humboldt Bay National Wildlife Refuge. Table 1 also identifies potential effects and where to find more information for each property.

Table 1. Summary of Properties Subject to Section 4(f) Consideration

Type of Resource	Number of Resources Identified	Resource Name	Potential Effects
Public Parks and Recreation Areas	2	Eureka Waterfront Trail and Eureka Slough Boat Ramp	These resources are within the project's footprint and would be temporarily affected by the project. Please see Appendix A of EIR/EA for more information.
Public Parks and Recreation Areas	1	Bonnie Gool Boat Launch	The resource would not be affected by the project.
Public Parks and Recreation Areas	1	Cooper Gulch Park	The resource would not be affected. Please see Sections 2.2.4 and 3.2.14 of the EIR/EA for more information.
Public Parks and Recreation Areas	1	Adorni Center Dock and Pier	The resource would not be affected. Please see Sections 2.2.4 and 3.2.14 of the EIR/EA for more information.
Public Parks and Recreation Areas	1	Woodley Island Public Dock	The resource would not be affected. Please see Sections 2.2.4 and 3.2.14 of the EIR/EA for more information.

Type of Resource	Number of Resources Identified	Resource Name	Potential Effects
Public Parks and Recreation Areas	1	Ross Park	The resource would not be affected. Please see Sections 2.2.4 and 3.2.14 of the EIR/EA for more information.
Public Parks and Recreation Areas	1	Samoa Bridge Boat Launch	The resource would not be affected. Please see Sections 2.2.4 and 3.2.14 of the EIR/EA for more information.
Wildlife Refuges	**1**	**Humboldt Bay National Wildlife Refuge**	**Alternative 2A would temporarily use the Refuge, and Alternative 2B would temporarily and permanently use the Refuge. This Programmatic Evaluation analyzes the project's potential to affect the Refuge.**
Historic Sites	2	N/A	No historic resources would be affected. Please see Section 2.2.4 of the EIR/EA for more information. Please see Sections 2.2.12, 3.2.4, and 3.2.16 for more information.

2.0 Description of the Proposed Project and Alternatives

The Eureka Slough Bridges Replacement Project (EA 01-0M760) would replace the northbound and southbound Eureka Slough bridges (Bridge Nos. 04-0022L&R). The project is in Humboldt County on U.S. Highway 101 between Post Miles 79.5 and 80.2, with the bridges passing over the Eureka Slough near the northern limits of the city of Eureka (Figure 1).

The purpose of the project is to improve the function and geometrics of the northbound and southbound Eureka Slough bridges to ensure uninterrupted traffic movement in the event of a collision or emergency incident, a seismic event, or any other catastrophic event. The project would enhance safe mobility for all modes of transportation by upgrading the structures to include separated bicycle/pedestrian lanes.

The project is needed to address structural and geometric deficiencies in the northbound and southbound Eureka Slough bridges. The southbound structure, built in 1943, has seismic deficiencies, is fracture critical, and has a non-standard profile which contributes to a collision rate at the bridge departure that is double the statewide average for similar facilities. The northbound structure, built in 1956, also has seismic deficiencies and has non-standard bridge rails built on raised concrete curbs within the shoulders. Both structures are approaching the end of their design life and have narrow shoulders that impede multimodal transportation.

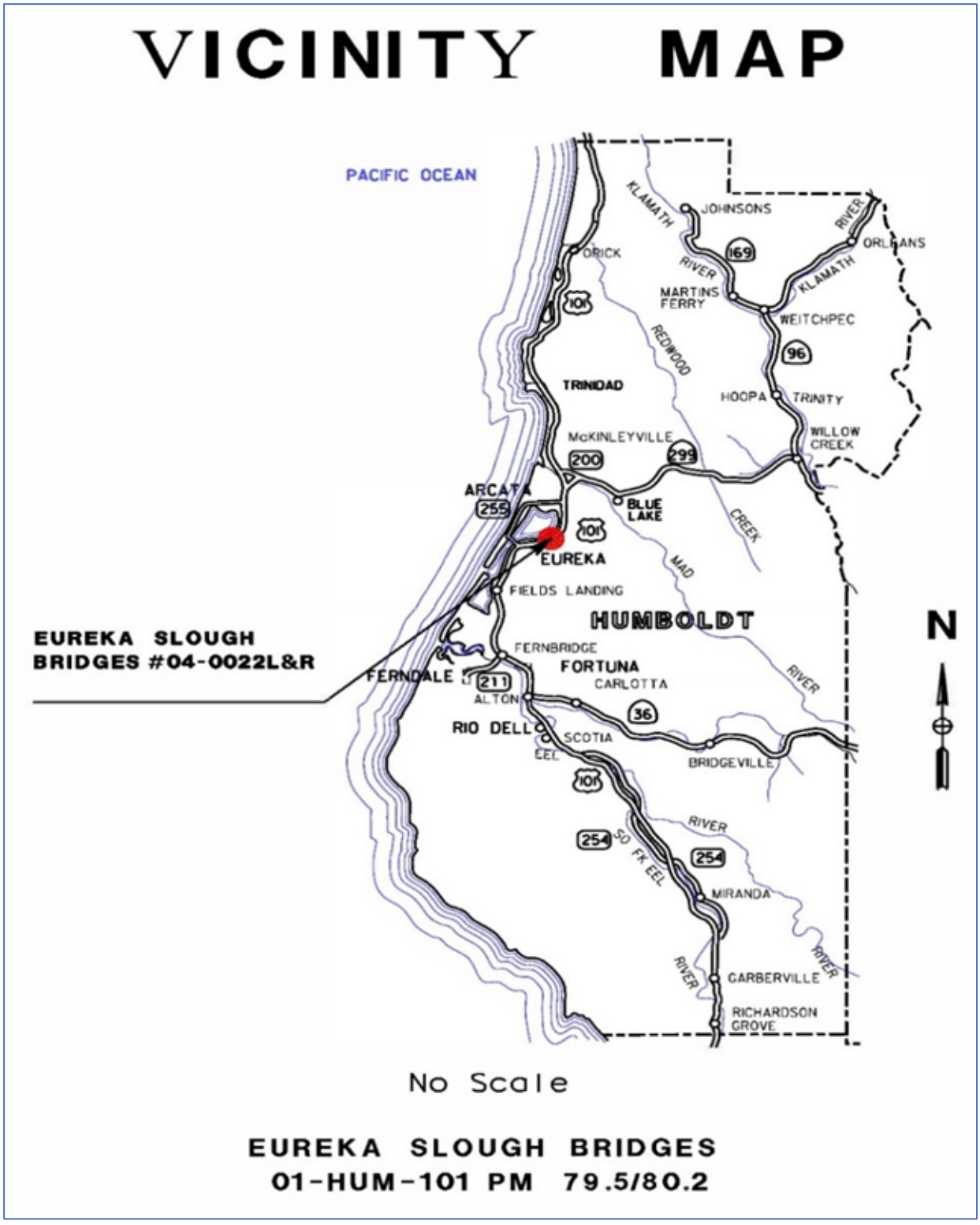


Figure 1. Project Vicinity Map

The proposed project evaluates a No Build and two Build Alternatives (Alternatives 2A and 2B). Under the No Build Alternative, the proposed project would not be implemented. No construction activities would occur, and the existing structures would continue to not meet current structural and geometric design standards, and multimodal improvements would not be made. As a result, the No Build Alternative would not meet the purpose and need of the project.

Common design features of Build Alternatives 2A and 2B would include replacement of both the northbound and southbound bridge structures. The new northbound and southbound bridges would each be 56 feet wide with two 12-foot-wide travel lanes, one 12-foot-wide bicycle/pedestrian lane, a 10-foot-wide right shoulder and a 5-foot-wide left shoulder. Bridge railings on each side of the bridges would be approximately 2.5 feet (two and a half feet) wide. Both alternatives would connect the Eureka Slough bridges to the Humboldt Bay Trail South at the north end and the Eureka Waterfront Trail at the south end.

Work would include the removal of the existing bridges and the construction of two new bridges. This work would require temporary access roads and trestle structures, in-water pile driving, drainage, landscaping, guardrail upgrades, cable barrier connection/continuation, soil disturbances, paving, bicycle and pedestrian improvements, traffic handling, and utility relocation.

Alternative 2A Unique Design Features

Alternative 2A would rebuild the northbound and southbound bridges on the existing alignments (Figure 2). This alternative would include a temporary detour bridge, two trestles, new bridge construction, and existing bridge demolition. One trestle would be constructed immediately north of the existing southbound bridge and the other would be constructed immediately south of the existing northbound bridge. The temporary detour bridge would be constructed north of the proposed trestle of the southbound bridge. To avoid traveler delays during construction, southbound traffic would use the temporary detour bridge, and northbound traffic would be detoured to the existing southbound bridge. Once the new northbound bridge is constructed, northbound travelers would be routed to the new northbound bridge and construction of the new southbound bridge would commence. Both temporary trestles would be used to demolish the existing bridges and to construct the new bridges.

The length of the bridges under Alternative 2A would be approximately 887-feet for the southbound bridge and 919-feet for the northbound bridge. The distance between the structures would be approximately 2 feet. Please see Section 1.4.2 of the EIR/EA (Alternative 2A, Temporary Bridge) for additional project information, including detailed layouts and construction staging.

Alternative 2B Unique Design Features

For schedule and cost purposes[2], Alternative 2B would build a new southbound bridge immediately north and adjacent to the existing southbound bridge (Figure 3). As with Alternative 2A, this alternative would require two trestles to accommodate new bridge construction and existing bridge demolition. One trestle would be constructed north of the existing southbound bridge. The new southbound bridge structure would be constructed between this trestle and the existing southbound bridge. Once constructed, southbound traffic would be detoured to the new southbound bridge and northbound traffic would be detoured to the existing southbound bridge. The other trestle would be constructed immediately to the south of the existing northbound bridge, providing a work area to demolish the existing bridge and to construct the new northbound bridge. The new northbound bridge structure would be constructed on the existing northbound alignment. Once the new northbound bridge is completed, northbound traffic would be routed to the new northbound structure.

The length of the bridges under Alternative 2B would be approximately 878-feet for the southbound bridge and 922-feet for the northbound bridge with a distance of 45-feet between the two structures. Please see Section 1.4.2 of the EIR/EA (Alternative 2B, Adjacent Southbound Adjacent) for additional project information, including detailed layouts and construction staging.

[2] Compared to Alternative 2A, Alternative 2B would be one less construction season and cost approximately $28 million less to construct.

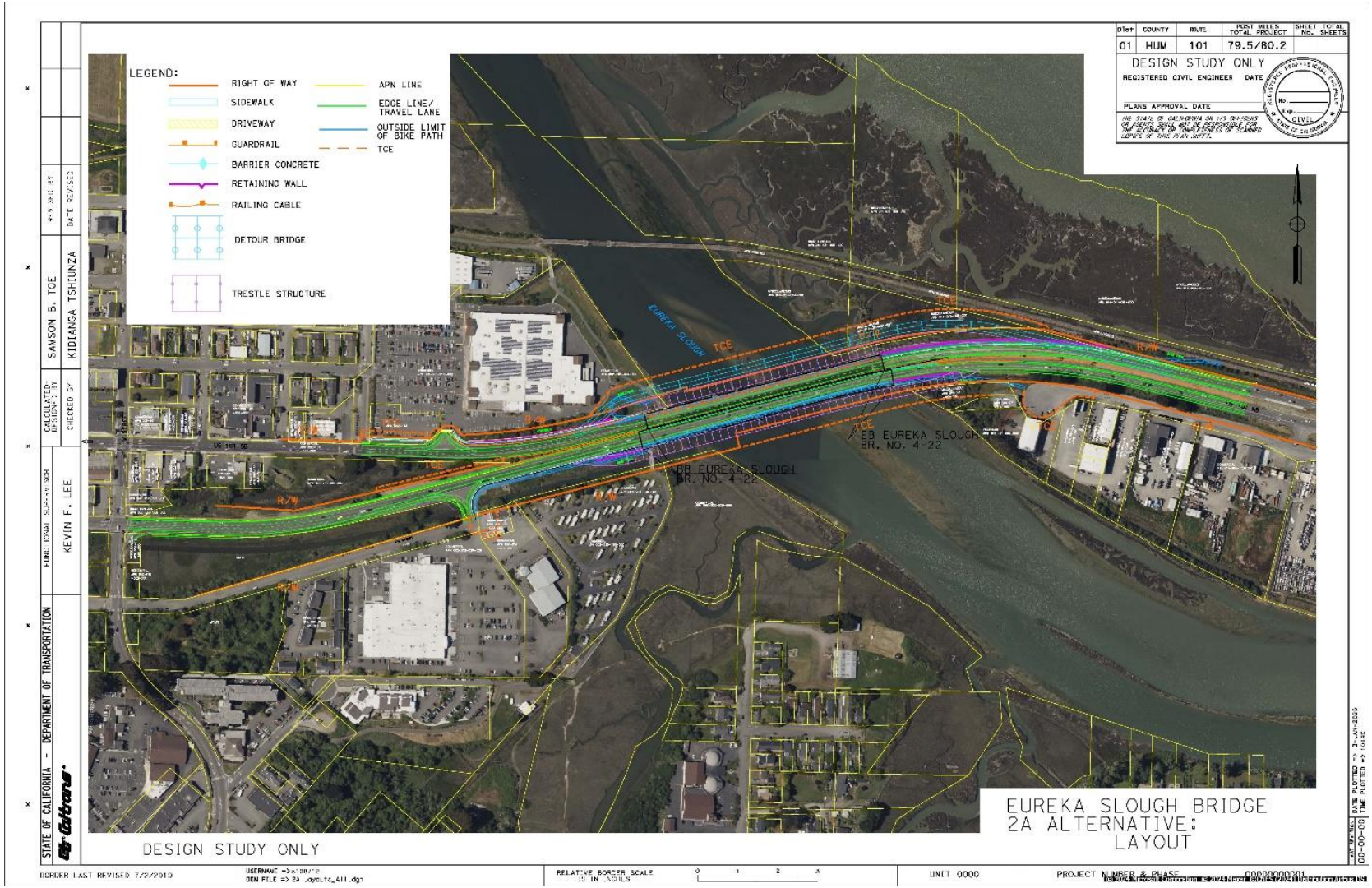


Figure 2. Alternative 2A Project Layout

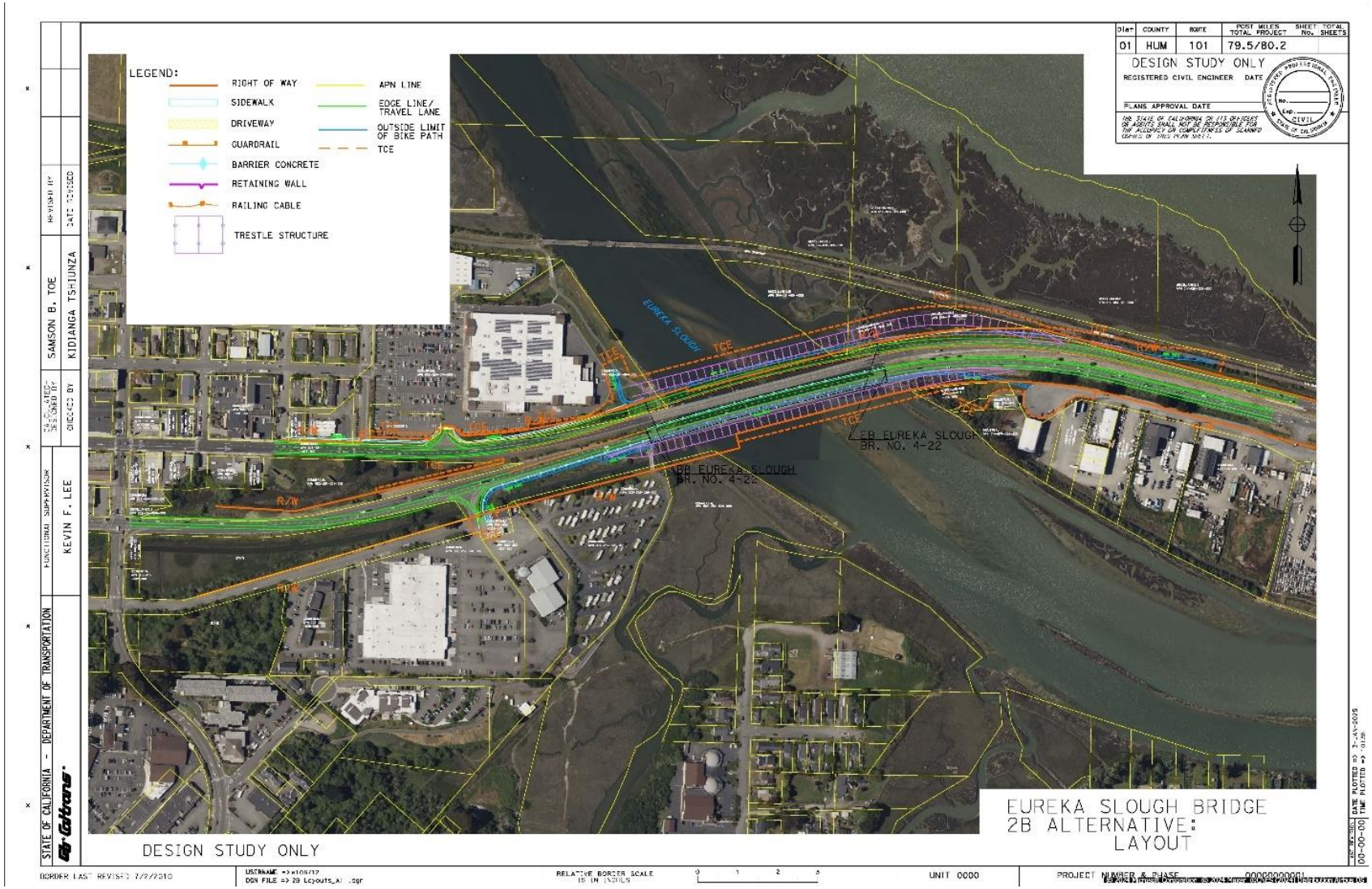


Figure 3. Alternative 2B Project Layout

3.0 Description of Section 4(f) Property

The Humboldt Bay National Wildlife Refuge (Refuge), established in 1971, was created to conserve precious habitat for the great diversity of birds, mammals, fish, amphibians, invertebrates, and plants that occur along the Pacific Coast of northern California. The Refuge is owned by the U.S. Federal Government and is managed by U.S. Fish and Wildlife Service[3]. The Refuge has several different units totaling almost 5,000 acres (Figure 4). These units consist of a mosaic of mudflats, estuarine eelgrass meadows, salt marsh, brackish marsh, seasonally flooded freshwater wetlands, riparian wetlands, streams, coastal dunes, and forest, which create a unique complexity and interconnected landscape. These habitats support more than 450 species of plants, over 316 species of birds, and 40 species of mammals. The majority of birds use the Refuge as a stopover where they rest and replenish energy reserves. Others spend winter here, and some use the Refuge for breeding and nesting. The wetlands around Humboldt Bay are critical to over half a million shorebirds during spring migration and have been designated a Western Hemisphere Shorebird Reserve Network Site of Hemispheric Importance.

More than 50% of the Pacific brant goose (Black brant) population refuels on the eelgrass meadows growing in the shallow parts of Humboldt Bay. The Refuge also provides habitat for approximately 100 species of fish and marine invertebrates, many of which contribute to sport and commercial fisheries, including steelhead, coho and Chinook salmon, and Dungeness crab.

The Lanphere and Ma-le'l Dunes Units of the Refuge (Figure 4) have been designated a National Natural Landmark as they represent one of the most diverse and highest quality remnants of coastal dunes habitat in the Northern Pacific Border Biophysiographic Region.

The southern Humboldt Bay units of the Refuge (Hookton Slough and Salmon Creek) were previously a vast extension of salt marsh and home of the Wiyot people (Figure 4). After the arrival of the European-American pioneers in the late 1800s, the land was dredged and rapidly converted into agricultural lands, destroying over 90% of the original salt marsh. In 1971, the first portions of salt marsh and mudflat were acquired to protect coastal habitats for wildlife. In 1988, more land was acquired, creating the southern Humboldt Bay units.

[3] The Department of Interior (DOI) is the largest land and water manager in the U.S. The U.S. Fish and Wildlife Service is just one of many bureaus within the U.S. Department of Interior and is the nation's oldest conservation agency.

Records of First Native American occupation in northwest California date from at least 8,000 years ago, subdivided into three time periods: the Borax Lake Pattern, the Willits Pattern, and the Gunther Pattern. There are approximately 45 formally recorded cultural resource sites in the Refuge. An exact count is impossible to ascertain at this time because many of the recorded sites have not been field checked since the creation of the Refuge so their location with respect to the boundary of the Refuge is not well understood. Furthermore, only a small fraction of the Refuge has been specifically inspected for cultural resources.

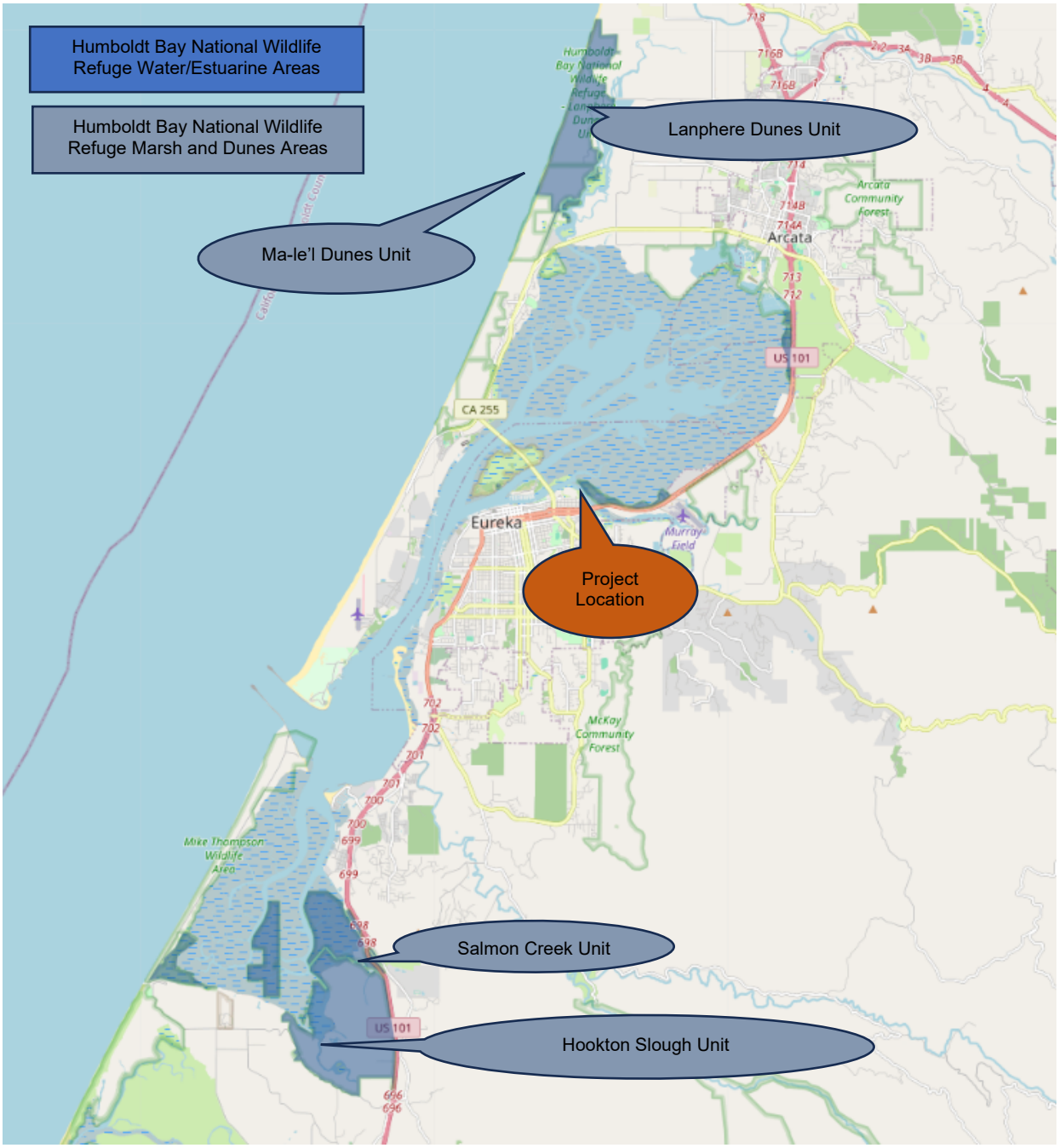


Figure 4. Humboldt Bay National Wildlife Refuge Map

As mentioned, the Refuge is approximately 5,000 acres; however, the portion of the Eureka Slough Bridges Replacement Project is adjacent to two of the Refuge's parcels (Figure 5). The two parcels (combined 3.83 acres) are adjacent to 13 other Refuge-owned parcels. All 15 contiguous Refuge parcels total 95.45 acres. The two parcels adjacent to the project limits are routinely inundated during high tides.

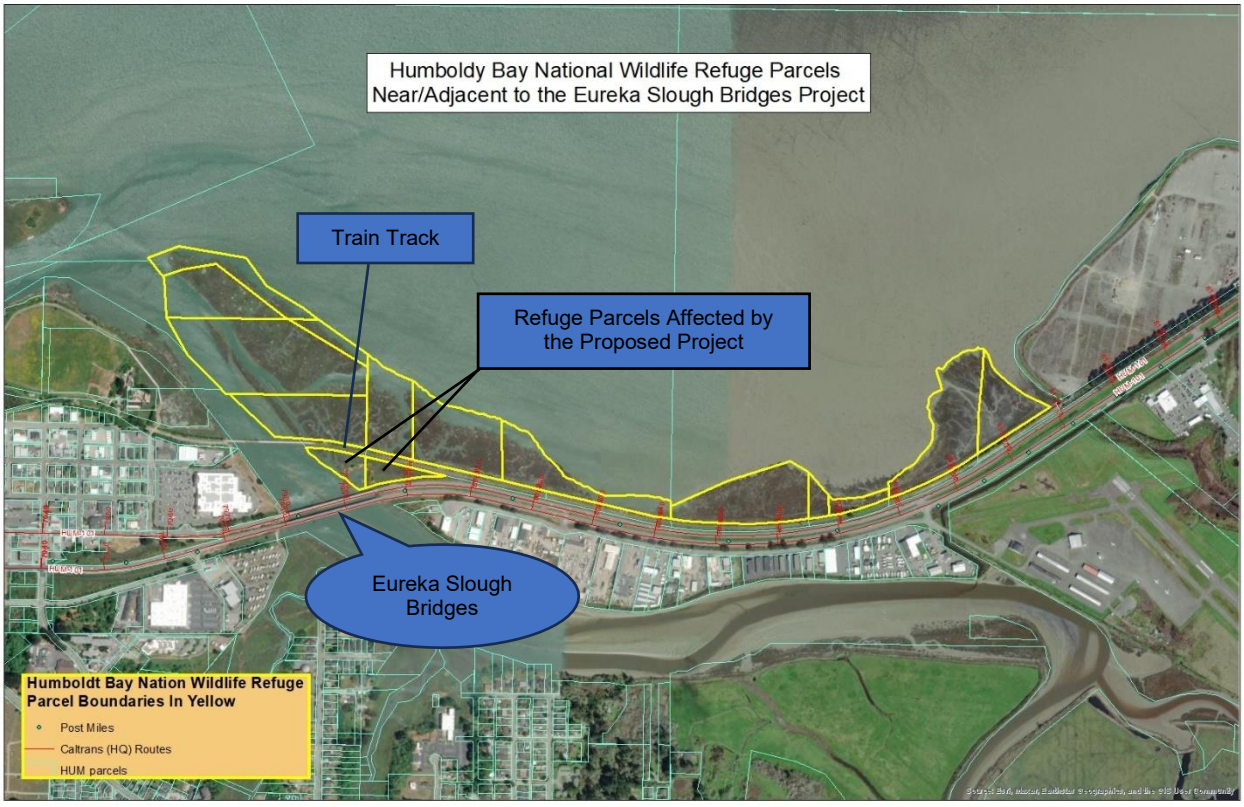


Figure 5. Humboldt Bay National Wildlife Refuge Parcels Near Project Limits

The Refuge includes several facilities and amenities, including hiking trails, parking, restrooms, viewing decks and kiosks, hunting, fishing, observation blinds, wildlife viewing and photography, boating, educational activities, and a visitors' center. Due to its many facilities that are spread out over several miles, the approximate number of visitors per year to the overall Refuge is unknown; however, given that the parcels near/adjacent to the Eureka Slough bridges do not have any designated facilities (no trails, parking, or any formal access), it is likely this portion of the Refuge is not a destination for visitors. Currently, the only way to legally access the parcels at the project location would be through boat access; however, the Humboldt Bay Trail South is anticipated to be open in summer 2025.

The trail would provide access along the parcels; however, there are currently no identified plans to create formal facilities (including trails) as all of the Refuge parcels located along U.S. 101 adjacent to the project limits are routinely inundated by tidal water.

Though there doesn't appear to be a direct relationship between the Refuge and other similarly used lands in the vicinity, there are other similar lands in the Humboldt Bay area:

- Samoa Dunes Recreational Area–administered by the Bureau of Land Management: the area offers hiking trails, parking, restrooms, and a viewing deck.
- Humboldt Coastal Nature Reserve (Friends of the Dunes): a non-profit organization that manages 1,000 acres of coastal dunes and lands. The facility offers several educational opportunities and programs.
- Mad River Slough Wildlife Area–administered by the California Department of Fish and Wildlife Service: the Wildlife Area comprises the McDaniel, Mad River, and Fay sloughs, and the South Spit and Elk River Wildlife Areas. The Wildlife Area is 587-acres and offers wildlife viewing and hunting.
- Arcata Marsh and Wildlife Sanctuary–administered by the City of Arcata: the sanctuary is 307 acres, including freshwater marshes, salt marsh, tidal sloughs, grassy uplands, mudflats, brackish marsh, approximately 5 miles of walking and biking paths and an Interpretive Center.

The Refuge as a whole offers unusual characteristics that draw visitors from all over. These include large areas of marsh habitat for wildlife viewing to vast and unique dune ecosystems. However, the two parcels that would be affected by the proposed project are immediately adjacent to U.S. 101, do not contain any visitor amenities, and are subject to highway noise. Also, the two parcels are essentially isolated from the adjacent Refuge parcels by a train track (soon to be the Humboldt Bay Trail South, anticipated completion summer 2025).

4.0 Impacts on Section 4(f) Property

As discussed, the Eureka Slough Bridges Replacement Project (EA 01-0M760) would replace the northbound and southbound Eureka Slough bridges. The project proposes two build alternatives (2A and 2B) and a No Build alternative. Alternative 2A would require a temporary easement within the Refuge and Alternative 2B would need a temporary and permanent easement within the Refuge. Use of the Refuge for both alternatives would be limited to a "sliver" of land located directly adjacent to U.S. 101 within the city of Eureka.

It is important to note that the temporary easement acreage needed is not the same as the ground area that would be directly affected by the project. Direct ground disturbance on the Refuge would be minimal and limited to pile locations. The temporary easement areas are needed to accommodate the elevated, above-ground alignments of the temporary trestle, detour bridge, and permanent bridge (depending on alternative selected). Table 2 provides a summary of the temporary and permanent use of the Refuge.

Table 2. Humboldt Bay National Wildlife Refuge Land Use Acreages

Alternative	Temporary Use	Permanent Use Easement/Acquisition
Alternative 2A	1.42 acres, which includes 0.0045 acre (197.7 Square Feet) for temporary trestle piles	N/A
Alternative 2B	1.14 acres, which includes 0.0061 acre (263.5 Square Feet) for temporary trestle piles; 0.13 acre of temporary use due to 15-foot construction buffer	0.28 acre, which includes 0.09 acre for piles/abutment of new bridge

Alternative 2A (Temporary Bridge)

Alternative 2A would replace the bridges in-kind (see Figure 6 below and Section 1.4.2 of the EIR/EA for Alternative 2A construction scenario). To accommodate traffic during construction, a temporary detour bridge would be constructed north of the southbound bridge. To construct the detour bridge and to replace the southbound bridge, a temporary trestle would be constructed between the existing southbound bridge and the detour bridge (Figure 6 below). This alternative would need a temporary easement for approximately 1.42 acres of the Refuge land. Within this easement, the trestle and temporary bridge would be built on temporary piles. The impacts would be limited to the ground disturbance at the temporary pile locations. The total footprint of the temporary piles within the Refuge would be approximately 0.0045 acre (197.7 square feet). When construction of the new bridges is complete, the piles would be removed and revegetated with appropriate native vegetation, and the area would revert to the natural

community it was prior to disturbance. In summary, post construction there would be no permanent impacts or alteration of the Refuge.

Alternative 2B (Adjacent Southbound Bridge)

Alternative 2B would also replace the bridges in-kind (Figure 7 below). For schedule and cost purposes, a new southbound bridge would be constructed immediately adjacent to and north of the existing southbound bridge. To construct the bridge, a temporary trestle would be constructed immediately north of the new southbound bridge location (see Figure 7 below and Section 1.4.2 of the EIR/EA for Alternative 2B construction scenario). For the new southbound bridge, this alternative would require approximately 0.28 acre of permanent use of Refuge through either an easement or acquisition. The permanent impacts would consist of fill in the permanent pile installation locations and bridge abutment and approach (0.09 acre). This alternative would also require a temporary easement of approximately 1.14 acres of Refuge land for the temporary construction trestle. Within the temporary easement, the trestle would be built on temporary piles. The impacts would be limited to the ground disturbance at the temporary pile locations. The total footprint of the temporary piles within the Refuge would be approximately 0.0061 acre (263.5 sq.ft). To construct the new bridge approach, a temporary construction buffer of 15 feet on the north side of the approach may be needed which would cause a temporary impact to approximately 0.13 acre of Refuge land. Within this zone, vegetation may be temporarily disturbed. When construction of the new bridge is complete, the piles would be removed and all disturbed areas would be revegetated with appropriate native vegetation, and the area would revert to the natural community it was prior to disturbance. In summary, post construction there would be permanent ground impacts of approximately 0.09 acre and the need for a permanent easement or acquisition of 0.028 acre.

Potential Effects on the Refuge

Given both alternatives would be replaced in-kind, they would have similar effects on the Refuge. The potential effects of the proposed project on the Refuge are discussed below. Any differences between the two alternatives are noted.

1) Would the project affect facilities, functions, and/or activities?

The portion of the Refuge affected by the project and the adjacent Refuge area do not contain any facilities or formally designated visitor amenities. Therefore, neither alternative would be anticipated to affect any facilities, functions, characteristics, and/or activities associated with the Refuge (see Sections 2.2.4 and 3.2.14 of the EIR/EA for more information). Rather, per the Refuge's management plan, through minimizations measures, it would provide an opportunity to remove invasive species (Goal 3) and would also provide safe accessible viewing activities to this portion of the Refuge which currently has no formal public access.

2) Would the project affect accessibility?

Currently, the only way to access the Refuge parcels legally at the project location is through boat access. The Humboldt Bay Trail (scheduled to open summer 2025) would provide access along the parcels; however, the trail would not create new formal access points onto the Refuge. The project would not interfere with or use of the trail or with any other "legal" access methods (e.g., by boat). However, the project would include bike and pedestrian facilities on the bridges that would connect with the trail. Though not providing direct access to the Refuge, these bridge facilities would provide access along the Refuge. As a result, neither alternative would be anticipated to affect accessibility. Rather, views of the Refuge would likely improve for pedestrian and bicyclists (see Sections 2.2.4 and 3.2.14 of the EIR/EA for more information).

3) Would the project affect visual character?

The Eureka Slough bridges are currently part of the visual landscape of area. They are adjacent to and clearly visible to and from the Refuge. As previously discussed, both alternatives would replace the bridges in-kind. As such, it is anticipated neither alternative would affect the visual character of the area, including the Refuge (see Sections 2.2.10 and 3.2.1 of the EIR/EA for more information).

4) Would the project increase noise?

The existing Eureka Slough bridges and the traffic noise associated with them are currently adjacent to the Refuge. As previously discussed, both alternatives would replace the bridges in-kind. As such, it is anticipated neither alternative would permanently affect the noise of the surrounding area, including on the Refuge. However, during construction noise levels would be elevated and would be audible from the Refuge (see Sections 2.3.7 and 3.2.11 of the EIR/EA for more information). Given there are no visitor amenities on any Refuge parcels within the project area, project construction would not affect any formal recreational opportunities or facilities on the Refuge. There is potential for boaters to access this part of the Refuge,

which may involve wildlife viewing and hunting for game birds. Construction noise may reduce the number of birds in the area; however, given this area is adjacent to the highway and the Refuge has much more suitable hunting and viewing areas, it is not anticipated the project would adversely affect the Refuge due to construction noise. The potential effect of temporary elevated noise levels on wildlife is discussed in the next question.

5) Would the project affect wildlife?

During construction, both Alternatives 2A and 2B would result in temporary elevated noise levels in the portion of the Refuge within the project area. The elevated noise could cause wildlife to periodically leave the area; however, there is ample adjacent habitat within the bay for wildlife to relocate to. Additionally, the existing Eureka Slough bridges and associated traffic noise are currently adjacent to the Refuge, so wildlife in the vicinity is accustomed to elevated noise levels. Given the elevated noise would be temporary, lasting only through construction, it is not anticipated construction noise would adversely affect wildlife at the Refuge. As the new bridges are a replacement in-kind, no new impacts to wildlife related to noise on the Refuge are anticipated once construction is complete. Potential wildlife effects related to habitat are discussed in the next question (Question 6).

6) Would the project affect vegetation?

Given the alternatives would approach bridge replacement with different strategies, there are some minor differences in impacts, with the main difference being that Alternative 2A would only have temporary impacts, whereas Alternative 2B would have both temporary and permanent impacts. The impacts associated with each alternative are discussed below.

Alternative 2A

Alternative 2A would need to temporarily use approximately 1.42 acres of the Refuge through a temporary easement. Most of this area is estuarine marsh with Pickleweed Mat Vegetation Alliance. Within the easement area, approximately 0.0045 acre (197.7 square feet) would be directly affected (pile installation locations). When construction is complete, the piles would be removed and the area would be revegetated with appropriate native vegetation, reverting to estuarine marsh with Pickleweed Mat Vegetation Alliance. Estuarine marsh provides habitat for many wildlife spices, including birds and fish. Given the potential effects would only occur during construction, it is anticipated Alternative 2A would only have temporary affects to wildlife and their habitat (see Sections 2.4 and 3.2.3 of the EIR/EA for more information).

The temporary easement area also includes some occurrences of Humboldt Bay owl's-clover and Point Reyes bird's-beak. These occurrences could also be temporarily affected by pile installation. When construction is complete, the piles would be removed, and the area would be revegetated with appropriate native vegetation, including Humboldt Bay owl's-clover and Point Reyes bird's-beak. Therefore, it is anticipated that Alternative 2A would only have temporary affects to these species (see Sections 2.4 and 3.2.3 of the EIR/EA for more information).

Alternative 2B

Alternative 2B would need a permanent easement (or acquisition) of approximately 0.28 acre of Refuge land. Additionally, this alternative would need to temporarily use approximately 1.14 acres of the Refuge through a temporary easement. Most of this area is estuarine marsh with Pickleweed Mat Vegetation Alliance. The alternative would permanently affect approximately 0.09 acre of estuarine marsh with the construction of permanent bridge piles, bridge abutment, and road approach; however, due to the area of the bridge deck, 0.28 acre would either need to be an easement or be acquired. Within the temporary easement area, temporary trestle piles and a construction buffer would directly affect approximately 0.135 acre. When construction is complete, trestles and trestle piles would be removed, and all disturbed areas would be revegetated with appropriate native vegetation. The area affected within the temporary easement would revert to estuarine marsh with Pickleweed Mat Vegetation Alliance. Estuarine marsh provides habitat for many wildlife species, including birds and fish. Therefore, it is anticipated Alternative 2B would have both permanent and temporary affects to wildlife and their habitat (see Sections 2.4 and 3.2.3 of the EIR/EA for more information).

As with Alternative 2A, the temporary and permanent easement areas associated with Alternative 2B include some occurrences of Humboldt Bay owl's-clover and Point Reyes bird's-beak. These occurrences could be permanently or temporarily affected by pile installation. When construction is complete, the temporary piles would be removed and the area would be revegetated with appropriate native vegetation including Humboldt Bay owl's-clover and Point Reyes bird's-beak. Therefore, it is anticipated that Alternative 2B would have both permanent and temporary affects to these species (see Sections 2.4 and 3.2.3 of the EIR/EA for more information).

7) Would the project affect air quality?

Humboldt County is classified as in attainment for all transportation-related criteria pollutants. The project is not capacity increasing and would therefore have no long-term impact on traffic volumes or vehicle fleet mix. During construction, the project could potentially generate above base-line pollutants due to short-term emissions; however, fugitive dust and construction equipment exhaust would be temporary and transitory in nature. The project would comply with air quality regulations to avoid or minimize construction emissions and Caltrans Standard Specifications and Best Management Practices for air quality would be implemented to reduce exposure of pollutants and odors resulting from construction activities.

Although there might be temporary air quality effects during construction, the portion of the Refuge affected by the project and the adjacent Refuge areas do not contain any facilities or formally-designated visitor amenities. Given this, and as the project would not have an anticipated elevation of air pollutants post-construction, it is anticipated neither alternative would have long-term effects on the Refuge (see Sections 2.3.6 and 3.2.2 of the EIR/EA for more information).

8) Would the project affect water quality?

Both alternatives would increase impervious surfaces and also could potentially result in soil erosion and the accidental release of oil, grease, wash water, solvents, cement, and other construction materials to receiving waters during construction. Construction activities that increase pollutants in stormwater runoff have the potential to result in short-term increases in temperature and decreases to dissolved oxygen in receiving waters. Given Alternative 2A would temporarily and Alternative 2B would temporarily and permanently use the Refuge, there is potential for the project to affect water quality within the Refuge. However, as discussed in Sections 2.3.2 and 3.2.9 of the EIR/EA, the project would include several temporary and permanent Standard Measures and Best Management Practices (BMPs) that would prevent water quality impacts. Per statewide and project-specific water quality permits, Caltrans is required to maintain water quality during and post-construction. Given this, it is anticipated neither alternative would have short- or long-term water quality effects on the Refuge.

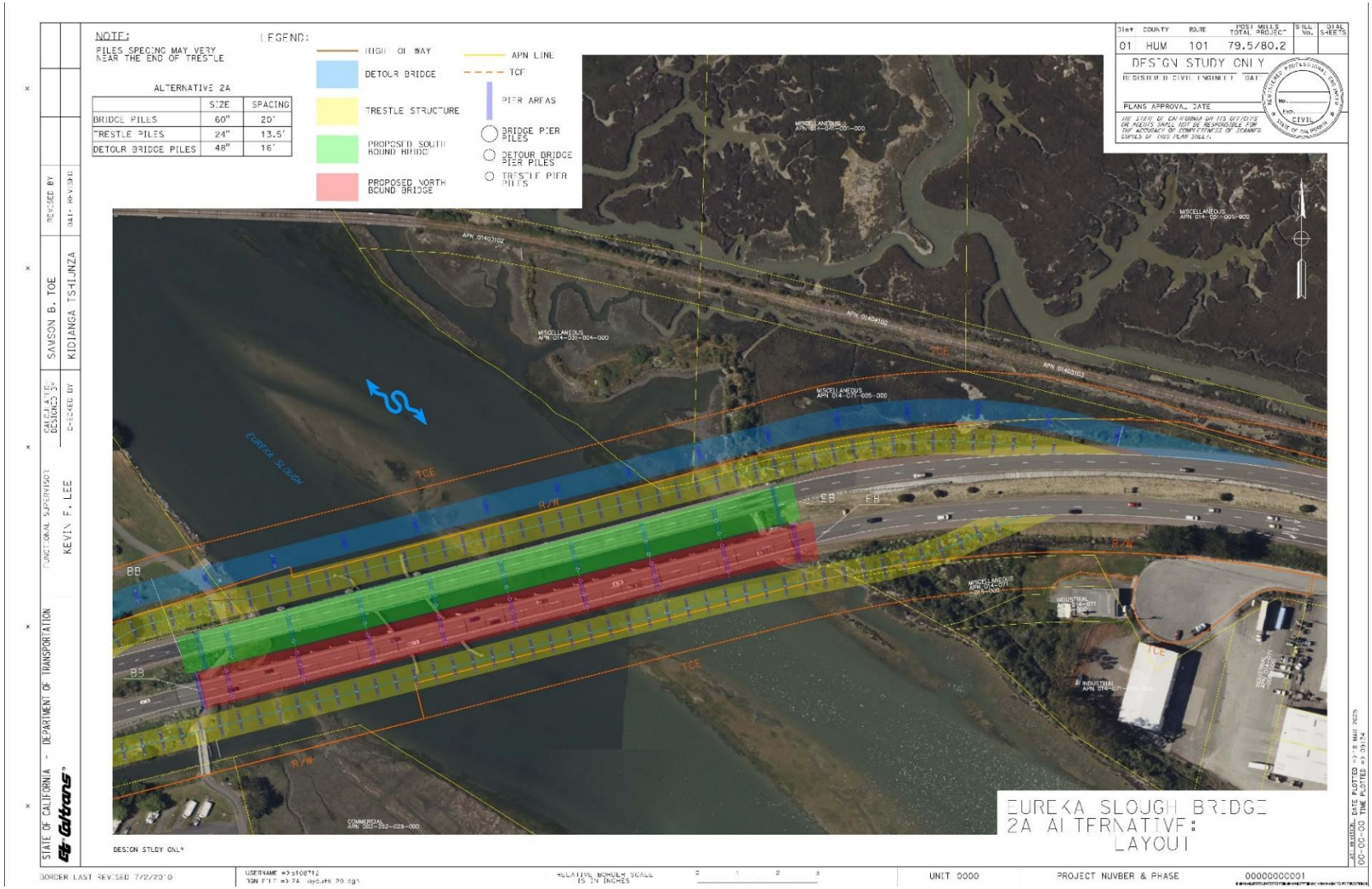


Figure 6. Layout of Alternative 2A Temporary Use of Refuge

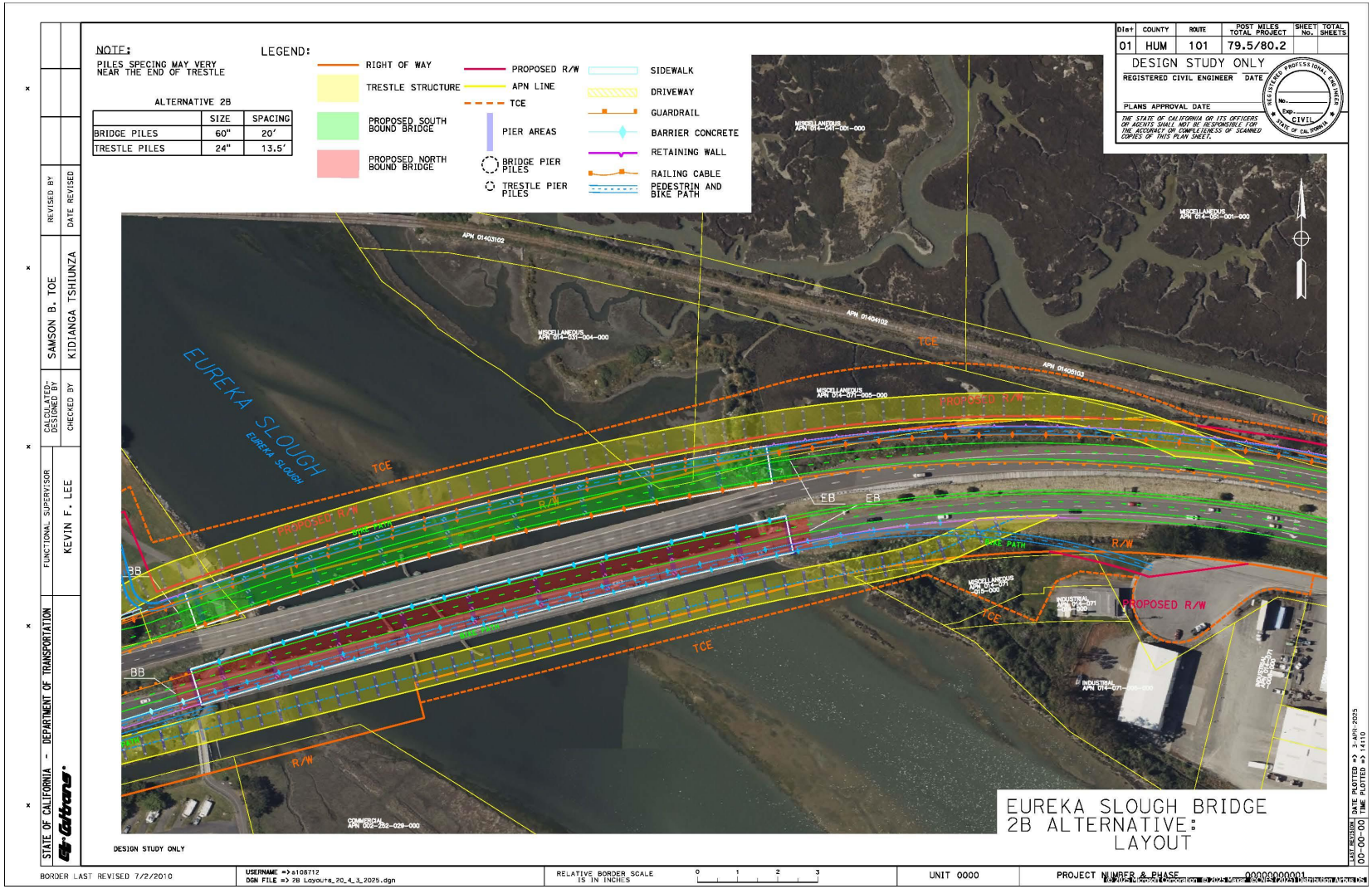


Figure 7. Layout of Alternative 2B Temporary and Permanent Use of Refuge

5.0 Applicability of Programmatic Section 4(f)

Per FHWA guidance[4] and the Department of Interior's (DOI) *Handbook on Departmental Review of Section 4(f) Evaluations*[5] (DOI Section 4(f) Handbook), this Programmatic Section 4(f) Evaluation may be applied to projects meeting the following criteria:

1. The proposed project is designed to improve the operational characteristics, safety, and/or physical condition of existing highway facilities on essentially the same alignment. This includes "4R" work (resurfacing, restoration, rehabilitation, and reconstruction), safety improvements (such as shoulder widening and the correction of substandard curves and intersections), traffic operation improvements (such as signalization, channelization, and turning or climbing lanes), bicycle and pedestrian facilities, bridge replacements *on essentially the same alignment*; and the construction of additional lanes. This Programmatic Section 4(f) evaluation does not apply to the construction of a highway on a new location.

   Response: The project would address structural and geometric deficiencies in the northbound and southbound Eureka Slough bridges by replacing the structures with two new bridges. The southbound structure, built in 1943, has seismic deficiencies, is fracture critical, and has a non-standard profile which contributes to a collision rate at the bridge departure that is double the statewide average for similar facilities. The northbound structure, built in 1956, also has seismic deficiencies and has non-standard bridge rails built on raised concrete curbs within the shoulders. Both structures are approaching the end of their design life and have narrow shoulders that impede multimodal transportation. The project would also upgrade the bridge structures to current standards with separated bicycle/pedestrian lanes to promote and enhance safe mobility for all modes of transportation.

   Though Alternative 2B proposes to construct a new southbound bridge immediately adjacent (to the north) of the existing southbound bridge, the highway would remain essentially on the same alignment, with only the bridge's centerline slightly deviating from the highway's centerline.

[4] FHWA Section 4(f) guidance is at this link: Environmental Review Toolkit

[5] DOI Section 4(f) Handbook can be found at this link: 4f Handbook [pdf]

This alternative has been proposed because it would cost less and would require one less construction season compared to Alternative 2A. Alternative 2A would construct both bridges along their current alignments.

Based on the above, use of this Programmatic Evaluation is allowable for this project.

2. The Section 4(f) lands are publicly owned public parks, recreation lands, or wildlife and waterfowl refuges located adjacent to the existing highway.

   Response: The Refuge is owned by the U.S. Government and is administered by U.S. Fish and Wildlife Service, which is also the official with jurisdiction for purposes of Section 4(f). The California state highway right of way is immediately adjacent to the Refuge (there is a shared parcel boundary). Given this, the use of the Refuge is allowable under this Programmatic Evaluation. The amount and location of the land to be used would not impair the use of the remaining Section 4(f) land, in whole or in part, for its intended purpose. This determination is to be made by the FHWA[6] in concurrence with the officials having jurisdiction over the Section 4(f) lands, and will be documented in relation to the size, use, and/or other characteristics deemed relevant[7].

   Per the Programmatic Section 4(f) Evaluation guidelines and the DOI Section 4(f) Handbook, the total amount of land to be acquired from any Section 4(f) site shall not exceed the values identified in Table 3.

Table 3. Section 4(f) Allowable Acquisition

Total Size of Section 4(f) Site (acres)	Maximum to Be Acquired
< 10 acres	10 percent of site
10 acres - 100 acres	1 acre
> 100 acres	1 percent of site

[6] Per 23 USC 327, Caltrans is the federal lead for the project.

[7] With Refuge concurrence, Alternative 2A would meet the conditions required for it to be a "Temporary Occupancy", thus it would not be considered a Section 4(f) use.

Response: The Refuge is approximately 5,000 acres which are spread out over several locations around Humboldt Bay (Figure 4)[8].

Alternative 2A would not require the permanent acquisition of a Refuge parcel; however, this alternative would need a temporary construction easement for approximately 1.42 acres of the Refuge, with 0.0045 acre (197.7 square feet) needed for temporary pile installation area which would be removed once construction is complete). Given Alternative 2A would not require acquisition of any Refuge land and there are no visitor facilities or amenities within the parcels to be used (or on adjacent Refuge parcels), this alternative would not be expected to impair the use of the remaining Section 4(f) land, in whole or in part, for its intended purpose. Further, though acquisition would not be required, the temporary acreage use falls under the allowable use thresholds identified in Table 3.

Alternative 2B would need to temporarily use 1.14 acres of the Refuge (0.023%) through a temporary construction easement, with 0.13 acre needed for temporary pile installation area, which would be removed and all disturbed areas revegetated once construction is complete. Alternative 2B would also need to permanently use approximately 0.28 acre (0.0056%) of the Refuge (permanent use would be either through an easement or acquisition, depending on agreement with the Refuge). Given all of these totals are under the allowable use thresholds identified in Table 3 and there are no visitor facilities or amenities within the parcels to be used (or the adjacent Refuge parcels), this alternative would not be expected to impair the use of the remaining Section 4(f) land, in whole or in part, for its intended purpose.

Caltrans has been in coordination with the Refuge. They were provided an opportunity to review this Programmatic Evaluation during the EIR/EA public circulation period. After the EIR/EA circulation period, Caltrans would conduct further coordination with the Refuge in the goal of obtaining concurrence on this Programmatic Evaluation[9].

[8] The two parcels that would be used for the project are a combined 3.83 acres. These parcels are adjacent to 13 other Refuge-owned parcels. All 15 contiguous Refuge parcels total 95.45 acres. For the purposes of the analysis, the total refuge acreage is used.

[9] During coordination, the Refuge indicated their concurrence would be dependent on the results of their compatible use analysis. They referenced 50 CFR Part 29 Subpart B and 16 U.S. Code § 668dd(d)(1) for information related to compatible use.

The applicability of this Programmatic Evaluation is contingent on their concurrence, with concurrence being documented in Section 10.0 of this Evaluation. As discussed in Section 10.0, concurrence does not grant temporary or permanent access rights to the Refuge. Rather, concurrence signals agreement with the information included in this evaluation. If the Refuge concurs, during the next phase of the project, Caltrans will formally coordinate with the Refuge on right of way needs.

3. The proximity impacts[10] of the project on the remaining Section 4(f) land shall not impair the use of such land for its intended purpose. This determination is to be made by the FHWA in concurrence with the officials having jurisdiction over the Section 4(f) lands, and will be documented with regard to noise, air and water pollution, wildlife and habitat effects, aesthetic values, and/or other impacts deemed relevant.

   Response: U.S. 101 is an existing facility located immediately adjacent to the Refuge. Both alternatives would replace the bridges in-kind and would not increase vehicle capacity or vehicle use. As such, it is not anticipated the project would result in noise or vibration levels above baseline, nor would it create a visual intrusion. With the implementation of Standard Measures and BMPs, the project would not affect air and water resources. Further, potential effects to wildlife and habitats would be minor, and measures would be included to offset impacts. The portions of the Refuge that would be used do not have any formal visitor amenities; therefore, the project would not result in any disruption of access. As a result, the project would not significantly impair the usability or value of the Refuge, therefore there would be no "constructive use". During coordination, the Refuge indicated their concurrence would be dependent on the results of their compatible use analysis (see footnote #9).

4. The officials having jurisdiction over the Section 4(f) lands must agree, in writing, with the assessment of the impacts of the proposed project on, and the proposed mitigation for, the Section 4(f) lands.

[10] Section 4(f) proximity impact" refers to a situation where a transportation project, even if it doesn't directly occupy land from a protected property like a park or wildlife refuge (considered "Section 4(f) land"), is located so close that its impacts (such as noise, visual intrusion, or disruption of access) significantly impair the usability or value of that protected property, essentially constituting a "constructive use" of the land under Section 4(f) law.

Response: As discussed in Question 3, Caltrans has been in coordination with the Refuge. They were provided an opportunity to review this Programmatic Evaluation during the EIR/EA public circulation period. After the EIR/EA circulation period, Caltrans would conduct further coordination with the Refuge in the goal of obtaining concurrence on this Programmatic Evaluation. The Refuge indicated their concurrence would be dependent on the results of their compatible use analysis (see footnote #9).

5. For projects using land from a site purchased or improved with funds under the Land and Water Conservation Fund Act, the Federal Aid in Fish Restoration Act (Dingell-Johnson Act), the Federal Aid in Wildlife Act (Pittman-Robertson Act), or similar laws, or the lands are otherwise encumbered with a Federal interest (e.g., former Federal surplus property), coordination with the appropriate Federal agency is required to ascertain the agency's position on the land conversion or transfer. The Programmatic Section 4(f) evaluation does not apply if the agency objects to the land conversion or transfer.

   Response: As mentioned in Question 6 above, Caltrans has and would continue to coordinate with the Refuge. Concurrence, determinations, and any other relevant information would be included in Section 10.0 of this Evaluation.

6.0 Avoidance Alternatives

Per 23 CFR 774, Caltrans must evaluate avoidance alternatives, including whether they are feasible and prudent. A feasible and prudent avoidance alternative avoids using Section 4(f) property and does not cause other severe problems of a magnitude that substantially outweighs the importance of protecting the Section 4(f) property[11]. An alternative is not feasible if it cannot be built as a matter of sound engineering judgment.

In order for this Programmatic Section 4(f) Evaluation to be applied to a project, each of the following findings must be supported by the circumstances, studies, and consultations on the project:

1) **Do Nothing Alternative.** The Do Nothing Alternative (No Build Alternative) is not feasible and prudent because: (a) it would not correct existing or projected capacity deficiencies; or (b) it would not correct existing safety hazards; or (c) it would not correct existing deteriorated conditions and maintenance problems; and (d) not providing such correction would constitute a cost or community impact of extraordinary magnitude, or would result in truly unusual or unique problems, when compared with the proposed use of the Section 4(f) lands.

   Response: This alternative would not be feasible and prudent because the project is needed to address structural and geometric deficiencies in the northbound and southbound Eureka Slough bridge structures. The southbound structure, built in 1943, has seismic deficiencies, is fracture critical, and has a non-standard profile which contributes to a collision rate at the bridge departure that is double the statewide average for similar facilities. The northbound structure, built in 1956, also has seismic deficiencies and has non-standard bridge rails built on raised concrete curbs within the shoulders.

[11] A determination of an alternative's feasibility and prudence must take into account not only the impacts to Section 4(f) properties, but also the impacts to non-Section 4(f) properties, as well as the importance of the need for the project itself.

Furthermore, the impacts to Section 4(f) and non-Section 4(f) properties associated with one alternative must be compared to the impacts associated with other alternatives. This process is critical for determining whether an avoidance alternative is feasible and prudent. For example, an avoidance alternative resulting in the displacement of 50 homes may not initially appear to be feasible and prudent unless a comparison reveals that other alternatives that use Section 4(f) properties result in similar number of residential displacements, in which case the community disruption would be relatively equal among the alternatives considered. Other factors, however, such as the demographic nature of impacted neighborhoods, historic status, or even density of development may influence a different conclusion. For instance, an avoidance alternative that requires a smaller number of displacements, but a greater percentage of homes from a minority community, may not be considered feasible and prudent when compared with an alternative that uses Section 4(f) property but requires fewer overall displacements from non-minority communities.

Both bridge structures are approaching the end of their design life and have narrow shoulders that impede multimodal transportation. Given the bridges are located on a busy section of U.S. 101 with no reasonable detour alternative, in the event of a structure failure (e.g., either through a seismic event or due to age), when compared with the proposed use of the Refuge, the closure of one or both bridges would constitute a community impact of extraordinary magnitude (e.g., impede emergency services, community services, school access, etc.).

2) **Improvement without Using the Adjacent Section 4(f) Lands:** It is not feasible and prudent to avoid Section 4(f) lands by roadway design or transportation system management techniques (including, but not limited to, minor alignment shifts, changes in geometric design standards, use of retaining walls and/or other structures, and traffic diversions or other traffic management measures) because implementing such measures would result in: (a) substantial adverse community impacts to adjacent homes, businesses or other improved properties; or (b) substantially increased roadway or structure cost; or (c) unique engineering, traffic, maintenance, or safety problems; or (d) substantial adverse social, economic, or environmental impacts; or (e) the project not meeting identified transportation needs; and (f) the impacts, costs, or problems would be truly unusual or unique, or of extraordinary magnitude when compared with the proposed use of Section 4(f) lands. Flexibility in the application of American Association of State Highway and Transportation Officials (AASHTO) geometric standards should be exercised, as permitted in 23 CFR 625, during the analysis of this alternative.

Response: Given the project proposes the replacement of two bridges that are located immediately adjacent to the Refuge, it would not be possible to avoid the Refuge by means of roadway design or transportation management techniques. Reason being the analysis indicates that under any construction scenario a temporary access trestle would be needed within the Refuge to be able to remove and replace the southbound Eureka Slough Bridge (see Figures 6 and 7). Given this, the only way to avoid the Refuge would be to completely construct the highway and both bridges on a new location/alignment. This is addressed in Question #3 below.

3) **Alternatives on New Location:** Other than the No Build Alternative, which would not meet the purpose and need of the project (see Question #1 above), due to access needs, the analysis indicated there was only one alternative that could completely avoid the Refuge. This alternative would shift both bridges to the south, which would also require shifting the entire highway to the south (Figure 8). It is not feasible and prudent to avoid the Refuge by constructing on a new location/alignment because:

   a. The new location would not solve existing transportation, safety, or maintenance problems; or,

      Response: Constructing the bridges and shifting the highway onto a new location/alignment would likely meet the purpose and need of the project.

   b. The new location would result in substantial adverse social, economic, or environmental impacts (including such impacts as extensive severing of productive farmlands, displacement of a substantial number of families or businesses, serious disruption of established patterns, substantial damage to wetlands or other sensitive natural areas, or greater impacts to other Section 4(f) lands; or,

      Response: Shifting the entire highway and bridges to the south would require the complete closure of the Ayres Family Crematorium, the complete acquisition of a developable parcel, and the removal of approximately 30% of the trailer sites at the Shoreline RV Park (this includes shifting the highway closer to the remaining sites). Also, shifting the bridges and highway would severely restrict ingress and egress of Jacobs Avenue which would affect businesses within the impact area.

      Further, the avoidance alternative would permanently impact 0.85 acre of wetlands and waters, including 0.435 acre of estuarine marsh, and 0.250 acre of waters including eelgrass beds, tidal mud flats and estuarine and marine deepwater, which is greater when compared to Alternative 2A which would permanently impact 0.039 acre of estuarine marsh, 0.030 acre of waters, and compared to 2B which would permanently impact 0.224 acre of estuarine marsh and 0.039 acre of waters. These are the natural areas totals for all impacts (both in and out of the Refuge). When comparing the overall natural areas impacts of shifting the entire bridge and highway alignment to justify the Refuge impacts, the impacts of the avoidance alternative are much greater.

Given this, when compared to the proposed build alternatives, shifting the entire highway to the south would likely result in substantial adverse social, economic, or environmental impacts to a degree that it would be unreasonable to proceed with the project in light of its stated purpose and need.

c. The new location would substantially increase costs or engineering difficulties (such as an inability to achieve minimum design standards, or to meet the requirements of various permitting agencies such as those involved with navigation, pollution, and the environment); and,

   Response: Minimum design standards could likely be met by constructing the bridges and highway on a new location/alignment; however, this alternative would result in additional permanent impacts in new areas which would likely create permitting challenges with numerous agencies, so much so that this alternative might not be deemed permittable.

d. Such problems, impacts, costs, or difficulties would be truly unusual or unique[12], or of extraordinary magnitude when compared with the proposed use of Section 4(f) lands. Flexibility in the application of AASHTO geometric standards should be exercised, as permitted in 23 CFR 625, during the analysis of this alternative.

   Response: Shifting the bridges and highway onto a new alignment/location would require longer replacement bridges and a much more complicated and longer trestle system. Due to the complexity of the construction methodology and need for longer bridges and trestles, it would cost approximately $475,006,750 million to construct (approximately $167 million more than Alternative 2A and $182 million more than Alternative 2B). This does not include the costs associated with the additional, more complex trestles that would be needed to construct this alternative nor the additional restoration and mitigation costs needed when compared to the proposed build alternatives.

[12] Examples of unique problems include unacceptable social, economic or environmental impacts; serious community disruption; unacceptable safety or geometric problems; or excessive construction costs.

In addition, compared to Alternatives 2A and 2B (5 and 4 construction seasons, respectively), it is anticipated that the avoidance alternative would take up to 6 years to construct. When balancing the additional costs and construction season, and the increased social and biological impacts associated with the avoidance alternative to the proposed build alternatives, it could reasonably be determined that the avoidance alternative is not prudent or feasible.

Avoidance Alternative Findings Conclusion

Based on the evaluation presented in Questions 1, 2, and 3, there is no prudent and feasible alternative to completely avoid the Refuge. Doing nothing (No Build Alternative) would not correct the safety and seismic hazards; improving without using the Refuge (e.g., roadway design modifications and transportation management techniques) would not be possible due to project type and location (bridge replacement that needs adjacent trestles to construct); and completely avoiding the Refuge (bridges and highway at a new location/alignment), when compared to the proposed build alternatives, would result in community impacts, cost substantially more, and would impact more natural areas.

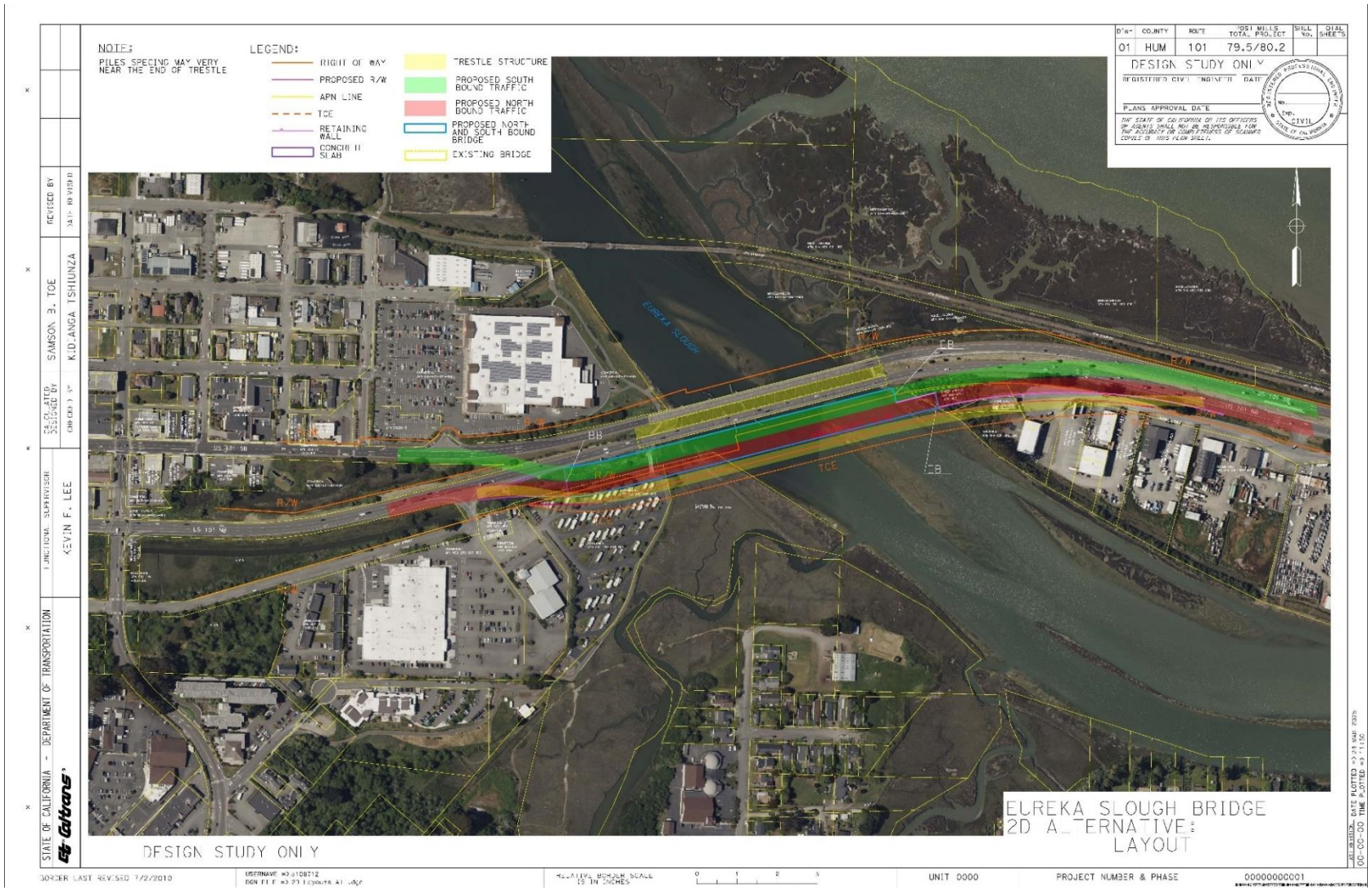


Figure 8. Avoidance Alternative: Shift Entire Highway to the South Layout

7.0 Measures to Minimize Harm to the Section 4(f) Property

This Programmatic Section 4(f) evaluation and approval may be used only for projects where Caltrans, in accordance with this evaluation, ensures that the proposed action includes all possible planning to minimize harm. This has occurred when the officials having jurisdiction over the Section 4(f) property have agreed, in writing, with the assessment of impacts resulting from the use of the Section 4(f) property and with the mitigation measures to be provided. Mitigation measures shall include one or more of the six listed below. In addition to coordinating with and obtaining concurrence from the officials having jurisdiction on the implemented measures, part of determining which mitigation that would be applied involves evaluating the reasonableness of the measures (see Reasonable of Minimization Measures heading of this section).

Except for Question #4 (addressed immediately following the list of questions below), the following are covered in the Reasonable of Minimization Measures discussion starting on the next page.

1) Replacement of lands used with lands of reasonably equivalent usefulness and location and of at least comparable value.
2) Replacement of facilities impacted by the project including sidewalks, paths, benches, lights, trees, and other facilities.
3) Restoration and landscaping of disturbed areas.
4) Incorporation of design features (e.g., reduction in right of way width, modifications to the roadway section, retaining walls, curb and gutter sections, and minor alignment shifts); and habitat features (e.g., construction of new, or enhancement of existing, wetlands or other special habitat types); where necessary to reduce or minimize impacts to the Section 4(f) property. Such features should be designed in a manner that will not adversely affect the safety of the highway facility. Flexibility in the application of AASHTO geometric standards should be exercised, as permitted in 23 CFR 625, during such design.
5) Payment of the fair market value of the land and improvements taken or improvements to the remaining Section 4(f) site equal to the fair market value of the land and improvements taken.
6) Such additional or alternative mitigation measures as may be determined necessary based on consultation with, the officials having jurisdiction over the parkland, recreation area, or wildlife or waterfowl refuge.

To address the requirement in Question #4 above, Caltrans included all feasible measures in the project's design of both build alternatives to reduce impacts to the Refuge. This includes maintaining the highway within its existing footprint as best feasible, using trestles instead of fill to minimize direct ground impacts, and including retaining walls which reduced the amount of land needed from the Refuge.

Before addressing the reasonableness of the proposed mitigation measures, for background the following includes a summary of impacts that would occur on the Refuge for Alternatives 2A and 2B.

Alternative 2A

For Alternative 2A, given there would only be temporary use of the Refuge (see Table 2) with direct ground impacts of 197 square feet for pile installation and 1.42 acres for a temporary easement, and that no facilities would be affected, reasonable measures to offset impacts may include one or more of the following: interpretive signs along the newly constructed separated pedestrian and bike lane highlighting the Refuge, tide gate improvements, restoring the affected habitat, and/or funds for habitat enhancement (e.g., invasive species removal). These measures may include an endowment. Refuge concurrence of this Programmatic Evaluation does not grant approval of any minimization measures. Approved measures would be coordinated with the Refuge during the right of way phase of the project.

Alternative 2B

For Alternative 2B, given there would be temporary and permanent use of the Refuge (temporary easement of 1.14 acre, permanent easement of 0.28 acre, temporary ground impacts of 0.13 acre for pile installation and construction, and permanent ground impacts of 0.09 acre) and that no facilities would be affected, reasonable measures to offset impacts may include one or more of the following: interpretive signs along the newly constructed separated pedestrian/bike lane highlighting the Refuge, restoring the affected habitat, tide gate improvements, funds for habitat enhancement (e.g., invasive species removal), and/or the replacement of lands used. These measures may include an endowment. Refuge concurrence of this Programmatic Evaluation does not grant approval of any minimization measures. Approved measures would be coordinated with the Refuge during the right of way phase of the project

Reasonableness of Minimization Measures

Per 23CFR 774.17, in evaluating the reasonableness of measures to minimize harm, Caltrans considered and documented the preservation purpose of Section 4(f) and evaluated the following:

1) The views of the officials with jurisdiction over the Section 4(f) property.

   Response: As described above and as shown in Table 2 in Section 4.0, Alternative 2A would only temporarily use the Refuge and Alternative 2B would need to temporarily and permanently use the Refuge. During coordination, the Refuge indicated their concurrence would be dependent on the results of their compatible use analysis. They referenced 50 CFR Part 29 Subpart B and 16 U.S. Code § 668dd(d)(1) for compatible use information. Caltrans has and would continue to coordinate with the Refuge once this Evaluation publicly circulates.

2) Whether the cost of the measures is a reasonable public expenditure in light of the adverse impacts of the project on the Section 4(f) property and the benefits of the measure to the property.

   Response: Depending on the alternative selected, the project would either only temporarily (Alternative 2A) or temporarily and permanently (Alternative 2B) affect the Refuge. As such, habitat restoration and enhancement (with potential endowment) would likely be a reasonable expenditure of public funds; however, since Alternative 2A would only have minor temporary affects to the Refuge (ground disturbance of 197.7 square feet), a land swap would likely not be considered a reasonable public expenditure, especially given the Refuge's proximity to the state highway right of way.

   As with Alternative 2A, habitat restoration and enhancement would likely be a reasonable expenditure of public funds for Alternative 2B; however, given the proximity of the Refuge to the state highway right of way and the minor permanent use of the Refuge (permanent easement/acquisition of 0.28 acre of a total of approximately 5,000 acres of Refuge), replacement of lands might not be a reasonable expenditure. As currently proposed, the two Refuge parcels (combined 3.83 acres) the project would need to use would be replaced with lands of reasonably equivalent usefulness and location and of at least comparable value. Per 50 CFR Part 29 Subpart B, 16 U.S. Code § 668dd(d)(1), and the Refuge's management plan, removing 3.83 acres of Refuge land when the project only needs a permanent easement of 0.28 acre may not be considered a compatible use, especially when compared to the temporary and

permanent affects associated with Alternative 2B (temporary impacts of 0.13 and permanent of 0.09 acre). Caltrans would coordinate with the Refuge to determine whether the use of the Refuge associated with Alternatives 2A and 2B would result in an adverse impact to the property such that it would significantly impair the usability or value of the protected property, thus requiring the need for the Refuge to no longer own the parcels.

In the event that Refuge lands are replaced, payment of the fair market value of the land and improvements taken or improvements to the remaining Section 4(f) site equal to the fair market value of the land and improvements taken would be implemented.

3) Any impacts or benefits of the measures to communities or environmental resources outside of the Section 4(f) property.

Response: Minimization measures are not anticipated for any of the non-Section 4(f) properties; however, proposed minimization measures are anticipated to benefit non-Section 4(f) communities and environmental resources by increasing safe viewing accessibility and through habitat enhancement.

8.0 Coordination

As part of the Section 4(f) process, the public was afforded the opportunity to comment on this Programmatic Evaluation and Caltrans' intent to make a no adverse effect finding for either alternative on the Refuge. This Programmatic Evaluation was circulated to the public as an attachment to the California Environmental Quality Act/National Environmental Policy Act (CEQA/NEPA) EIR/EA from June 2, 2025, through July 13, 2025. Comments received on the Programmatic Evaluation would be included in the response to comments in the Final EIR/EA.

In addition to email correspondence, Caltrans and the Refuge have met on three occasions. As indicated in Table 4 below, meeting topics included the overall significance and purpose of Refuge, the proposed use of the Refuge, and proposed measures to avoid and /or minimize harm.

Table 4. Humboldt Bay National Wildlife Refuge Coordination

Date	Parties Involved	Summary
July 30, 2024	Humboldt Bay National Wildlife Refuge (HBNWR): Cashell Villa, Jason Storlie Caltrans: Felicia Zimmerman, Jeff Pimentel, Kevin Lee	Section 4(f) kick-off meeting. Discussion included project purpose and need, review of project layouts, including preliminary right of way needs (temporary and permanent). Additional info shared related to Refuge impacts and the project schedule. HBNWR mentioned the idea of removing a remnant levee, and if this potential uplift would have value to the Refuge.
September 5, 2024	HBNWR: Jason Storlie, Cashell Villa, and Viola Randal Caltrans: Jason Meyer, Felicia Zimmerman, and Kevin Lee	General project overview, including reviewing project layouts, preliminary right of way maps. Additional info shared related to potential Refuge impacts and the project's schedule.
February 5, 2025	HBNWR: Jason Storlie, Cashell Villa, Jessica Blancher, Kristina Hanson, and Viola Randal Caltrans: Felicia Zimmerman, Christine Hamilton, Prairie Moore, and Steve Croteau	Meeting included introducing new Caltrans project team members, and mainly focused on allowable uses under Section 4(f) and on minimization measures.

9.0 Findings

Findings must be made when a Section 4(f) resource would be affected. The findings must demonstrate the following:

1) There are no feasible and prudent alternatives to using the Section 4(f) resource.

Finding: As discussed in Section 6.0 of this Programmatic Evaluation, when weighing the numerous impacts associated with the avoidance alternative of shifting the entire highway and bridges to the south compared to the effects associated with Alternatives 2A and 2B, the analysis supports that the severe problems and impacts associated with the avoidance alternative are of a magnitude that substantially outweigh the importance of avoiding impacts to a small portion of the Section 4(f) property. As a result, there are no prudent and feasible alternatives.

2) Any avoidance alternatives do not meet the purpose of the project.

Finding: The purpose of the project is to address structural and geometric deficiencies in both bridges. Shifting the entire highway to the south would require a complete reconfiguration and reconstruction of the highway well beyond the limits of the bridges. This reconfiguration and reconstruction are not part of the need or project scope, as the existing highway alignment and infrastructure currently meets standards and is not in need of any corrections or updates. Given this, shifting the entire highway to the south would not meet the purpose of the project.

3) Normal maintenance would not correct any deficiencies or hazards addressed by the project.

Finding: Given both bridges have reached the end of their design life, are fracture critical, and don't meet seismic standards (see Section 1.2 of the EIR/EA for more information), normal maintenance would not correct the deficiencies.

Findings Conclusion

If the Refuge concurs on this Programmatic Evaluation, as discussed in Section 1.0 (footnote 1), the "Temporary Occupancy" associated with Alternative 2A would not be a Section 4(f) "use". Even if Alternative 2A meets the criteria to not to be a "use", concurrence from the Refuge and the implementation of minimization measures would still be required.

Alternative 2B would be defined as a Section 4(f) use because it would require either a permanent easement or permanent incorporation of a portion of the Refuge; however, as described in the DOI's Section 4(f) Handbook, the amount of land temporarily and permanently needed meet the allowable use thresholds (see Question 3, Table 3 of Section 5.0).

Per Section 5.0, Question 4 of this Programmatic Evaluation, neither alternative would result in a “Constructive Use” of the Refuge. As a result, considering the scope of the proposed project, and after considering avoidance, minimization, and enhancement/restoration measures, there would be no anticipated adverse effect to the activities, features, or attributes that qualify the Refuge for protection under Section 4(f). Therefore, per the DOI’s Section 4(f) Handbook and FHWA Section 4(f) policies, with Refuge concurrence, Alternatives 2A and 2B would be an allowable Section 4(f) use of the Humboldt Bay National Wildlife Refuge.

10.0 Agency Concurrence

As part of the Section 4(f) process, as an attachment to the project's EIR/EA, the Humboldt Bay National Wildlife Refuge and the public were afforded the opportunity to review and comment on this Programmatic Evaluation and on the Findings that there would be no anticipated adverse effect to the activities, features, or attributes that qualify the Refuge for protection under Section 4(f). Caltrans coordinated with the Refuge on the project's potential to affect the Section 4(f) resource and on the measures that could be implemented to minimized harm.

By signing below, the Humboldt Bay National Wildlife Refuge concurs with the evaluation and Findings in this Programmatic Section 4(f) Programmatic Evaluation. Providing concurrence on this Programmatic Evaluation does not grant Caltrans a temporary or permanent easement of a portion of the Refuge, nor does it approve the permanent incorporation of any portion of the Refuge or imply agreement on any potential minimization measures. By providing concurrence on the Programmatic Evaluation, it provides Caltrans the opportunity to finalize the NEPA document, allowing the project to move forward to the next phase of project delivery (1-Phase, Design and Right of Way acquisition). Potential "use" of the Refuge and minimization measures would be negotiated during the right of way acquisition phase, with the Refuge being the final authorizing agent on any minimization measures or Refuge use.

_____ _____

Cashell Villa Date
Humboldt Bay National Wildlife Refuge, Refuge Manager

If you have questions or need additional information, please contact Steve Croteau at (707) 572-7149 or steven.croteau@dot.ca.gov.

STATE OF CALIFORNIA—CALIFORNIA STATE TRANSPORTATION AGENCY GAVIN NEWSOM, Governor

DEPARTMENT OF TRANSPORTATION
North Region Environmental–D01
1656 UNION STREET
EUREKA, CA 95501
(707) 572-7039
www.dot.ca.gov
TTY 711

Making Conservation a California Way of Life.

June 2, 2025

Jesse Willor, City Engineer
City of Eureka, City Hall
531 K Street
Eureka, CA 95501

SUBJECT: Section 4(f) Finding for the Eureka Slough Bridges Replacement Project, EA: 01-0M760

Dear Jesse Willor,

The California Department of Transportation (Caltrans) and the Federal Highway Administration (FHWA) are proposing the Eureka Slough Bridges Replacement Project (EA 01-0M760). The project is a bridge replacement project for the northbound (NB) and southbound (SB) Eureka Slough Bridges (#04-0022L&R). The purpose of this project is to improve the function and geometrics of the NB and SB Eureka Slough Bridges to ensure uninterrupted traffic movement in the event of a collision or emergency incident, seismic event, or any other catastrophic event, and to upgrade the structures to current standards with separated pedestrian pathways that would promote and enhance mobility for all modes of transportation. Both structures are approaching their design life and have narrow shoulders that impede multimodal transportation. Portions of the project occur within the City of Eureka.

This letter is to inform you of Caltrans' intent to make a *de minimis* determination for impacts to the City of Eureka. The following pages provide detailed information related to Section 4(f) and Section 4(f) resources.

Jesse Willor, City Engineer, City of Eureka
Re: Eureka Slough Bridges Replacement Project
EA 01-0M760

Section 4(f) Regulatory Background

Section 4(f) of the Department of Transportation Act of 1966, codified in federal law at 49 USC 303, declares that "it is the policy of the United States Government that special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites."

Section 4(f) specifies that the Secretary of Transportation may approve a transportation program or project . . . requiring the use of publicly owned land of a public park, recreation area, or wildlife and waterfowl refuge of national, State, or local significance, or land of an historic site of national, State, or local significance (as determined by the federal, state, or local officials having jurisdiction over the park, area, refuge, or site) only if:

- there is no prudent and feasible alternative to using that land; and
- the program or project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge, or historic site resulting from the use.

The term use—as it relates to Section 4(f)—denotes an adverse impact to, or occupancy of, a Section 4(f) property. There are three conditions under which use occurs:

- ***Permanent Incorporation***–when a Section 4(f) property is acquired outright for a transportation project.
- ***Temporary Occupancy***–when there is temporary use of property that is adverse in terms of Section 4(f)'s preservationist purpose. Temporary occupancy is not a section 4(f) use if all of the following conditions are met:
  - The land use is of short duration (defined as less than the time needed for the construction of the project)
  - There is no change in ownership of the land
  - The scope of the work must be minor

Jesse Willor, City Engineer, City of Eureka
Re: Eureka Slough Bridges Replacement Project
EA 01-0M760

- There are no temporary or permanent adverse changes to the activities, features, or attributes of the resource
- The land must be fully restored to a condition at least as good as prior to the project
- There must be documented agreement from the official(s) with jurisdiction over the property with the above conditions

- ***Constructive Use***–when the proximity impacts of a transportation project on a Section 4(f) property, even without acquisition of the property, are so great that the activities, features, and attributes of the property are substantially impaired.

Before approving a project that uses a Section 4(f) resource, a determination must be made that either:

1) There is no feasible and prudent alternative that avoids the resource, and that the project includes all possible planning to minimize harm to the resource, or
2) The project would have a de minimis impact on the resource.

A *de minimis* impact is one that would not adversely affect the activities, features, or attributes of the Section 4(f) resource, and, subsequently, would not require an analysis of feasible and prudent avoidance alternatives. A determination of *de minimis* impact may be made when all three of the following criteria are satisfied:

1) The transportation use of the Section 4(f) resource, together with any impact avoidance, minimization, and mitigation or enhancement measures incorporated into the project, does not adversely affect the activities, features, and attributes that qualify the resource for protection under Section 4(f);
2) The public has been afforded an opportunity to review and comment on the effects of the project on the protected activities, features, and attributes of the Section 4(f) resource; and

Jesse Willor, City Engineer, City of Eureka
Re: Eureka Slough Bridges Replacement Project
EA 01-0M760

3) The official(s) with jurisdiction over the resource are informed of Caltrans' intent to make the *de minimis* impact determination based on their written concurrence that the project would not adversely affect the activities, features, and attributes that qualify the resource for protection under Section 4(f).

Project Description

The Eureka Slough Bridges Project (01-0M760) would replace the northbound and southbound Eureka Slough Bridges (#04-0022L&R). The project is in Humboldt County on U.S. Highway 101 between post miles 79.50 and 80.20, with the bridges passing over the Eureka Slough near the northern limits of the city of Eureka (Figure 1). The purpose of the project is to improve the function and geometrics of the northbound and southbound Eureka Slough Bridges to ensure uninterrupted traffic movement in the event of a collision or emergency incident, a seismic event, or any other catastrophic event. The project would enhance safe mobility for all modes of transportation by upgrading the structures to include separated bicycle/pedestrian lanes. The project is needed to address structural and geometric deficiencies in the northbound and southbound Eureka Slough Bridges structures. The southbound structure, built in 1943, has seismic deficiencies, is fracture critical, and has a non-standard profile which contributes to a collision rate at the bridge departure that is double the statewide average for similar facilities. The northbound structure, built in 1956, also has seismic deficiencies and has non-standard bridge rails built on raised concrete curbs within the shoulders. Both structures are approaching the end of their design life and have narrow shoulders that impede multimodal transportation.

Jesse Willor, City Engineer, City of Eureka
Re: Eureka Slough Bridges Replacement Project
EA 01-0M760

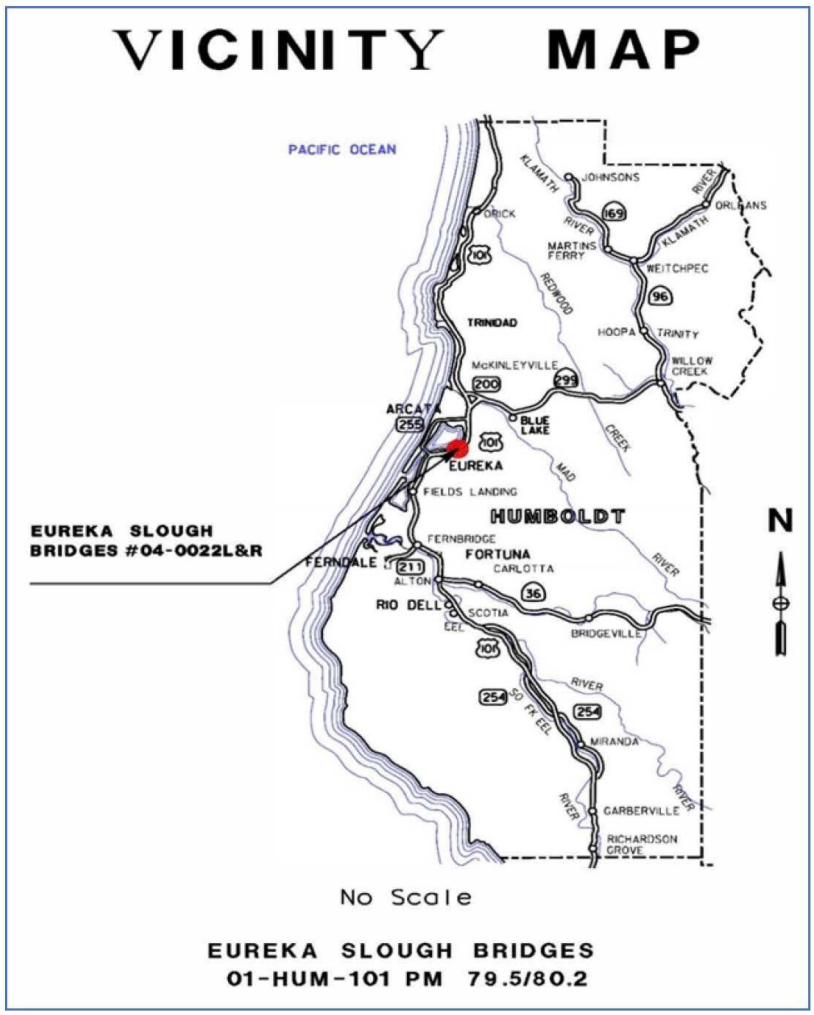


Figure 1. Project Vicinity Map

Jesse Willor, City Engineer, City of Eureka
Re: Eureka Slough Bridges Replacement Project
EA 01-0M760

A No Build and two Build Alternatives (Alternatives 2A and 2B) are being evaluated as part of the proposed project. Under the No Build Alternative, the proposed project would not be implemented. No construction activities would occur, and the existing structures would continue to not meet current structural and geometric design standards, and multi-modal improvements would not be made. As a result, the No Build Alternative would not meet the purpose and need for the project.

Common design features of Build Alternatives 2A and 2B would include replacement of both the northbound and southbound bridge structures. The new north and southbound bridges would each be 56-feet wide with two 12-foot travel lanes, one 12-foot bicycle/pedestrian lane, a 10-foot right shoulder and a 5-foot left shoulder. Bridge railings on each side of the bridges would be approximately two and a half feet wide. Both alternatives would connect to the Humboldt Bay Trail at the north and the Eureka Waterfront Trail at the south ends of the Eureka Slough Bridges.

Work would include the removal of the existing bridges and the construction of two new bridges. This work would require temporary access roads and trestle structures, in-water pile driving, drainage, landscaping, guard rail upgrades, cable barrier connection/continuation, soil disturbances, paving, bicycle and pedestrian improvements, traffic handling, and utility relocation.

Alternative 2A Unique Design Features

Alternative 2A would rebuild the northbound and southbound bridges on the existing alignments (Figure 2). This alternative would include a temporary detour bridge, two trestles, new bridge construction, and existing bridge demolition. One trestle would be constructed immediately north of the existing southbound bridge and the other would be constructed immediately south of the northbound bridge. The temporary detour bridge would be constructed north of the trestle to be constructed north of the southbound bridge. To avoid traveler delays during construction, southbound traffic would use the temporary detour bridge, and northbound traffic would be detoured to the existing southbound bridge. Once the new northbound bridge is constructed, northbound

travelers would be routed to the new northbound bridge and construction of the new southbound bridge would commence. Both temporary trestles would be used to demolish the existing bridges and to construct the new bridges.

The length of the bridges under Alternative 2A would be approximately 887 -feet for the southbound bridge and 919-feet for the northbound bridge. The distance between the structures would be approximately 2 feet. Please see Section 1.4.2 of the EIR/EA (Alternative 2A, Temporary Bridge) for additional project information, including detailed layouts and construction staging.

Alternative 2B Unique Design Features

For schedule and cost purposes, Alternative 2B would build a new southbound bridge immediately north and adjacent to the existing southbound bridge (Figure 3). As with Alternative 2A, this alternative would require two trestles to accommodate new bridge construction and existing bridge demolition. One trestle would be constructed north of the existing southbound bridge. The new southbound bridge structure would be constructed between this trestle and the existing southbound bridge. Once constructed, southbound traffic would be detoured to the new southbound bridge and northbound traffic would be detoured to the existing southbound bridge. The other trestle would be constructed immediately to the south of the existing northbound bridge, providing a work area to demolish the existing bridge and to construct the new northbound bridge. The new northbound bridge structure would be constructed on the existing northbound alignment. Once the new northbound bridge is completed, northbound traffic would be routed to the new northbound structure.

The length of the bridges under Alternative 2B would be approximately 878-feet for the southbound bridge and 922-feet for the northbound bridge with a distance of 45-feet between the two structures. Please see Section 1.4.2 of the EIR/EA (Alternative 2B, Adjacent Southbound Adjacent) for additional project information, including detailed

Jesse Willor, City Engineer, City of Eureka
Re: Eureka Slough Bridges Replacement Project
EA 01-0M760

layouts and construction staging.

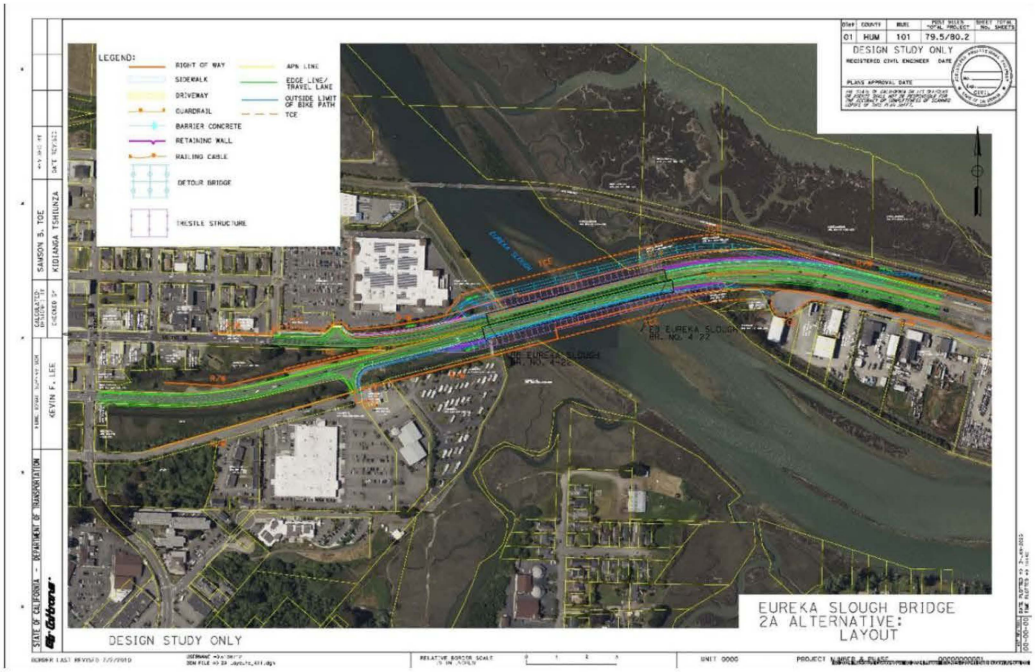


Figure 2. Alternative 2A Project Layout

Jesse Willor, City Engineer, City of Eureka
Re: Eureka Slough Bridges Replacement Project
EA 01-0M760

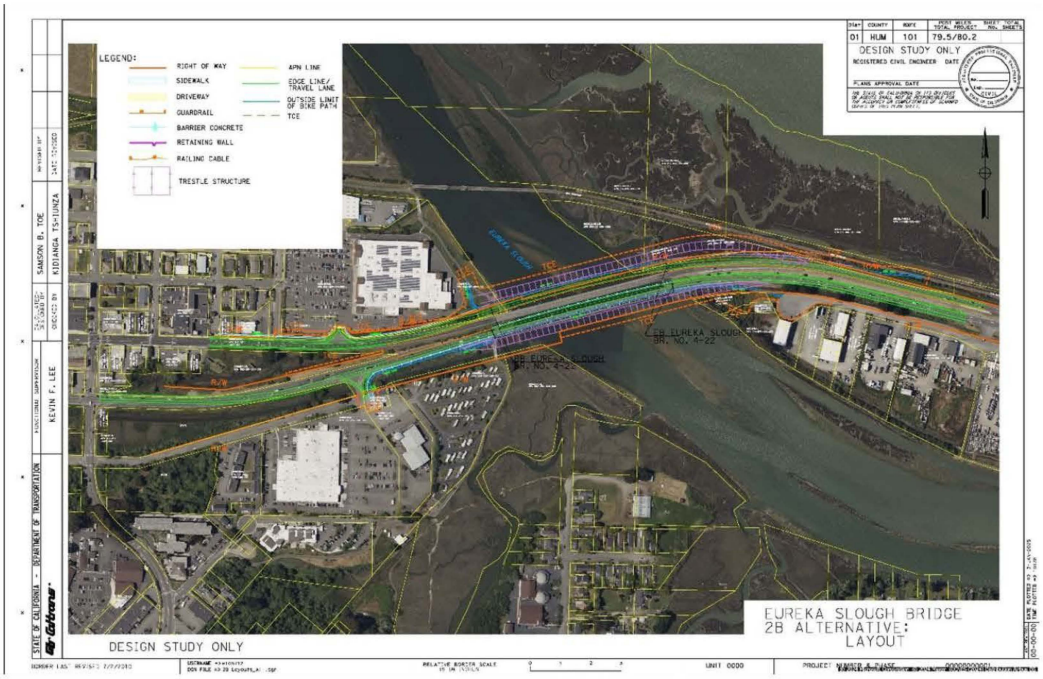


Figure 3. Alternative 2B Project Layout

Description of 4(f) Resource

Within the City of Eureka, the following resources would be temporarily affected by this project.

Eureka Waterfront Trail

The Eureka Waterfront Trail is nearly seven miles long and extends from the southwest end of the city near the Elk River estuary, along the shoreline of Humboldt Bay, to the Myrtletown community in the northeast end of the city near Eureka Slough. The trail was built in phases and connects industrial, commercial, residential, public facility, and open space areas for transportation and recreational use. Near Eureka Slough, the trail

is composed of a Class I, multi-use trail with two 5-foot-wide, asphalt paved travel lanes and two 2-foot-wide unpaved shoulders (Humboldt County 2020). The Eureka Waterfront Trail is a component of the Humboldt Bay Trail, the Great Redwood Trail, and the statewide California Coastal Trail.

Eureka Slough Boat Launch

The Eureka Slough Boat Launch is approximately 75 feet north of the existing southbound bridge and consists of a concrete boat ramp that is a dedicated paddleboat launch facility. There are three parking spots that are approximately 150-feet away located behind the Target building.

Use of the 4(f) Resource

Eureka Waterfront Trail

For both alternatives, the Eureka Waterfront Trail would remain open during construction, except when there is no feasible way to complete a specific work zone activity and provide safe public passage through the work zone. Any such closures would be short term and last only as long as necessary to complete the specific construction activity. Short-term trail closures would be managed by providing a detour route using signage and/or flaggers.

Construction equipment, materials, and workers would be visible from the trail temporarily during the construction period. Once construction is complete, the trail would continue to function as a no-cost recreational facility as it did prior to construction. Ultimately, both alternatives would be expected to enhance the viewshed by including aesthetic treatment on the new bridges and associated elements as well as reducing the number of piles under the bridges.

This project would require temporary occupancy of the waterfront trail.

Jesse Willor, City Engineer, City of Eureka
Re: Eureka Slough Bridges Replacement Project
EA 01-0M760

Eureka Slough Boat Launch

For both alternatives, the Eureka Slough boat launch would be temporarily closed for the duration of construction activities, up to 5 years, to maintain public safety.

There are at least 14 other public boat ramps located throughout Humboldt Bay area, including one located less than a mile away near the Humboldt Bay Rowing Association Boathouse, and three located within 1.5 miles of the Eureka Slough boat launch (Figure 4). The Eureka Slough boat launch is not a highly used recreational resource and is often not listed on websites and publications informing the public of boat launch locations in Humboldt Bay. Once construction is complete, the boat launch would be opened and would continue to function as a no-cost recreational facility as it did prior to construction.

This project would require temporary occupancy of this resource.



Figure 4. Locations of Boat Ramps in the Vicinity of the Eureka Slough Boat Ramp

Jesse Willor, City Engineer, City of Eureka
Re: Eureka Slough Bridges Replacement Project
EA 01-0M760

Measures to Minimize Harm to the Section 4(f) resource

Eureka Waterfront Trail

For both alternatives, during most of construction the trail would remain open to the public. To avoid closures, a covered walkway or tunnel scaffold may be installed to allow pedestrians to traverse the worksite safely. Flaggers may also be used to ensure safe passage through the work zone. When a closure is determined to be necessary, approximately 400-feet of the trail would be impacted by the closure. The trail may have a temporary detour through the active construction area or be routed onto local surface streets. Using the Caltrans Temporary Pedestrian Access Routes Handbook (Caltrans 2020), the contractor would prepare a Pedestrian Control Plan (PCP) that would outline how the project would provide a safe and accessible route and traffic control during construction. The plan would include measures including advanced notification of potential trail closures, on-site signage details, and detour details. The PCP would be provided to the City of Eureka for review and approval prior to the start of construction.

Additionally, this project would improve access/connectivity between the Humboldt Bay Trail (currently scheduled to open summer 2025) and the Eureka Waterfront Trail, as the new bridges would include a separate bicycle/pedestrian path connecting both ends of the bridges to the trails.

Eureka Slough Boat Launch

Access to the Eureka Slough boat launch may be closed due to proximity to construction activities for the duration of construction activities. Although boat access along the slough would be maintained during construction, signage would be placed at the boat put-in to inform boaters about potential delays at the Eureka Slough Bridges and safety precautions due to construction activities. Prior to the closure of the boat ramp, signage details would be provided to the City of Eureka for review and approval.

Jesse Willor, City Engineer, City of Eureka
Re: Eureka Slough Bridges Replacement Project
EA 01-0M760

With multiple options for boat launch in the vicinity of the Eureka Slough boat launch, recreational opportunities would continue to be accessible within the Eureka Slough and throughout Humboldt Bay during construction.

De Minimis Determination(s)

This section of the document discusses de minimis impact determinations under Section 4(f). Section 6009(a) of SAFETEA-LU amended Section 4(f) legislation at 23 United States Code (USC) 138 and 49 USC 303 to simplify the processing and approval of projects that have only de minimis impacts on lands protected by Section 4(f). This amendment provides that once the U.S. Department of Transportation (USDOT) determines that a transportation use of Section 4(f) property, after consideration of any impact avoidance, minimization, and mitigation or enhancement measures, results in a de minimis impact on that property, an analysis of avoidance alternatives is not required, and the Section 4(f) evaluation process is complete. FHWA's final rule on Section 4(f) de minimis findings is codified in 23 Code of Federal Regulations (CFR) 774.3 and CFR 774.17.

Responsibility for compliance with Section 4(f) has been assigned to the Caltrans pursuant to 23 USC 326 and 327, including de minimis impact determinations, as well as coordination with those agencies that have jurisdiction over a Section 4(f) resource that may be affected by a project action.

Neither alternative would result in the permanent incorporation orr constructive use of the trail or boat ramp. The transportation use of the Section 4(f) resources, together with any impact avoidance, minimization, and mitigation or enhancement measures incorporated into the project, does not adversely affect the activities, features, and attributes that qualify the resource for protection under Section 4(f); therefore, the work required for Eureka Slough Bridges would constitute *de minimis* impact to the Eureka Waterfront Trail and Eureka Slough Boat Launch, under Section 4(f).

Jesse Willor, City Engineer, City of Eureka
Re: Eureka Slough Bridges Replacement Project
EA 01-0M760

Public Input and Concurrence

As part of the Section 4(f) process, the public is afforded the opportunity to comment on this evaluation and Caltrans' intent to make a *de minimis* finding for the proposed project activities within the City of Eureka. This letter was circulated for public comment as an attachment to the Eureka Slough Bridges Project Environmental Impact Report/Environmental Assessment between June 2 and July 16, 2025. Please sign below to indicate that the City of Eureka concurs with Caltrans' determination that the proposed project alternatives would not adversely affect the activities, features, or attributes that qualify the property for protection under 4(f), returning this letter to me and retaining a copy for your agency.

_____ _____

Jesse Willor
City Engineer

If you have questions or need additional information, please contact Prairie Moore at (707) 815-6943 or Prairie.moore@dot.ca.gov.

Sincerely,

Steven Croteau
Senior Environmental Scientist–Branch E5
Caltrans, North Region Environmental

cc. Jeffrey Pimentel, Project Manager

Jesse Willor, City Engineer, City of Eureka
Re: Eureka Slough Bridges Replacement Project
EA 01-0M760

References

Natural Resources Services. 2016. *Humboldt Bay Water Trails Map.* Natural Resources Services: Redwood Community Action Agency Available: https://www.naturalresourcesservices.org/sites/default/files/Humboldt%20Bay%20Water%20Trails%20Map.pdf

Humboldt County. 2020. *Humboldt Bay Trail South Project Description Report.* Humboldt County Department of Public Works. Available: https://humboldtgov.org/DocumentCenter/View/89042/HBTS-Project-Description-Report-9-9-2020?bidId=#:~:text=Near%20Eureka%20Slough%2C%20the%20Eureka,%2Dfoot%2Dwide%20unpaved%20shoulders.

City of Eureka. 2023b. City of Eureka Bay to Zoo Trail Project Updates 2023. Available: https ://www.eurekaca.gov/257/Bay-to-Zoo-Trail#:~:text=The%20Bay%20to%20Zoo%20Trail%20provides%20more%20than%20two%20and,of%20the%20City%20of%20Eureka.

Appendix B Title VI/Non-Discrimination Policy Statement



CALIFORNIA STATE TRANSPORTATION AGENCY GAVIN NEWSOM, GOVERNOR

California Department of Transportation

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

September 2024

TITLE VI/NON-DISCRIMINATION POLICY STATEMENT

It is the policy of the California Department of Transportation (Caltrans), in accordance with Title VI of the Civil Rights Act of 1964 and the assurances set forth in the Caltrans' Title VI Program Plan, to ensure that no person in the United States shall on the grounds of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance. Related non-discrimination authorities, remedies, and state law further those protections, including sex, disability, religion, sexual orientation, age, low income, and Limited English Proficiency (LEP).

Caltrans is committed to complying with 23 C.F.R. Part 200, 49 C.F.R. Part 21, 49 C.F.R. Part 303, and the Federal Transit Administration Circular 4702.1B. Caltrans will make every effort to ensure nondiscrimination in all of its services, programs, and activities, whether they are federally funded or not, and that services and benefits are fairly distributed to all people, regardless of race, color, or national origin (including LEP). In addition, Caltrans will facilitate meaningful participation in the transportation planning process in a non-discriminatory manner.

The overall responsibility for this policy is assigned to the Caltrans Director. The Caltrans Title VI Coordinator is assigned to the Caltrans Office of Civil Rights Deputy Director, who then delegates sufficient responsibility and authority to the Office of Civil Rights' managers, including the Title VI Branch Manager, to effectively implement the Caltrans Title VI Program. Individuals with questions or requiring additional information relating to the policy or the implementation of the Caltrans Title VI Program should contact the Title VI Branch Manager at title.vi@dot.ca.gov or at (916) 639-6392, or visit the following web page: https://dot.ca.gov/programs/civil-rights/title-vi.

TONY TAVARES
Director



Appendix C Draft Mitigation Summary and Environmental Commitments Record



Introduction

The purpose of this Draft Mitigation Monitoring and Reporting Program (MMRP) is to provide a summary of conceptual measures that would offset the potential impacts associated with the Eureka Slough Bridges Replacement Project (LCG). The project is located on U.S. Highway 101 (U.S. 101) in Humboldt County between Post Miles (PMs) 79.50 and 80.20. The purpose of the project is to improve the function and geometrics of the northbound and southbound Eureka Slough bridges to ensure uninterrupted traffic movement in the event of a collision or emergency incident, a seismic event, or any other catastrophic event. The project is needed to address structural and geometric deficiencies in the northbound and southbound Eureka Slough bridge structures. The southbound structure, built in 1943, has seismic deficiencies, is fracture critical, and has a non-standard profile which contributes to a collision rate at the bridge departure that is double the statewide average for similar facilities. The project would result in temporary and permanent impacts to resources administered by the California Coastal Commission (CCC), City of Eureka, California Department of Fish and Wildlife (CDFW), U.S. Fish and Wildlife Service (USFWS), National Marine Fisheries Service (NMFS), North Coast Regional Water Quality Control Board (NCRWQCB), and the U.S. Army Corps of Engineers (USACE).

Project Impacts and Proposed Mitigation

Both proposed build alternatives would have temporary and permanent impacts to aquatic habitats that include estuarine marshes, roadside ditch wetlands, estuarine and marine deepwater, estuarine channels, eelgrass beds, tidal mud flats, and culverted waters, and riparian habitat, as well as Pickleweed Mats Sensitive Natural Community (SNC). All aquatic habitats and SNC's impacted by the Project are considered Environmentally Sensitive Habitat Areas (ESHA). The Project is also expected to affect listed sensitive fish species that include longfin smelt, NC steelhead, CC Chinook salmon, SONCC coho salmon, Coastal cutthroat trout and sDPS green sturgeon. The aquatic habitat impacts overlap with habitat for these sensitive fish species. The temporary and permanent impacts on these multiple resources cannot be fully offset on-site therefore, off-site mitigation at appropriate locations would occur.

At this time no one strategy has been determined to provide mitigation coverage for all impacts associated with the Project. Caltrans is currently developing multiple off-

site permittee mitigation strategies that are expected to overlap and utilized in a combination yet to be determined. The strategies currently consist of the following: a request for proposal (RFP) to contract a third-party to establish mitigation credits, two cooperative mitigation projects with the Humboldt Bay Harbor District, and one project with CalTrout. These options are beneficial as they do not require Caltrans to purchase property and develop the mitigation, however, they do involve permitting agency approval. All mitigation projects should benefit multiple resources, including aquatic habitats, SNC, ESHA, and sensitive listed fish species.

To be sure that all the environmental measures identified are executed at the appropriate times, the mitigation program (as articulated on the proposed Environmental Commitments Record [ECR] which follows) would be implemented. During project design, avoidance, minimization, and/or mitigation measures would be incorporated into the project's final plans, specifications, and cost estimates, as appropriate. All permits would be obtained prior to implementation of the project. During construction, environmental and construction/engineering staff would ensure that the commitments contained in this ECR are fulfilled. Following construction and appropriate phases of project delivery, long-term mitigation maintenance and monitoring would take place, as applicable. As the following ECR is a draft, some fields have not been completed, and would be filled out as each of the measures is implemented.

A final MMRP for the project would be completed and submitted to the appropriate administering agencies as an attachment to the permit applications for the project. Any permitting required for the project and updated environmental impact analysis would be included in the final MMRP and the Final Environmental Impact Report/Environmental Assessment (FEIR/EA) would be updated accordingly.

The monitoring period for impacts to wetlands and other waters is expected to be between five and ten years. Likely success criteria would include at least 85% cover of appropriate native vegetation, and any wetland re-establishment or mitigation areas would meet the 3-parameter wetland definition by the final monitoring year.

The monitoring ratios, period, and success criteria for the mitigation of impacts to the beforementioned resources would be determined in a final Habitat Mitigation and Monitoring Plan. This plan would be established prior to application of project

permits and would take into consideration input from project stakeholders and identification of requirements from federal/state regulators.

Environmental Commitments Record

Task and Brief Description	Responsible Branch/Staff	Timing/ Phase
Compensation Measures for Potentially Significant Impacts under CEQA		
Bio-3: Estuarine Marsh: To compensate for impacts from Alternative 2B to estuarine marshes, Caltrans would focus on measures that provide overlapping benefits to these resources and the biological communities that depend upon these resources. Compensation may include a combination of on- and off-site restoration efforts, and/or preservation of existing habitat through purchase. Compensation efforts and appropriate ratios would be determined in coordination with the permitting agencies. Ratios may range from 1:1 to 4:1, depending on the quality of the resource impacted, whether an impact is temporary or permanent, and on the timing of the compensation measures (in advance or delayed).	RE, ECL, Biologist	Pre/During/ Post Construction
Bio-5: To offset potential effects on marine mammals, a Marine Animal Monitoring Plan would also be developed that would include monitoring for presence of marine mammals during project activities that may exceed established acoustic and hydroacoustic noise thresholds, and halting work when any are present and could be subject to injury. In addition, a Hydroacoustic Monitoring Plan (HMP) would be developed that would include measures to minimize exposure of marine mammals to potentially harmful underwater sounds resulting from the project. Note, the HMP is a standard measure for projects that involve impact pile driving, hoe-ramming, jackhammering, or any other activities that could potentially produce impulsive sound waves that may affect listed fish species (see Section 1.6, BR-2B). It is mentioned in the MMRP because marine mammals would be included as part of the plan.	ECL, Biologist	During/Post Construction
Bio-6: To compensate for potential impacts on longfin smelt, NC steelhead, CC Chinook salmon, SONCC coho salmon, Coastal cutthroat trout, sDPS green sturgeon, Pacific lamprey, and tidewater goby, Caltrans may implement a combination of on-site and off-site restoration efforts, and/or preservation of existing habitat through purchase. Caltrans would focus on measures that provides overlapping benefits to sensitive fish species and wetlands and other waters as described in **Bio-3 and 4**. Mitigation	RE, ECL, Biologist	During Construction

Task and Brief Description	Responsible Branch/Staff	Timing/ Phase
activities could include habitat creation and/ or restoration which would likely include enhancing estuarine function through a subset of the following options: slough channel construction or restoration, enhanced slough channel connectivity, tidal marsh creation or restoration, fish passage barrier removal through tide gate replacement, creation or restoration of off-channel habitat in a Humboldt Bay tributary. All off-site mitigation would focus on improving some or all of the following: habitat quality, connectivity, water quality, spawning habitat, migration, and juvenile rearing and/or foraging for these sensitive fish species. Final acreage amount, location, and restoration project would be determined in coordination with the appropriate administering agencies.		
Bio-8: To avoid impacts from pile diving noise on tidewater goby from both Alternatives (2A and 2B) no piles would be driven into the unnamed slough channel located between the crematorium and the northbound highway lanes at post mile 80.	RE, ECL, Biologist	Pre/ During Construction
Measures to Avoid or Minimize Non-Significant Impacts		
Bio-1: To compensate for impacts on Sensitive Natural Communities (SNC), such as Pickleweed mats and rare plant species such as Humboldt Bay owl's-clover and Point Reyes bird's-beak, Caltrans may implement a combination of on- and off-site restoration efforts and/or preservation of existing habitat through purchase. Seeds of Humboldt Bay owl's-clover and Point Reyes bird's-beak may be salvaged prior to construction and saved for future on-site or off-site transplanting. Caltrans would also implement a Revegetation Plan as a standard measure that includes on-site revegetation and restoration after construction. Given the spatial overlap with estuarine marsh wetlands, Pickleweed mats, Humboldt Bay owl's-clover and Point Reyes bird's-beak, offsite measures will likely be combined with the compensation measures detailed in Bio-3.	Environmental Construction Liaison (ECL), Biologist	During/Post Construction
Bio-2: To compensate for eelgrass impacts, Caltrans would conduct off-site compensation measures in the Humboldt Bay. Offsite measures would be either through a cooperative agreement with the Humboldt Bay Harbor District or through another eelgrass restoration project. Ratios may range from 1:1 to 4:1, depending on whether an impact is temporary or permanent, and on the timing of the compensation measures (in advance or delayed).	ECL, Biologist	During/Post Construction

Task and Brief Description	Responsible Branch/Staff	Timing/ Phase
Bio-4: For Wetlands and Other Waters, permit-driven compensation would be conducted for impacts to marine deepwater, estuarine channels, tidal mud flats, roadside ditch wetlands, culverted waters, and coastal riparian wetlands. Compensation would focus on measures that provides overlapping benefits to these resources and the biological communities that depend upon these resources such as fish and invertebrates. Compensation may include a combination of on- and off-site restoration efforts, and/or preservation of existing habitat through purchase. Compensation efforts and appropriate ratios would be determined in coordination with the permitting agencies. Ratios may range from 1:1 to 4:1, depending on the quality of the resource impacted, whether an impact is temporary or permanent, and on the timing of the measures (in advance or delayed).	ECL, Biologist	During/Post Construction
Bio-7: To offset potential effects on marbled murrelets (MAMU), a Marine Animal Monitoring Plan would be developed that would include monitoring for marbled murrelets during project activities that may exceed established hydroacoustic noise thresholds for injury, and halting work if a murrelet is present and could be subject to injury. In addition, a Hydroacoustic Monitoring Plan (HMP) would be developed that would include measures to minimize exposure of MAMU to potentially harmful underwater sounds resulting from the project. The HMP is a standard measure for projects that involve impact pile driving, hoe-ramming, jackhammering, or any other activities that could potentially produce impulsive sound waves that may affect listed fish species (see Section 1.6, BR-2B). It is mentioned in the MMRP because MAMU would be included as part of the plan.	RE, ECL, Biologist	During Construction
CI: For travelers by foot or bicycle, access across the project limits would be provided throughout the duration of construction.	RE, ECL	During Construction
Noise-1: Prior to nighttime pile installation or other activities that may cause elevated noise levels, public outreach and notifications would occur.		
Noise-2: Where feasible, shielding would be provided around jackhammers, concrete saws, and pile installation hammer.		
PR-1: Except during certain times (e.g., existing bridge abutment removal), Eureka Slough Boat	RE, ECL	During Construction

Task and Brief Description	Responsible Branch/Staff	Timing/ Phase
Ramp and Eureka Waterfront Trail access would be facilitated. When access would be limited, detour signage would be provided and/or flaggers would be present to ensure user safety.		
Visual-1: Aesthetic treatment, such as color and pedestrian railing design, would be applied to the bridge railing to increase its visual compatibility. Bridge structures, such as retaining walls and wingwalls, would be aesthetically treated with color, texture, and/or patterns to increase the project's visual compatibility with the surrounding environment.	RE, ECL	During/Post Construction
WR-1: Potential effects to biological resources on the wildlife Refuge would be offset through one or more of the Biological Measures (Bio-X) discussed in this MMRP. Final measures would be coordinated with the Humboldt Bay National Wildlife Refuge.	ECL, Biologist	During/Post Construction

Anticipated Agency Permits and Environmental Review

Depending on the measures implemented, a proposed mitigation may require its own environmental clearance, mitigation requirements, and potential approvals by the agencies listed below. While the mitigation projects themselves would likely be self-mitigating, additional mitigation measures would be captured on-site within the mitigation projects themselves, to the maximum extent feasible.

1. State Historic Preservation Officer – Section 106 Concurrence for potential impacts associated with restoration activities
2. California Coastal Commission – Coastal Development Permit
3. North Coast Regional Water Quality Control Board – 401 Water Quality Certification.
4. U.S. Army Corps of Engineers – 404 Nationwide Permit
5. National Marine Fisheries Service (NMFS) – ESA Section 7 Biological Opinion
6. U.S. Fish and Wildlife Service (USFWS) – ESA Section 7 Biological Opinion CDFW
7. 1600 Lake and Streambed Alteration Agreement

Appendix D Notice of Preparation



Notice of Preparation

To: Responsible/Trustee Agency

(Address)

From: Department of Transportation, District 01
1656 Union Street
(Address)
Eureka, CA 95502-3700

Subject: Notice of Preparation of a Draft Environmental Impact Report

California Department of Transportation, District 01 will be the Lead Agency and will prepare an environmental impact report for the project identified below. We need to know the views of your agency as to the scope and content of the environmental information which is germane to your agency's statutory responsibilities in connection with the proposed project. Your agency will need to use the EIR prepared by our agency when considering your permit or other approval for the project.

The project description, location, and the potential environmental effects are contained in the attached materials. A copy of the Initial Study (☐ is ☒ is not) attached.

Due to the time limits mandated by State law, your response must be sent at the earliest possible date but not later than 30 days after receipt of this notice.

Please send your response to Attn: Felicia Zimmerman, Felicia.Zimmerman@dot.ca.gov at the address shown above. We will need the name for a contact person in your agency.

Project Title: Eureka Slough Bridge Replacement

Project Applicant, if any: California Department of Transportation, District 01

Date 9/15/2023

Signature Felicia Zimmerman

Title Associate Environmental Planner

Telephone 707-815-5994

Reference: California Code of Regulations, Title 14, (CEQA Guidelines) Sections 15082(a), 15103, 15375.

Notice of Preparation
Eureka Slough Bridges Replacement Project
Availability of Notice of Preparation of an Environmental Impact Report

Date: September 18, 2023

To: Public Agencies and Interested Parties

From: California Department of Transportation

Subject: Notice of Preparation of a Draft Environmental Impact Report for Eureka Slough Bridges Replacement Project

Caltrans has prepared this Notice of Preparation (NOP) to provide the Office of Planning and Research, responsible and trustee agencies, and other interested parties with sufficient information describing the Project and its potential environmental effects.

The NOP will be circulated for a 30-day public review and comment period that begins on September 18, 2023, and ends on October 19, 2023. Caltrans welcomes public input during the review period. If Caltrans has not received either a response or a well-justified request for additional time by a responsible agency by the end of the review period, Caltrans may presume the responsible agency has no response (CEQA Guidelines Section 15082(b)(2)).

Please provide any written comments that you would like Caltrans to consider, along with the name of the appropriate contact person in your agency, to the contact shown below by October 19, 2023, at 5:00 p.m.

Felicia Zimmerman
Associate Environmental Planner
Caltrans, District 1
1656 Union Street
Eureka, CA 95501

Comments may also be submitted via email at Felicia.Zimmerman@dot.ca.gov . All comments must be received no later than October 19, 2023, at 5:00 p.m.

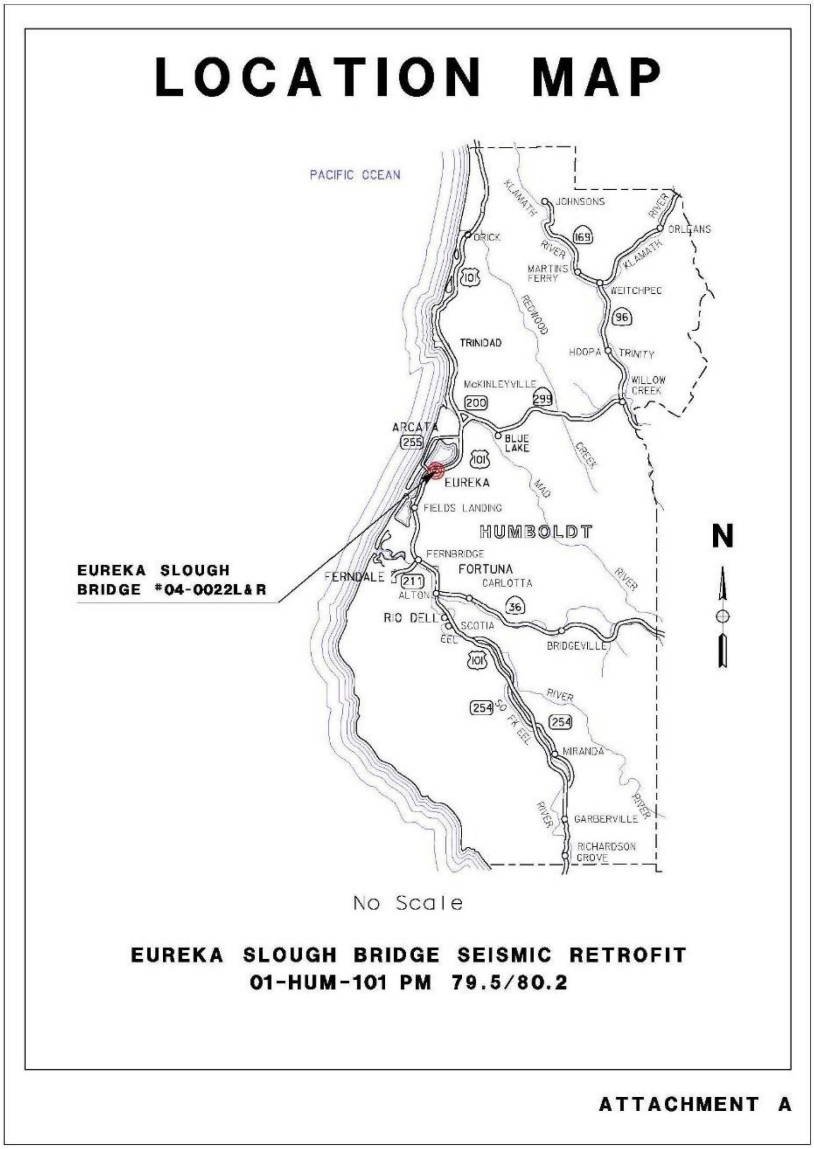
standard inside and outside shoulders and a separated bicycle/pedestrian path on the outside edge. Work would include drainage, landscaping, cable barrier connection/continuation, and traffic management. Existing water and sewer mains fastened to the side of the northbound and southbound bridges would require relocation. Permits to enter and temporary construction easements would be required. Staging is expected to take place outside State right of way.

Alternatives:
The proposed project alternatives are currently being developed. The project alternatives may consist of:

1. Retrofit of both existing structures.
2. Replace existing bridges with two new structures. Each new bridge would have two traffic lanes, standard inside and outside shoulders and a separated bicycle/pedestrian path on the outside edge.
3. Similar to Alternative 2, but with the addition of a third bridge to provide a local south/westbound connection from Jacobs Avenue to 6th Street in Eureka. The bicycle/pedestrian path would be constructed on the outside edge of the third bridge.
4. No build alternative. No change to current conditions.

Potential Environmental Effects of the Project:
The proposed project is expected to result in temporary and permanent environmental effects. The draft EIR/EA will determine what resources would be affected, the level of significance, and feasible measures to reduce impacts. Environmental effects anticipated for study include, but are not limited to:

- Aesthetics
- Biological Resources
- Cultural Resources
- Energy
- Geology / Soils
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology
- Land Use
- Noise
- Public Services Recreation
- Transportation / Traffic
- Utilities



Eureka Slough Bridges Replacement Project on U.S. Highway 101 from Post Miles 79.5 to 80.2


Eureka Slough Bridge
HUM 101 80.2
HUM 101 79.5
7th St
Myrtle Avenue
West Ave
Google Earth
4000 ft
N

Project Title:
Eureka Slough Bridges Replacement Project; EA: 01-0M760

Project Location:
The Eureka Slough Bridges (04-0022 L/R) are located in Humboldt County on US 101 between Post Miles 79.5 and 80.2 at the northern end of the city of Eureka.

Project Background:
The California Department of Transportation (Caltrans), the Lead Agency, is preparing an environmental document to address impacts associated with the proposed Eureka Slough Bridges Replacement Project on U.S. Highway 101. Both structures have exceeded their design life and have narrow shoulders that impede multimodal transportation.

The environmental document will be prepared as a joint document pursuant to the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA). Caltrans will be preparing an Environmental Impact Report/Environmental Assessment (EIR/EA) for the project. As required by CEQA, Caltrans is distributing this Notice of Preparation and requesting comments from responsible and trustee agencies regarding significant environmental issues, reasonable alternatives, and reasonable mitigation measures that will be discussed in the EIR/EA. An Initial Study has not been prepared for this project, therefore is not attached to this Notice of Preparation.

Need:
The project is needed to address structural and geometric deficiencies in the northbound and southbound Eureka Slough Bridge structures. The southbound structure, built in 1943, has seismic deficiencies, is fracture critical, and has a non-standard profile which contributes to a collision rate at the bridge departure that is double the statewide average for similar facilities. The northbound structure, built in 1956, also has seismic deficiencies and has nonstandard bridge rails built on raised concrete curbs within the shoulders. The structures have exceeded their design life and impede multimodal transportation.

Purpose:
The purpose of this project is to improve the function and geometrics of the northbound and southbound Eureka Slough Bridges. Improvements would ensure uninterrupted traffic movement in the event of a collision or emergency incident, seismic event, or any other catastrophic event. The structures would be upgraded to current standards with separated pedestrian pathways that would promote and enhance mobility for all modes of transportation.

Project Description:
The project proposes to address seismic deficiencies and vertical curvature by replacing two existing bridges with two new structures. Each new bridge would have two traffic lanes,

Appendix E List of Acronyms and Abbreviations



ABBREVIATION / ACRONYM	DESCRIPTION
AAR	Alternatives Analysis Report
AB	Assembly Bill
ACE	Areas of Conservation Emphasis (CDFW)
ACS	American Community Survey
ACHP	Advisory Council on Historic Preservation
ACM	Asbestos Containing Material
ADA	Americans with Disabilities Act
ADI	Area of Direct Impact
ADL	aerially deposited lead
ADOE	Archaeological Determinations of Eligibility
ADT	Average Daily Traffic
AMMs	Avoidance, Minimization and Mitigation Measures
APE	Area of Potential Effects
APN	Assessor Parcel Number
ARPA	Archaeological Resources Protection Act
ASBS	Area of Special Biological Significance
ASR	Archaeological Survey Report
AVE	Area of Visual Effect
BGS	Below-the-Ground-Surface
BMP(s)	Best Management Practice(s)
BSA	Biological Study Area
BTU	British thermal unit
CAFE	Corporate Average Fuel Economy
CAL EPA	California Environmental Protection Agency
Cal-IPC	California Invasive Plant Council
Cal/OSHA	California Division of Occupational Safety and Health
Caltrans	California Department of Transportation
CAPTI	Climate Action Plan for Transportation Infrastructure
CARB	California Air Resources Board
CC Chinook	California Coastal Chinook salmon ESU
CCA	California Coastal Act of 1976
CCAA	California Clean Air Act
CCC	California Coastal Commission
CCR	California Code of Regulations
CCT	California Coastal Trail
CD	Consistency Determination
CDFW	California Department of Fish and Wildlife
CDP	Coastal Development Permit

ABBREVIATION / ACRONYM	DESCRIPTION
CDPR	California Department of Parks and Recreation
CDTFA	California Department of Tax and Fee Administration
CEHC	California Essential Habitat Connectivity Project
CEMP	California Eelgrass Mitigation Policy
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act of 1980
CERFA	Community Environmental Response Facilitation Act of 1992
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CFS	cubic feet per second
CGP	Construction General Permit
CH	Critical Habitat
CH_4	methane
CHP	California Highway Patrol
CIA	Community Impact Assessment
CIDH	Cast-In-Drilled-Hole (pile)
CISS piles	Cast-in-Steel-Shell piles
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
CRHR	California Register of Historical Resources
CRPR	California Rare Plant Rank
CSA	Community Study Area
cSel	Cumulative Sound Exposure Level
CSLC	California State Lands Commission
CTC	California Transportation Commission
CWA	Clean Water Act
CTP	California Transportation Plan
CZMA	Coastal Zone Management Act of 1972
dB	decibel
dBA	A-weighted decibel
DEIR	Draft Environmental Impact Report
Department	Department of Transportation
DHHS	Department of Health and Human Services
DPPAs	Design Pollution Prevention Areas

ABBREVIATION / ACRONYM	DESCRIPTION
DPS	Distinct Population Segment
DSA	Disturbed Soil Area
DTSC	California Department of Toxic Substances Control
DWR	California Department of Water Resources
EA	Environmental Assessment
EBRA	Expert-Based Risk Assessment
ECAs	Essential Connectivity Areas
ECL	Environmental Construction Liaison
ECR	Environmental Commitments Record
EDR	Environmental Data Resources
EFH	Essential Fish Habitat
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
EO	Executive Order
EPD	Eureka Police Department
EPIC	Environmental Protection Information Center
ESA(s)	Environmentally Sensitive Area(s)
ESHA(s)	Environmentally Sensitive Habitat Area(s)
ESL	Environmental Study Limits
ESU	Evolutionarily Significant Unit
EQI	Caltrans Transportation Equity Index
°F	degrees Fahrenheit
FC	Federal Candidate species
FCAA	Federal Clean Air Act
FE	Federal Endangered species
FED	Final Environmental Document
FEMA	Federal Emergency Management Agency
FESA	Federal Endangered Species Act
FHSZ	Fire Hazard Severity Zone
FHWA	Federal Highway Administration
FIFRA	Federal Insecticide, Fungicide and Rodenticide Act
FIRM	Flood Insurance Rate Maps
FONSI	Finding of No Significant Impact
FT	Federal Threatened species
FTA	Federal Transit Administration
FTIP	Federal Transportation Improvement Program
GDP	Gross Domestic Product
GHG	greenhouse gas

ABBREVIATION / ACRONYM	DESCRIPTION
GMP	General Management Plan
GP	General Plan
GWP	Global Warming Potential
H_2S	hydrogen sulfide
H&SC	Health and Safety Code
HA	Hydrologic Area
HAPC	Habitat Area of Particular Concern
HBF	Humboldt Bay Fire
HCAOG	Humboldt County Association of Governments
HCP	Habitat Conservation Plan
HEL	Highly Erodible Land (USDA)
HFC	hydrofluorocarbon
HMP	Hydroacoustic Monitoring Plan
HPDF	Historic Property Data File
HU	Hydrologic Unit
HUM	Humboldt
HBNWR	Humboldt Bay National Wildlife Refuge
HTL	High Tide Line
IPCC	Intergovernmental Panel on Climate Change
ISA	Initial Site Assessment
ITEK	Indigenous Traditional Ecological Knowledge
ITP	Incidental Take Permit
IUCN	International Union for Conservation of Nature
LBP	lead-based paint
LCP	Lead-Containing Paint
LCP	Local Coastal Program
L_{eq}	Equivalent sound level
L_{max}	Maximum sound level
LEDPA	Least Environmentally Damaging Practicable Alternative
LOS	Levels of Service
LOTB	Log of Test Borings
LRA	Local Responsibility Area
LSAA	Lake and Streambed Alteration Agreement (CDFW)
LTD	Low Threat Discharge
LUP	Land Use Plan
LUSA	Land Use Study Area
LWCF	Land and Water Conservation Fund
Magnuson-Stevens Act	Magnuson-Stevens Fishery Conservation and Management Act of 1976, as amended

ABBREVIATION / ACRONYM	DESCRIPTION
MBTA	Migratory Bird Treaty Act
mg/L	milligrams per liter
MHHW	Mean Higher High Water
MHT	Mean High Tide
MHW	Mean High Water
MLD	Most Likely Descendant
MMPA	Marine Mammal Protection Act
MMRP	Mitigation Monitoring and Reporting Program
MMT	million metric tons
$MMTCO_2e$	million metric tons of carbon dioxide equivalent
MOA	Memorandum of Agreement
MOE	Margin of Error
MOU	Memorandum of Understanding
mph	miles per hour
MPO(s)	Metropolitan Planning Organization(s)
MS4s	Municipal Separate Storm Sewer Systems
MSAT	Mobile Source Air Toxics
MWH	Megawatt-hours
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAC	Noise Abatement Criteria
NAGPRA	Native American Graves Protection and Repatriation Act of 1990
NAHC	Native American Heritage Commission
NAVD 88	North American Vertical Datum of 1988
NB	Northbound
NBIS	National Bridge Inspection Standard
NC Steelhead	Steelhead–Northern California DPS
NCRWQCB	North Coast Regional Water Quality Control Board
NEPA	National Environmental Policy Act
NES	Natural Environment Study
NESHAP	National Emission Standards for Hazardous Air Pollutants
NFA	No Further Action (letter)
NHPA	National Historic Preservation Act
NHTSA	National Highway Traffic Safety Administration
NIS	New Impervious Surface
NMFS	National Marine Fisheries Service
NO_2	nitrogen dioxide
NOA	Naturally Occurring Asbestos

ABBREVIATION / ACRONYM	DESCRIPTION
NOA	Notice of Availability
NOAA	National Oceanic and Atmospheric Administration
NOD	Notice of Determination
NOP	Notice of Preparation
NO_X	nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
NPS	National Park Service
NRHP	National Register of Historic Places
NWR	Natural Resource Public land
O_3	ozone
OEHHA	California Office of Environmental Health Hazards Assessment
OHW	Ordinary High Water
OHWM	Ordinary High Water Mark
OPC	Ocean Protection Counsel
OPR	(Governor's) Office of Planning and Research
OSHA	Occupational Safety and Health Act
PA	Programmatic Agreement
Pb	lead
PCBR	Pacific Coast Bike Route
PCBs	polychlorinated biphenyls
PCTA	Post-Construction Treatment Area
PDT	Project Development Team
PLACs	Permits, Licenses, Agreements and Certifications
PM(s)	Post Mile(s)
PM	particulate matter
$PM_{2.5}$	particles of 2.5 micrometers or smaller
PM_{10}	particles of 10 micrometers or smaller
Porter-Cologne Act	Porter-Cologne Water Quality Control Act
PPV	Peak Particle Velocity
PR	Project Report
PRC	Public Resources Code
project	Eureka Slough Bridges Replacement Project
PS&E	Plans, Specifications, and Estimates
PSR	Project Study Report
PTS	Permanent Threshold Shift
RAP	Relocation Assistance Program
RCRA	Resource Conservation and Recovery Act of 1976
RE	Resident Engineer

ABBREVIATION / ACRONYM	DESCRIPTION
RHA	Rivers and Harbors Act
ROG	Reactive Organic Gases
ROW	Right of Way
RSA	Resource Study Area
RSP	Rock Slope Protection
RTP(s)	Regional Transportation Plan(s)
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
SB	Southbound
SC	State Candidate species
SCS	Sustainable Communities Strategy
SDC	Seismic Design Criteria
SE	State Endangered species
SEL	Sound Exposure Level
SEM	Sequential Excavation Method
SER	Caltrans Standard Environmental Reference
SHOPP	State Highway Operation and Protection Program
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
SLR	Sea Level Rise
SNC(s)	Sensitive Natural Community(ies)
SO_2	sulfur dioxide
SONCC coho salmon	Southern Oregon/Northern California Coast coho salmon ESU
SO_X	sulfur oxides
SS	Standard Specifications
SSC	Species of Special Concern
SSP	Standard Special Provision
ST	State Threatened species
SWMP	Statewide Storm Water Management Plan
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TCE	Temporary Construction Easement
TCL	Traditional Cultural Landscape
TCP	Traditional Cultural Property
THPO	Tribal Historic Preservation Officer
THVF	Temporary High-Visibility Fencing
TMDLs	Total Maximum Daily Loads
TMP	Transportation Management Plan

ABBREVIATION / ACRONYM	DESCRIPTION
TSCA	Toxic Substances Control Act
TTS	Temporary Threshold Shift
U.S. 101	U.S. Highway 101
USACE	U.S. Army Corps of Engineers
USC	United States Code
USCG	United States Coast Guard
USDA	United States Department of Agriculture
USDOT	U.S. Department of Transportation
U.S. EPA	U.S. Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
VA	Value Analysis
VIA	Visual Impact Assessment
VMT	vehicle miles traveled
VROOM	Variety in Rural Options of Mobility
WBWG	Western Bat Working Group
WDRs	Waste Discharge Requirements
WFO	Weather Forecast Office (NOAA)
WPCP	Water Pollution Control Program
WQAR	Water Quality Assessment Report
WQC	Water Quality Certification
WQOs	Water Quality Objectives
ZEV	zero-emission off-road vehicle

Appendix F Species Lists



United States Department of the Interior

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

In Reply Refer To: 01/23/2025 16:58:41 UTC
Project Code: 2023-0016031
Project Name: Eureka Slough Bridge 01-0M760

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

To Whom It May Concern:

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

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

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

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

evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

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

https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see https://www.fws.gov/program/migratory-bird-permit/what-we-do.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures see https://www.fws.gov/library/collections/threats-birds.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/partner/council-conservation-migratory-birds.

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

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Bald & Golden Eagles
- Migratory Birds
- Wetlands

OFFICIAL SPECIES LIST

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

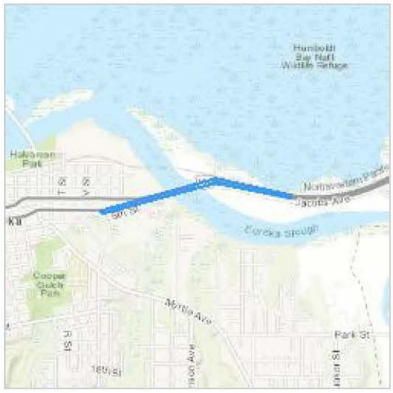
This species list is provided by:

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

PROJECT SUMMARY

Project Code: 2023-0016031
Project Name: Eureka Slough Bridge 01-0M760
Project Type: Bridge - Replacement
Project Description: Eureka Slough Bridges Project
Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@40.80484415123496,-124.14250373840332,14z



Counties: Humboldt County, California

ENDANGERED SPECIES ACT SPECIES

There is a total of 10 threatened, endangered, or candidate species on this species list.

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

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

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

---

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

MAMMALS

NAME	STATUS
Pacific Marten, Coastal Distinct Population Segment *Martes caurina* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/9081	Threatened

BIRDS

NAME	STATUS
California Condor *Gymnogyps californianus* Population: Pacific Northwest NEP No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8193	Experimental Population, Non-Essential
Marbled Murrelet *Brachyramphus marmoratus* Population: U.S.A. (CA, OR, WA) There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/4467	Threatened
Northern Spotted Owl *Strix occidentalis caurina* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/1123	Threatened
Western Snowy Plover *Charadrius nivosus nivosus* Population: Pacific Coast population DPS-U.S.A. (CA, OR, WA), Mexico (within 50 miles of Pacific coast) There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/8035	Threatened
Yellow-billed Cuckoo *Coccyzus americanus* Population: Western U.S. DPS There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/3911	Threatened

REPTILES

NAME	STATUS
Green Sea Turtle *Chelonia mydas* Population: East Pacific DPS No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6199	Threatened
Northwestern Pond Turtle *Actinemys marmorata* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1111	Proposed Threatened

FISHES

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

INSECTS

NAME	STATUS
Monarch Butterfly *Danaus plexippus* There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/9743	Proposed Threatened

CRITICAL HABITATS

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

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

USFWS NATIONAL WILDLIFE REFUGE LANDS AND FISH HATCHERIES

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

The following FWS National Wildlife Refuge Lands and Fish Hatcheries lie fully or partially within your project area:

FACILITY NAME	ACRES
HUMBOLDT BAY NATIONAL WILDLIFE REFUGE https://www.fws.gov/our-facilities?$keywords="%5C%22HUMBOLDT+BAY+NATIONAL+WILDLIFE+REFUGE%5C%22"	3,697.762

BALD & GOLDEN EAGLES

Bald and Golden Eagles are protected under the Bald and Golden Eagle Protection Act [2] and the Migratory Bird Treaty Act (MBTA) [1]. Any person or organization who plans or conducts activities that may result in impacts to Bald or Golden Eagles, or their habitats, should follow appropriate regulations and consider implementing appropriate avoidance and minimization measures, as described in the various links on this page.

1. The Bald and Golden Eagle Protection Act of 1940.

2. The Migratory Birds Treaty Act of 1918.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

There are Bald Eagles and/or Golden Eagles in your project area.

Measures for Proactively Minimizing Eagle Impacts
For information on how to best avoid and minimize disturbance to nesting bald eagles, please review the National Bald Eagle Management Guidelines. You may employ the timing and activity-specific distance recommendations in this document when designing your project/ activity to avoid and minimize eagle impacts. For bald eagle information specific to Alaska, please refer to Bald Eagle Nesting and Sensitivity to Human Activity.

The FWS does not currently have guidelines for avoiding and minimizing disturbance to nesting Golden Eagles. For site-specific recommendations regarding nesting Golden Eagles, please consult with the appropriate Regional Migratory Bird Office or Ecological Services Field Office.

If disturbance or take of eagles cannot be avoided, an incidental take permit may be available to authorize any take that results from, but is not the purpose of, an otherwise lawful activity. For assistance making this determination for Bald Eagles, visit the Do I Need A Permit Tool. For assistance making this determination for golden eagles, please consult with the appropriate Regional Migratory Bird Office or Ecological Services Field Office.

Ensure Your Eagle List is Accurate and Complete
If your project area is in a poorly surveyed area in IPaC, your list may not be complete and you may need to rely on other resources to determine what species may be present (e.g. your local FWS field office, state surveys, your own surveys). Please review the Supplemental Information on Migratory Birds and Eagles, to help you properly interpret the report for your specified location, including determining if there is sufficient data to ensure your list is accurate.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to bald or golden eagles on your list, see the "Probability of Presence Summary" below to see when these bald or golden eagles are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Mar 1 to Aug 31
Golden Eagle *Aquila chrysaetos* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1680	Breeds Mar 1 to Aug 31

PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

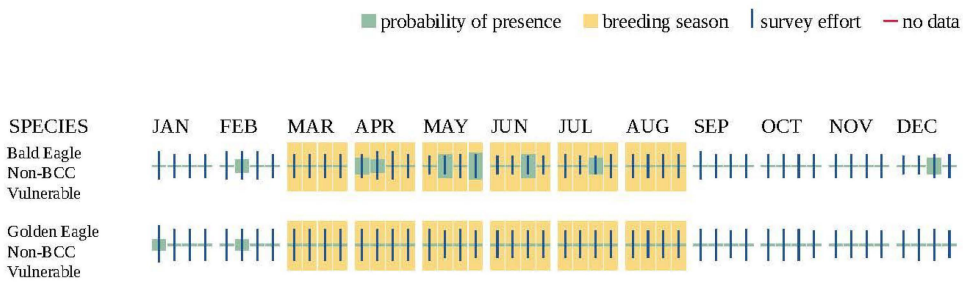
Probability of Presence (■)

Green bars; the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during that week of the year.

Breeding Season (■)
Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

Survey Effort (|)
Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data (–)
A week is marked as having no data if there were no survey events for that week.



Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide avoidance and minimization measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

MIGRATORY BIRDS

The Migratory Bird Treaty Act (MBTA) [1] prohibits the take (including killing, capturing, selling, trading, and transport) of protected migratory bird species without prior authorization by the Department of Interior U.S. Fish and Wildlife Service (Service). The incidental take of migratory birds is the injury or death of birds that results from, but is not the purpose, of an activity. The Service interprets the MBTA to prohibit incidental take.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the "Probability of Presence Summary" below to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Allen's Hummingbird *Selasphorus sasin* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9637	Breeds Feb 1 to Jul 15
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Mar 1 to Aug 31
Black Oystercatcher *Haematopus bachmani* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9591	Breeds Apr 15 to Oct 31
Black Swift *Cypseloides niger* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8878	Breeds Jun 15 to Sep 10
Black Turnstone *Arenaria melanocephala* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/10557	Breeds elsewhere
Brandt's Cormorant *Urile penicillatus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/11903	Breeds Apr 15 to Sep 15

NAME	BREEDING SEASON
California Gull *Larus californicus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/10955	Breeds Mar 1 to Jul 31
Chestnut-backed Chickadee *Poecile rufescens rufescens* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/11913	Breeds Mar 1 to Jul 31
Clark's Grebe *Aechmophorus clarkii* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/10575	Breeds Jun 1 to Aug 31
Evening Grosbeak *Coccothraustes vespertinus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9465	Breeds May 15 to Aug 10
Golden Eagle *Aquila chrysaetos* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1680	Breeds Mar 1 to Aug 31
Lesser Yellowlegs *Tringa flavipes* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9679	Breeds elsewhere
Marbled Godwit *Limosa fedoa* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9481	Breeds elsewhere
Olive-sided Flycatcher *Contopus cooperi* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3914	Breeds May 20 to Aug 31
Red Knot *Calidris canutus roselaari* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8880	Breeds elsewhere
Rufous Hummingbird *Selasphorus rufus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8002	Breeds Apr 15 to Jul 15

NAME	BREEDING SEASON
Short-billed Dowitcher *Limnodromus griseus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9480	Breeds Jun 1 to Aug 10
Western Grebe *aechmophorus occidentalis* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/6743	Breeds Jun 1 to Aug 31
Western Gull *Larus occidentalis* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/11969	Breeds Apr 21 to Aug 25
Western Screech-owl *Megascops kennicottii cardonensis* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/11923	Breeds Mar 1 to Jun 30
Willet *Tringa semipalmata* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/10669	Breeds elsewhere
Wrentit *Chamaea fasciata* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/10668	Breeds Mar 15 to Aug 10

PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Green bars; the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during that week of the year.

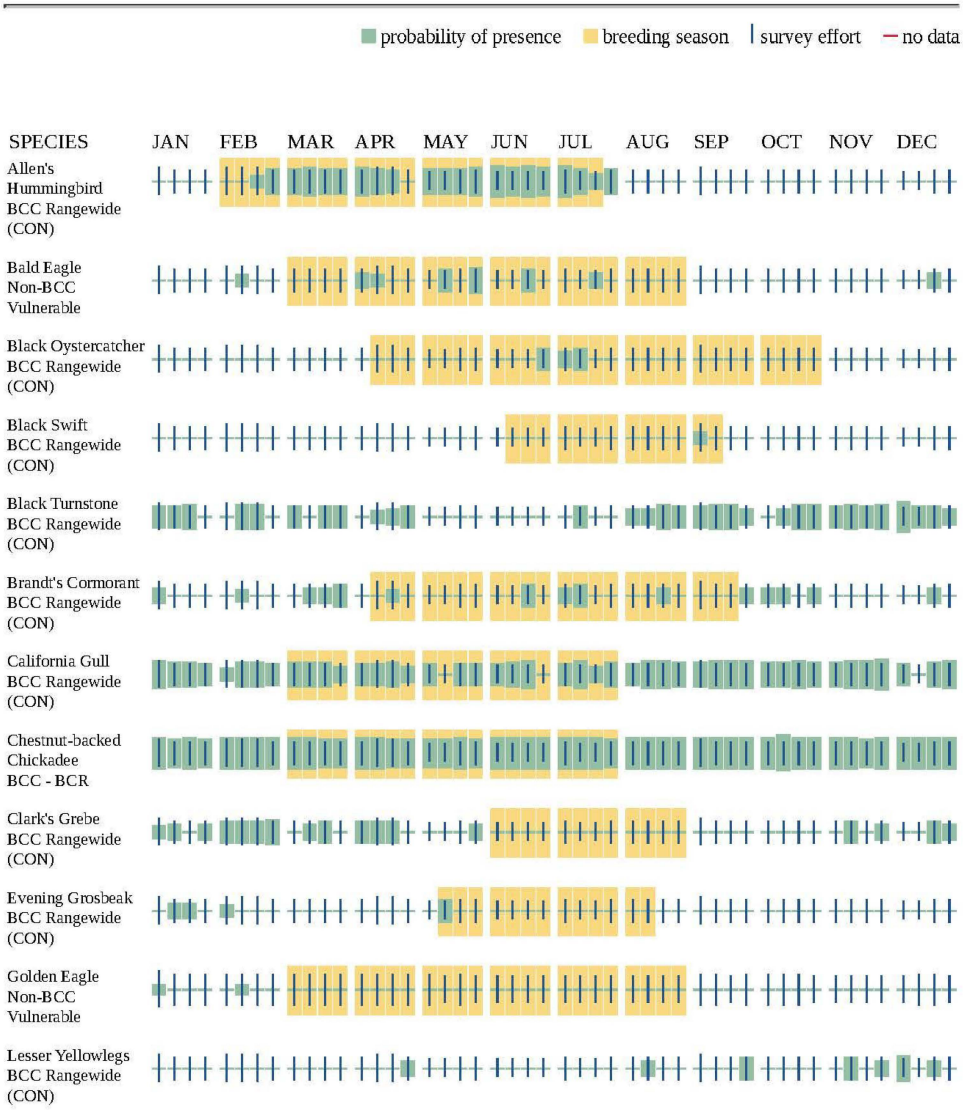
Breeding Season (■)

Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

Survey Effort (|)

Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data (–)
A week is marked as having no data if there were no survey events for that week.





Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide avoidance and minimization measures for birds
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

WETLANDS

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

ESTUARINE AND MARINE WETLAND

- E2AB3M
- E2US2N
- E2EM1N

ESTUARINE AND MARINE DEEPWATER

- E1UB2L

IPAC USER CONTACT INFORMATION

Agency: California Department of Transportation District 1
Name: Christine Hamilton
Address: 1656 Union St
City: Eureka
State: CA
Zip: 95501
Email christine.hamilton@dot.ca.gov
Phone: 7078155917

Quad Name **Eureka**
Quad Number **40124-G2**

ESA Anadromous Fish

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

ESA Anadromous Fish Critical Habitat

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

ESA Marine Invertebrates

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

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

ESA Sea Turtles

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

ESA Whales

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

ESA Pinnipeds

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

Essential Fish Habitat

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

MMPA Species (See list at left)

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

MMPA Cetaceans - X
MMPA Pinnipeds - X

Selected Elements by Element Code

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Tyee City (4012482) OR Arcata North (4012481) OR Arcata South (4012471) OR McWhinney Creek (4012461) OR Fields Landing (4012462) OR Cannibal Island (4012463))

Element Code	Species	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
AAAAJ01020	***Rhyacotriton variegatus*** southern torrent salamander	None	None	G3?	S2S3	SSC
AAABA01010	***Ascaphus truei*** Pacific tailed frog	None	None	G4	S3S4	SSC
AAABH01021	***Rana aurora*** northern red-legged frog	None	None	G4	S3	SSC
AAABH01051	***Rana boylii pop. 1*** foothill yellow-legged frog - north coast DPS	None	None	G3T4	S4	SSC
ABNFD01020	***Nannopterum auritum*** double-crested cormorant	None	None	G5	S4	WL
ABNGA04010	***Ardea herodias*** great blue heron	None	None	G5	S4	
ABNGA04040	***Ardea alba*** great egret	None	None	G5	S4	
ABNGA06030	***Egretta thula*** snowy egret	None	None	G5	S4	
ABNGA11010	***Nycticorax nycticorax*** black-crowned night heron	None	None	G5	S4	
ABNKC01010	***Pandion haliaetus*** osprey	None	None	G5	S4	WL
ABNKC06010	***Elanus leucurus*** white-tailed kite	None	None	G5	S3S4	FP
ABNKC10010	***Haliaeetus leucocephalus*** bald eagle	Delisted	Endangered	G5	S3	FP
ABNKC12020	***Accipiter striatus*** sharp-shinned hawk	None	None	G5	S4	WL
ABNKD06071	***Falco peregrinus anatum*** American peregrine falcon	Delisted	Delisted	G4T4	S3S4	
ABNME01010	***Coturnicops noveboracensis*** yellow rail	None	None	G4	S2	SSC
ABNME05011	***Rallus obsoletus obsoletus*** California Ridgway's rail	Endangered	Endangered	G3T1	S2	FP
ABNNB03031	***Charadrius nivosus nivosus*** western snowy plover	Threatened	None	G3T3	S3	SSC
ABNNB03100	***Charadrius montanus*** mountain plover	None	None	G3	S2	SSC
ABNNN06010	***Brachyramphus marmoratus*** marbled murrelet	Threatened	Endangered	G3	S2	

Element Code	Species	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
ABPAU08010	***Riparia riparia*** bank swallow	None	Threatened	G5	S3	
AFBAA02100	***Entosphenus tridentatus*** Pacific lamprey	None	None	G4	S3	SSC
AFBAA02180	***Lampetra richardsoni*** western brook lamprey	None	None	G4G5	S3S4	SSC
AFCAA01031	***Acipenser medirostris pop. 1*** green sturgeon - southern DPS	Threatened	None	G2T1	S1	SSC
AFCHA02032	***Oncorhynchus kisutch pop. 2*** coho salmon - southern Oregon / northern California ESU	Threatened	Threatened	G5T2Q	S2	
AFCHA0208A	***Oncorhynchus clarkii clarkii*** coast cutthroat trout	None	None	G5T4	S3	SSC
AFCHA0213P	***Oncorhynchus mykiss irideus pop. 48*** steelhead - northern California DPS summer-run	Threatened	Endangered	G5T2Q	S2	
AFCHA0213Q	***Oncorhynchus mykiss irideus pop. 49*** steelhead - northern California DPS winter-run	Threatened	None	G5T3Q	S3	SSC
AFCHB03010	***Spirinchus thaleichthys*** longfin smelt	None	Threatened	G5	S1	
AFCHB04010	***Thaleichthys pacificus*** eulachon	Threatened	None	G5	S1	SSC
AFCQN04010	***Eucyclogobius newberryi*** tidewater goby	Endangered	None	G3	S3	SSC
AMACC01070	***Myotis evotis*** long-eared myotis	None	None	G5	S3	
AMACC08010	***Corynorhinus townsendii*** Townsend's big-eared bat	None	None	G4	S2	SSC
AMAFA01017	***Aplodontia rufa humboldtiana*** Humboldt mountain beaver	None	None	G5TNR	SNR	
AMAFF23010	***Arborimus albipes*** white-footed vole	None	None	G3G4	S2	SSC
AMAFF23030	***Arborimus pomo*** Sonoma tree vole	None	None	G3	S3	SSC
AMAFJ01010	***Erethizon dorsatum*** North American porcupine	None	None	G5	S3	
AMAJF01012	***Martes caurina humboldtensis*** Humboldt marten	Threatened	Endangered	G4G5T1	S1	SSC
AMAJF01020	***Pekania pennanti*** Fisher	None	None	G5	S2S3	SSC
ARAAD02031	***Actinemys marmorata*** northwestern pond turtle	Proposed Threatened	None	G2	SNR	SSC
CTT21211CA	***Northern Foredune Grassland*** Northern Foredune Grassland	None	None	G1	S1.1	

Element Code	Species	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
CTT41100CA	***Coastal Terrace Prairie*** Coastal Terrace Prairie	None	None	G2	S2.1	
CTT52110CA	***Northern Coastal Salt Marsh*** Northern Coastal Salt Marsh	None	None	G3	S3.2	
CTT82110CA	***Sitka Spruce Forest*** Sitka Spruce Forest	None	None	G1	S1.1	
IICOL02101	***Cicindela hirticollis gravida*** sandy beach tiger beetle	None	None	G5T2	S2	
IICOL4L070	***Scaphinotus behrensi*** Behrens' snail-eating beetle	None	None	G2G4	S2S4	
IIHYM24252	***Bombus occidentalis*** western bumble bee	None	Candidate Endangered	G3	S1	
IIHYM24380	***Bombus caliginosus*** obscure bumble bee	None	None	G2G3	S1S2	
IIHYM24480	***Bombus crotchii*** Crotch's bumble bee	None	Candidate Endangered	G2	S2	
IMBIV04220	***Anodonta californiensis*** California floater	None	None	G3	S2?	
IMBIV27020	***Margaritifera falcata*** western pearlshell	None	None	G3G4	S1S2	
NBMUS2W0U0	***Fissidens pauperculus*** minute pocket moss	None	None	G3?	S2	1B.2
NBMUS7N020	***Trichodon cylindricus*** cylindrical trichodon	None	None	G4G5	S2	2B.2
NLLEC5P420	***Usnea longissima*** Methuselah's beard lichen	None	None	G5	S4	4.2
NLT0042560	***Sulcaria spiralifera*** twisted horsehair lichen	None	None	G3G4	S2	1B.2
PDAST5N010	***Layia carnosa*** beach layia	Threatened	Endangered	G2	S2	1B.1
PDASTE5011	***Hesperevax sparsiflora var. brevifolia*** short-leaved evax	None	None	G4T3	S3	1B.2
PDBRA0K010	***Cardamine angulata*** seaside bittercress	None	None	G4G5	S3	2B.1
PDBRA160R0	***Erysimum menziesii*** Menzies' wallflower	Endangered	Endangered	G1	S1	1B.1
PDCAR0W032	***Spergularia canadensis var. occidentalis*** western sand-spurrey	None	None	G5T4	S1	2B.1
PDFAB250C0	***Lathyrus japonicus*** seaside pea	None	None	G5	S2	2B.1
PDMAL110E0	***Sidalcea malachroides*** maple-leaved checkerbloom	None	None	G3	S3	4.2

Element Code	Species	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
PDMAL110F9	***Sidalcea malviflora ssp. patula*** Siskiyou checkerbloom	None	None	G4G5T2	S2	1B.2
PDMAL110K9	***Sidalcea oregana ssp. eximia*** coast checkerbloom	None	None	G5T1	S1	1B.2
PDMON03030	***Monotropa uniflora*** ghost-pipe	None	None	G5	S2	2B.2
PDNYC010N4	***Abronia umbellata var. breviflora*** pink sand-verbena	None	None	G4G5T2	S2	1B.1
PDONA0C1K0	***Oenothera wolfii*** Wolf's evening-primrose	None	None	G2	S1	1B.1
PDPLM04130	***Gilia millefoliata*** dark-eyed gilia	None	None	G2	S2	1B.2
PDPOR05070	***Montia howellii*** Howell's montia	None	None	G3G4	S2	2B.2
PDSAX0N020	***Mitellastra caulescens*** leafy-stemmed mitrewort	None	None	G5	S4	4.2
PDSCR0D012	***Castilleja litoralis*** Oregon coast paintbrush	None	None	G3	S3	2B.2
PDSCR0D402	***Castilleja ambigua var. humboldtiensis*** Humboldt Bay owl's-clover	None	None	G5T2	S2	1B.2
PDSCR0J0C3	***Chloropyron maritimum ssp. palustre*** Point Reyes salty bird's-beak	None	None	G4?T2	S2	1B.2
PDVIO041G0	***Viola palustris*** alpine marsh violet	None	None	G5	S1S2	2B.2
PMCYP030X0	***Carex arcta*** northern clustered sedge	None	None	G5	S1	2B.2
PMCYP037E0	***Carex leptalea*** bristle-stalked sedge	None	None	G5	S1	2B.2
PMCYP037Y0	***Carex lyngbyei*** Lyngbye's sedge	None	None	G5	S3	2B.2
PMCYP03B20	***Carex praticola*** northern meadow sedge	None	None	G5	S2	2B.2
PMLIL1A0G0	***Lilium occidentale*** western lily	Endangered	Endangered	G1G2	S1	1B.1
PMPOA531L0	***Puccinellia pumila*** dwarf alkali grass	None	None	G5	SH	2B.2
PPLYC01080	***Lycopodium clavatum*** running-pine	None	None	G5	S3	4.1

Record Count: 80

Search Results

50 matches found. Click on scientific name for details

Search Criteria: , Quad is one of [4012463:4012462:4012461:4012471:4012472:4012482:4012481]

▲ SCIENTIFIC NAME	COMMON NAME	FAMILY	LIFEFORM	BLOOMING PERIOD	FED LIST	STATE LIST	GLOBAL RANK	STATE RANK	CA RARE PLANT RANK	LOWEST ELEVATION (M)	HIGHEST ELEVATION (M)
Abronia umbellata var. *breviflora*	pink sand-verbena	Nyctaginaceae	annual herb	Jun-Oct	None	None	G4G5T2	S2	1B.1	0	10
Angelica lucida	sea-watch	Apiaceae	perennial herb	Apr-Sep	None	None	G5	S3	4.2	0	150
Astragalus pycnostachyus var. *pycnostachyus*	coastal marsh milk-vetch	Fabaceae	perennial herb	(Apr-May)Jun-Oct	None	None	G2T2	S2	1B.2	0	55
Astragalus rattanii var. *rattanii*	Rattan's milk-vetch	Fabaceae	perennial herb	Apr-Jul	None	None	G4T4	S4	4.3	30	825
Cardamine angulata	seaside bittercress	Brassicaceae	perennial herb	(Jan)Mar-Jul	None	None	G4G5	S3	2B.2	15	915
Carex arcta	northern clustered sedge	Cyperaceae	perennial herb	Jun-Sep	None	None	G5	S1	2B.2	60	1400
Carex leptalea	bristle-stalked sedge	Cyperaceae	perennial rhizomatous herb	Mar-Jul	None	None	G5	S1	2B.2	0	700
Carex lyngbyei	Lyngbye's sedge	Cyperaceae	perennial rhizomatous herb	Apr-Aug	None	None	G5	S3	2B.2	0	10
Carex praticola	northern meadow sedge	Cyperaceae	perennial herb	May-Jul	None	None	G5	S2	2B.2	0	3200
Castilleja ambigua var. *humboldtiensis*	Humboldt Bay owl's-clover	Orobanchaceae	annual herb (hemiparasitic)	Apr-Aug	None	None	G5T2	S2	1B.2	0	3
Castilleja litoralis	Oregon coast paintbrush	Orobanchaceae	perennial herb (hemiparasitic)	Jun	None	None	G3	S3	2B.2	15	100

Chloropyron maritimum ssp. *palustre*	Point Reyes salty bird's-beak	Orobanchaceae	annual herb (hemiparasitic)	Jun-Oct	None	None	G4?T2	S2	1B.2	0	10
Chrysosplenium glechomifolium	Pacific golden saxifrage	Saxifragaceae	perennial herb	Feb-Jun	None	None	G5?	S3	4.3	10	540
Collinsia corymbosa	round-headed collinsia	Plantaginaceae	annual herb	Apr-Jun	None	None	G1	S1	1B.2	0	20
Eleocharis parvula	small spikerush	Cyperaceae	perennial herb	(Apr)Jun-Aug(Sep)	None	None	G5	S3	4.3	1	3020
Erysimum menziesii	Menzies' wallflower	Brassicaceae	perennial herb	Mar-Sep	FE	CE	G1	S1	1B.1	0	35
Erythronium revolutum	coast fawn lily	Liliaceae	perennial bulbiferous herb	Mar-Jul(Aug)	None	None	G4G5	S3	2B.2	0	1600
Fissidens pauperculus	minute pocket moss	Fissidentaceae	moss		None	None	G3?	S2	1B.2	10	1024
Gilia capitata ssp. *pacifica*	Pacific gilia	Polemoniaceae	annual herb	Apr-Aug	None	None	G5T3	S3	1B.2	5	1665
Gilia millefoliata	dark-eyed gilia	Polemoniaceae	annual herb	Apr-Jul	None	None	G2	S2	1B.2	2	30
Glehnia littoralis ssp. *leiocarpa*	American glehnia	Apiaceae	perennial herb	May-Aug	None	None	G5T5	S2S3	4.2	0	20
Hesperevax sparsiflora var. *brevifolia*	short-leaved evax	Asteraceae	annual herb	Mar-Jun	None	None	G4T3	S3	1B.2	0	215
Hosackia gracilis	harlequin lotus	Fabaceae	perennial rhizomatous herb	Mar-Jul	None	None	G3G4	S3	4.2	0	700
Lasthenia californica ssp. *macrantha*	perennial goldfields	Asteraceae	perennial herb	Jan-Nov	None	None	G3T2	S2	1B.2	5	520
Lathyrus glandulosus	sticky pea	Fabaceae	perennial rhizomatous herb	Apr-Jun	None	None	G3	S3	4.3	300	800
Lathyrus japonicus	seaside pea	Fabaceae	perennial rhizomatous herb	May-Aug	None	None	G5	S2	2B.1	1	30
Lathyrus palustris	marsh pea	Fabaceae	perennial herb	Mar-Aug	None	None	G5	S2	2B.2	1	100
Layia carnosa	beach layia	Asteraceae	annual herb	Mar-Jul	FT	CE	G2	S2	1B.1	0	60

Lewisia kelloggii ssp. *kelloggii*	Kellogg's lewisia	Montiaceae	perennial herb	(Apr)May-Aug	None	None	G3G4T2T3Q	S2S3	3.2	1465	2365
Lilium kelloggii	Kellogg's lily	Liliaceae	perennial bulbiferous herb	(Feb)May-Aug	None	None	G3	S3	4.3	3	1300
Lilium occidentale	western lily	Liliaceae	perennial bulbiferous herb	Jun-Jul	FE	CE	G1G2	S1	1B.1	2	185
Listera cordata	heart-leaved twayblade	Orchidaceae	perennial herb	Feb-Jul	None	None	G5	S4	4.2	5	1370
Lycopodium clavatum	running-pine	Lycopodiaceae	perennial rhizomatous herb	Jun-Aug(Sep)	None	None	G5	S3	4.1	45	1225
Mitellastra caulescens	leafy-stemmed mitrewort	Saxifragaceae	perennial rhizomatous herb	(Mar)Apr-Oct	None	None	G5	S4	4.2	5	1700
Monotropa uniflora	ghost-pipe	Ericaceae	perennial herb (achlorophyllous)	Jun-Aug(Sep)	None	None	G5	S2	2B.2	10	550
Montia howellii	Howell's montia	Montiaceae	annual herb	(Feb)Mar-May	None	None	G3G4	S2	2B.2	0	835
Oenothera wolfii	Wolf's evening-primrose	Onagraceae	perennial herb	May-Oct	None	None	G2	S1	1B.1	3	800
Pityopus californicus	California pinefoot	Ericaceae	perennial herb (achlorophyllous)	(Mar-Apr)May-Aug	None	None	G4G5	S4	4.2	15	2225
Pleuropogon refractus	nodding semaphore grass	Poaceae	perennial rhizomatous herb	(Feb-Mar)Apr-Aug	None	None	G4	S4	4.2	0	1600
Puccinellia pumila	dwarf alkali grass	Poaceae	perennial herb	Jul	None	None	G5	SH	2B.2	1	10
Ribes laxiflorum	trailing black currant	Grossulariaceae	perennial deciduous shrub	Mar-Jul(Aug)	None	None	G5?	S3	4.3	5	1395
Sidalcea malachroides	maple-leaved checkerbloom	Malvaceae	perennial herb	(Mar)Apr-Aug	None	None	G3	S3	4.2	0	730
Sidalcea malviflora ssp. *patula*	Siskiyou checkerbloom	Malvaceae	perennial rhizomatous herb	(Mar-Apr)May-Aug	None	None	G4G5T2	S2	1B.2	15	1230
Sidalcea oregana ssp. *eximia*	coast checkerbloom	Malvaceae	perennial herb	Jun-Aug	None	None	G5T1	S1	1B.2	5	1340

Silene scouleri ssp. *scouleri*	Scouler's catchfly	Caryophyllaceae	perennial herb	(Mar-May)Jun-Aug(Sep)	None	None	G5T4T5	S2S3	2B.2	0	600
Spergularia canadensis var. *occidentalis*	western sand-spurrey	Caryophyllaceae	annual herb	Jun-Aug	None	None	G5T4	S1	2B.1	0	3
Sulcaria spiralifera	twisted horsehair lichen	Parmeliaceae	fruticose lichen (epiphytic)		None	None	G3G4	S2	1B.2	0	90
Trichodon cylindricus	cylindrical trichodon	Ditrichaceae	moss		None	None	G4G5	S2	2B.2	50	2002
Usnea longissima	Methuselah's beard lichen	Parmeliaceae	fruticose lichen (epiphytic)		None	None	G5	S4	4.2	50	1460
Viola palustris	alpine marsh violet	Violaceae	perennial rhizomatous herb	Mar-Aug	None	None	G5	S1S2	2B.2	0	150

Showing 1 to 50 of 50 entries

Go to top

Suggested Citation:

California Native Plant Society, Rare Plant Program. 2025. Rare Plant Inventory (online edition, v9.5.1). Website https://www.rareplants.cnps.org [accessed 28 January 2025].

}

Appendix G Species Tables



Special-status Plant Species Potentially Occurring or Known to Occur within the Project Area

Common Name	*Scientific Name*	Status[1] Federal/ State/ CRPR	Habitat/ Elevational Range (feet)	Habitat[2] Present/ Absent	Rationale
VASCULAR PLANTS					
Alpine marsh violet	*Viola palustris*	--/--/2B.2	Bogs and fens, coastal scrub 0-490 ft (0-150 meters [m])	Absent	No suitable habitat within Coastal BSA.
American glehnia	*Glehnia littoralis* ssp. *leiocarpa*	--/--/4.2	Coastal dunes 0-65 ft (0-20 m)	Absent	No suitable habitat within Coastal BSA.
Beach layia	*Layia carnosa*	FT/SE/1B.1	Coastal dunes, coastal scrub 0-195 ft (0-60 m)	Absent	No suitable habitat within Coastal BSA.
Bristle-stalked sedge	*Carex leptalea*	--/--/2B.2	Bogs and fens, meadows and seeps, marshes and swamps 0-2295 ft (0-700 m)	**Present**	Potentially suitable habitat within Coastal BSA. Not observed during floristic surveys.
California pinefoot	*Pityopus californicus*	--/--/4.2	Broadleafed upland forest, coniferous forest 20-7300 ft (15-2225 m)	Absent	No suitable habitat within Coastal BSA.
Coast checkerbloom	*Sidalcea oregana* ssp. *eximia*	--/--/1B.2	Lower montane coniferous forest, meadows and seeps, North Coast coniferous forest 15-4395 ft (5-1340 m)	**Present**	Potentially suitable habitat within Coastal BSA. Not observed during floristic surveys.
Coast fawn lily	*Erythronium revolutum*	--/--/2B.2	Bogs and fens, broadleaf upland forest, North Coast coniferous forest; mesic sites; streambanks 0-5250 ft (0-1600 m)	Absent	No suitable habitat within Coastal BSA.
Coastal marsh milk-vetch	*Astragalus pycnostachyus* var. *pycnostachyus*	--/--/1B.2	Coastal dunes, coastal scrub, marshes and swamps 0-100 ft (0-30 m)	**Present**	Potentially suitable habitat within Coastal BSA. Not observed during floristic surveys.
Dark-eyed gilia	*Gilia millefoliata*	--/--/1B.2	Coastal dunes 5-100 ft (2-30 m)	Absent	No suitable habitat within Coastal BSA.

Common Name	*Scientific Name*	Status[1] Federal/ State/ CRPR	Habitat/ Elevational Range (feet)	Habitat[2] Present/ Absent	Rationale
Dwarf alkali grass	*Puccinellia pumila*	--/--/2B.2	Marshes and swamps 5-35 ft (1-10 m)	**Present**	Potentially suitable habitat within Coastal BSA. Not observed during floristic surveys.
Ghost-pipe	*Monotropa uniflora*	--/--/2B.2	Broadleaf upland forest, North Coast coniferous forest 35-1805 ft (10-550 m)	Absent	No suitable habitat within Coastal BSA.
Harlequin lotus	*Hosackia gracilis*	--/--/4.2	Broadleaf upland forest, cismontane woodland, North Coast and closed-cone coniferous forest, coastal scrub, coastal prairie, marshes, swamps, meadows, seeps, valley and foothill grasslands 0-2295 ft (0-700 m)	**Present**	Potentially suitable habitat within Coastal BSA. Not observed during floristic surveys.
Heart-leaved twayblade	*Listera cordata*	--/--/4.2	Bogs and fens, lower montane and North Coast coniferous forest 15-4495 ft (5-1370 m)	Absent	No suitable habitat within Coastal BSA.
Howell's montia	*Montia howellii*	--/--/2B.2	Meadows and seeps, North Coast coniferous forest, vernal pools; vernally wet sites often on compacted soil, pebbly roadsides 0-2740 ft (0-835 m)	Absent	No suitable habitat within Coastal BSA.
Humboldt Bay owl's-clover	*Castilleja ambigua* var. *humboldtiensis*	--/--/1B.2	Marshes and swamps 0-10 ft (0-3 m)	**Present**	Suitable habitat within Coastal BSA. **Detected during floristic surveys.**
Kellogg's lewisia	*Lewisia kelloggii* ssp. *kelloggii*	--/--/3.2	Upper montane coniferous forest 4806-7759 ft (1465-2365 m)	Absent	No suitable habitat within Coastal BSA.
Kellogg's lily	*Lilium kelloggii*	--/--/4.3	Lower montane and North Coast coniferous forest 10-4265 ft (3-1300 m)	Absent	No suitable habitat within Coastal BSA.

Common Name	*Scientific Name*	Status[1] Federal/ State/ CRPR	Habitat/ Elevational Range (feet)	Habitat[2] Present/ Absent	Rationale
Lassics lupine	*Lupinus constancei*	FE/--/1B.1	Lower montane coniferous forest, serpentinite 4920-6560 ft (1500-2000 m)	Absent	No suitable habitat within Coastal BSA.
Leafy-stemmed mitrewort	*Mitellastra caulescens*	--/--/4.2	Broadleaf upland forest, lower montane and North Coast coniferous forest, meadows, seeps 15-5580 ft (5-1700 m)	Absent	No suitable habitat within Coastal BSA.
Lyngbye's sedge	*Carex lyngbyei*	--/--/2B.2	Marshes and swamps 0-35 ft (0-10 m)	**Present**	Potentially suitable habitat within Coastal BSA. Not observed during floristic surveys
Maple-leaved checkerbloom	*Sidalcea malachroides*	--/--/4.2	Broadleaf upland forest, coastal prairie, coastal scrub, North Coast coniferous forest, riparian woodland 0-2395 ft (0-730 m)	Absent	No suitable habitat within Coastal BSA.
Marsh pea	*Lathyrus palustris*	--/--/2B.2	Bogs and fens, coastal prairie, coastal scrub, lower montane and North Coast coniferous forest, marshes and swamps 5-330 ft (1-100 m)	**Present**	Potentially suitable habitat within Coastal BSA. Not observed during floristic surveys
Menzies' wallflower	*Erysimum menziesii*	FE/SCE/1B.1	Coastal dunes 0-115 ft (0-35 m)	Absent	No suitable habitat within Coastal BSA.
Nodding semaphore grass	*Pleuropogon refractus*	--/--/4.2	Lower montane and North Coast coniferous forest, meadows and seeps, riparian forest 0-5250 ft (0-1600 m)	Absent	No suitable habitat within Coastal BSA.
Northern clustered sedge	*Carex arcta*	--/--/2B.2	Bogs and fens, North Coast coniferous forest 195-4595 ft (60-1400 m)	Absent	No suitable habitat within Coastal BSA.

Common Name	*Scientific Name*	Status[1] Federal/ State/ CRPR	Habitat/ Elevational Range (feet)	Habitat[2] Present/ Absent	Rationale
Northern meadow sedge	*Carex praticola*	--/--/2B.2	Meadows and seeps 0-10,500 ft (0-3200 m)	Absent	No suitable habitat within Coastal BSA.
Oregon coast paintbrush	*Castilleja litoralis*	--/--/2B.2	Coastal bluff scrub, coastal dunes, coastal scrub 50-330 ft (15-100 m)	Absent	No suitable habitat within Coastal BSA.
Pacific gilia	*Gilia capitata* ssp. *pacifica*	--/--/1B.2	Coastal bluff scrub, chaparral openings, coastal prairie, valley and foothill grassland 15-5465 ft (5-1665 m)	Absent	No suitable habitat within Coastal BSA.
Pacific golden saxifrage	*Chrysosplenium glechomifolium*	--/--/4.3	North Coast coniferous forest, riparian forest 35-720 ft (10-220 m)	Absent	No suitable habitat within Coastal BSA.
Perennial goldfields	*Lasthenia californica* ssp. *macrantha*	--/--/1B.2	Coastal bluff scrub, coastal dunes, coastal scrub 15-1705 ft (5-520 m)	Absent	No suitable habitat within Coastal BSA.
Pink sand-verbena	*Abronia umbellata* var. *breviflora*	--/--/1B.1	Coastal dunes 0-35 ft (0-10 m)	Absent	No suitable habitat within Coastal BSA.
Point Reyes bird's-beak	*Chloropyron maritimum* ssp. *palustre*	--/--/1B.2	Marshes and swamps 0-35 ft (0-10 m)	**Present**	Suitable habitat within Coastal BSA. **Detected during floristic surveys**.
Rattan's milk-vetch	*Astragalus rattanii* var. *rattanii*	--/--/4.3	Chaparral, cismontane woodland, lower montane coniferous forest 100-2705 ft (30-825 m)	Absent	No suitable habitat within Coastal BSA.
Round-headed collinsia	*Collinsia corymbosa*	--/--/1B.2	Coastal dunes 0-65 ft (0-20 m)	Absent	No suitable habitat within Coastal BSA.
Running-pine	*Lycopodium clavatum*	--/--/4.1	Lower montane and North Coast coniferous forest, marshes and swamps 150-4020 ft (45-1225 m)	Absent	No suitable habitat within Coastal BSA.

Common Name	*Scientific Name*	Status[1] Federal/ State/ CRPR	Habitat/ Elevational Range (feet)	Habitat[2] Present/ Absent	Rationale
Scouler's catchfly	*Silene scouleri* ssp. *scouleri*	--/--/2B.2	Coastal bluff scrub, coastal prairie, valley and foothill grassland 0-1970 ft (0-600 m)	Absent	No suitable habitat within Coastal BSA.
Seaside bittercress	*Cardamine angulata*	--/--/2B.2	Lower montane and North Coast coniferous forest 50-3000 ft (15-915 m)	Absent	No suitable habitat within Coastal BSA.
Seaside pea	*Lathyrus japonicus*	--/--/2B.1	Coastal dunes 5-100 ft (1-30 m)	Absent	No suitable habitat within Coastal BSA.
Sea-watch	*Angelica lucida*	--/--/4.2	Coastal bluff scrub, coastal dunes, coastal scrub, marshes and swamps 0-490 ft (0-150 m)	**Present**	Potentially suitable habitat within Coastal BSA. Not observed during floristic surveys.
Short-leaved evax	*Hesperevax sparsiflora* var. *brevifolia*	--/--/1B.2	Coastal bluff scrub, coastal dunes, coastal prairie 0-705 ft (0-215 m)	Absent	No suitable habitat within Coastal BSA.
Siskiyou checkerbloom	*Sidalcea malviflora* ssp. *patula*	--/--/1B.2	Coastal bluff scrub, coastal prairie, North Coast coniferous forest 50-4035 ft (15-1230 m)	Absent	No suitable habitat within Coastal BSA.
Small spikerush	*Eleocharis parvula*	--/--/4.3	Marshes and swamps 5-9910 ft (1-3020 m)	**Present**	Potentially suitable habitat within Coastal BSA. Not observed during floristic surveys.
Sticky pea	*Lathyrus glandulosus*	--/--/4.3	Cismontane woodland 985-2625 ft (300-800 m)	Absent	No suitable habitat within Coastal BSA.
Trailing black currant	*Ribes laxiflorum*	--/--/4.3	North Coast coniferous forest 15-4575 ft (5-1395 m)	Absent	No suitable habitat within Coastal BSA.

Common Name	*Scientific Name*	Status[1] Federal/ State/ CRPR	Habitat/ Elevational Range (feet)	Habitat[2] Present/ Absent	Rationale
Western lily	*Lilium occidentale*	FE/SE/1B.1	Bogs and fens, coastal bluff scrub, coastal prairie, coastal scrub, marshes and swamps, North Coast coniferous forest 5-605 ft (2-185 m)	Absent	No suitable habitat within Coastal BSA.
Western sand-spurrey	*Spergularia canadensis* var. *occidentalis*	--/--/2B.1	Marshes and swamps 0-10 ft (0-3 m)	**Present**	Potentially suitable habitat within Coastal BSA. Not observed during floristic surveys.
Wolf's evening-primrose	*Oenothera wolfii*	--/--/1B.1	Coastal bluff scrub, coastal dunes, coastal prairie, lower montane coniferous forest 10-2625 ft (3-800 m)	Absent	No suitable habitat within Coastal BSA.
NON-VASCULAR PLANTS AND FUNGI					
Cylindrical trichodon	*Trichodon cylindricus*	--/--/2B.2	Broadleaf upland forest, meadows and seeps, upper montane coniferous forest 165-6570 ft (50-2002 m)	Absent	No suitable habitat within Coastal BSA.
Methuselah's beard lichen	*Usnea longissima*	--/--/4.2	Broadleaf upland forest, North Coast coniferous forest 165-4790 ft (50-1460 m)	Absent	No suitable habitat within Coastal BSA.
Minute pocket moss	*Fissidens pauperculus*	--/--/1B.2	North Coast coniferous forest 10-1024 ft (35-3360 m)	Absent	No suitable habitat within Coastal BSA.
Twisted horsehair lichen	*Sulcaria spiralifera*	--/--/1B.2	Coastal dunes, North Coast coniferous forest 0-295 ft (0-90 m)	Absent	No suitable habitat within Coastal BSA.

Common Name	*Scientific Name*	Status[1] Federal/ State/ CRPR	Habitat/ Elevational Range (feet)	Habitat[2] Present/ Absent	Rationale

[1]**Federal Status:** FE = Endangered

State Status: SE = State Endangered; SCE = State Candidate Endangered

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

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

[2] **Habitat:** Absent: no habitat present and no further work needed.
Present: habitat is or may be present. The species may be present.

Special-status Animal Species and Critical Habitat Potentially Occurring or Known to Occur within the Project Area

Common Name	*Scientific Name*	Status[1] Federal/ State	General Habitat Description	Habitat[2] Present/ Absent/	Rationale
AMPHIBIANS					
Foothill yellow-legged frog–North Coast DPS	*Rana boylii (Pop. 1)*	--/SSC	Partly shaded, shallow streams and riffles with a rocky substrate.	Absent	No suitable habitat within Coastal BSA.
Northern red-legged frog	*Rana aurora*	--/SSC	Humid forests, grasslands, streamsides, usually near dense riparian cover and permanent water.	Absent	No suitable habitat within Coastal BSA.
Pacific tailed frog	*Ascaphus truei*	--/SSC	Montane hardwood-conifer, redwood, Douglas-fir and ponderosa pine habitats in cold perennial montane streams.	Absent	No suitable habitat within Coastal BSA.
Southern torrent salamander	*Rhyacotriton variegatus*	--/SSC	Coastal redwood, Douglas-fir, mixed conifer, montane riparian and montane hardwood-conifer habitats. Cold, well-shaded, perennial streams and seepages.	Absent	No suitable habitat within Coastal BSA.
REPTILES					
Green sea turtle–East Pacific DPS	*Chelonia mydas*	FT/--	Nearshore ocean waters.	Absent	No suitable habitat within Coastal BSA.
Leatherback sea turtle	*Dermochelys coriacea*	FE/--	Pelagic ocean waters.	Absent	No suitable habitat within Coastal BSA.
Northwestern pond turtle	*Actinemys marmorata*	FPT/SSC	Ponds, marshes, rivers, streams. Needs basking sites and sandy banks or grassy open fields near water for egg-laying.	Absent	No suitable habitat within Coastal BSA.

Common Name	*Scientific Name*	Status[1] Federal/ State	General Habitat Description	Habitat[2] Present/ Absent/	Rationale
Olive Ridley sea turtle	*Lepidochelys olivacea*	FT/--	Tropical and subtropical oceans, occasionally in temperate Pacific waters.	Absent	No suitable habitat within Coastal BSA.
BIRDS					
Bald eagle	*Haliaeetus leucocephalus*	--/SE, FP	Occurs along ocean shores, lake margins, and rivers for nesting and wintering. Nests in large trees with open branches.	**Present**	Potential foraging habitat within Coastal BSA. No suitable nesting habitat.
Bank swallow	*Riparia riparia*	--/ST	Riparian scrub and woodland, nests in vertical banks/cliffs with fine soils near streams, rivers, lakes, ocean.	Absent	No suitable habitat within Coastal BSA.
Black brant	*Branta bernicla nigricans*	--/SSC	Coastal bays with eelgrass during spring migration. Humboldt Bay an important feeding and staging area.	**Present**	Potential foraging habitat in eelgrass within Coastal BSA.
Black-capped chickadee	*Poecile atricapillus*	--/WL	Forests, willow thickets, cottonwood groves, parks. Nests in cavities usually in dead trees and stumps	**Present**	Potential foraging habitat within Coastal BSA. No suitable nesting habitat.
Bryant's savannah sparrow	*Passerculus sandwichensis alaudinus*	--/SSC	Ranges along the northern California coast from Humboldt Bay south to Morro Bay. Coastal grasslands and marshes.	**Present**	Potential foraging and nesting habitat within Coastal BSA.
Burrowing owl	*Athene cunicularia*	--/SSC	Lowland valley bottoms, grasslands, shrublands, and deserts, mostly in the Imperial Valley, Central Valley of California, and southern California coast. Nests and roosts in underground burrows.	Absent	Rarely present on the north coast and likely only overwinters here. No suitable habitat within Coastal BSA due to the high-water table which would limit burrows.

Common Name	*Scientific Name*	Status[1] Federal/ State	General Habitat Description	Habitat[2] Present/ Absent/	Rationale
California condor–Pacific Northwest Non-Essential Population	*Gymnogyps californianus*	--/EP	Requires vast expanses of open savannah, grasslands, and foothill chaparral in mountain ranges of moderate altitude. Nests in deep canyons on rock walls with clefts. Forages up to 100 miles from nesting sites.	Absent	No suitable habitat within Coastal BSA.
California Ridgway's rail	*Rallus obsoletus obsoletus*	FE/SE, FP	Salt water and brackish marshes traversed by tidal sloughs. Associated with pickleweed.	Absent	Outside known range of species.
Cooper's hawk	*Accipiter cooperii*	--/WL	Wooded areas from deep forests to suburban areas. Nests in trees.	**Present**	Potential foraging habitat within Coastal BSA. No suitable nesting habitat.
Double-crested cormorant	*Phalacrocorax auritus*	--/WL	Rivers, lakes, and coastal waters. Nests in colonies in trees, cliffs, islands, sea stacks, and various manmade structures. Nests on islands and structures in Humboldt Bay.	**Present**	Potential foraging habitat within Coastal BSA. No suitable nesting habitat.
Golden eagle	*Aquila chrysaetos*	--/FP	Rolling foothills, mountain areas, sage-juniper flats, and desert.	Absent	No suitable habitat within Coastal BSA.
Great gray owl	*Strix nebulosa*	--/SE	Coniferous boreal forests. May move into oak woodlands and lower elevation mixed coniferous forests in winter.	Absent	No suitable habitat within Coastal BSA.
Long-billed curlew	*Numenius americanus*	--/WL	Intertidal habitats, coastal pastures, agricultural fields, freshwater wetlands. Winters in large numbers in Humboldt Bay.	**Present**	Potential foraging habitat within Coastal BSA. No suitable nesting habitat.

Common Name	*Scientific Name*	Status[1] Federal/ State	General Habitat Description	Habitat[2] Present/ Absent/	Rationale
Marbled murrelet	*Brachyramphus marmoratus*	FT/SE	Nests in coastal old-growth coniferous forests from Santa Cruz north. Forages in nearshore waters and known to occur in Humboldt Bay.	**Present**	Potential foraging habitat within Coastal BSA. No suitable nesting habitat.
Merlin	*Falco columbarius*	--/WL	Grasslands, open forests, coastal areas with shorebird.	**Present**	Potential foraging habitat within Coastal BSA. No suitable nesting habitat.
Mountain plover	*Charadrius montanus*	--/SSC	Chenopod scrub, valley and foothill grassland.	Absent	No suitable habitat within Coastal BSA.
Northern harrier	*Circus hudsonius*	--/SSC	Nests on the ground among vegetation such as grasses or cattails; forages in grasslands, agricultural fields, and marshes.	**Present**	Potential foraging habitat within Coastal BSA. No suitable nesting habitat.
Northern spotted owl	*Strix occidentalis caurina*	FT/ST	Old-growth/mature forests. Multistory canopy with big trees, many trees with cavities or broken tops, woody debris and space under canopy.	Absent	No suitable habitat within Coastal BSA.
Olive-sided flycatcher	*Contopus cooperi*	--/SSC	Conifer forests, burns, clearings. Nests mostly in coniferous forests in tall trees, especially around the edges of open areas.	**Present**	Potential foraging habitat within Coastal BSA. No suitable nesting habitat.
Osprey	*Pandion haliaetus*	--/WL	Rivers, lakes, lagoons, swamps, and marshes that contain fish at shallow depths. Nests on platforms and elevated sites away from predators. Widely distributed.	**Present**	Potential foraging habitat within Coastal BSA. No suitable nesting habitat.

Common Name	*Scientific Name*	Status[1] Federal/ State	General Habitat Description	Habitat[2] Present/ Absent/	Rationale
Sharp-shinned hawk	*Accipiter striatus*	--/WL	Ponderosa pine, black oak, riparian deciduous, mixed conifer, and Jeffrey pine habitats. Prefers riparian areas.	Absent	No suitable habitat within Coastal BSA.
Short-eared owl	*Asio flammeus*	--/SSC	Nests in grasslands and marsh or seasonal wetlands.	**Present**	Potential foraging habitat within Coastal BSA. No suitable nesting habitat.
Short-tailed albatross	*Phoebastria albatrus*	FE/--	Open ocean and nests on islands in the Pacific Ocean. Only occasionally seen offshore of California.	Absent	No suitable habitat within Coastal BSA.
Vaux's swift	*Chaetura vauxi*	--/SSC	Coniferous or mixed forests. Large diameter, hollow trees are used for nesting and roosting	Absent	No suitable habitat within Coastal BSA. Only 1 unconfirmed record in CNDDB.
Western snowy plover–Pacific Coast DPS	*Charadrius nivosus nivosus*	FT/SSC	Nests above high tide on beaches, sand spits, dunes, beaches at creek and river mouths, and salt pans at lagoons and estuaries.	Absent	No suitable habitat within Coastal BSA.
White-tailed kite	*Elanus leucurus*	--/FP	Forages in grasslands, meadows, or marshes. Nests in woodlands and mature riparian habitats.	**Present**	Potential foraging habitat within Coastal BSA. No suitable nesting habitat.
Willow flycatcher	*Empidonax traillii*	--/SE	Nests in riparian woodlands dominated by willow, cottonwoods, and alders; occurs in wet meadows, and open riparian forests.	Absent	No suitable habitat as there are no riparian woodlands, forests, or wet meadows within Coastal BSA.

Common Name	*Scientific Name*	Status[1] Federal/ State	General Habitat Description	Habitat[2] Present/ Absent/	Rationale
Yellow rail	*Coturnicops noveboracensis*	--/SSC	Typically higher and drier margins of marshes, usually dominated by sedges and grasses. Also in swampy meadows, sedge meadows dominated by *Carex lasiocarpa*, and occasionally wet, cut-over hay fields.	Absent	No suitable habitat within Coastal BSA.
Yellow-billed cuckoo–Western U.S. DPS	*Coccyzus americanus*	FT/SE	Nests in riparian forests along broad, lower flood-bottoms of larger river systems.	Absent	No suitable habitat within Coastal BSA.
FISH					
Chinook salmon–California Coastal ESU	*Oncorhynchus tshawytscha*	FT/--	Coastal streams from Redwood Creek in Humboldt County to the Russian River in Sonoma County. Cold, clean water and gravel for spawning and rearing, with cover for refuge.	**Present CH Present EFH**	Suitable habitat within Aquatic Species BSA. Known to occur in Humboldt Bay. The Aquatic Species BSA occurs within critical habitat.
Coastal cutthroat trout	*Oncorhynchus clarkii clarkii*	--/SSC	Coastal streams, some migrate to nearshore ocean waters and mouths of larger rivers. In fresh water: small, low gradient streams and estuaries.	**Present**	Suitable habitat within Aquatic Species BSA. Known to occur in Humboldt Bay.
Coho salmon–Southern Oregon/Northern California Coast ESU	*Oncorhynchus kisutch (Pop. 2)*	FT/ST	Streams, rivers between Cape Blanco, Oregon, and Punta Gorda, Humboldt County. Juveniles rear in estuaries, including Humboldt Bay.	**Present CH Present EFH**	Suitable habitat within Aquatic Species BSA. Known to occur in Humboldt Bay. The Aquatic Species BSA occurs within critical habitat.
Longfin smelt	*Spirinchus thaleichthys*	--/ST	Oceans, bays, estuaries, and rivers. Spawns in freshwater with gravel or sandy substrate, rocks and aquatic plants.	**Present**	Suitable habitat within Aquatic Species BSA. Known to occur in Humboldt Bay.

Common Name	*Scientific Name*	Status[1] Federal/ State	General Habitat Description	Habitat[2] Present/ Absent/	Rationale
North American green sturgeon– Southern DPS	*Acipenser medirostris*	FT/SSC	Pacific coastal waters, bays, and estuaries. Spawns in large coastal streams and rivers.	**Present** **CH Present**	Suitable habitat within Aquatic Species BSA. Known to occur in Humboldt Bay.
Northern California brook lamprey	*Entosphenus folletti*	--/SSC	Small, cool tributary streams in the Lost and Klamath River basins in northern California and Oregon.	Absent	Outside of the known range of the species. Only 1 unconfirmed record in CNDDB.
Pacific eulachon– Southern DPS	*Thaleichthys pacificus*	FT/SSC	Nearshore ocean waters. Spawns in lower reaches of coastal rivers with moderate water velocities and substrate of pea-sized gravel, sand, and woody debris.	**Present**	Suitable habitat within Aquatic Species BSA. The Aquatic Species BSA/action area is not within critical habitat.
Pacific lamprey	*Entosphenus tridentatus*	--/SSC	Pacific coast streams north of San Luis Obispo County. Spawns on clean gravel in swift, clear, cold water.	**Present**	Suitable habitat within Aquatic Species BSA. Known to occur in Humboldt Bay.
Steelhead– Northern California *summer run*	*Oncorhynchus mykiss irideus (Pop. 48)*	FT/SE	Ocean waters and Redwood Creek, Mad River, Eel River and Mattole River basins.	Absent	Outside of the known distribution.
Steelhead– Northern California DPS *winter run*	*Oncorhynchus mykiss irideus (Pop. 49)*	FT/SSC	Ocean waters and coastal basins from Redwood Creek south to the Gualala River.	**Present** **CH Present**	Suitable habitat within Aquatic Species BSA. Known to occur in Humboldt Bay. The Aquatic Species BSA occurs within critical habitat.
Tidewater goby	*Eucyclogobius newberryi*	FE/SSC	Coastal lagoons, estuaries, and marshes.	**Present**	Suitable habitat within Aquatic Species BSA. Known to occur in Humboldt Bay.

Common Name	*Scientific Name*	Status[1] Federal/ State	General Habitat Description	Habitat[2] Present/ Absent/	Rationale
Western brook lamprey	*Lampetra richardsoni*	--/SSC	Coastal streams from Alaska to California. Spawns on clean gravel in clear, cold water.	Absent	No suitable habitat within BSA.
White sturgeon	*Acipenser transmontanus*	--/SSC	Large rivers and associated estuaries in the Sacramento-San Joaquin River, Columbia River, and Fraser River. Rarely found in the ocean. Not reported in Humboldt Bay or tributaries.	Absent	Outside of the known range of the species. Only 1 unconfirmed record in CNDDB.
MAMMALS					
American badger	*Taxidea taxus*	--/SSC	Open chaparral, riparian zones, grasslands	Absent	No suitable habitat within Coastal BSA. Only 1 unconfirmed record in CNDDB.
Fisher	*Pekania pennanti*	--/SSC	Mature coniferous forests and deciduous-riparian areas with high canopy closure. Cavities, snags, logs and rocky areas used for cover and denning.	Absent	No suitable habitat within Coastal BSA.
Northern California ringtail	*Bassariscus astutus raptor*	--/FP	Coniferous forests, semi-arid deserts, canyons, mountains. Hides in rock crevices, tree hollows, and under cliffs.	Absent	No suitable habitat within Coastal BSA.
Pacific (Humboldt) marten–Coastal DPS	*Martes caurina humboldtensis*	FT/SE, SSC	Del Norte, western Siskiyou, and extreme northern Humboldt counties; in late-successional coniferous forests with low overhead cover.	Absent	No suitable habitat within Coastal BSA.

Common Name	*Scientific Name*	Status[1] Federal/ State	General Habitat Description	Habitat[2] Present/ Absent/	Rationale
Sonoma tree vole	*Arborimus pomo*	--/SSC	Coastal fog belt from Oregon border to Sonoma County in montane hardwood-conifer forests. Eats Douglas-fir needles.	Absent	No suitable habitat within Coastal BSA.
Townsend's big-eared bat	*Corynorhinus townsendii*	--/SSC	Variety of habitats, most common in mesic sites. Roosts in the open, hanging from walls and ceilings. Sometimes on bridges	Present	No suitable habitat within Coastal BSA.
White-footed vole	*Arborimus albipes*	--/SSC	Mature coastal forests in Humboldt and Del Norte counties, near small, clear streams with dense alder and shrubs.	Absent	No suitable habitat within Coastal BSA.
MARINE MAMMALS					
Blue whale	*Balaenoptera musculus*	FE/--	Offshore, continental break and shelf, nearshore occasionally.	Absent	No suitable habitat within Aquatic Species BSA.
California sea lion	*Zalophus californianus*	MMPA/--	Coastal waters and bays. Breeds in colonies off southern California and Baja Mexico. Non-breeding adults occur in Humboldt Bay.	**Present**	Suitable habitat within Aquatic Species BSA. Known to occur in Humboldt Bay.
Fin whale	*Balaenoptera physalus*	FE/--	Offshore, continental break and shelf, nearshore occasionally.	Absent	No suitable habitat within Aquatic Species BSA.
Harbor porpoise	*Phocoena phocoena*	MMPA/--	Coastal waters and bays.	**Present**	Suitable habitat within Aquatic Species BSA. Known to occur in Humboldt Bay.

Common Name	*Scientific Name*	Status[1] Federal/ State	General Habitat Description	Habitat[2] Present/ Absent/	Rationale
Harbor seal	*Phoca vitulina*	MMPA/--	Nearshore ocean waters, bays, estuaries, river mouths. Haul-outs on tidal rocks, mudflats, sandbars, and sandy beaches.	**Present**	Suitable habitat within Aquatic Species BSA. Known to occur in Humboldt Bay.
Humpback whale	*Megaptera novaeangliae*	FE/--	Nearshore ocean waters, continental shelf.	Absent	No suitable habitat within Aquatic Species BSA.
North Pacific right whale	*Eubalaena japonica*	FE/--	Nearshore and offshore ocean waters.	Absent	No suitable habitat within Aquatic Species BSA.
Sei whale	*Balaenoptera borealis*	FE/--	Nearshore and offshore ocean waters.	Absent	No suitable habitat within Aquatic Species BSA.
Sperm whale	*Physeter macrocephalus*	FE/--	Shelf, slope, offshore ocean waters.	Absent	No suitable habitat within Aquatic Species BSA.
Southern sea otter	*Enhydra lutris nereis*	FT/FP-	Ocean waters from San Mateo County south to Santa Barbara.	Absent	Outside the species known range. Only 1 unconfirmed record in CNDDB.
Southern Resident killer whale	*Orcinus orca*	FE/--	Nearshore ocean waters.	Absent	No suitable habitat within Aquatic Species BSA.
INVERTEBRATES					
Blue mud shrimp	*Upogebia pugettensis*	--/--	Burrows up to 1 meter deep in soft intertidal sediments of bays and estuaries from Alaska to Baja, California.	**Present**	Suitable habitat within Coastal BSA. **Detected during surveys.**

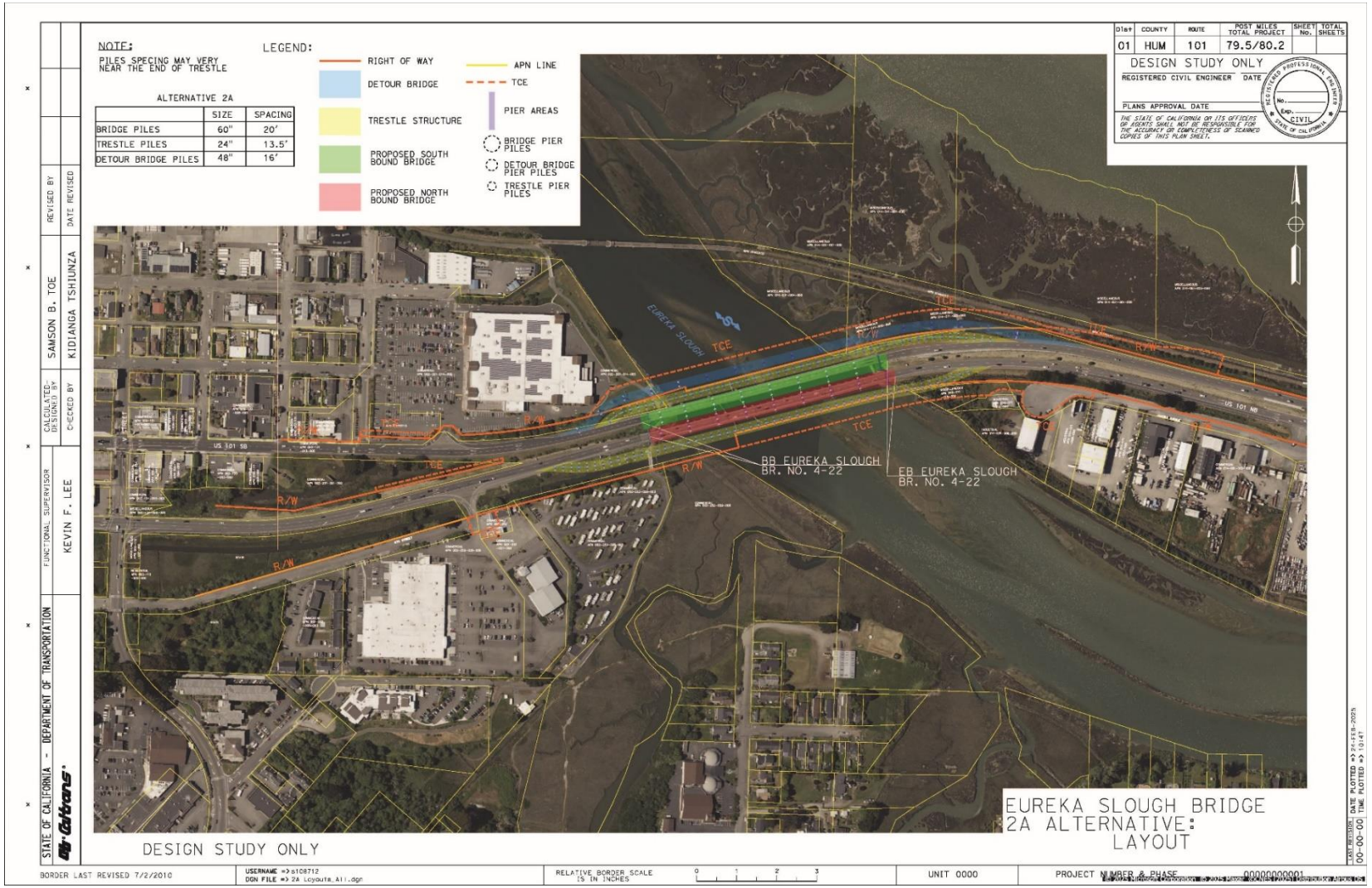
Common Name	*Scientific Name*	Status[1] Federal/ State	General Habitat Description	Habitat[2] Present/ Absent/	Rationale
Crotch bumble bee	*Bombus crotchii*	--/SCE	Open grassland and scrub habitats. Typically nests in underground abandoned rodent burrows or cavities.	Absent	Suitable habitat within Coastal BSA. Only 1 historic record in Humboldt County and the current range does not include coastal areas (CNDDB 2024a).
Monarch butterfly	*Danaus plexippus*	FC/--	Widespread in spring and summer in California. Breeds on milkweed host plants. Overwinters in roosts along coastal northern Mendocino to Baja California, Mexico. Roosts in wind-protected tree groves (eucalyptus, Monterey pine, cypress), with nectar and water sources nearby.	Absent	No suitable habitat within Coastal BSA.
Obscure bumble bee	*Bombus caliginosus*	--/CA Terrestrial Invertebrate of Conservation Priority	Open grassy coastal prairies and Coast Range meadows. Nesting occurs underground as well as above ground in abandoned bird nests.	**Present**	Potentially suitable habitat within Coastal BSA. Multiple recent detections in coastal Humboldt County (CNDDB 2024a).
Western bumble bee	*Bombus occidentalis*	--/SCE	Meadows and grasslands with abundant floral resources. Typically nests in underground abandoned rodent burrows or cavities.	Absent	Suitable habitat within Coastal BSA. The current range does not include coastal areas.

Common Name	*Scientific Name*	Status[1] Federal/ State	General Habitat Description	Habitat[2] Present/ Absent/	Rationale
[1] **Federal Status**: FE = Endangered; FT = Threatened; FC = Candidate; FP = fully protected; MMPA = Marine Mammal Protection Act					
[1] **State Status:** SE = Endangered; ST = Threatened; SCT = Candidate Threatened; SCE = Candidate Endangered; SSC = CDFW Species of Special Concern; FP = Fully Protected; WL = Watchlist;					
[2] **Habitat:** Absent = No habitat present and no further work needed. Present = The species is present. CH = The project is located within critical habitat.					
(*Sources: CNDDB 2025; USFWS 2025; NMFS 2025*)					

Appendix H Pile Layouts



Alternative 2A Pile Layout



Alternative 2B Pile Layout

