

APPENDIX B
NATURAL ENVIRONMENTAL STUDY

***County Road R over Glenn-Colusa Canal
Bridge (No. 11C-0011) Replacement Project***



Natural Environment Study

Glenn County, California
Township 20N, Range 2W, Section 17 and 18
USGS Glenn, *California* 7.5-Minute Quadrangle
03-GLE-0-5911
BRLO-5911(057)

February 2021



**County Road R over Glenn-Colusa Canal
Bridge (No. 11C-0011) Replacement Project**

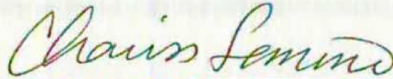
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Federal Aid No. BRLO-5911(057)

February 2021

STATE OF CALIFORNIA
Department of Transportation

Prepared by:



Date: 2/25/2021

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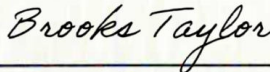
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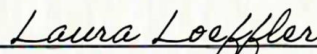
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Summary

Glenn County (County), in cooperation with the California Department of Transportation - District 3 and the Federal Highway Administration, is proposing to replace the existing Bridge (Bridge No. 11C-0011) on County Road R spanning the Glenn Colusa Irrigation District (GCID) canal (Project). The Project is being funded by the Local Highway Bridge Program funds administered by the California Department of Transportation. The existing County Road R Bridge, built in 1950, is currently open to only one lane of traffic due to excessive corrosion of the steel shells on the piles. The purpose of the Project is to create a bridge that provides a safe and dependable route for traffic crossing the Glenn-Colusa canal. The new bridge abutments would be shifted to the west of the current bridge on the south side and slightly to the east of the current bridge on the north side in order to improve the roadway alignment approaching the bridge from both sides. The new bridge would be a standard two-lane bridge approximately 34 feet (ft)/10 meters (m) wide and 167 ft/50.9 m long. The bridge would have two 12 ft/3.6 m wide travel lanes with 4 ft/1.2 m wide shoulders on each side. The bridge will be a 4-span structure with a precast/prestressed concrete voided slab units with a composite cast-in-place deck supported by driven steel shell piles. The existing County Road R alignment would be used for Project access. The total area of potential effect, or biological study area (BSA), is approximately 5.52 acres.

This Natural Environment Study (NES) has been prepared by Stantec Consulting Services Inc. on behalf of the County to evaluate the potential effects of the Project on special-status plant and animal species, waters of the United States, and other sensitive biological resources (e.g., nesting birds). Field assessment of the BSA was conducted on November 30, 2017.

Based on the review of habitat requirements of regionally occurring special-status species and the results of the field assessment, the BSA does not provide suitable habitat for any special-status plant species. The BSA provides marginal to good quality habitat for four special-status animal species. These species include giant garter snake (*Thamnophis gigas*), western pond turtle (*Actinemys marmorata*), western burrowing owl (*Athene cunicularia hypugaea*), and tricolored blackbird (*Agelaius tricolor*). Potential impacts and recommended avoidance and minimization measures for special-status animal species are addressed in Chapter 4 of this NES. Suitable habitat for migratory birds is present within the BSA and vicinity. Potential impacts on nesting birds and recommended avoidance and minimization measures are addressed in Chapter 4 of this NES.

A delineation of waters of the United States identified 1.673 acres of potential waters of United States within the BSA including irrigation canal, vegetated ditch, and rice field/managed wetland. Implementation of the Project would result in temporary impacts on up to 0.552 acre of waters of the U.S. due to vegetation clearing along the roadway and grading in the channel. Bridge abutment construction, placement of rock slope protection, and the new road alignment could permanently affect (result in discharge of fill) approximately 0.103 acre of the vegetated ditches and rice field/managed wetland. Authorization under a Nationwide Permit (NWP) pursuant to Section 404 of the Clean Water Act would be required for placement of fill into the Glenn-Colusa canal and irrigation ditches. The County would submit a preconstruction notification to the U.S. Army Corps of Engineers and comply with all terms and conditions of the NWP authorization, including obtaining water quality certification under Section 401 of the Clean Water Act. Avoidance and minimization measures would be implemented during construction to protect water quality and minimize impacts

on waters of the United States. A Streambed Alteration Agreement may be required from the California Department of Fish and Wildlife for Project-related disturbance to the Glenn-Colusa canal. Potential impacts with recommended avoidance and minimization measures for waters of the United States are addressed in Chapter 4 of this NES.

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Chapter 1. Introduction

On behalf of the Glenn County Public Works Agency (County), Stantec Consulting Services Inc. (Stantec) prepared this Natural Environment Study (NES) to evaluate the potential effects associated with implementing the proposed Glenn-Colusa Irrigation Canal Bridge (No. 11C-0011) Replacement Project (Project) on sensitive biological resources. A delineation of waters of the United States was prepared for the Project and the results are summarized in this NES.

1.1 Project Location

The 5.52-acre BSA is located along a portion of County Road R that crosses over the Glenn-Colusa canal, approximately 5.3 miles east of Interstate 5 (I-5) and approximately 8.5 miles northeast of the town of Willows in Glenn County, California. The BSA is located in the *Glenn, California* 7.5-minute U.S. Geological Survey (USGS) topographic quadrangle: Township 20 North, Range 2 West, sections 17 and 18. The center of the BSA is near 39.586947 degrees latitude, -122.116908 degrees longitude (WGS 84 datum). The location of the BSA is shown in Figure 1.

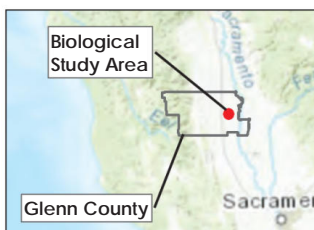
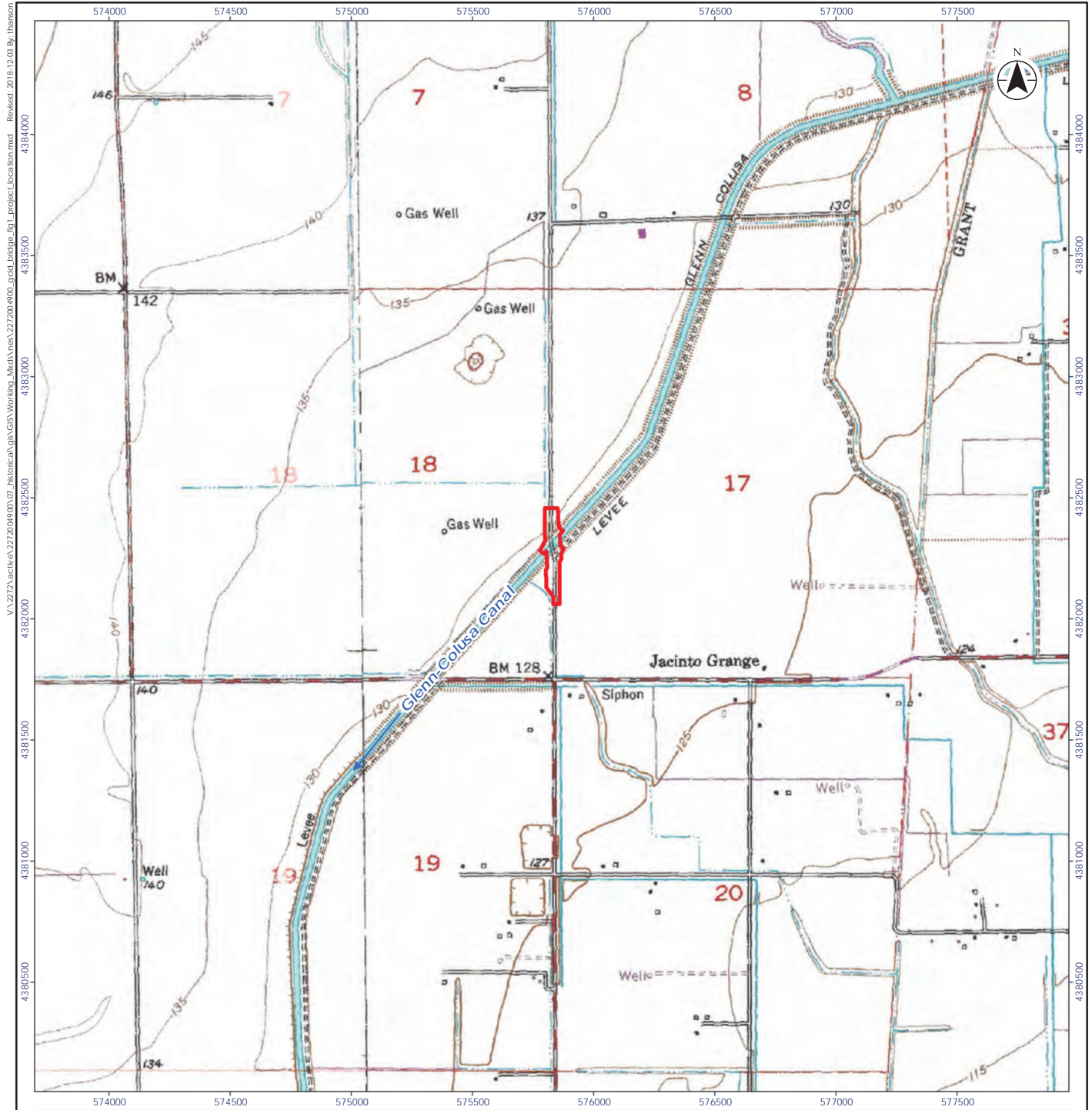
1.2 Project History

The County proposes to replace the existing bridge with a bridge of about the same size to improve roadway safety. The Project is included in the Federal Statewide Transportation Improvement Program and is being funded by Local Highway Bridge Program funds administered by the California Department of Transportation (Caltrans). The existing bridge was determined to be functionally obsolete with a sufficiency rating of 44 and is currently open to only one lane of traffic. The purpose of the Project is to improve traffic safety conditions on a public roadway and comply with current County and American Association of State Highway and Transportation Officials guidelines by: (1) replacing a functionally obsolete bridge with a new structure that meets current standards and (2) straightening the road geometry approaching the bridge from both south-bound and north-bound directions.

1.3 Project Description

1.3.1. Bridge Design

The new bridge would be a standard two-lane bridge approximately 34 feet wide and 167 feet long. The bridge would have two 12-foot-wide travel lanes with 4-foot-wide shoulders on each side. The abutments of the new bridge on the south side would be located slightly west of the existing bridge and slightly to the east on the north side, which would improve the alignment of the bridge approaches from both the north and south. The bridge will be a 4-span structure with a precast/prestressed concrete voided slab units with a composite cast-in-place deck. The foundation of the new bridge will consist of driven steel shell piles. The bridge abutments would be located along the banks of the irrigation canal and would not be in the active channel. It is anticipated that the excavation for the abutments would not exceed 10 feet (approximate) below the existing ground surface.



 Biological Study Area (5.52 acres)

0 1,000 2,000 Feet
1:24,000 (at original document size of 8.5x11)



Project Location 2272004900
T20N, R2E, S17 and 18 Prepared by TH on 2018-11-27
Glenn County, CA Technical Review by CF on 2018-11-27

Client/Project
Glenn County Public Works Agency
County Road R over Glenn-Colusa Canal
Bridge Replacement Project

Figure No.
1

Title
Biological Study Area Location

Notes
1. Coordinate System: NAD 1983 UTM Zone 10N
2. Orthorectification: NAIP, 2016.

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Figure 1

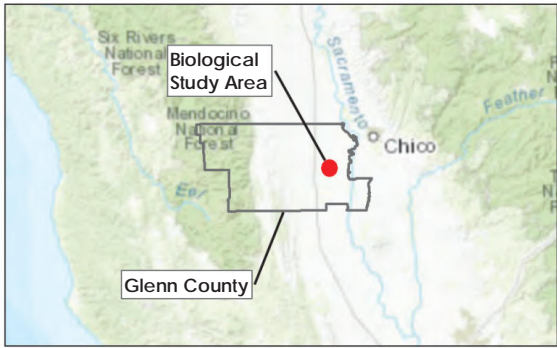
The County plans to realign the roadway approaches slightly east of the existing road to align with the new bridge. Approximately 800 feet of County Road R would be reconstructed; 400 feet to the south and 400 to the north of the new bridge. As part of this realignment, cut and fill would be required along the new roadway, and an irrigation ditch may be relocated to follow the modified roadway (Figure 2). In addition, pavement associated with the old roadway would be removed, and the disturbed area would be restored to match adjacent conditions (e.g., grasslands).

1.3.2. Construction Methods

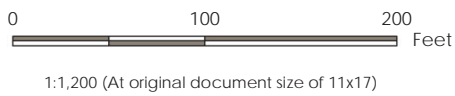
The Project would generally involve: vegetation removal; site clearing, preparation, and earthwork; utility relocation; demolition and removal of the existing bridge structure; construction of new bridge foundations, abutments, retaining structures, deck, and guardrails; realignment of a segment of County Road R; applying pavement overlay; and hydroseeding disturbed areas, including the former roadway. Staging would occur along the road, where feasible, and may occur on adjacent private properties to the north and south of the existing bridge. Vegetation removal would be necessary in the proposed location of the new bridge and along the new road alignment. Pile driving is anticipated for the new piles. Blasting is not expected but cannot be ruled out completely, depending on the nature of the subsurface rock that may be encountered. Demolished materials would be removed and disposed of offsite at an appropriate facility.

A temporary diversion dam and piping may be used to divert canal flows around the excavation areas for the new bridge foundations, although the bridge has been designed to allow for construction with canal flowing full. If used, the diversion dam and piping would be temporarily installed in the canal bed approximately 100–150 feet east (upstream) of the existing bridge. The diversion dam would consist of a simple dam or device and would be about 20 feet long, extending between both banks of the canal. Flexible piping would likely be used to carry canal flow through the in canal work area. The piping would be sized to allow canal flows to be directly channeled and conveyed through the work area with minimal impacts at the inlet and outlet locations of the diversion piping. The diversion device would be removed after the bridge work is complete and normal canal flow would be restored. The instream work would take place when canal flows are lowest.

Construction is expected to start in 2023 or later, once all required approvals and funding have been obtained. The overall construction period would encompass up to one year. County Road R near the bridge would remain closed to through traffic until construction of the new bridge is complete. Construction within the canal would generally take place between January and February when the Glenn-Colusa canal is not transporting water for agricultural purposes. Work performed in and around the Glenn-Colusa canal (e.g., demolition, diversion dam, bridge construction) would be scheduled during these off-peak months. Other work (e.g., paving and striping the road) outside of the canal may be scheduled at any time.



- Biological Study Area (5.52 acres)
- Project Design Features**
 - New Bridge
 - Abutments
 - Bridge Supports
 - Cut/Fill
 - Edge of Pavement
 - Guardrail
 - Post Construction Contours
 - Constructed Drainage
 - Temporary In-Channel Work Area
 - Potential Staging Area



Project Location: T20N, R2E, S17 and 18, Glenn County, CA
2272004900
Prepared by TH on 2018-11-27
Technical Review by CF on 2018-11-27

Client/Project: Glenn County Public Works Agency
County Road R over Glenn-Colusa Canal
Bridge Replacement Project

Figure No.: 2

Title: Project Design

Notes
1. Coordinate System: NAD 1983 UTM Zone 10N
2. Orthoimagery: NAIP, 2016.

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Figure 2

1.4 Conservation Measures

Conservation measures will be incorporated into the Project to minimize the potential for adverse effects on sensitive biological resources. These conservation measures are identified below.

1.4.1 Conservation Measure #1 – Erosion and Sedimentation Control

Erosion control measures will be implemented during construction of the Project. These measures shall conform to the appropriate erosion/sedimentation control provisions contained in the Caltrans Standard Specifications and the Special Provisions included in the contract for the Project. Such provisions shall include the preparation of a Storm Water Pollution Prevention Plan (SWPPP) or Water Pollution Control Plan (WPCP), which describes and illustrates placement of BMPs at the Project site.

Erosion control measures to be included in the SWPPP or WPCP include the following:

- To the maximum extent practicable, activities that increase the erosion potential in the Project area shall be restricted to the relatively dry summer and early fall period to minimize the potential for rainfall events to transport sediment to surface water features (e.g. streams, ditches). If these activities must take place during the late fall, winter, or spring, temporary erosion and sediment control structures shall be in place and operational at the end of each construction day and shall be maintained until permanent erosion control structures are in place.
- Vegetation clearing and ground-disturbing activities shall be limited to the minimum area necessary for Project implementation.
- Within 10 days of completion of construction in those areas where subsequent ground disturbance will not occur for 10 calendar days or more, weed-free mulch shall be applied to disturbed areas to reduce the potential for short-term erosion. Prior to a rain event or when there is a greater than 50 percent probability of rain within the next 24 hours, as forecasted by the National Weather Service, weed-free mulch shall be applied to all exposed areas at the completion of the day's activities. Soils shall not be left exposed during the rainy season.
- Suitable BMPs shall be implemented, such as placing silt fences, straw wattles, or catch basins below all construction activities to intercept sediment before it reaches the waterway. These structures shall be installed prior to any clearing or grading activities. Products with plastic monofilament or cross joints in the netting that are bound/stitched (such as found in straw wattles/fiber rolls and some erosion control blankets) which may cause entrapment of wildlife shall not be allowed.
- If spoil sites are used, they shall be placed where they do not drain directly into a surface water feature (to the maximum extent practicable). If a spoil site would drain into a surface water feature, appropriate BMPs shall be constructed to intercept sediment before it reaches the feature. Spoil sites shall be graded to reduce the potential for erosion.

- Sediment control measures shall be in place prior to any rain event and shall be monitored and maintained in good working condition until disturbed areas have been revegetated.

1.4.2 Conservation Measure #2 – Prevention of Accidental Spills

Construction specifications shall include the following measures to minimize the potential for adverse effects resulting from accidental spills of pollutants (e.g., fuel, oil, grease):

- A site-specific spill prevention plan shall be implemented for potentially hazardous materials. The plan shall include the proper handling and storage of all potentially hazardous materials, as well as the proper procedures for cleaning up and reporting any spills. If necessary, containment berms shall be constructed to prevent spilled materials from reaching surface water features.

1.4.3 Conservation Measure #3 – Air Quality/Dust Control

The construction bid documents shall include provisions that the contractor shall implement a dust control program to limit fugitive dust emissions. The dust control program shall include, but not be limited to, the following elements, as appropriate:

- Water inactive construction sites and exposed stockpiles at least twice daily or until soils are stable.
- Pursuant to California Vehicle Code, all trucks hauling soil and other loose material to and from the construction site shall be covered or should maintain at least 6 inches of freeboard (i.e., minimum vertical distance between the top of the load and the trailer).
- Any topsoil removed during construction shall be stored on-site in piles no higher than 4 feet to allow development of microorganisms prior to replacing the soil in the construction area. The topsoil piles shall be clearly marked and flagged. Topsoil piles that will not immediately be used in the construction area shall be covered or revegetated with a non-persistent erosion control mixture.
- All stockpiles, dirt/gravel roads, and exposed or disturbed soil surfaces shall be watered, as necessary, to reduce airborne dust.

1.4.4 Conservation Measure #4 – Prevention of Spread of Invasive Species

The following measures shall be implemented to reduce the potential for the spread of invasive plants:

- All equipment used for off-road construction activities shall be weed-free prior to entering the Project area.
- Any mulches or fill used shall be weed free.

- Any seed mixes or other vegetative material used for revegetation of disturbed sites shall consist of locally adapted native plant materials to the extent practicable.

1.4.5 Conservation Measure #5 – General Measures for Protection of Special-Status Wildlife Species

The following general conservation measures shall be implemented to avoid or minimize the potential for adverse effects on special-status wildlife species:

- Construction access and equipment will be located on existing roads or previously disturbed parking areas.
- Disturbance of soil, vegetation, naturally occurring debris piles (including fallen trees or dead tree snags), and wildlife burrows will be avoided or minimized to the extent practicable.
- To the extent practicable, all holes or trenches will be covered at the end of each workday to prevent wildlife from becoming trapped. All holes and trenches will be inspected before each work day to facilitate the release of any trapped wildlife. A qualified biologist will be consulted if work crews are unable to safely assist in the release of trapped wildlife.
- To minimize attractants to wildlife, trash will be stored in containers that can be closed and latched or locked to prevent access by wildlife. All loose trash will be cleaned up daily.

Chapter 2. Study Methods

2.1 Federal Regulatory Requirements

2.1.1 Federal Endangered Species Act

Section 9 of the federal Endangered Species Act of 1973 (ESA) prohibits acts of disturbance that result in the “take” of threatened or endangered species. As defined by the ESA, “endangered” refers to any species that is in danger of extinction throughout all or a significant portion of its current range. The term “threatened” is applied to any species likely to become endangered within the foreseeable future throughout all or a significant portion of its current range. “Take” is defined as to “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct.” Violation of this section can result in penalties of up to \$50,000 and up to 1 year of imprisonment.

Sections 7 and 10 of the ESA provide a method for permitting an action that may result in “incidental take” of a federally listed species. Incidental take refers to take of a listed species that is incidental to, but not the primary purpose of, an otherwise lawful activity. Incidental take is permitted under Section 7 for projects on federal land or involving a federal action, while Section 10 provides a method for permitting incidental take resulting from a state or private action.

2.1.2 Magnuson-Stevens Fishery Conservation and Management Act

The Magnuson-Stevens Fishery Conservation and Management Act (MSA), as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-267), established procedures designed to identify, conserve, and enhance essential fish habitat (EFH) for those species regulated under a federal fisheries management plan. The MSA requires federal agencies to consult with National Marine Fisheries Service (NMFS) on all actions, or proposed actions, authorized, funded, or undertaken by the agencies that may adversely affect EFH (MSA section 305[b][2]). A component of this consultation process is the preparation and submittal of an Essential Fish Habitat Assessment (EFHA).

The EFH mandate applies to all species managed under a fisheries management plan. For the Pacific coast (excluding Alaska), there are three fisheries management plans covering groundfish, coastal pelagic species, and Pacific salmon.

2.1.3 Federal Clean Water Act Section 404

The objective of the Clean Water Act (CWA) of 1977, as amended, is to restore and maintain the chemical, physical, and biological integrity of the nation’s waters. In 1987, the U.S. Army Corps of Engineers (Corps) published a manual standardizing the manner in which wetlands are to be delineated nationwide. To determine whether areas that appear to be wetlands are subject to Corps jurisdiction (i.e., are “jurisdictional” wetlands), a wetlands delineation must be performed and the

resulting map of the wetland boundaries verified in writing by the Corps. Wetlands generally include riparian areas, swamps, marshes, bogs, and similar areas. In addition to verifying wetlands for potential jurisdiction, the Corps is responsible for the issuance of permits for projects that include the filling of wetlands. Any permanent loss of a jurisdictional wetland as a result of Project construction activities is considered a significant impact.

Permits under Section 404 of the CWA, as amended, are required for the placement of dredged or fill materials into all waters of the U.S., including wetlands and “other waters” (e.g., streams). Projects are permitted under either individual or general (e.g., nationwide) permits.

2.1.4 Federal Clean Water Act Section 401

The Regional Water Quality Control Board (RWQCB), Central Valley Region, is responsible for enforcing water quality criteria and protecting water resources in the Project area. The RWQCB is responsible for controlling discharges to surface waters of the state by issuing waste discharge requirements.

Section 401 of the CWA requires that a project proponent obtain a water quality certification for projects requiring a federal permit (e.g., Corps Section 404 permits) to authorize discharge into waters of the United States.

2.1.5 Federal Migratory Bird Treaty Act

Migratory birds are protected under the Migratory Bird Treaty Act (MBTA) of 1918 (16 USC 703–711). The MBTA makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed in 50 CFR Part 10, including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 CFR 21).

2.1.6 Executive Order 11990 (Wetlands)

Executive Order 11990 is an overall wetlands policy for all agencies managing federal lands, sponsoring federal projects, or providing federal funds to state or local projects. It requires federal agencies to follow avoidance, mitigation, and preservation procedures and request public input before proposing new construction in wetlands.

2.1.7 Executive Order 13112 (Invasive Species)

Executive Order 13112 directs federal agencies to use relevant programs and authorities to:

- Prevent the introduction of invasive species.
- Detect and respond rapidly to and control populations of such species in a cost-effective and environmentally sound manner.
- Monitor invasive species populations accurately and reliably.

- Provide for restoration of native species and habitat conditions in ecosystems that have been invaded.
- Conduct research on invasive species, develop technologies to prevent their introduction, and provide for environmentally sound control of invasive species.
- Promote public education on invasive species and the means to address them.
- Not authorize, fund, or carry out actions that it believes are likely to cause or promote the introduction or spread of invasive species in the United States or elsewhere unless, pursuant to guidelines that it has prescribed, the agency has determined and made public its determination that the benefits of such actions clearly outweigh the potential harm caused by invasive species; and that all feasible and prudent measures to minimize risk of harm will be taken in conjunction with the actions.

2.1.8 Executive Order 11988 (Floodplain Management)

Executive Order 11988 requires federal agencies to avoid the long- and short-term adverse impacts associated with the occupancy and modification of floodplains and avoid direct and indirect support of floodplain development.

2.2 California Regulatory Requirements

2.2.1 Fish and Game Code Section 2081, California Endangered Species Act

Under the California Endangered Species Act (CESA), the California Department of Fish and Wildlife (CDFW) is responsible for maintaining a list of threatened and endangered species (California Fish and Game Code 2070). Additionally, the CDFW maintains a list of “candidate species,” which are species that the CDFW has formally recognized as being under review for inclusion on the state’s list of endangered or threatened species. The CDFW also maintains lists of “species of special concern,” which serve as “watch lists.” Pursuant to the requirements of the CESA, an agency reviewing a proposed project within its jurisdiction must determine whether any state-listed endangered or threatened species may be present in the project area and determine whether the proposed project will have a potentially significant impact on the species. In addition, the CDFW encourages informal consultation on any proposed project that may affect a candidate species. Project-related impacts on species listed as threatened or endangered under CESA would be considered significant. Take of protected species incidental to otherwise lawful management activities may be authorized under Section 2081 of the Fish and Game Code.

2.2.2 Fish and Game Code Section 3503, Birds of Prey

Under Section 3503.5 of the Fish and Game Code, it is unlawful to take, possess, or destroy any birds in the orders of Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird, except as otherwise provided by this code or any regulation adopted pursuant thereto.

2.2.3 Fish and Game Code Section 3513, Migratory Birds

Migratory birds are also protected in California. Fish and Game Code Section 3513 states that it is unlawful to take or possess any migratory nongame bird as designated in the MBTA or any part of such migratory nongame bird except as provided by rules and regulations adopted by the Secretary of the Interior under provisions of the MBTA.

2.2.4 Fish and Game Code, “Fully Protected” Species

California statutes also accord “fully protected” status to a number of specifically identified birds, mammals, reptiles, amphibians, and fish. These species cannot be taken, even with an incidental take permit (Fish and Game Code, Sections 3505, 3511, 4700, 5050, and 5515).

2.2.5 Fish and Game Code Section 1600, Lake or Streambed Alteration

Any entity proposing an activity that will substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated by the CDFW may need a Streambed Alteration Agreement from the CDFW prior to proceeding with the activity. As a general rule, this requirement may also apply to any work undertaken within the floodplain of a stream or river containing fish or wildlife.

2.3 Studies Required

2.3.1 Background Research

Special-status plant and animal species and sensitive habitats that may occur in the BSA were determined, in part, by reviewing natural resource agency databases, literature, and other relevant sources. The following information sources were reviewed:

- United States Geological Survey (USGS) *Glenn, California* 7.5-minute quadrangle;
- Aerial photography of the BSA and vicinity;
- USFWS list of endangered and threatened species that may occur in the vicinity of the Project (Appendix A);
- California Natural Diversity Data Base (CNDDB) and California Native Plant Society (CNPS) records for the *Glenn, California* 7.5-minute quadrangle and the eight surrounding quadrangles (Appendix B);
- California Wildlife Habitat Relationships (CWHR) System (California Department of Fish and Wildlife 2013);
- Other pertinent databases and literature, including the online *Inventory of Rare and Endangered Vascular Plants of California* (California Native Plant Society 2021) and *The Jepson Manual: Vascular Plants of California* (Baldwin et. al. 2012).

A list of special-status species that could occur or are known to occur in the BSA and vicinity was developed based on background research. The list was further refined based on a field assessment to identify those species that could occur in the BSA.

2.3.2 Studies Conducted

On November 30, 2017, Stantec biologist Chariss Femino conducted a delineation of potential waters of the United States and characterized the habitats within the BSA. She conducted the survey on foot and viewed all areas within the BSA. The methods used followed those described in the Corps Wetlands Delineation Manual (Environmental Laboratory 1987) and Regional Supplement to the Corps Wetland Delineation Manual: Arid West Region (U.S. Army Corps of Engineers 2008). A copy of the delineation report is provided in Appendix D.

2.4 Personnel and Survey Dates

- Chariss Femino, Project Biologist, Stantec Consulting Services Inc.
Biological survey and delineation of potential waters of the United States, November 30, 2017.

2.5 Agency Coordination and Professional Contacts

On February 25, 2021 an updated list (Appendix A) of federally listed species with the potential to occur in Glenn County was obtained from the USFWS Sacramento Fish and Wildlife Office.

2.6 Limitations That May Influence Results

All field studies were conducted in accordance with applicable protocols. Therefore, no limitations that may influence the results of field studies associated with this Project are known to have occurred.

Chapter 3. Results: Environmental Setting

3.1 Description of Existing Physical and Biological Conditions

3.1.1 Study Area

All of the land adjacent to the BSA is agricultural, and machine-harvested rice is the primary crop. There are two rural residences in the vicinity along County Road 39, located approximately 0.2 mile south of the BSA.

3.1.2 Physical Conditions

The primary topographic feature in the BSA is the channel of the Glenn-Colusa canal, which bisects the BSA from east to west. The BSA generally runs perpendicular to the Glenn-Colusa canal and occurs at an elevation of approximately 130 feet (North American Vertical Datum of 1988 [NAVD 88]).

Precipitation in the BSA primarily falls as rain, and the average annual rainfall is approximately 18 inches. Air temperatures range from an average January high of 55 Fahrenheit (°F) to an average July high of 95 °F. The year-round average high temperature is approximately 75 °F (Western Regional Climate Center 2017).

Soil map units in the vicinity of the BSA are described in the Soil Survey Geographic Database for Glenn County, California (U.S. Department of Agriculture and Natural Resources Conservation Service 2007). Two soil map units occur within the BSA, and these are described in Table 1.

Table 1. Soil Map Units

Map Unit Name	Map Unit Code	Drainage Class	Depth to Restrictive Layer	Hydric Soil
Plaza silt loam	Pf	Moderately well to imperfectly drained	60	No
Plaza silty clay loam	Pg	Moderately well to imperfectly drained	60	No

3.1.3 Biological Conditions

Habitat Types

Habitat types in the BSA were classified based on habitat descriptions provided in *A Guide to Wildlife Habitats of California* (Mayer and Laudenslayer 1988) and the results of the field survey. The habitat types in the BSA include agriculture (rice), barren/ruderal, and riverine (see Figure 3). Descriptions of these habitats are provided below.

Agriculture (Rice)

Agriculture, in the form of machine harvested rice, surrounds the BSA on all sides. This habitat is generally flooded with water in the spring when rice is planted and continues to be inundated until fall when the rice is harvested. After harvest, some fields are left fallow for the winter with no water or crops growing. The two fields to the west and the one field to the north east of the BSA were fallow during the November 30, 2017 site visit. Some rice fields are re-inundated after the rice harvest to provide habitat for migrating and over-wintering waterfowl during the winter months. The rice fields located south of the Glenn-Colusa canal and east of the BSA were flooded for this purpose during the site visit.

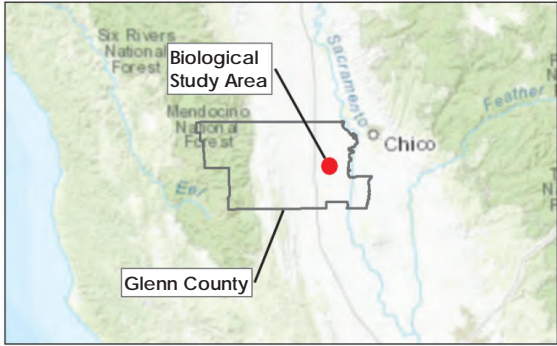
Barren/Ruderal

Barren habitat includes the county roads, road shoulders, and edges of agricultural fields within the BSA. These surfaces are generally devoid of vegetation.

Riverine

Riverine habitat in the BSA consists of the Glenn-Colusa canal and associated irrigation ditches. The Glenn-Colusa canal is one of the main transport canals for irrigation water for the Glenn Colusa Irrigation District (GCID) and flows nearly year round with the exception of a few weeks during the winter when maintenance takes place. The Glenn-Colusa canal flows westerly through the BSA and is dominated by mud substrates with large rip-rap around the existing bridge abutments. There is no vegetation within the canal within the BSA.

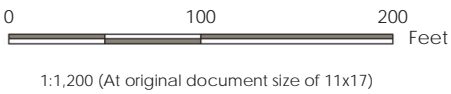
The irrigation ditches within the BSA run parallel to the Glenn-Colusa canal on both the north and south sides in addition to paralleling County Road R on both sides. The vegetation in the irrigation ditches is typically maintained by the farmers to ensure adequate delivery of irrigation water to crops. During the November 30, 2017 site visit, fresh emergent vegetation was present in the ditches within the BSA, which included cattails (*Typha latifolia*), water primrose (*Ludwigia hexapetala*), and variable flat sedge (*Cyperus difformis*). Typical animal species that use the type of riverine habitat located within the BSA include North American beaver (*Castor canadensis*) and muskrat (*Ondatra zibethicus*).



- Biological Study Area**
(5.52 acres)
- Habitat Communities**
- Agriculture (Rice)
 - Barren/Ruderal
 - Riverine
 - Vegetated Ditch

Notes

1. Coordinate System: NAD 1983 UTM Zone 10N
2. Orthoimagery: NAIP, 2016.



Project Location
T20N, R2E, S17 and 18
Glenn County, CA

2272004900
Prepared by TH on 2018-11-27
Technical Review by CF on 2018-11-27

Client/Project
Glenn County Public Works Agency
County Road R over Glenn-Colusa Canal
Bridge Replacement Project

Figure No.
3

Title
Habitat Communities

Habitat Connectivity

Habitat corridors are segments of land that provide linkages between different habitats while also providing cover. On a broader level, corridors also function as avenues along which wide-ranging animals can travel, plants can propagate, genetic interchange can occur, populations can move in response to environmental changes and natural disasters, and threatened species can be replenished from other areas. Habitat corridors often consist of riparian areas along streams, rivers, or other natural features. Additionally, the rivers and streams themselves may serve as migration corridors for anadromous fish. In the BSA, the Glenn-Colusa canal and adjacent irrigation ditches provide a movement corridor for fish and wildlife species.

Invasive Species

Invasive plants (i.e., noxious weeds) are undesirable, non-native plants that commonly invade disturbed sites. Most species have been introduced from Europe and Asia and are known to degrade native wildlife habitat and plant communities. When disturbance results in the creation of habitat openings or in the loss of intact native vegetation, invasive plants may colonize the site and spread, often out-competing native species. Once established, they are very difficult to eradicate and could pose a threat to native species.

All non-native plant species were reviewed to determine their status as invasive plants according to the ratings in the California Invasive Plant Inventory produced by California Invasive Plant Council (Cal-IPC 2006). Cal-IPC categorizes non-native invasive plants into three categories of overall negative ecological impact in California: High, Moderate, and Limited. Occurrences of invasive species found in the BSA with a Cal-IPC rating of “High” include Himalayan blackberry (*Rubus armeniacus*) and yellow star-thistle (*Centaurea solstitialis*).

3.2 Habitats and Natural Communities of Concern and Regional Species

3.2.1 Habitats and Natural Communities of Concern

Rare Natural Communities

In addition to inventorying reported occurrences of special-status species, the CNDDDB also includes reported locations of rare natural communities. Rare natural communities are those communities that are of highly limited distribution, and may or may not contain rare, threatened, or endangered species. The CNDDDB ranks natural communities according to their rarity and endangerment in California. The CNDDDB contains no records of rare natural communities within the BSA (California Department of Fish and Wildlife 2021).

Riparian Habitat

Riparian habitat is considered a sensitive natural community by the Corps, CDFW, and the County. In addition to providing habitat for many wildlife species, riparian areas provide shade, sediment, nutrient or chemical regulation, stream bank stability, and input for large woody debris or organic

matter to the channel, which are necessary habitat elements for fish and other aquatic species. There is no woody riparian habitat present within the BSA.

Waters of the United States

Potential waters of the United States in the BSA include irrigation canal (Glenn-Colusa canal), vegetated ditch, and rice field/managed wetland (Appendix D).

3.2.2 Special-Status Plants

For the purpose of this evaluation, special-status plant species include plants that are (1) listed as threatened or endangered under the CESA or the ESA; (2) designated as rare by the CDFW; (3) identified as state or federal candidate or proposed species for listing as threatened or endangered; and/or (4) have a California Rare Plant Rank (CRPR) of 1A, 1B, 2A, or 2B.

Regionally occurring special-status plant species were identified based on a review of pertinent literature, the USFWS species list, CNDDB and CNPS database records, and the field survey results. The status of each special-status plant species was verified using the *Special Vascular Plants, Bryophytes, and Lichens List* (California Department of Fish and Wildlife 2020a) and the *State and Federally Listed Endangered, Threatened and Rare Plants of California* (California Department of Fish and Wildlife 2020b). For each species, habitat requirements were assessed and compared to the habitats in the BSA and immediate vicinity to determine if potential habitat occurs in the BSA. Based on the habitat assessment, the BSA does not provide potential habitat for any special-status plant species (Table 1). For the purposes of this review, all regionally occurring plant species listed under ESA or CESA are included in Table 1, regardless of whether the BSA provides potential habitat.

Table 1. Special-Status Plants Potentially Occurring or Known to Occur in the BSA

Common Name Scientific Name	Status¹ (Fed/State/ CRPR)	General Habitat Description	Habitat Assessment²	Rationale
Federal or State Listed Species				
Palmate-bracted salty bird's-beak <i>Chloropyron palmatum</i>	FE/SE/1B.1	Valley and foothill grassland with alkaline soil. Elevation 85 to 90 feet. Blooms from May- Oct.	A	Suitable habitat is not present in the BSA.
Hoover's spurge <i>Euphorbia hooveri</i>	FT—/1B.2	Vernal pools. Elevation 85 to 90 feet. Blooms from July-Sept (Oct.).	A	Vernal pools are absent from the BSA.
Colusa grass <i>Neostapfia colusana</i>	FT/SE/1B.1	Vernal pools. Elevation 16-656 feet. Blooms from May-Aug.	A	Vernal pools are absent from the BSA.
Hairy Orcutt grass <i>Orcuttia pilosa</i>	FE/SE/1B.1	Vernal pools. Elevation 151-656 feet. Blooms from May-Sept.	A	Vernal pools are absent from the BSA.

Table 1. Special-Status Plants Potentially Occurring or Known to Occur in the BSA

Common Name Scientific Name	Status¹ (Fed/State/ CRPR)	General Habitat Description	Habitat Assessment²	Rationale
Greene's tuctoria <i>Tuctoria greenei</i>	FE/SR/1B.1	Vernal pools. Elevation 98-3,510 feet. Blooms from May-July (Sept).	A	Vernal pools are absent from the BSA.

¹ Status Codes: Federal Endangered (FE); Federal Threatened (FT); State Rare (SR); State Threatened (ST);

1 CRPR Codes and Extensions:

1A Plants presumed extirpated in California and either rare or extinct elsewhere.

1B Plants rare, threatened, or endangered in California and elsewhere.

xx.3 Not very endangered in California

xx.2 Fairly endangered in California

xx.1 Seriously endangered in California

² Assessment Codes. Absent (A): No habitat present and no further work needed. Habitat Present (HP): Habitat is or may be present. The species may be present.

3.2.3 Special-Status Wildlife

Special-status wildlife species include species that are (1) listed as threatened or endangered under the CESA or the ESA; (2) proposed for federal listing as threatened or endangered; (3) identified as state or federal candidates for listing as threatened or endangered; and/or (4) identified by the CDFW as Species of Special Concern or California Fully Protected Species.

Regionally occurring special-status wildlife species were identified based on a review of pertinent literature, the USFWS species list, CNDDDB database records, a query of the California Wildlife Habitats Relationship system, and the field survey results. The status for each special-status wildlife species was verified using the *Special Animals List* (California Department of Fish and Wildlife 2020c) and the *State and Federally Listed Endangered and Threatened Animals of California* (California Department of Fish and Wildlife 2020d). For each species, habitat requirements were assessed and compared to the habitats in the BSA and immediate vicinity to determine the species' potential to occur in or near the BSA. Based on the habitat assessment, four special-status wildlife species were determined to potentially occur in the BSA (Table 2). These special-status wildlife species are further discussed in Chapter 4. For the purposes of this review, all regionally occurring wildlife species listed under ESA or CESA are included in Table 2, regardless of whether the BSA provides potential habitat.

Table 2. Special-Status Wildlife Potentially Occurring or Known to Occur in the BSA

Common Name Scientific Name	Status¹ (Fed/State)	General Habitat Description	Habitat Assessment²	Rationale
Federal or State Listed Species				
Invertebrates				
Conservancy fairy shrimp <i>Branchinecta conservatio</i>	E/—	Vernal and intermittent freshwater pools with turbidity.	A	The BSA does not contain vernal or intermittent pools.
Vernal pool fairy shrimp <i>Branchinecta lynchi</i>	T/—	Vernal and intermittent freshwater pools.	A	The BSA does not contain vernal or intermittent pools.
Vernal pool tadpole shrimp <i>Lepidurus packardii</i>	E/—	Vernal and intermittent freshwater pools.	A	The BSA does not contain vernal or intermittent pools.
Valley elderberry longhorn beetle <i>Desmocerus californicus dimorphus</i>	T/—	Elderberry shrubs (<i>Sambucus nigra</i> ssp. <i>caerulea</i>), which are typically associated with riparian forests that occur along rivers and streams.	A	No elderberry shrubs were found in the BSA during November 30, 2017 survey. None are present within 100 feet of the BSA.
Fish				
Delta smelt <i>Hypomesus transpacificus</i>	T/E	Inhabits the Sacramento-San Joaquin Delta estuary.	A	The BSA is not within the current known range of this species.
Central Valley DPS steelhead <i>Oncorhynchus mykiss</i>	T/—	Spawn and rear in the Sacramento River and its tributaries. Requires cool, swift shallow water; clean, loose gravel for spawning.	A	The BSA does not contain suitable rearing or migration habitat for this species.
Reptiles				
Giant garter snake <i>Thamnophis gigas</i>	T/T	Freshwater marshes and low gradient streams with emergent vegetation. Adapted to drainage canals and irrigation ditches with mud substrate.	HP	Potential aquatic and upland habitat is present throughout the BSA.

Table 2. Special-Status Wildlife Potentially Occurring or Known to Occur in the BSA

Common Name Scientific Name	Status¹ (Fed/State)	General Habitat Description	Habitat Assessment²	Rationale
Amphibians				
California red-legged frog <i>Rana draytonii</i>	T/—	Requires perennial or near perennial aquatic habitats, especially for breeding: streams, freshwater pools, and ponds over 1 foot deep with overhanging vegetation.	A	The BSA does not contain suitable aquatic habitat for this species.
Birds				
Bank swallow <i>Riparia riparia</i>	—/T	Colonial nester on vertical banks or cliffs with fine-textured soils near water	A	The BSA does not contain suitable habitat for this species.
Swainson's hawk <i>Buteo swainsoni</i>	—/T	Breeds in stands with few trees in juniper-sage flats, riparian areas, and oak savannah; forages in adjacent livestock pasture, grassland or grain fields.	A	The BSA does not contain suitable nesting habitat for this species. Rice fields with no large nesting trees are present within 0.25 mile of the BSA-.
Western yellow-billed cuckoo <i>Coccyzus americanus occidentalis</i>	T/E	Requires dense riparian woodland with water nearby.	A	The BSA does not contain suitable habitat for this species.
Tricolored blackbird <i>Agelaius tricolor</i>	—/T	Breeds in large colonies in freshwater marshes in dense stands of cattails or bulrushes. Forages in open habitats such as farm fields and pastures.	HP	The BSA contains freshwater emergent vegetation with suitable nesting and foraging habitats.
Bald eagle <i>Haliaeetus leucocephalus</i>	—/E	Breeds and winters in riparian woodland with large trees that are open and accessible.	A	The BSA does not contain suitable rearing or migration habitat for this species.

Table 2. Special-Status Wildlife Potentially Occurring or Known to Occur in the BSA

Common Name Scientific Name	Status¹ (Fed/State)	General Habitat Description	Habitat Assessment²	Rationale
Other Special-Status Species				
Foothill yellow-legged frog <i>Rana boylei</i>	—/SSC	Requires perennial, partly shaded, shallow streams and riffles with a rocky substrate in a variety of habitats. Needs at least some cobble-sized substrate for egg laying.	A	The BSA does not contain suitable aquatic habitat for this species.
Western pond turtle <i>Emys marmorata</i>	—/SSC	Slow water aquatic habitat with available basking sites. Hatchlings require shallow water with dense submergent or short emergent vegetation. Requires an upland oviposition site near the aquatic site.	HP	The BSA contains suitable aquatic habitat for western pond turtle in the irrigation ditches.
Western burrowing owl <i>Athene cunicularia</i>	—/SSC	Grasslands and ruderal habitats.	HP	The BSA contains ruderal areas with suitable nesting and foraging habitats.
Western mastiff bat <i>Eumops perotis californicus</i>	—/SSC	Variety of habitats with suitable roosting sites. Roosting sites are typically high above ground with at least a 6.5-foot drop for taking off.	A	The BSA does not contain suitable roosting habitat for this species.
Western red bat <i>Lasiurus blossevillii</i>	—/SSC	Typically roost solitarily in dense tree foliage, particularly in willows, cottonwoods, and sycamores. Strongly associated with riparian habitats, particularly mature stands of cottonwood/sycamore.	A	The BSA does not contain suitable roosting habitat for this species.

¹ Status Codes: Federal Endangered (FE); Federal Threatened (FT); State Endangered (SE); State Threatened (ST); State Species of Special Concern (SSC).

² Assessment Codes. Absent (A): No habitat present and no further work needed. Habitat Present (HP): Habitat is or may be present. The species may be present.

Chapter 4. Results: Biological Resources, Discussion of Impacts and Mitigation

4.1 Habitats and Natural Communities of Concern

4.1.1 Waters of the United States

Survey Results

Stantec conducted a delineation of potential waters of the U.S. within the BSA on November 30, 2017. A total of 1.697 acre (1,931 linear feet) of potential waters of the United States was delineated. Potential waters of the United States occur as irrigation canal (0.657 acre, 260 linear feet) vegetated ditch (0.424 acre), and rice field/managed wetland (0.616 acre) (see Figure 4).

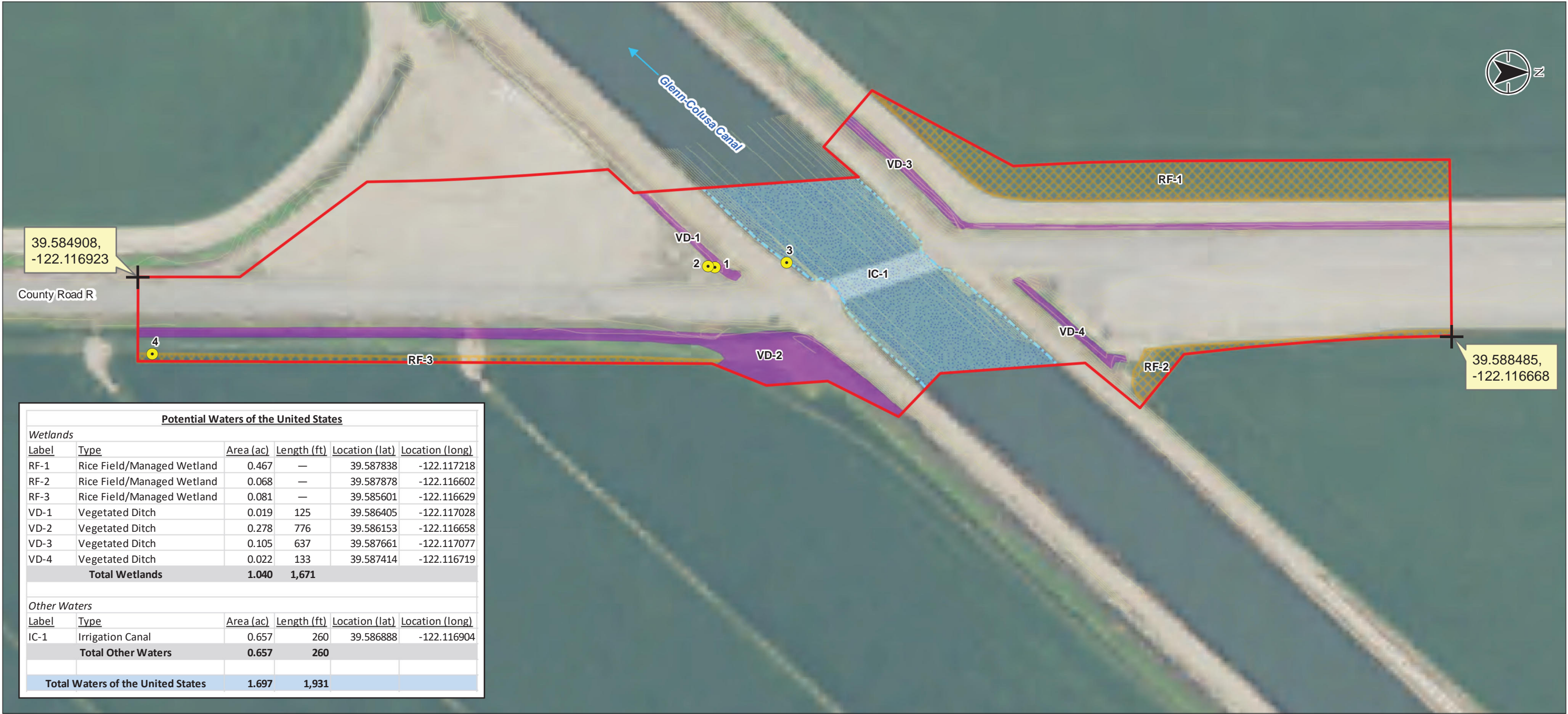
Potential Impacts

Based on existing Project detail, implementation of the Project would result in temporary impacts on approximately 0.552 acre (724 linear feet) of waters of the U.S. The majority of the temporary impacts result from channel grading of the irrigation canal in the immediate vicinity of the new bridge to blend the new channel contours into the existing ground contours and relocation of VD-3 as a result of road re-alignment. Implementation of the Project would result in permanent impacts on approximately 0.103 acre (233 linear feet) of vegetated ditch and rice field/managed wetland which would be a result of the realignment of County Road R. (see Figure 5).

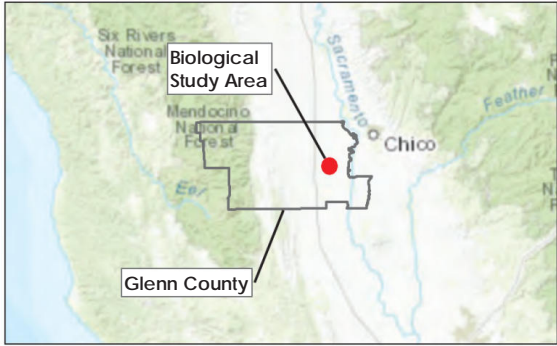
Avoidance and Minimization Efforts

In addition to the conservation measures provided in Chapter 1, the following measures shall be implemented to avoid or minimize the potential for adverse impacts on waters of the United States.

- | | |
|-----------------------------|--|
| Mitigation Measure 1 | Prior to any discharge of dredge or fill material into the Glenn-Colusa canal, the required permits/authorizations shall be obtained from the Corps and the RWQCB. All terms and conditions of the required permits/authorizations shall be implemented. |
| Mitigation Measure 2 | Notification of streambed alteration shall be submitted to the CDFW prior to any activities that would obstruct the flow of, or alter the bed, channel, or bank of the Glenn-Colusa canal. If required, a streambed alteration agreement shall be obtained from CDFW and all conditions of the agreement shall be implemented. |
| Mitigation Measure 3 | All waters of the United States that are temporarily affected by Project construction shall be restored as close as practicable to their original contour and conditions within 10 days of the completion of construction activities. |



Potential Waters of the United States					
Wetlands					
Label	Type	Area (ac)	Length (ft)	Location (lat)	Location (long)
RF-1	Rice Field/Managed Wetland	0.467	—	39.587838	-122.117218
RF-2	Rice Field/Managed Wetland	0.068	—	39.587878	-122.116602
RF-3	Rice Field/Managed Wetland	0.081	—	39.585601	-122.116629
VD-1	Vegetated Ditch	0.019	125	39.586405	-122.117028
VD-2	Vegetated Ditch	0.278	776	39.586153	-122.116658
VD-3	Vegetated Ditch	0.105	637	39.587661	-122.117077
VD-4	Vegetated Ditch	0.022	133	39.587414	-122.116719
Total Wetlands		1.040	1,671		
Other Waters					
Label	Type	Area (ac)	Length (ft)	Location (lat)	Location (long)
IC-1	Irrigation Canal	0.657	260	39.586888	-122.116904
Total Other Waters		0.657	260		
Total Waters of the United States		1.697	1,931		



Notes

- Coordinate System: NAD 1983 UTM Zone 10N
- Orthoimagery: NAIP, 2016.

- Biological Study Area
(5.52 acres)

3-Parameter Data Point

1-Foot Contours
- Potential Waters of the U.S.

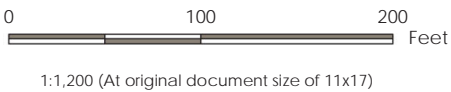
Wetlands

Rice Field/Managed
Wetland

Vegetated Ditch
- Other Waters

Ordinary High Water Mark

Irrigation Canal



Project Location

T20N, R2E, S17 and 18
Glenn County, CA

Client/Project

Glenn County Public Works Agency
County Road R over Glenn-Colusa Canal
Bridge Replacement Project

Figure No.

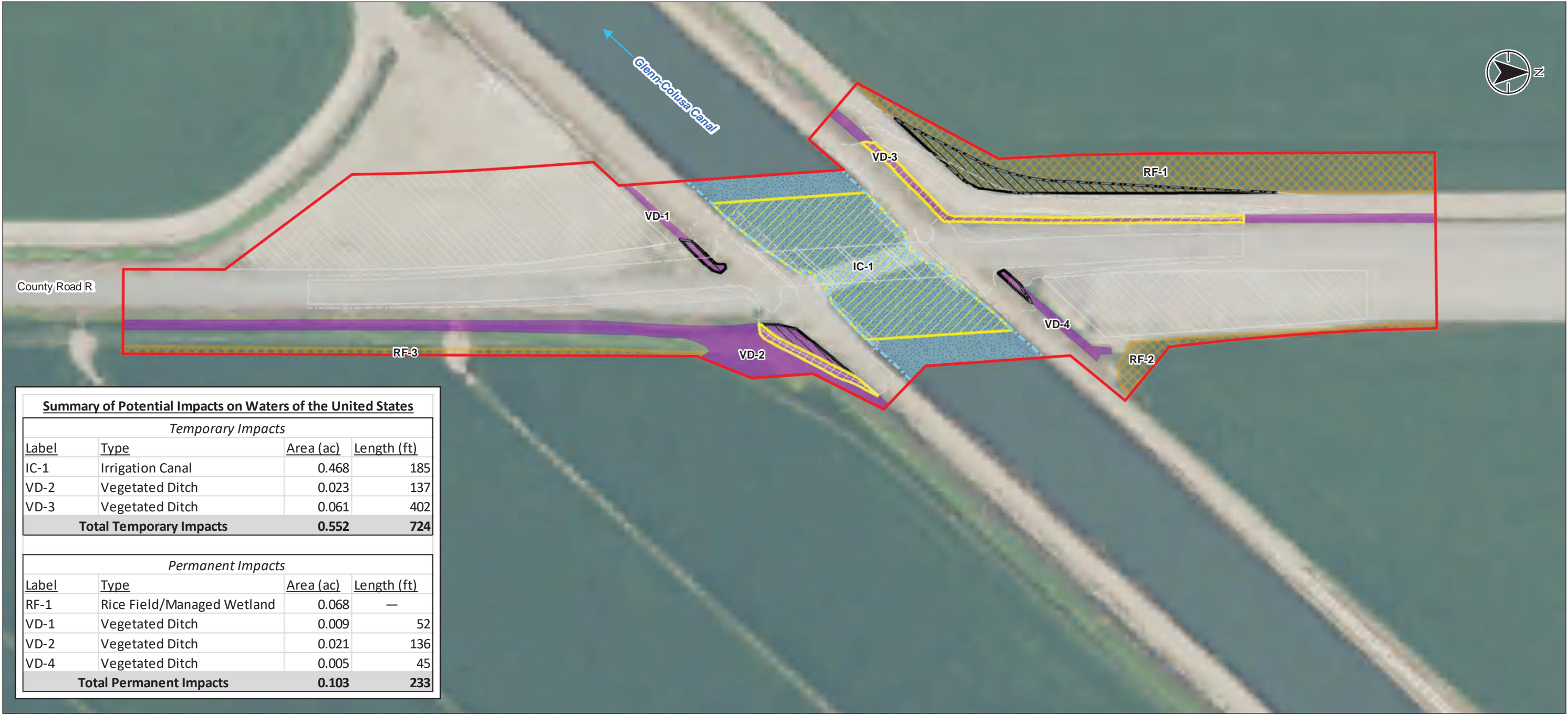
4

Title

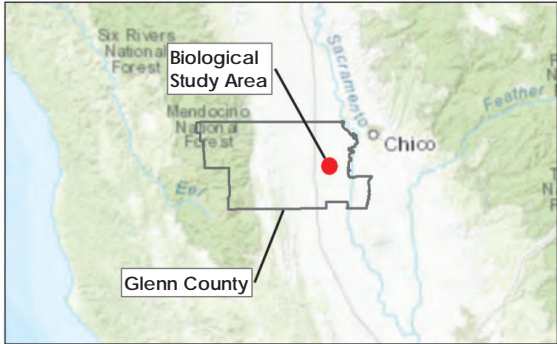
Potential Waters of the United States

2272004900

Prepared by TH on 2018-12-03
Technical Review by CF on 2018-12-03



Summary of Potential Impacts on Waters of the United States			
Temporary Impacts			
Label	Type	Area (ac)	Length (ft)
IC-1	Irrigation Canal	0.468	185
VD-2	Vegetated Ditch	0.023	137
VD-3	Vegetated Ditch	0.061	402
Total Temporary Impacts		0.552	724
Permanent Impacts			
Label	Type	Area (ac)	Length (ft)
RF-1	Rice Field/Managed Wetland	0.068	—
VD-1	Vegetated Ditch	0.009	52
VD-2	Vegetated Ditch	0.021	136
VD-4	Vegetated Ditch	0.005	45
Total Permanent Impacts		0.103	233



Notes

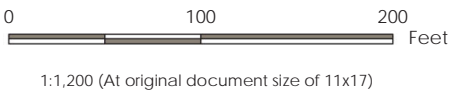
1. Coordinate System: NAD 1983 UTM Zone 10N
2. Orthoimagery: NAIP, 2016.

- Biological Study Area
(5.52 acres)
- Potential Waters of the U.S.
- Wetlands
- Rice Field/Managed
Wetland
- Vegetated Ditch
- Other Waters
- Ordinary High Water Mark
- Irrigation Canal

Potential Impacts

Permanent

Temporary



Project Location
T20N, R2E, S17 and 18
Glenn County, CA

2272004900
Prepared by TH on 2018-12-03
Technical Review by CF on 2018-12-03

Client/Project
Glenn County Public Works Agency
County Road R over Glenn-Colusa Canal
Bridge Replacement Project

Figure No.
5

Title
Potential Impacts on Waters of the United States

Compensatory Mitigation

If the Project results in the loss of ≥ 0.10 acre of wetlands, compensatory mitigation in the form of credits from a Corps-approved mitigation bank, payment into a Corps in-lieu fee fund, or other mitigation approved by the Corps will be provided.

Cumulative Impacts

With implementation of the avoidance and minimization measures, the Project would not result in cumulatively considerable adverse effects on waters of the United States.

4.2 Special-Status Plant Species

No special-status plant species were detected within the BSA during the field surveys conducted on November 30, 2017. A list of all plants observed in the BSA is provided as Appendix F. Implementation of the Project is not expected to adversely affect any special-status plant species. No mitigation for protection of special-status plant species is required.

4.3 Special-Status Animal Species

Four special-status animal species were determined to have the potential to use habitat in the BSA or immediate vicinity. These species include: western pond turtle, western burrowing owl, giant garter snake, and tricolored blackbird. None of these species were incidentally observed in the BSA during the site visits.

A discussion of the regulatory status, habitat requirements, potential for occurrence, potential Project-related impacts, avoidance and minimization measures, and cumulative effects for each species determined to have the potential to use habitat in the BSA or immediate vicinity is provided below. With implementation of the avoidance and minimization measures presented below, the Project is not expected to adversely affect any special-status animal species.

4.3.1 Western Pond Turtle

Western pond turtle is designated as a species of special concern by the CDFW. This species is found in a wide range of aquatic habitats with emergent structure for basking and feeding. Western pond turtles also use adjacent upland sites for nesting, often travelling great distances over land to reach suitable nesting sites.

Survey Results

Habitat for western pond turtle within the BSA is marginal. Emergent structures and open banks for basking are limited. Western pond turtle was not observed during the site visits on November 30, 2017. Nesting habitat is not plentiful within the BSA; however, more abundant nesting habitat occurs north and south of the BSA. There are no CNDDDB occurrences of western pond turtle within 5 miles of the BSA.

Project Impacts

Because Project implementation will involve modification of the Glenn-Colusa canal, the Project has the potential for limited short-term impacts on western pond turtle. Potential adverse impacts on western pond turtle during construction include stress, injury, or mortality to individuals or their nests resulting from: site access by vehicles and equipment; excavation activities; temporary loss of habitat and movement corridors; work area dewatering; sedimentation and turbidity resulting from work within the channel of the Glenn-Colusa canal; and fuel and oil spills within the banks of the Glenn-Colusa canal.

Avoidance and Minimization Efforts

In addition to the conservation measures provided in Chapter 1, the following measures shall be implemented to avoid or minimize the potential for significant impacts on western pond turtle.

- | | |
|-----------------------------|--|
| Mitigation Measure 4 | The dewatered work area and disturbance to in-channel habitat shall be kept to the minimum area necessary to perform work. |
| Mitigation Measure 5 | Operation of equipment and placement of materials within the banks or channel of the Glenn-Colusa canal shall be conducted slowly and deliberately. When first entering the banks or the channel each day, a designated individual shall walk the work area ahead of the equipment to alert any western pond turtles and allow them to move from the work area. |
| Mitigation Measure 6 | If western pond turtles are encountered within the BSA during construction, work activity in the immediate vicinity will cease until any turtles have left the work area. |
| Mitigation Measure 7 | Prior to initiation of construction activities, workers shall participate in environmental awareness training provided by a qualified biologist. The training shall instruct workers regarding: (1) how to identify the turtle; (2) the habitats used by the turtle; (3) the potential for turtle egg clutches (i.e., nest sites) to be discovered during vegetation clearing; and (4) what to do if a turtle or suspected egg clutch is encountered during construction activities. |

Compensatory Mitigation

None required.

Cumulative Impacts

With implementation of the above measures, the Project would not result in cumulatively considerable adverse impacts on western pond turtle.

4.3.2 Western Burrowing Owl

The western burrowing owl is designated as a species of special concern by CDFW. This species prefers open grasslands and ruderal habitats with barren or low growing vegetation. Burrowing owls use mammal burrows or other suitable underground cavities and/or crevices to nest and roost. Burrows must be of sufficient size (at least 3 to 4 inches across) to be utilized by this species. Burrows created by ground squirrels are typically preferred. Burrowing owls forage primarily for insects and often use fence posts or other erect structures to perch and hunt (California Department of Fish and Game 2012).

Survey Results

Ground squirrel burrows that could be utilized as habitat are scattered throughout the BSA. Foraging habitat is present in and around the BSA. No burrowing owls or owl sign (white wash, feathers, pellets, etc.) were observed during the site visit. There are no CNDDDB records for burrowing owl within a 5-mile radius of the BSA.

Project Impacts

The Project could result in temporary loss of habitat and displacement due to Project activities affecting potential burrow sites. Direct disturbance from construction activities, such as operation of vehicles, heavy equipment operation, and earth moving operations around burrows could result in stress, injury, or mortality to individuals or destruction of their burrows.

Avoidance and Minimization

In addition to the conservation measures provided in Chapter 1, the following measure shall be implemented to avoid or minimize the potential for significant impacts on burrowing owls.

Mitigation Measure 8

A minimum of one pre-construction survey for occupied burrowing owl burrows within 300 feet of the BSA will be conducted by a qualified biologist within 15 days prior to the initiation of construction activities, regardless of the timing of construction. If any occupied burrows are identified, appropriate conservation measures (as determined by a qualified biologist) will be implemented. No disturbance will occur within 150 feet of occupied burrows during the non-breeding season (September 1–January 31) or within 250 feet during the breeding season (February 1–August 31). These measures may also include establishing a construction free buffer zone around the active nest site in coordination with the CDFW, biological monitoring of the active nest site, and delaying construction activities in the vicinity of the active nest site until the young have fledged.

Compensatory Mitigation

None required.

Cumulative Effects

By implementing the above measures, the Project would not result in cumulatively considerable adverse impacts on western burrowing owl.

4.3.3 Tricolored Blackbird and Migratory Birds and Raptors

Tricolored blackbird is listed as a threatened species under CESA. Tricolored blackbirds are colonial, forming the largest colonies of any North American passerine bird. Thousands of birds may occur at a single site. Breeding typically occurs from mid-April through July with nests built in dense vegetation such as cattails (*Typha* sp.), tules (*Scirpus* sp.), willow thickets, and blackberry (*Rubus* sp.). The average clutch size is 3–4 eggs and two clutches may be produced per year. Tricolored blackbirds forage on insects, cultivated grains, seeds, and fruits, depending on the season (Beedy and Hamilton 1999).

All migratory birds and their nests are protected from take under the federal MBTA. All raptor species, including relatively common species and their nests, are protected from take according to California Fish and Game Code.

Survey Results

No active tricolored blackbird, migratory bird, or raptor nests were observed in the BSA during the field visit on November 30, 2017. However, the annual grassland, barren, and irrigation ditches in and adjacent to the BSA provide suitable nesting habitat for a variety of migratory birds, including songbirds. The bridge and the weir structure along the canal to the west of the BSA may provide suitable nesting habitat for cliff swallows.

Project Impacts

If migratory bird or raptor species are nesting in or adjacent to the BSA, construction disturbance during the breeding season could result in the loss of fertile eggs or nestlings, or otherwise lead to nest abandonment.

Avoidance and Minimization

In addition to the conservation measures provided in Chapter 1 and Mitigation Measure 8, the following measures will be implemented to avoid or minimize the potential for significant impacts on nesting migratory birds and raptors.

Mitigation Measure 9

Vegetation removal, grading, and other construction activities shall be scheduled to avoid the breeding season for nesting raptors and other special-status birds (i.e., February 15 through August 31) to the extent practicable. If construction occurs outside of the breeding season, no further mitigation is necessary. If the breeding season cannot be completely avoided, then mitigation measure 10 will be implemented.

Mitigation Measure 10

If construction is to occur during the breeding season, a qualified biologist will conduct pre-construction surveys for nesting migratory birds and raptors within the BSA and a 250-foot buffer around the BSA. The survey will be conducted no more than 15 days prior to the initiation of construction, to ensure no active nests will be disturbed.

Mitigation Measure 11

If an active nest is found, appropriate conservation measures (as determined by a qualified biologist) shall be implemented. These may include but are not limited to: establishing a construction-free buffer will be around the active nest site; biological monitoring of the active nest site; and delaying construction activities in the vicinity of the active nest site until the young have fledged (based on field verification by a qualified biologist). If nesting tricolored blackbirds are observed, CDFW shall be consulted to determine requirements for CESA compliance.

Compensatory Mitigation

None required.

Cumulative Effects

By implementing the above measures, the Project would not result in cumulatively considerable adverse impacts on nesting tricolored blackbirds, migratory birds, or raptors.

4.3.4 Giant Garter Snake

Giant garter snake is listed as a threatened species by the CDFW and USFWS. This species is found in a wide range of aquatic habitats with emergent structure for basking and feeding. Giant garter snakes also use adjacent upland sites for nesting and hibernation. The species is generally considered active from May 1 to September 30. The period from October 1 to April 30, is considered the snakes' hibernation period and they are typically in underground burrows during this time.

Survey Results

No giant garter snakes were observed in the BSA during the field visit on November 30, 2017. However, the irrigation ditches and irrigation canal in and adjacent to the BSA provide suitable aquatic habitat. Upland burrows were identified throughout the BSA that could be used by giant garter snakes for nesting and hibernation.

Project Impacts

Direct effects on GGS may occur when ground-disturbing activities result in the disturbance of potential aquatic and upland habitats within the action area. Minimal permanent habitat impacts will occur because the Project will largely be limited to existing paved surfaces (i.e., County Road R). Approximately 0.129 acre of potential aquatic habitat (i.e., vegetated ditches and rice field/managed wetlands) will be permanently affected by the placement of RSP and road re-alignment. Approximately 0.552 acre of aquatic habitat will be temporarily affected by placement of the cofferdams, dewatering, and work within the channel of the canal. The Project will also permanently affect approximately 0.08 acre and temporarily affect 0.97 acre of potential upland refugia habitat.

Construction activities that would temporarily disturb potential GGS habitat include: (1) vegetation clearing, grading, and grubbing of the action area for site preparation; (2) the placement and removal of temporary fill for the temporary access ramp into the canal; and (3) the mobilization/staging of heavy equipment in potential habitat. If giant garter snake is present during construction, potential direct effects could include mortality, increased risk of predation, and increased stress resulting from removal of hibernacula while snakes are present; temporary reduction in available aquatic habitat and prey base as a result of dewatering and other construction disturbance; displacement from the area

due to the presence of people and equipment; obstruction of movement corridors due to the presence of people and equipment in the canal channel and on the banks; and crushing, dismemberment, and other injuries resulting from contact with vehicles and other construction equipment.

Avoidance and Minimization

The following measures will be implemented to avoid or minimize the potential for significant impacts on giant garter snake.

Mitigation Measure 12

Construction personnel shall participate in a USFWS- and CDFW- approved worker environmental awareness program. Under this program, workers shall be informed about the potential presence of giant garter snakes and habitat associated with the species and that unlawful take of the animal or destruction of its habitat is a violation of the ESA. Prior to construction activities, a qualified biologist approved by the USFWS and CDFW shall instruct all construction personnel about: (1) the life history of the giant garter snake; (2) the importance of irrigation canals, marshes/wetland, and seasonally flooded areas, such as rice fields, to the giant garter snake; and (3) the terms and conditions of the biological opinion.

Within 24 hours prior to commencement of construction activities, the site shall be inspected by a qualified biologist who is approved by the USFWS and CDFW. The biologist will provide the USFWS and CDFW with a field report form documenting the monitoring efforts within 24 hours of commencement of construction activities.

Vegetation clearing will be limited to the minimum area necessary.

If water will be obtained from any suitable giant garter snake aquatic habitat, intake hoses will be screened with mesh no larger than ¼ inch.

Tightly woven fiber netting (mesh size less than 0.25 inch), coconut coir matting, or similar material will be used for erosion control or other purposes. Plastic monofilament or wire mesh in the straw waddles or erosion control mats will not be used. Only erosion control materials (blankets, rolls, mats, etc.) with natural coir fibers or other netting approved by the USFWS and CDFW will be used. The edge of the material will be buried in the ground to prevent giant garter snakes from crawling underneath the material.

All Project personnel will look beneath parked vehicles and equipment for snakes prior to their movement.

Mitigation Measure 13

To compensate for the permanent loss of 0.209 acre of giant garter snake habitat (0.129 acre of aquatic habitat and 0.08 acre of upland habitat), the County will purchase 0.627 acre (a 3:1 ratio) of giant garter snake credits at a USFWS- and CDFW-approved conservation bank.

Prior to any Project activities that could incidentally take giant garter snake, the County will provide CDFW with written documentation that the County has allocated sufficient funds, acceptable to and approved by CDFW, in the Expenditure Authorization for the Project to ensure implementation of all measures to minimize and fully mitigate the incidental take of giant garter snake resulting from construction of the Project. The documentation provided by the County will identify specific minimization and mitigation components and the costs associated with each component.

Mitigation Measure 14

If work must be performed during the giant garter snake dormant period, (i.e., between October 2 and April 30), the County will implement the following protective measures:

- A full-time USFWS- and CDFW-approved biological monitor will be onsite for the duration of any ground-disturbing activities (e.g., vegetation clearing, grubbing, grading, and other earth-moving activities) after October 1. If a snake is encountered during construction activities, the monitoring biologist shall have the authority to stop construction activities until appropriate corrective measures have been completed or it is determined that the snake will not be harmed. Giant garter snakes encountered during construction activities shall be allowed to move away from construction activities on their own. The Project shall be re-inspected whenever a lapse in construction activity of two weeks or greater has occurred.
- All vegetation within 200 feet of aquatic habitat will be cleared prior to the giant garter snake hibernation period (i.e., vegetation clearing must be completed by October 1 for any work occurring between October 2 and April 30).
- A fencing plan will be prepared and provided to the USFWS and CDFW for comments prior to the start of construction. The exclusion and construction barrier fencing will be installed during the active period for giant garter snakes (May 1–October 1) to reduce the potential for injury and mortality during this activity. Exclusion fencing will be installed before ground-disturbing activities begin.
- The County will prepare a giant garter snake relocation plan in the event that a snake is injured or trapped during construction. The plan will outline the biological monitor qualifications and responsibilities, and the steps to be taken if a giant garter snake is encountered during construction. The plan will identify the names and contact information for one or more USFWS- and CDFW-approved biologists that will be responsible for handling snakes. The location (if known) where trapped giant garter snakes would be

relocated to will be included in the plan or the plan will specify that trapped individuals will be relocated to the nearest suitable habitat that is outside of the construction area. The plan will describe the steps that will be taken in the notification process and documentation required for submission to the USFWS and CDFW. The plan will be approved by the USFWS and CDFW.

Compensatory Mitigation

To compensate for the permanent loss of 0.209 acre of giant garter snake habitat (0.129 acre of aquatic habitat and 0.08 acre of upland habitat), the County will purchase 0.627 acre (a 3:1 ratio) of giant garter snake credits at a USFWS-approved conservation bank.

Cumulative Effects

By implementing the above measures, the Project would not result in cumulatively considerable adverse impacts on giant garter snake.

Chapter 5. Results: Conclusions and Regulatory Determinations

5.1 Federal Endangered Species Act Consultation Summary

It is anticipated that Caltrans will complete an ESA Section 7 consultation with USFWS to address potential effects of the Project on giant garter snake.

5.2 Essential Fish Habitat Consultation Summary

No Essential Fish Habitat would be affected by the Project. No Magnuson-Stevens Fishery Conservation and Management Act consultation with the National Marine Fisheries Service is anticipated to be required.

5.3 Wetlands and Other Waters Coordination Summary

To ensure compliance with the terms and conditions of Section 404 of the CWA, the County will submit a Pre-Construction Notification to the Corps requesting verification of authorization to proceed with construction of the Project under the Nationwide Permit (NWP) program (likely NWP Permit 14 – Linear Transportation Crossings). The Pre-Construction Notification will be submitted to the Corps prior to any discharge of dredged or fill material into waters of the United States.

Section 401 of the CWA requires that a Water Quality Certification be obtained from the RWQCB prior to any discharge of dredged or fill material into waters of the United States. The County will obtain a Water Quality Certification from the RWQCB prior to any discharge of dredged or fill material into waters of the U.S.

5.4 Migratory Bird Treaty Act

Avoidance and minimization measures will be implemented to avoid adverse effects on migratory birds and their nests. These measures are outlined in Section 4.3.

5.5 California Endangered Species Act Consultation Summary

The BSA provides suitable aquatic and upland habitat for GGS. It has been determined that the Project, with the implementation of proposed avoidance and minimization measures, may affect and is likely to adversely affect GGS. The County will coordinate with CDFW to determine requirements for CESA compliance (e.g., Consistency Determination).

5.6 California Fish and Game Code

The Project would involve work within the Glenn-Colusa Canal, an irrigation canal. Prior to any activities that would obstruct the flow of, or alter the bed, channel, or bank of any canals/streams, the County will provide notification of streambed alteration to the CDFW. If required by the CDFW, the

County will obtain a streambed alteration agreement and will ensure that all conditions of the agreement are implemented.

The Project would comply with other sections of the Fish and Game Code (i.e., birds of prey, migratory birds, fully protected species) with implementation of avoidance and minimization measures.

5.7 Invasive Species

Implementation of Conservation Measure #4 – Prevention of Spread of Invasive Species (provided in Chapter 1) will avoid or minimize the potential for the spread of invasive species, as required by Executive Order 13112.

5.8 Floodplain Management

The proposed bridge would maintain floodway conveyance in the BSA. Therefore, the Project complies with Executive Order 11988.

Chapter 6. References

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Appendix A USFWS List



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Sacramento Fish And Wildlife Office

Federal Building

2800 Cottage Way, Room W-2605

Sacramento, CA 95825-1846

Phone: (916) 414-6600 Fax: (916) 414-6713



In Reply Refer To:

February 25, 2021

Consultation Code: 08ESMF00-2019-SLI-0499

Event Code: 08ESMF00-2021-E-03284

Project Name: County Road R over Glenn-Colusa Canal Bridge Replacement Project

Subject: Updated 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, under the jurisdiction of the U.S. Fish and Wildlife Service (Service) 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 Service under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

Please follow the link below to see if your proposed project has the potential to affect other species or their habitats under the jurisdiction of the National Marine Fisheries Service:

http://www.nwr.noaa.gov/protected_species/species_list/species_lists.html

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

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to

utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

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

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

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

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at:

<http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>;

<http://www.towerkill.com>; and

www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

[http://](http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html)

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

Attachment(s):

- Official Species List
-

Official Species List

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

This species list is provided by:

Sacramento Fish And Wildlife Office

Federal Building

2800 Cottage Way, Room W-2605

Sacramento, CA 95825-1846

(916) 414-6600

Project Summary

Consultation Code: 08ESMF00-2019-SLI-0499

Event Code: 08ESMF00-2021-E-03284

Project Name: County Road R over Glenn-Colusa Canal Bridge Replacement Project

Project Type: BRIDGE CONSTRUCTION / MAINTENANCE

Project Description: Glenn County Public Works Agency (County) is proposing to replace the existing bridge on County Road R spanning the Glenn-Colusa Irrigation District (GCID) Canal. Located in rural Glenn County, approximately 8.5 miles northeast of Willows, the action area is 5.52 acres along County Road R. Construction is anticipated to begin in 2021 or later.

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@39.58674396465203,-122.11701757610666,14z>



Counties: Glenn County, California

Endangered Species Act Species

There is a total of 8 threatened, endangered, or candidate species on this species list.

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

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, 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.

Birds

NAME	STATUS
Yellow-billed Cuckoo <i>Coccyzus americanus</i> Population: Western U.S. DPS There is proposed critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/3911	Threatened

Reptiles

NAME	STATUS
Giant Garter Snake <i>Thamnophis gigas</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4482	Threatened

Amphibians

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

Fishes

NAME	STATUS
Delta Smelt <i>Hypomesus transpacificus</i> There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/321	Threatened

Insects

NAME	STATUS
Valley Elderberry Longhorn Beetle <i>Desmocerus californicus dimorphus</i> There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/7850	Threatened

Crustaceans

NAME	STATUS
Conservancy Fairy Shrimp <i>Branchinecta conservatio</i> There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/8246	Endangered
Vernal Pool Fairy Shrimp <i>Branchinecta lynchi</i> There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/498	Threatened
Vernal Pool Tadpole Shrimp <i>Lepidurus packardii</i> There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/2246	Endangered

Critical habitats

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

Appendix B CNDDDB and CNPS Queries



Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database



Query Criteria: Quad(Glenn (3912251) OR Orland (3912262) OR Hamilton City (3912261) OR Ord Ferry (3912168) OR Willows (3912252) OR Llano Seco (3912158) OR Logandale (3912242) OR Princeton (3912241) OR Butte City (3912148))

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks							Population Status		Presence	
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extrap.	
Agelaius tricolor tricolored blackbird	G1G2 S1S2	None Threatened	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_EN-Endangered NABCI_RWL-Red Watch List USFWS_BCC-Birds of Conservation Concern	65 265	955 S:42	0	0	0	0	15	27	38	4	27	14	1
Anthus antiochensis Antioch Dunes anthicid beetle	G1 S1	None None		100 100	6 S:1	0	0	0	0	0	1	1	0	1	0	0
Anthus sacramento Sacramento anthicid beetle	G1 S1	None None	IUCN_EN-Endangered	100 110	13 S:2	0	0	0	0	0	2	2	0	2	0	0
Ardea alba great egret	G5 S4	None None	CDF_S-Sensitive IUCN_LC-Least Concern	105 115	43 S:2	1	0	0	0	0	1	2	0	2	0	0
Ardea herodias great blue heron	G5 S4	None None	CDF_S-Sensitive IUCN_LC-Least Concern	105 115	156 S:2	1	0	0	0	0	1	2	0	2	0	0
Astragalus tener var. ferrisiae Ferris' milk-vetch	G2T1 S1	None None	Rare Plant Rank - 1B.1	60 105	18 S:5	0	0	0	1	0	4	5	0	5	0	0
Athene cunicularia burrowing owl	G4 S3	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFWS_BCC-Birds of Conservation Concern	105 105	2011 S:2	0	0	0	0	0	2	2	0	2	0	0
Atriplex cordulata var. cordulata heartscale	G3T2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive	75 100	66 S:5	1	0	0	0	0	4	4	1	5	0	0
Atriplex depressa brittlescale	G2 S2	None None	Rare Plant Rank - 1B.2	75 90	60 S:10	0	2	0	0	0	8	9	1	10	0	0
Atriplex persistens vernal pool smallscale	G2 S2	None None	Rare Plant Rank - 1B.2	75 95	41 S:11	0	0	0	0	0	11	10	1	11	0	0



Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database



Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status			Presence	
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Bombus crotchii Crotch bumble bee	G3G4 S1S2	None Candidate Endangered		165 250	437 S:2	0	0	0	0	0	2	2	0	2	0	0
Branchinecta conservatio Conservancy fairy shrimp	G2 S2	Endangered None	IUCN_EN-Endangered	85 85	47 S:1	0	0	0	0	0	1	0	1	1	0	0
Branchinecta lynchi vernal pool fairy shrimp	G3 S3	Threatened None	IUCN_VU-Vulnerable	86 110	791 S:6	0	0	0	0	0	6	2	4	6	0	0
Brasenia schreberi watershield	G5 S3	None None	Rare Plant Rank - 2B.3	100 100	43 S:1	0	0	0	0	1	0	1	0	0	1	0
Buteo swainsoni Swainson's hawk	G5 S3	None Threatened	BLM_S-Sensitive IUCN_LC-Least Concern USFWS_BCC-Birds of Conservation Concern	65 330	2535 S:66	4	8	5	0	0	49	21	45	66	0	0
Castilleja rubicundula var. rubicundula pink creamsacs	G5T2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive		42 S:1	0	0	0	0	0	1	1	0	1	0	0
Chloropyron palmatum palmate-bracted bird's-beak	G1 S1	Endangered Endangered	Rare Plant Rank - 1B.1 SB_CalBG/RSABG- California/Rancho Santa Ana Botanic Garden	85 90	25 S:3	0	1	1	1	0	0	0	3	3	0	0
Coastal and Valley Freshwater Marsh Coastal and Valley Freshwater Marsh	G3 S2.1	None None		75 125	60 S:8	7	0	0	0	0	1	8	0	8	0	0
Coccyzus americanus occidentalis western yellow-billed cuckoo	G5T2T3 S1	Threatened Endangered	BLM_S-Sensitive NABCI_RWL-Red Watch List USFS_S-Sensitive USFWS_BCC-Birds of Conservation Concern	60 135	165 S:37	4	7	2	0	0	24	18	19	37	0	0
Cryptantha crinita silky cryptantha	G2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive USFS_S-Sensitive	120 120	57 S:1	0	0	0	0	0	1	0	1	1	0	0
Desmoceris californicus dimorphus valley elderberry longhorn beetle	G3T2 S3	Threatened None		70 140	271 S:23	4	1	0	0	0	18	13	10	23	0	0
Egretta thula snowy egret	G5 S4	None None	IUCN_LC-Least Concern	130 130	20 S:1	0	0	1	0	0	0	0	1	1	0	0



Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database



Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status			Presence	
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
<i>Emys marmorata</i> western pond turtle	G3G4 S3	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_VU-Vulnerable USFS_S-Sensitive	81 135	1398 S:2	1	1	0	0	0	0	0	2	2	0	0
<i>Erethizon dorsatum</i> North American porcupine	G5 S3	None None	IUCN_LC-Least Concern	72 154	523 S:14	1	1	0	0	0	12	0	14	14	0	0
<i>Eumops perotis californicus</i> western mastiff bat	G4G5T4 S3S4	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern WBWG_H-High Priority	130 130	296 S:2	0	0	0	0	0	2	2	0	2	0	0
<i>Euphorbia hooveri</i> Hoover's spurge	G1 S1	Threatened None	Rare Plant Rank - 1B.2	85 90	29 S:4	0	1	1	0	1	1	1	3	3	1	0
<i>Extriplex joaquinana</i> San Joaquin spearscale	G2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	75 90	127 S:4	0	0	0	0	0	4	3	1	4	0	0
<i>Great Valley Cottonwood Riparian Forest</i> Great Valley Cottonwood Riparian Forest	G2 S2.1	None None		80 135	56 S:20	8	4	7	1	0	0	20	0	20	0	0
<i>Great Valley Mixed Riparian Forest</i> Great Valley Mixed Riparian Forest	G2 S2.2	None None		65 135	68 S:16	5	4	6	0	0	1	16	0	16	0	0
<i>Great Valley Valley Oak Riparian Forest</i> Great Valley Valley Oak Riparian Forest	G1 S1.1	None None		70 125	33 S:6	1	1	3	0	0	1	6	0	6	0	0
<i>Great Valley Willow Scrub</i> Great Valley Willow Scrub	G3 S3.2	None None		75 110	18 S:8	0	4	3	0	0	1	8	0	8	0	0
<i>Haliaeetus leucocephalus</i> bald eagle	G5 S3	Delisted Endangered	BLM_S-Sensitive CDFW_S-Sensitive CDFW_FP-Fully Protected IUCN_LC-Least Concern USFS_S-Sensitive USFWS_BCC-Birds of Conservation Concern	93 93	329 S:1	0	1	0	0	0	0	0	1	1	0	0



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Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status			Presence	
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
<i>Hibiscus lasiocarpus</i> var. <i>occidentalis</i> woolly rose-mallow	G5T3 S3	None None	Rare Plant Rank - 1B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden SB_UCBG-UC Botanical Garden at Berkeley	60 120	173 S:17	0	10	0	1	0	6	10	7	17	0	0
<i>Lasionycteris noctivagans</i> silver-haired bat	G3G4 S3S4	None None	IUCN_LC-Least Concern WBWG_M-Medium Priority	100 130	139 S:2	0	0	0	0	0	2	2	0	2	0	0
<i>Lasius blossevillei</i> western red bat	G4 S3	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern WBWG_H-High Priority	70 130	128 S:3	0	0	0	0	0	3	3	0	3	0	0
<i>Lasius cinereus</i> hoary bat	G3G4 S4	None None	IUCN_LC-Least Concern WBWG_M-Medium Priority	70 130	238 S:4	0	0	0	0	0	4	4	0	4	0	0
<i>Lepidium latipes</i> var. <i>heckardii</i> Heckard's pepper-grass	G4T1 S1	None None	Rare Plant Rank - 1B.2	85 100	14 S:3	2	0	1	0	0	0	3	0	3	0	0
<i>Lepidurus packardii</i> vernal pool tadpole shrimp	G4 S3S4	Endangered None	IUCN_EN-Endangered	70 110	324 S:14	0	0	0	0	0	14	2	12	14	0	0
<i>Lindieriella occidentalis</i> California linderiella	G2G3 S2S3	None None	IUCN_NT-Near Threatened	100 110	508 S:12	0	0	0	0	0	12	0	12	12	0	0
<i>Myotis yumanensis</i> Yuma myotis	G5 S4	None None	BLM_S-Sensitive IUCN_LC-Least Concern WBWG_LM-Low-Medium Priority	130 130	265 S:2	0	0	0	0	0	2	2	0	2	0	0
<i>Navarretia leucocephala</i> ssp. <i>bakeri</i> Baker's navarretia	G4T2 S2	None None	Rare Plant Rank - 1B.1		64 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Neostapfia colusana</i> Colusa grass	G1 S1	Threatened Endangered	Rare Plant Rank - 1B.1	75 75	66 S:1	0	0	0	0	1	0	1	0	0	0	1
<i>Nycticorax nycticorax</i> black-crowned night heron	G5 S4	None None	IUCN_LC-Least Concern	130 130	37 S:1	0	0	1	0	0	0	0	1	1	0	0



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Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status			Presence	
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
<i>Oncorhynchus mykiss irideus</i> pop. 11 steelhead - Central Valley DPS	G5T2Q S2	Threatened None	AFS_TH-Threatened		31 S:4	0	0	0	1	0	3	0	4	4	0	0
<i>Orcuttia pilosa</i> hairy Orcutt grass	G1 S1	Endangered Endangered	Rare Plant Rank - 1B.1 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	85 90	35 S:6	0	1	2	0	2	1	2	4	4	2	0
<i>Pandion haliaetus</i> osprey	G5 S4	None None	CDF_S-Sensitive CDFW_WL-Watch List IUCN_LC-Least Concern	70 120	504 S:6	2	1	0	0	0	3	1	5	6	0	0
<i>Puccinellia simplex</i> California alkali grass	G3 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive	75 75	80 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Rana boylei</i> foothill yellow-legged frog	G3 S3	None Endangered	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_NT-Near Threatened USFS_S-Sensitive	137 137	2468 S:1	0	0	0	0	1	0	1	0	0	0	1
<i>Riparia riparia</i> bank swallow	G5 S2	None Threatened	BLM_S-Sensitive IUCN_LC-Least Concern	60 140	298 S:34	1	6	5	1	1	20	10	24	33	1	0
<i>Taxidea taxus</i> American badger	G5 S3	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	90 90	594 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Thamnophis gigas</i> giant gartersnake	G2 S2	Threatened Threatened	IUCN_VU-Vulnerable	60 130	366 S:24	4	5	0	0	0	15	13	11	24	0	0
<i>Tropidocarpum capparideum</i> caper-fruited tropidocarpum	G1 S1	None None	Rare Plant Rank - 1B.1 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden USFS_S-Sensitive	155 155	18 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Tuctoria greenei</i> Greene's tuctoria	G1 S1	Endangered Rare	Rare Plant Rank - 1B.1	85 105	50 S:3	0	2	0	0	1	0	1	2	2	1	0
<i>Wolfia brasiliensis</i> Brazilian watermeal	G5 S2	None None	Rare Plant Rank - 2B.3	100 120	6 S:3	0	0	0	0	0	3	3	0	3	0	0

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

Plant List

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

Search Criteria

Found in Quads 3912262, 3912261, 3912168, 3912252, 3912251, 3912158, 3912242 3912241 and 3912148;

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Scientific Name	Common Name	Family	Lifeform	Blooming Period	CA Rare Plant Rank	State Rank	Global Rank
Astragalus tener var. ferrisiae	Ferris' milk-vetch	Fabaceae	annual herb	Apr-May	1B.1	S1	G2T1
Atriplex cordulata var. cordulata	heartscale	Chenopodiaceae	annual herb	Apr-Oct	1B.2	S2	G3T2
Atriplex depressa	brittscale	Chenopodiaceae	annual herb	Apr-Oct	1B.2	S2	G2
Atriplex persistens	vernal pool smallscale	Chenopodiaceae	annual herb	Jun, Aug, Sep, Oct	1B.2	S2	G2
Azolla microphylla	Mexican mosquito fern	Azollaceae	annual / perennial herb	Aug	4.2	S4	G5
Brasenia schreberi	watershield	Cabombaceae	perennial rhizomatous herb (aquatic)	Jun-Sep	2B.3	S3	G5
Castilleja rubicundula var. rubicundula	pink creamsacs	Orobanchaceae	annual herb (hemiparasitic)	Apr-Jun	1B.2	S2	G5T2
Centromadia parryi ssp. rudis	Parry's rough tarplant	Asteraceae	annual herb	May-Oct	4.2	S3	G3T3
Chloropyron palmatum	palmate-bracted bird's-beak	Orobanchaceae	annual herb (hemiparasitic)	May-Oct	1B.1	S1	G1
Cryptantha crinita	silky cryptantha	Boraginaceae	annual herb	Apr-May	1B.2	S2	G2
Euphorbia hooveri	Hoover's spurge	Euphorbiaceae	annual herb	Jul-Sep(Oct)	1B.2	S1	G1
Extriplex joaquinana	San Joaquin spearscale	Chenopodiaceae	annual herb	Apr-Oct	1B.2	S2	G2

<u>Hibiscus lasiocarpus var. occidentalis</u>	woolly rose-mallow	Malvaceae	perennial rhizomatous herb (emergent)	Jun-Sep	1B.2	S3	G5T3
<u>Lepidium latipes var. heckardii</u>	Heckard's pepper-grass	Brassicaceae	annual herb	Mar-May	1B.2	S1	G4T1
<u>Navarretia leucocephala ssp. bakeri</u>	Baker's navarretia	Polemoniaceae	annual herb	Apr-Jul	1B.1	S2	G4T2
<u>Neostapfia colusana</u>	Colusa grass	Poaceae	annual herb	May-Aug	1B.1	S1	G1
<u>Orcuttia pilosa</u>	hairy Orcutt grass	Poaceae	annual herb	May-Sep	1B.1	S1	G1
<u>Puccinellia simplex</u>	California alkali grass	Poaceae	annual herb	Mar-May	1B.2	S2	G3
<u>Tropidocarpum capparideum</u>	caper-fruited tropidocarpum	Brassicaceae	annual herb	Mar-Apr	1B.1	S1	G1
<u>Tuctoria greenei</u>	Greene's tuctoria	Poaceae	annual herb	May-Jul(Sep)	1B.1	S1	G1
<u>Wolffia brasiliensis</u>	Brazilian watermeal	Araceae	perennial herb (aquatic)	Apr,Dec	2B.3	S2	G5

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Questions and Comments

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Appendix C Plant Species Observed

Plant species observed during the November 30, 2017 field survey for the County Road R at Glenn Colusa Irrigation Canal Bridge 11C-0011 Replacement Project.

Scientific Name	Common Name
<i>Barbarea</i> sp.	winter cress
<i>Centaurea solstitialis</i>	yellow star-thistle
<i>Convolvulus arvensis</i>	field bindweed
<i>Cynodon dactylon</i>	Bermuda grass
<i>Cynosurus echinatus</i>	dogtail grass
<i>Cyperus difformis</i>	variable flatsedge
<i>Dittrichia graveolens</i>	stinkweed
<i>Echinochloa oryzoides</i>	rice field barnyardgrass
<i>Epilobium brachycarpum</i>	annual fireweed
<i>Erodium</i> sp.	filaree
<i>Kickxia elatine</i>	sharp leaved fluellin
<i>Koeleria phleoides</i>	Annual junegrass
<i>Lemna minor</i>	duckweed
<i>Ludwigia hexapetala</i>	six petal water primrose
<i>Malva parviflora</i>	cheeseweed
<i>Paspalum dilatatum</i>	dallis grass
<i>Phoenix canariensis</i>	Canary Island date palm
<i>Rubus armeniacus</i>	Himalayan blackberry
<i>Rumex crispus</i>	curly dock
<i>Salix gooddingii</i>	Goodding's black willow
<i>Silybum marianum</i>	blessed milk thistle
<i>Sorghum halepense</i>	Johnson's grass
<i>Typha latifolia</i>	cattail

Appendix D Delineation of Waters of the United States
