

SALEM STREET BRIDGE REPLACEMENT



Natural Environment Study

Chico, Butte County, California

Section 35, Township 22N, Range 01E

Chico Quadrangle

Caltrans District 3

Bridge No. 12C0336

December 2020

Natural Environment Study

Section 35, Township 22N, Range 01E
Chico, CA Quadrangle
Caltrans District 3

Federal Project Number BRLO-5037(022)

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Summary

The City of Chico (City) and the California Department of Transportation (Caltrans) are proposing to replace the bridge over Little Chico Creek on Salem Street. The Salem Street Bridge Replacement Project (Bridge No. 12C0336) (Project) is located in the city limits of Chico, Butte County, California. The existing bridge has been designated as functionally obsolete by Caltrans, qualifying it for replacement under the federal Highway Bridge Program. The purpose of the Project is to replace the bridge with a reliable structure to provide a safe crossing that meets current geometric and hydraulic standards. Construction is anticipated to begin in spring of 2022 or 2023.

Land within the Biological Study Area (BSA) is characterized by urban, barren, riverine, and valley-foothill riparian habitats. There is suitable habitat within the BSA for federal and State listed species. Special-status species that have the potential to occur within the BSA include valley elderberry longhorn beetle (VELB, *Desmocerus californicus dimorphus*), California Central Valley (CCV) steelhead (*Oncorhynchus mykiss*) and Central Valley (CV) spring-run Chinook salmon (*Oncorhynchus tshawytscha*), western pond turtle (*Emys marmorata*), pallid bat (*Antrozous pallidus*), and a variety of bird and raptor species protected by the Migratory Bird Treaty Act (MBTA). Little Chico Creek within the BSA is designated critical habitat for CCV steelhead and is considered Essential Fish Habitat (EFH) for Chinook salmon.

With the implementation of avoidance and minimization measures, the Project will have no effect on CCV steelhead and CV spring-run Chinook salmon; however, the Project may affect and is likely to adversely affect VELB, and may affect and is likely to adversely modify CCV steelhead critical habitat.

Mitigation for impacts to jurisdictional waters of the U.S. (WOTUS) will be addressed through the purchase of credits at a U.S. Army Corps of Engineers (Corps) approved mitigation bank or payment to a Corps approved in-lieu fund. The project will not impact jurisdictional wetlands. Additionally, a CDFW §1602 Streambed Alteration Agreement, Regional Water Quality Control Board (RWQCB) §401 Water Quality Certification permit, Central Valley Flood Protection Board encroachment permit, and a Corps Nationwide 14 §404 permit shall be obtained for the project. Appropriate steps to prevent the spread of invasive and noxious plants and their seeds to and from the project site will be implemented.

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List of Abbreviated Terms

ADT	Average Daily Traffic
AASHTO	American Association of State Highway and Transportation Officials
BSA	Biological Study Area
BMP	Best Management Practices
Cal-IPC	California Invasive Plant Council
Caltrans	California Department of Transportation
CCV	California Central Valley
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFGF	California Fish and Game Code
City	City of Chico
CNDDDB	California Natural Diversity Database
CNPS	California Native Plant Society
Corps	United States Army Corps of Engineers
CV	Central Valley
CWA	Clean Water Act
DBH	Diameter at Breast Height
DPS	Distinct Population Segment
EFH	Essential Fish Habitat
EPA	Environmental Protection Agency
ESA	Endangered Species Act
ESU	Evolutionarily Significant Unit
GIS	Geographic Information System
IPaC	Information for Planning and Consultation
MBTA	Migratory Bird Treaty Act
MSA	Magnuson-Stevens Fishery Conservation and Management Act

NEPA	National Environmental Quality Act
NES	Natural Environmental Study
NOAA	National Oceanic and Atmospheric Administration
NMFS	National Marine Fisheries Service
NPDES	National Pollutant Discharge Elimination System
OHWM	Ordinary High Water Mark
RSP	Rock Slope Protection
RWQCB	Regional Water Quality Control Board
SPP	Spill Prevention Plan
SSC	State Species of Special Concern
SWPPP	Storm Water Pollution Prevention Plan
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
WOTUS	Waters of the United States

1 Introduction

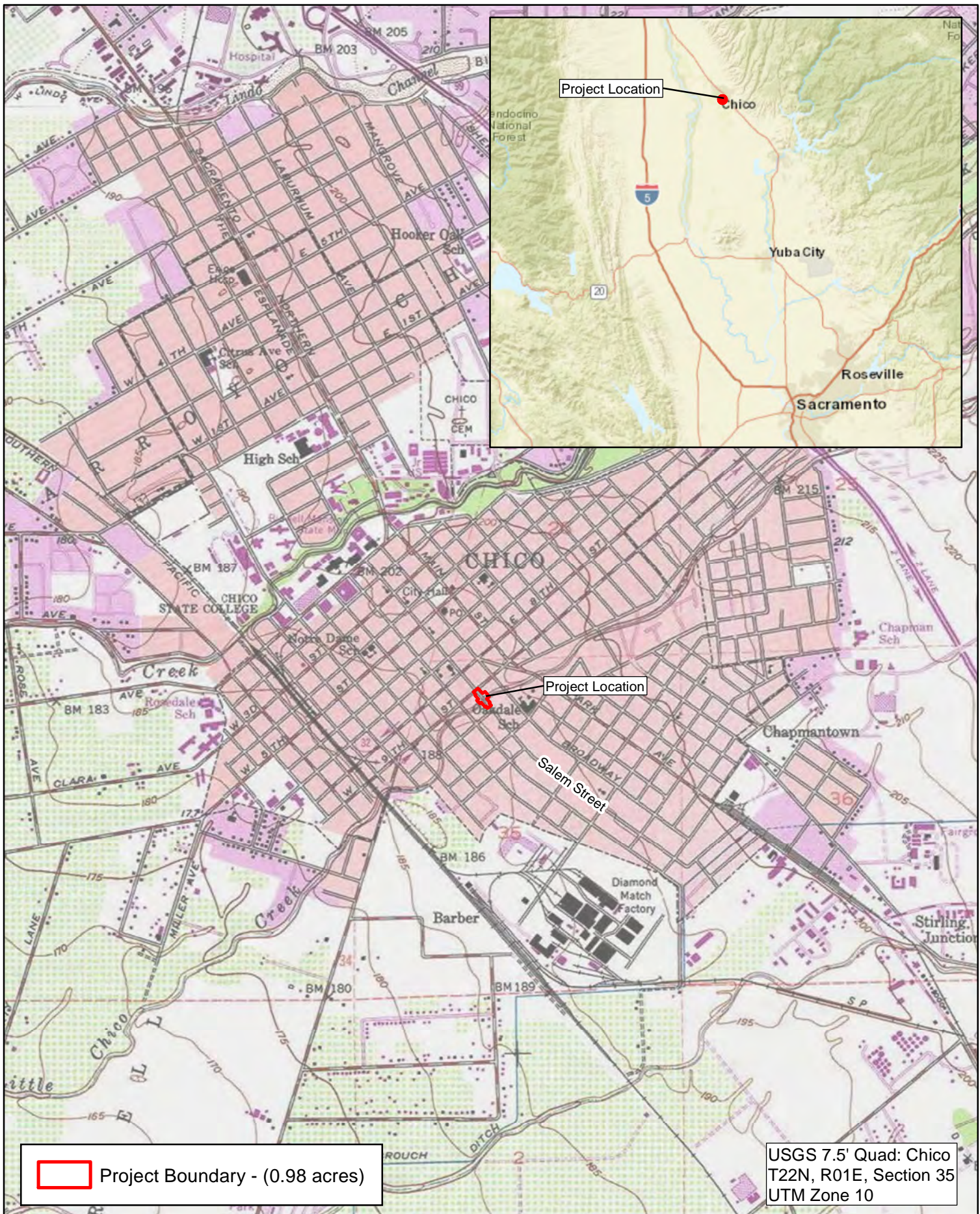
The proposed Salem Street Bridge Replacement Project (Project) involves the construction of a new bridge to replace the existing functionally obsolete bridge. The purpose of this Natural Environment Study (NES) is to evaluate potential Project impacts to special-status species, their habitats, and natural resources within the Project vicinity.

Project History

The Project site is located on Salem Street just south of West 9th Street (State Route 32) near downtown Chico (**Figure 1: Regional Location Map, Figure 2: Project Location Map**). The bridge serves the Barber neighborhood and is heavily used by local residents and Chico State students. The bridge has Average Daily Traffic (ADT) of 5,200 and sees substantial bicycle and pedestrian traffic. The structure, built in 1916, is a 64-foot long, 3-span, reinforced concrete “T” girder bridge. The structure is approximately 34 feet wide, consisting of two narrow travel lanes and sidewalks on both sides.

The existing bridge (Bridge No. 12C0336) has been given a sufficiency rating of 75.4 and has a status of functionally obsolete. The structure does not meet current American Association of State Highway and Transportation Officials (AASHTO) standards due to its narrow lane and sidewalk widths and the lack of approach guardrail. The existing sidewalks also exceed the allowable slope of 8.33% on the roadway approaches. There are significant rock pockets, delamination, spalling, and exposed rebar on various girders, overhang areas and on the bridge railing. In addition, the west abutment has erosion due to roadway runoff. The embankment just north of the bridge has significant scour causing the exposure of a 10-inch PG&E gas line. A Life Cycle Cost Analysis determined that bridge replacement was the most cost-effective alternative for the project.

The Project is funded through the Highway Bridge Program with matching funds from Federal Toll Credits. Caltrans will be the lead agency for National Environmental Policy Act (NEPA) compliance through delegation from the Federal Highway Administration (FHWA) and the City of Chico (City), the owner of the Project, will be the lead agency for California Environmental Quality Act (CEQA) compliance.

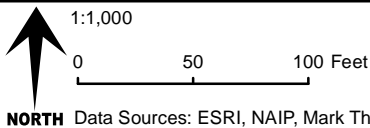


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 NORTH Data Sources: ESRI, USGS, Mark Thomas

Salem Street Bridge Replacement Project
 Regional Location Map
 Figure 1

gallaway
 ENTERPRISES

GE: #15-034a Map Date: 09/02/2020



NORTH Data Sources: ESRI, NAIP, Mark Thomas

Salem Street Bridge Replacement Project
Project Location Map
Figure 2

gallaway
ENTERPRISES

GE: #15-034a Map Date: 09/02/2020

Project Description

BIOLOGICAL STUDY AREA

The Biological Study Area (BSA) is the area in which biological surveys are conducted and where all construction and staging will occur (**Figure 3: Biological Study Area**). The BSA for this Project encompasses the bridge construction zone and staging area, which is approximately 0.98 acres.

BRIDGE CONSTRUCTION

The proposed Project will replace the existing bridge along the same alignment as the existing structure. The new bridge will accommodate two 12-foot travel lanes, 5-foot shoulders and 6-foot sidewalks. The profile will be lowered slightly, while maintaining the same bridge soffit elevation as the existing structure. The new bridge is anticipated to be a single-span cast-in-place, post-tensioned concrete slab, approximately 70 feet long.

Construction of the bridge will involve excavation for and construction of concrete abutments, found on deep foundations. Other temporary work within Little Chico Creek includes removal of the existing structure, falsework erection and removal, and installation of scour countermeasures at the abutments. Little Chico Creek is a seasonal creek and construction is anticipated to proceed without the need for a temporary water diversion system. Construction of the roadway approaches will involve removal of existing pavement and placement of aggregate base and hot mix asphalt pavement. New curb, gutter and sidewalk will be constructed on the approach roadways and will connect with the existing pedestrian facilities.

During construction, Salem Street will be closed to traffic and a detour route made available. The bridge is located within the downtown grid system, so a detour can easily be accommodated either along Chestnut Street or Broadway Street. Detour travel times and lengths will be minimal, but construction is expected to impact a large volume of vehicles and pedestrians. Residential access to the parcels adjacent to the bridge will be maintained throughout construction.

VEGETATION REMOVAL

Tree removal and removal of other vegetation along the creek will be necessary for the project. One (1) elderberry (*Sambucus nigra ssp. caerulea*) cluster occurs on the northeast corner of the bridge and its removal will be necessary to facilitate construction.



Three (3) other clusters are located within or adjacent to the BSA. Elderberry shrubs are the sole host plant for the federally listed valley elderberry longhorn beetle (VELB, *Desmocerus californicus dimorphus*), thus impacts to a federally listed species are anticipated. Little Chico Creek can also provide a habitat for federally listed salmonids, but only when flows allow passage of fish. Since construction is not expected to occur during sustaining flows, there will be no impacts to fish.

SCHEDULE

Construction is anticipated to begin in spring 2022 or 2023 and will have a duration of approximately 8 months.

RIGHT OF WAY AND UTILITY RELOCATION

There are two utilities crossing Little Chico Creek along Salem Street. PG&E recently relocated their gas line that had become exposed within the channel. The gas line is now mounted to the underside of the existing bridge. This line will have to be temporarily relocated during construction and then reattached to the new structure. An overhead PG&E electrical line runs along the west side of Salem Street. The proposed improvements are not in direct conflict with this line, but relocation of a single pole may be necessary to allow construction access for the bridge. Temporary construction easements will be needed from the four parcels adjacent to the bridge to facilitate driveway/walkway conforms, utility relocations, and allow construction access (APNs 004-289-001, 004-288-014, 005-093-002 and 005-094-017).

2 Study Methods

Biological and botanical surveys were conducted by Gallaway Enterprises after consulting the USFWS Information for Planning and Consultation (IPaC) official species list, the National Oceanic and Atmospheric Administration (NOAA) National Marine Fisheries Service (NMFS) official species list, the NOAA NMFS Essential Fish Habitat (EFH) mapper, the California Department of Fish and Wildlife (CDFW) Natural Diversity Database (CNDDDB), and the California Native Plant Society (CNPS) list of rare and endangered plants gathered for the BSA (**Appendix A: Species Lists**). Additionally, a map was obtained from the CNDDDB Geographic Information System (GIS) database, which provided general locations of species that had recorded CNDDDB occurrences within a 5-mile radius of the Project location (**Figure 4: CNDDDB Occurrences**). Based on the results of past surveys, the species lists, and the CNDDDB map, appropriate biological and botanical surveys were conducted.

Regulatory Requirements

The following describes federal, state, and local environmental laws and policies that are relevant to the CEQA review process and to this NES.

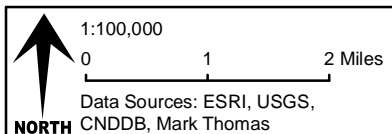
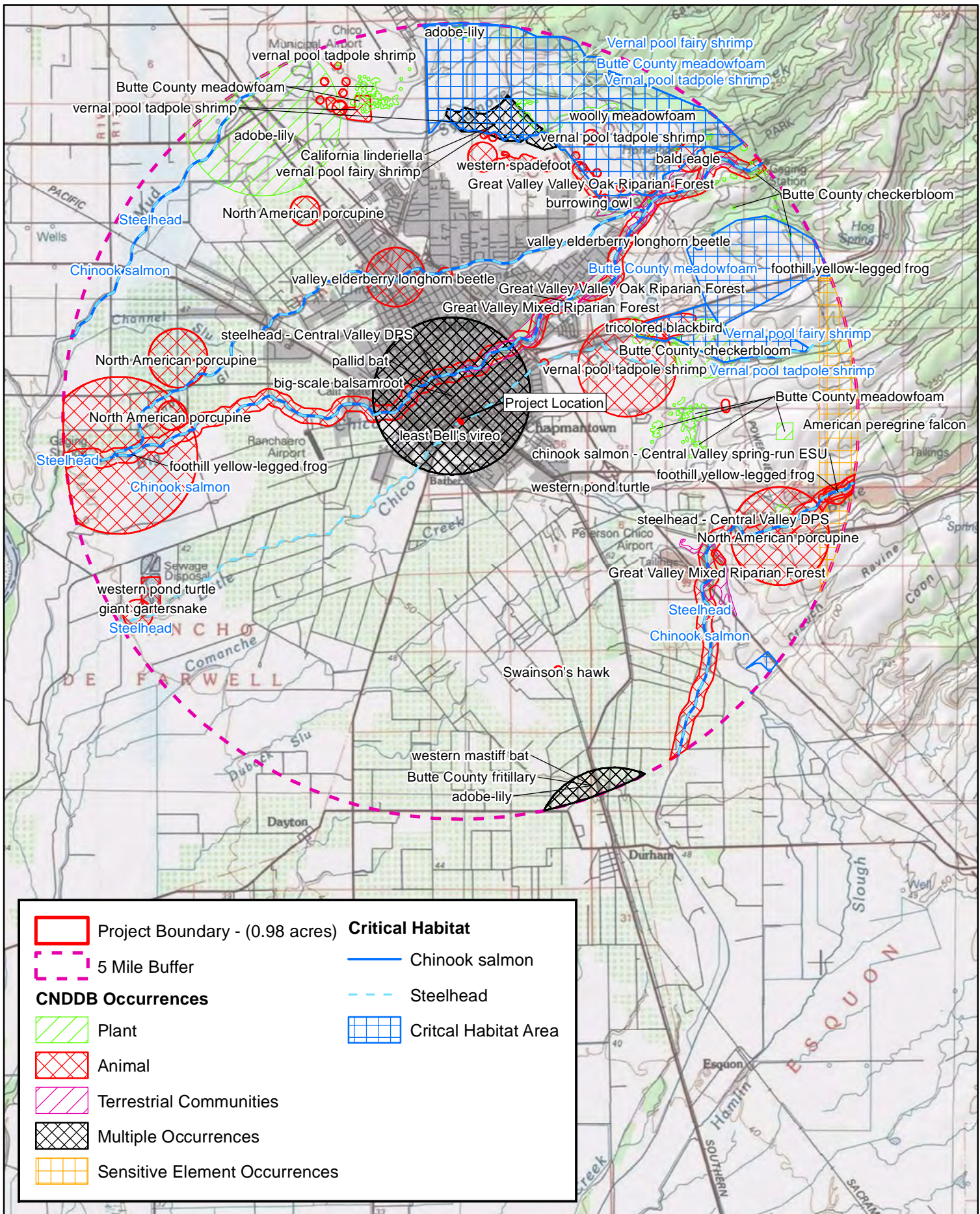
Federal

Federal Endangered Species Act

The United States Congress passed the federal Endangered Species Act (ESA) in 1973 to protect species that are endangered or threatened with extinction. The ESA is intended to operate in conjunction with the NEPA to help protect the ecosystems upon which endangered and threatened species depend. The ESA makes it unlawful to “take” a listed animal without a permit. Take is defined as “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in any such conduct.” Through regulations, the term “harm” is defined as “an act which actually kills or injures wildlife. Such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering.”

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA, 16 USC §703) prohibits the killing of migratory birds or the destruction of their occupied nests and eggs except in accordance with regulations prescribed by the USFWS.



Salem Street Bridge Replacement Project
 CNDDB Occurrences and Critical Habitat Map
 Figure 4

The bird species covered by the MBTA includes nearly all of those that breed in North America, excluding introduced (i.e. exotic) species (50 Code of Federal Regulations §10.13). Activities that involve the removal of vegetation, including trees, shrubs, grasses, and forbs, or ground disturbance have the potential to affect bird species protected by the MBTA.

Waters of the United States, Clean Water Act, Section 404

The U.S. Army Corps of Engineers (Corps) and the U.S. Environmental Protection Agency (EPA) regulate the discharge of dredged or fill material into jurisdictional waters of the United States, under the Clean Water Act (CWA, §404). The term “waters of the United States” (WOTUS) is an encompassing term that includes “wetlands” and “other waters.” Wetlands have been defined for regulatory purposes as follows: “those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions (33 CFR 328.3, 40 CFR 230.3). Wetlands generally include swamps, marshes, bogs, and similar areas.” Other waters of the United States are seasonal or perennial waterbodies; including lakes, stream channels, drainages, ponds, and other surface water features that exhibit an ordinary high-water mark but lack positive indicators for one or more of the three wetland parameters (i.e. hydrophytic vegetation, hydric soil, and wetland hydrology) (33 CFR 328.4).

The Corps may issue either individual permits on a case-by-case basis or general permits on a program level. General permits are pre-authorized and are issued to cover similar activities that are expected to cause only minimal adverse environmental effects. Nationwide permits are general permits issued to cover particular fill activities. All nationwide permits have general conditions that must be met for the permits to apply to a particular project, as well as specific conditions that apply to each nationwide permit.

Executive Orders 13112; Prevention and Control of Invasive Species

On February 3, 1999, Executive Order 13112 was signed establishing the National Invasive Species Council. Executive Order 11312 directs all federal agencies to prevent and control introductions of invasive non-native species in a cost-effective and environmentally sound manner to minimize their economic, ecological, and human health impacts. Executive Order 11312 established a national Invasive Species Council made up of federal agencies and departments and a supporting Invasive Species Advisory Committee composed of state, local, and private entities. The Invasive Species Council and Advisory Committee oversees and facilitates implementation of the Executive Order, including preparation of a National Invasive Species Management Plan.

Section two (2) of the Executive Order states:

- (a) Each Federal agency whose actions may affect the status of invasive species shall, to the extent practicable and permitted by law, (1) identify such actions; (2) subject to the availability of appropriations, and within Administration budgetary limits, use relevant programs and authorities to: (i) prevent the introduction of invasive species; (ii) detect and respond rapidly to and control populations of such species in a cost-effective and environmentally sound manner; (iii) monitor invasive species populations accurately and reliably; (iv) provide for restoration of native species and habitat conditions in ecosystems that have been invaded; (v) conduct research on invasive species and develop technologies to prevent introduction and provide for environmentally sound control of invasive species; and (vi) promote public education on invasive species and the means to address them; and (3) 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.
- (b) Federal agencies shall pursue the duties set forth in this section in consultation with the Invasive Species Council, consistent with the Invasive Species Management Plan and in cooperation with stakeholders, as appropriate, and, as approved by the Department of State, when federal agencies are working with international organizations and foreign nations.

The Magnuson-Stevens Act

The Magnuson-Stevens Fishery Conservation and Management Act (MSA), as amended by the Sustainable Fisheries Act of 1996, established procedures designed to identify, conserve, and enhance EFH for those species regulated under a federal fisheries management plan. The MSA requires Federal agencies to consult with the NMFS on all actions, or proposed actions, authorized, funded, or undertaken by the agency, that may adversely affect EFH.

Essential Fish Habitat is defined in the MSA as those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity. Adverse effect means any impact

which reduces quality and/or quantity of EFH, and may include direct (e.g. contamination or physical disruption), indirect (e.g. loss of prey or reduction in species fecundity), site-specific or habitat-wide impacts, including individual, cumulative, or synergistic consequences of actions.

Activities proposed to occur in EFH areas do not automatically require consultation. Consultations are triggered only when the proposed action may adversely affect EFH, and then only federal actions require consultation. States are not required to consult. However, if NOAA NMFS receives information on a state action that may adversely affect EFH, NMFS is required to provide EFH conservation recommendations to the State agency. States are not required to initiate consultation with NMFS nor respond to its recommendations (NOAA NMFS 2011).

State of California

California Endangered Species Act

The California Endangered Species Act (CESA) is similar to the ESA but pertains to state-listed endangered and threatened species. The CESA requires state agencies to consult with the CDFW when preparing documents to comply with the CEQA. The purpose is to ensure that the actions of the lead agency do not jeopardize the continued existence of a listed species or result in the destruction, or adverse modification of habitat essential to the continued existence of those species. In addition to formal listing under the federal and state endangered species acts, “Species of Special Concern” receive consideration by CDFW. Species of Special Concern are those whose numbers, reproductive success, or habitat may be threatened.

California Environmental Quality Act Guidelines §15380

Although threatened and endangered species are protected by specific federal and state statutes, CEQA Guidelines §15380(d) provides that a species not listed on the federal or state list of protected species may be considered rare or endangered if the species can be shown to meet certain specified criteria. These criteria have been modeled based on the definition in the ESA and the section of the California Fish and Game Code (CFGC) dealing with rare, threatened, and endangered plants and animals. The CEQA Guidelines (§15380) allows a public agency to undertake a review to determine if a significant effect on species that have not yet been listed by either the USFWS or CDFW (e.g. candidate species, species of concern) would occur. Thus, CEQA provides an agency with the ability to protect a

species from a project's potential impacts until the respective government agencies have an opportunity to designate the species as protected, if warranted.

Clean Water Act, Section 401 and the Porter-Cologne Act

The CWA (§401) and Porter-Cologne Act requires water quality certification and authorization for placement of dredged or fill material in all waters of the state, including waters of the United States wetlands. Under the federal CWA (§401) every applicant for a federal permit for any activity which may result in a discharge to a jurisdictional water must obtain a State water quality certification that the proposed activity will comply with state water quality standards. A water quality certification is required for impacts to both federal and non-federally jurisdictional waters and requires compliance with State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State. In accordance with the CWA (§401), criteria for allowable discharges into surface waters have been developed by the State Water Resources Control Board, Division of Water Quality. The resulting requirements are used as criteria in granting National Pollutant Discharge Elimination System (NPDES) permits or waivers, which are obtained through the Regional Water Quality Control Board (RWQCB) per the CWA (§402). Any activity or facility that will discharge waste (such as soils from construction) into surface waters, or from which waste may be discharged, must obtain an NPDES permit or waiver from the RWQCB. The RWQCB evaluates an NPDES permit application to determine whether the proposed discharge is consistent with the adopted water quality objectives of the basin plan.

California Fish and Game Code

The CFGC (§3503.5) states that it is “unlawful to take, possess, or destroy any birds in the order Falconiformes (hawks, eagles, and falcons) or Strigiformes 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.” Take includes the disturbance of an active nest resulting in the abandonment or loss of young. The CFGC (§3503) also states that “it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto.”

Rare and Endangered Plants

The CNPS maintains a list of plant species native to California with low population numbers, limited distribution, or otherwise threatened with extinction. This information is published in the Inventory of Rare and Endangered Vascular Plants of California. Potential impacts to populations of CNPS-ranked plants receive consideration under CEQA review. The CNPS California Rare Plant Rank categorizes plants as the following:

- Rank 1A: Plants presumed extinct in California;
- Rank 1B: Plants rare, threatened, or endangered in California or elsewhere;
- Rank 2: Plants rare, threatened, or endangered in California, but more numerous elsewhere;
- Rank 3: Plants about which we need more information; and
- Rank 4: Plants of limited distribution.

The California Native Plant Protection Act (CFGF §1900-1913) prohibits the taking, possessing, or sale within the state of any plants with a state designation of rare, threatened, or endangered as defined by CDFW. An exception to this prohibition allows landowners, under specific circumstances, to take listed plant species, provided that the owners first notify CDFW and give the agency at least 10 days to retrieve (and presumably replant) the plants before they are destroyed. Fish and Game Code §1913 exempts from the ‘take’ prohibition ‘the removal of endangered or rare native plants from a canal, lateral ditch, building site, or road, or other right of way.’

Studies Required

Gallaway Enterprises conducted biological and botanical habitat assessments, delineation of WOTUS, a tree survey, a VELB survey, and a protocol-level rare plant survey within the BSA. Biological and botanical surveys were conducted following review of the USFWS IPaC official species list, CNDDDB Rarefind 5 species list, NOAA NMFS official species list, CNPS list of rare and endangered plants, and the CNDDDB occurrence map (**Figure 4: CNDDDB Occurrences**). The Project boundary and/or the United States Geological Survey (USGS) “Chico,” “Ord Ferry,” “Nord,” and “Richardson Springs” 7.5 minute quadrangles in which the Project is located and/or adjacent to were used to derive the agency species lists (**Appendix A: Species Lists**). Based on the results of the species lists, Gallaway Enterprises conducted habitat assessments and surveys to identify any rare, endangered, threatened, or sensitive species and their habitats that may have the potential to occur within the BSA.

Personnel and Survey Dates

A biological evaluation, including delineation of WOTUS and a protocol-level rare plant survey, was conducted within the BSA on June 12 and July 31, 2020 by senior botanist Elena Gregg and biologist Brittany Reaves. The purpose of the biological and botanical habitat assessments and rare plant survey is to determine if special-status species or suitable habitat occurs within the BSA.

PERSONNEL

Elena Gregg (B.S. Environmental Biology and Management, University of California Davis) has over 15 years of professional experience conducting rare plant surveys, wetland delineations, and habitat assessments in California. She has a working knowledge of CNPS, CDFW, and USFWS survey protocols and holds an ESA recovery permit to survey for federally listed vernal pool invertebrates and CDFW collection permit for listed plant species. Through her extensive field experience in a wide array of habitats and eco-regions in northern California, Mrs. Gregg has gained knowledge of locally invasive plants species and noxious weeds.

Brittany Reaves (B.S. Parks and Natural Resources Management, California State University Chico) has over 3 years of experience working as a biologist conducting wildlife surveys and habitat assessments, field data collection, and preparing technical documents and reports.

BIOLOGICAL HABITAT ASSESSMENT

The biological habitat assessment was conducted by walking the entire BSA and identifying specific habitat types and elements. If habitat was observed for special-status species it was then evaluated for quality based on vegetation composition and structure, physical features (e.g. water, soils), micro-climate, surrounding area, presence of predatory species and available resources (e.g. prey items, nesting substrates). The underside of the bridge was also closely inspected for the presence of birds and bats. Biological species observed within the BSA are listed in **Appendix B**. During the assessment all trees with a DBH (diameter at breast height) of 4 inches and greater that could be impacted by the Project and all blue elderberry shrubs within the BSA were recorded.

PROTOCOL-LEVEL RARE PLANT SURVEY

A protocol-level botanical survey was conducted on June 12, 2020 for the special-status plant species identified on the USFWS, CNPS, and CNDDDB lists which had potential to occur within the BSA and had a blooming period that overlapped with the survey date, as well as Brazilian watermeal (*Wolffia brasiliensis*). No special-status plant species or suitable habitats were observed during the protocol-level survey. Botanical species observed within the BSA are listed in **Appendix B**.

Agency Coordination and Professional Contacts

Emails and phone calls between the City (Tracy Bettencourt, Regulatory and Grants Manager), Caltrans (Brooks Taylor, Associate Environmental Planner), Mark Thomas, and Gallaway Enterprises have occurred in order to exchange information and discuss Project alternatives in order to minimize potential impacts.

Limitations That May Influence Results

There were no other limitations that would influence results of the surveys or habitat assessments.

3 Results: Environmental Setting

Description of the Existing Biological and Physical Conditions

The Project site is positioned within the northern Sacramento Valley of California. The BSA consists of an approximately 0.98-acre study area, including the area surrounding the Salem Street Bridge over Little Chico Creek within the City of Chico, Butte County, California. The BSA is surrounded by urban residential homes and roads. The Project is located within the “Chico” USGS quadrangle, Section 35, Township 22N, Range 01E (**Figure 1**).

Study Area

All construction-related activities, including staging, will be restricted to the limits of the BSA; therefore, habitat assessments and surveys were restricted to the area within the BSA.

Physical Conditions

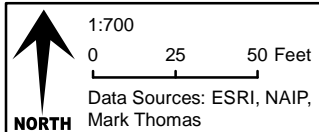
The study area ranges in elevation from 185 to 195 feet above sea level and is sloped between 0-2 percent. Soils within the study area are fine, sandy loams with a deep restrictive layer located more than 80 inches deep. The average annual precipitation is 25.66 inches and the average temperature is 61° F (WRCC 2020) in the region where the study area is located. Based on the current CWA definition of WOTUS, there is one (1) feature that meets the criteria to be considered a jurisdictional WOTUS within the BSA: Little Chico Creek, a relatively permanent waterway (**Appendix C**). There are no wetlands in the BSA.

Biological Conditions in the Biological Study Area

The BSA consists of riverine, valley foothill riparian, urban, and barren habitat types (**Figure 5: Habitat Map**). The habitat conditions within the BSA are highly degraded due to the heavily used urban environment and human habitation under the bridge. The existing roadway, bridge deck, and sidewalks are characterized as barren habitat and are not considered habitat for any special-status species. Habitat types present within the BSA are described below based on Mayer and Laudenslayer’s *A Guide to Wildlife Habitats of California* (1988).

RIVERINE

Riverine habitat occurs within Little Chico Creek in the BSA. Little Chico Creek exhibits intermittent flow patterns and typically has a dry period in the summer through the fall. The bed of the channel was dry during the June site visit with the exception of one small ponded depression to the east of the bridge and is dominated by medium cobble



Salem Street Bridge Replacement Project
Habitat Map
Figure 5

substrate. The banks of the channel are generally steep and channelized, with thick vegetative cover described in the Valley Foothill Riparian section below. Some Himalayan blackberry (*Rubus armeniacus*) was present within the streambed of the channel. During high flows, Little Chico Creek may provide suitable aquatic habitat for several listed anadromous fish species during late winter and early spring.

VALLEY FOOTHILL RIPARIAN

Valley Foothill Riparian habitat occurs along the banks of Little Chico Creek and as a narrow band on the immediate top of bank within the BSA. The tree canopy on the top of the banks shading the channel was dominated by California sycamore (*Platanus racemosa*), valley oak (*Quercus lobata*), black walnut (*Juglans hindsii*), and glossy privet (*Ligustrum lucidum*). The tree and shrub canopy present within the banks of Little Chico Creek was dominated by California sycamore, mulberry (*Morus* sp.), fig (*Ficus carica*), catalpa (*Catalpa speciosa*), blue elderberry and Oregon ash (*Fraxinus latifolia*). A dense understory of vines including English ivy (*Hedera helix*), wild grape (*Vitis californica*) and Himalayan blackberry was present throughout. The transition from this habitat type to urban habitat is abrupt. Valley-foothill riparian habitats provide food, water, migration and dispersal corridors for fish species and escape, nesting, and thermal cover for an abundance of other wildlife species.

URBAN

Urban habitat is present around the edges of the BSA, which is composed of residential homes and associated landscaping. This environment can present a mosaic of vegetation, including primarily ornamental landscaping, but can incorporate native tree species. Generalist and invasive species often occupy urban habitat, such as common raven (*Corvus corax*), house sparrow (*Passer domesticus*), scrub-jay (*Aphelocoma californica*) and Brewer's blackbird (*Euphagus cyanocephalus*), as well as small-to-medium mammals (e.g. raccoon [*Procyon lotor*], opossum [*Didelphis virginiana*]) (Mayer and Laudenslayer 1988).

BARREN

Within the BSA, the roadways, sidewalks, and the bridge structure present are characterized as barren habitat. Barren habitat is defined by the absence of vegetation. The barren habitat within the Project consists primarily of asphalt and concrete. Although some ground-nesting avian species, such as killdeer (*Charadrius vociferous*), and small reptiles, such as western fence lizards (*Sceloporus occidentalis*), can be found breeding in barren habitat, it is typically considered low-quality habitat for most wildlife species.

Regional Species and Habitats and Natural Communities of Concern

The following special-status species were identified under the USFWS IPaC, CNDDDB, NMFS, and CNPS species lists (**Appendix A: Species Lists**) as having potential to occur within the Project boundary and/or the USGS “Chico,” “Ord Ferry,” “Nord,” and “Richardson Springs” 7.5 minute quadrangles. Species that have the potential to occur within the BSA are based on suitable habitat within the BSA, including elevation thresholds, CNDDDB occurrences within a 5-mile radius of the BSA, and observations made during biological surveys and habitat assessments; thus, not all species listed within the various species lists in **Appendix A** are included in **Table 1**. A summary of special-status species and their potential to occur within the BSA is provided in **Table 1**.

Table 1. List, Proposed, Natural Communities, and Critical Habitat Potentially Occurring or Known to Occur in the Salem Street Bridge Replacement Project BSA.

Common Name	Scientific Name	Status	General Habitat Description	Habitat Present / Absent	Potential to Occur/Rationale
SENSITIVE NATURAL COMMUNITIES					
Coastal and valley freshwater marsh	N/A	SNC	Freshwater marsh.	A	None. This CDFW-designated SNC does not occur in the BSA.
Great valley cottonwood riparian forest	N/A	SNC	Riparian forest.	A	None. This CDFW-designated SNC does not occur in the BSA.
Great valley mixed riparian forest	N/A	SNC	Riparian forest.	A	None. This CDFW-designated SNC does not occur in the BSA.
Great valley valley oak riparian forest	N/A	SNC	Riparian forest.	A	None. This CDFW-designated SNC does not occur in the BSA.
Great valley willow scrub	N/A	SNC	Willow scrub.	A	None. This CDFW-designated SNC does not occur in the BSA.
Northern hardpan vernal pool	N/A	SNC	Vernal pool.	A	None. This CDFW-designated SNC does not occur in the BSA.
Northern volcanic mud flow vernal pool	N/A	SNC	Vernal pool.	A	None. This CDFW-designated SNC does not occur in the BSA.

Common Name	Scientific Name	Status	General Habitat Description	Habitat Present / Absent	Potential to Occur/Rationale
PLANTS					
Ferris' milk-vetch	<i>Astragalus tener var. ferrisiae</i>	CNPS 1B.1	Meadows and seeps (vernally mesic), and valley and foothill grassland (subalkaline flats). (BP: Apr – May)	A	None. There is no suitable habitat present within the BSA.
Big-scale balsamroot	<i>Balsamorhiza macrolepis</i>	CNPS 1B.2	Typically serpentine grasslands and openings in chaparral and woodlands. (Mar-Jun)	A	None. There is no suitable habitat present within the BSA.
Flagella-like atractylocarpus	<i>Campylopodie lla stenocarpa</i>	CNPS 2B.2	Cismontane woodland.	A	None. There is no suitable habitat present within the BSA.
Pink creamsacs	<i>Castilleja rubicundula var. rubicundula</i>	CNPS 1B.2	Seeps and mesic area in serpentine soils. (Apr – Jun)	A	None. There is no suitable habitat present within the BSA.
White-stemmed clarkia	<i>Clarkia gracilis ssp. albicaulis</i>	CNPS 1B.2	Chaparral and cismontane woodland. (May - Jul)	A	None. There is no suitable habitat present within the BSA and not observed during the protocol-level survey.
Silky cryptantha	<i>Cryptantha crinita</i>	CNPS 1B.2	Gravelly streambeds. (Apr – May)	A	None. The streambed is too shaded and this species is not known to occur in the Little Chico Creek watershed.
Hoover's spurge	<i>Euphorbia hooveri</i>	FT/CNP S 1B.2	Vernal pools on volcanic mudflow or clay substrate. (Jul – Sept [Oct])	A	None. There is no suitable habitat present within the BSA. No effect.
Butte County fritillary	<i>Fritillaria eastwoodiae</i>	CNPS 3.2	Usually on dry slopes but also found in wet places; soils can be serpentine, red clay, or sandy in chaparral, cismontane	A	None. There is no suitable habitat present within the BSA and not observed during the protocol-level survey.

Common Name	Scientific Name	Status	General Habitat Description	Habitat Present / Absent	Potential to Occur/Rationale
			woodland, lower montane coniferous forest. (Mar – Jun)		
Adobe lily	<i>Fritillaria pluriflora</i>	CNPS 1B.2	Adobe soils. (Feb – Apr)	A	None. No adobe soils present in the BSA.
Woolly rose-mallow	<i>Hibiscus lasiocarpus</i> var. <i>occidentalis</i>	CNPS 1B.2	Freshwater marshes and swamps, often in rip-rap. (Jun – Sep)	A	None. Species was not observed during the protocol-level survey.
California satintail	<i>Imperata brevifolia</i>	CNPS 2B.1	Alkaline seeps and mesic riparian scrub. (Sep – May)	A	None. There is no suitable habitat present within the BSA.
Red Bluff dwarf rush	<i>Juncus leiospermus</i> var. <i>leiospermus</i>	CNPS 1B.1	Vernal pools and vernal mesic habitats. (Mar – Jun)	A	None. There is no suitable habitat present within the BSA.
Butte County meadowfoam	<i>Limnanthes floccosa</i> ssp. <i>californica</i>	FE/SE/ CNPS 1B.1	Vernal pools and swales. (Mar – May)	A	None. There is no suitable habitat present within the BSA. No effect.
Veiny monardella	<i>Monardella venosa</i>	CNPS 1B.1	Heavy clay soils in cismontane woodland and valley and foothill grassland. (May, Jul)	A	None. There is no suitable habitat present within the BSA.
Ahart's paronychia	<i>Paronychia ahartii</i>	CNPS 1B.1	Vernal pools and mesic habitat in stony, barren clay soils. (Feb – Jun)	A	None. There is no suitable habitat present within the BSA.
California beaked-rush	<i>Rhynchospora californica</i>	CNPS 1B.1	Freshwater seep and marsh habitats. (May – Jul)	A	None. There is no suitable habitat present within the BSA and not observed

Common Name	Scientific Name	Status	General Habitat Description	Habitat Present / Absent	Potential to Occur/Rationale
					during the protocol-level survey.
Butte County checkerbloom	<i>Sidalcea robusta</i>	CNPS 1B.2	Blue oak woodlands often associated with ephemeral drainages (Apr, Jun)	A	None. There is no suitable habitat present within the BSA.
Slender-leaved pondweed	<i>Stuckenia filiformis ssp. alpina</i>	CNPS 2B.2	Shallow freshwater mashes (May – Jul)	A	None. There is no suitable habitat present within the BSA and not observed during the protocol-level survey.
Greene’s tuctoria	<i>Tuctoria greenei</i>	FE/SR/ CNPS 1B.1	Vernal pools in open grasslands. (May – Jul [Sept])	A	None. No vernal features occur within the BSA. No effect.
Brazilian watermeal	<i>Wolffia brasiliensis</i>	CNPS 2B.3	Shallow freshwater marshes. (Apr – Dec)	A	None. No suitable habitat and was not observed within the BSA during the protocol-level survey.
INVERTEBRATES					
Conservancy fairy shrimp	<i>Branchinecta conservatio</i>	FE	Vernal pools.	A	None. No vernal features occur within the BSA. No effect.
Vernal pool fairy shrimp	<i>Branchinecta lynchi</i>	FT	Vernal pools.	A	None. No vernal features occur within the BSA. No effect.
Valley elderberry longhorn beetle	<i>Desmocerus californicus dimorphus</i>	FT	Elderberry shrubs usually associated with riparian areas.	HP	There are several clusters of blue elderberry shrubs present within or adjacent to the BSA. May affect and likely to adversely affect.
Vernal pool tadpole shrimp	<i>Lepidurus packardi</i>	FE	Deep vernal pools.	A	None. No vernal features occur within the BSA. No effect.

Common Name	Scientific Name	Status	General Habitat Description	Habitat Present / Absent	Potential to Occur/Rationale
FISH					
Green sturgeon Southern Distinct Population Segment (sDPS)	<i>Acipenser medirostris</i>	FT/SSC	Klamath/North Coast, Sacramento and San Joaquin rivers and their tributaries.	A	Little Chico Creek does not provide suitable habitat components for this species. No effect.
Chinook salmon Central Valley (CV) spring-run Evolutionarily Significant Unit (ESU)	<i>Oncorhynchus tshawytscha</i>	FT/ST	Sacramento River and its tributaries.	HP	Unspecified life stages of CV spring-run Chinook salmon have been observed within portions of Little Chico Creek during high flow years (NMFS 2019). Construction will occur when the creek is dry. No effect.
Chinook salmon Sacramento River winter-run ESU	<i>Oncorhynchus tshawytscha</i>	FE/SE	Sacramento River and its tributaries.	A	No records of winter-run Chinook in Little Chico Creek. Construction will occur when the creek is dry. No effect.

Common Name	Scientific Name	Status	General Habitat Description	Habitat Present / Absent	Potential to Occur/Rationale
California Central Valley steelhead	<i>Oncorhynchus mykiss</i>	FT	Sacramento and San Joaquin Rivers and their tributaries.	HP	Little Chico Creek is designated as critical habitat for this species by NMFS. Little Chico Creek functions primarily as a rearing and migratory habitat for CCV steelhead (NMFS 2019). Construction will occur when the creek is dry. No effect.
Delta smelt	<i>Hypomesus transpacificus</i>	FT/SE	Sacramento-San Joaquin Estuary.	A	None. BSA is located outside of this species' range.
REPTILES & AMPHIBIANS					
Giant garter snake	<i>Thamnophis gigas</i>	FT/ST	Prefers freshwater marsh and low gradient streams. Has adapted to drainage canals and irrigation ditches.	A	None. Little Chico Creek does not provide essential habitat components for GGS during their active season (USFWS 2017a). There are no CNDDDB occurrences within 4 miles of the BSA. No effect.
California red-legged frog	<i>Rana draytonii</i>	FT/SSC	Inhabits quiet pools of streams, marshes, and occasionally ponds.	A	None. There are no CNDDDB occurrences within 25 miles of the BSA. No effect.

Common Name	Scientific Name	Status	General Habitat Description	Habitat Present / Absent	Potential to Occur/Rationale
Western spadefoot	<i>Spea hammondi</i>	SSC	Occurs primarily in grassland habitats, but can be found in valley-foothill hardwood woodlands. Intermittent pools are essential for breeding and egg-laying.	A	None. There is no suitable upland habitat present in the limited areas of grassland adjacent to Little Chico Creek due to compacted non-native fill soils and heavy vegetative cover (USFWS 2005).
Western pond turtle	<i>Emys marmorata</i>	SSC	Perennial or nearly permanent bodies of water with basking sites.	HP	There is suitable habitat for western pond turtle within Little Chico Creek when water is present.
BIRDS					
Tricolored blackbird	<i>Agelaius tricolor</i>	ST	Freshwater marsh, swamps, wetlands, and agricultural fields associated with wetlands.	A	None. The BSA does not provide suitable habitat elements for tricolored blackbird during their nesting season.
Burrowing owl	<i>Athene cunicularia</i>	SSC	Grasslands or openings with friable soils, rodent burrows, or man-made structures (e.g. culverts, debris piles).	A	None. There is no suitable nesting or foraging habitat present within the BSA.
Swainson's hawk	<i>Buteo swainsoni</i>	ST	Valleys and low foothills. Requires tall	A	There is no suitable nesting or foraging

Common Name	Scientific Name	Status	General Habitat Description	Habitat Present / Absent	Potential to Occur/Rationale
			trees for nesting and open land for foraging, preferably grasslands and grain or pasture fields.		habitat within the BSA.
Western yellow-billed cuckoo	<i>Coccyzus americanus occidentalis</i>	FT/SE	Contiguous patches of dense, multi-layered riparian habitat greater than 325 feet in width and 200 acres in extent along dynamic river systems.	A	None. The BSA does not contain suitable habitat. The BSA is located outside of the species' current known range (Gogol-Prokurat 2016). No effect.
Bald Eagle	<i>Haliaeetus leucophaeus</i>	SE/FP	Coast, large lakes and river systems, with open forests with large trees and snags.	A	None. No suitable nesting or foraging habitat within or adjacent to the BSA.
California black rail	<i>Laterallus jamaicensis coturniculus</i>	ST/FP	Brackish and fresh emergent wetlands with dense vegetation (bulrushes and cattails).	A	None. Not found on the valley floor; there is no suitable habitat present within the BSA.
Bank swallow	<i>Riparia riparia</i>	ST	Requires vertical banks/cliffs with fine-textured/sandy soils near streams, rivers, lakes, ocean to dig nesting hole.	A	None. There is no suitable habitat present within the BSA.

Common Name	Scientific Name	Status	General Habitat Description	Habitat Present / Absent	Potential to Occur/Rationale
Least Bell's vireo	<i>Vireo bellii pusillus</i>	FE/SE	Willows and dense valley foothill riparian habitat.	A	None. The BSA is outside of the present known range of this species (USFWS 1998). No effect.
Mammals					
Pallid bat	<i>Antrozous pallidus</i>	SSC	Roost in bridges and manmade structures with large crevices, as well as hollow trees and cavernous environments.	HP	Mature trees with sloughing bark and/or cavities provide suitable day roosting habitat within the BSA.
Western mastiff bat	<i>Eumops perotis californicus</i>	SSC	Roosts in crevices in steep cliff faces or in the roof eaves of buildings of two or more stories (needs vertical faces to take flight).	A	None. There is no suitable roosting habitat within the BSA.

Code Designations
Absent [A] - no habitat present and no further work needed. Habitat Present [HP] -habitat is or may be present. The species may be present. Present [P] - the species is present. Critical Habitat [CH] - project footprint is located within a designated critical habitat unit but does not necessarily mean that appropriate habitat is present. Status: Federal Endangered (FE); Federal Threatened (FT); Federal Candidate (FC), Federal Species of Concern (FSC); State Endangered (SE); State Threatened (ST); Fully Protected (FP); State Rare (SR); State Candidate (SC), State Species of Special Concern (SSC); California Native Plant Society (CNPS); Sensitive Natural Community (SNC)

4 Results: Biological Resources, Discussion of Impacts and Mitigation

Natural Communities of Special Concern and Waters of the US

There are no CDFW-designated natural communities of special concern within or adjacent to the BSA.

There is one (1) feature that qualifies as jurisdictional WOTUS within the BSA: Little Chico Creek, a relatively permanent waterway. A Draft Delineation of WOTUS map is included as **Appendix C**.

Project Impacts and Proposed Mitigation

An estimate of both temporary and permanent impacts to jurisdictional features required for construction within Little Chico Creek is presented in **Table 2**. The Project will result in 0.04 acres of permanent impacts to jurisdictional WOTUS as a result of the placement of approximately 276 cubic yards of rock slope protection (RSP) below the ordinary high water mark. No federally jurisdictional wetlands will be impacted (**Figure 6**). As such, a RWQCB §401 Water Quality Certification permit and a Corps Nationwide §404 14 permit are necessary. Mitigation for impacts to jurisdictional WOTUS will be addressed through the permitting process, which may include the purchase of credits at a Corps-approved mitigation bank or payment to the Sacramento District California In-lieu Fee Program.

Table 2. Impacts to Waters of the United States for the Salem Street Bridge Replacement Project

Type of impact	Cubic yards	Acreage of impact
Temporary Impacts – Access and Bridge Construction	N/A	0.16 acres
Permanent Impacts – RSP Placement	276	0.04 acres

Special-Status Plant Species

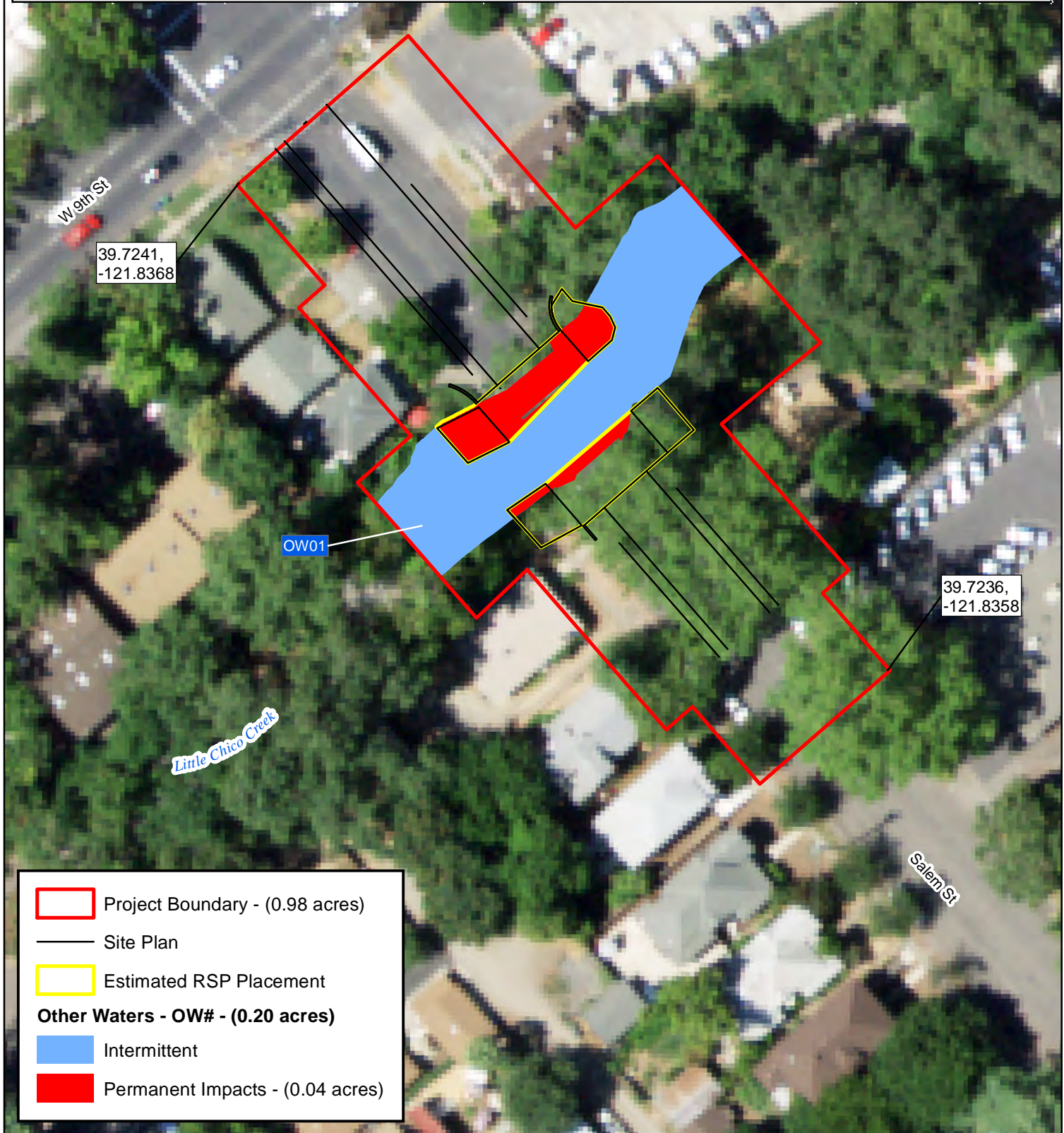
No special-status plant species were observed within the BSA during the protocol-level rare plant survey and botanical habitat assessment. There is no suitable habitat present within

Impacts to Waters of the U.S.

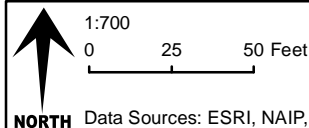
Other Waters

Label	Cowardin	Description	Location (Lat/Long)		Width (ft)*	Length (ft)	Area (sq ft)	Acres
OW01	R4	Intermittent	39.723883	-121.83635	21.1	88.1	1862.5	0.04
Other Waters Impacts Totals =						88.1	1862.5	0.04

*Widths are represented as averages



Project Boundary - (0.98 acres)
 Site Plan
 Estimated RSP Placement
Other Waters - OW# - (0.20 acres)
 Intermittent
 Permanent Impacts - (0.04 acres)



**Salem Street Bridge Replacement Project
Impacts to Waters of the U.S.**

Figure 6

the BSA for any special-status plant species identified on the agency species lists with a blooming period outside of the survey date as there are no vernal or seasonal wetlands within the BSA.

Steelhead Critical Habitat

Little Chico Creek is designated as critical habitat for California Central Valley (CCV) steelhead by NMFS (70 FR 52488-52627). The ESA requires that critical habitat be designated for all species listed under the ESA. Critical habitat is designated for areas that provide essential habitat elements that enable a species survival and which are occupied by the species during the species listing under the ESA. Areas outside of the species range of occupancy during the time of its listing can also be determined as critical habitat if the agency determines that the area is essential to the conservation of the species.

Survey Results

During periods of high flow, Little Chico Creek may provide migration and rearing habitat for CCV steelhead (NMFS 2019). Freshwater rearing sites are a critical habitat primary constituent element (PCE) that provide adult migration, juvenile refuge, mobility, and survival and are essential to the conservation of steelhead (NMFS 2014). There is no spawning habitat within the BSA for CCV steelhead (Brown and Mott 2002, NMFS 2019).

Project Impacts

The Project will involve permanent alteration of Little Chico Creek where permanent RSP is required below bridge abutment supports to prevent erosion and scour. Rock slope protection is anticipated along the bank for the width of the bridge and approximately 20 feet on either side of the bridge. The bridge abutments will be placed at the top of bank above the ordinary high water mark and RSP will be placed at the toe of slope to protect the bank and reduce scour. The permanent RSP will not block or impede CCV steelhead movement through the creek following the completion of Project activities.

Five (5) native trees with a DBH of 4 inches or greater are proposed for removal from within the BSA. One (1) mulberry (*Morus* sp.; DBH 10"), one (1) sycamore (DBH 30"), and three (3) valley oak (DBH 23", 23", and 45") are proposed for removal. Several trees with canopy that extend over the creek may be trimmed. The placement of RSP within the critical habitat will not modify salmonid utilization of Little Chico Creek; however, 0.04 acres of CCV steelhead critical habitat will be permanently impacted by the placement of RSP below the ordinary

high water mark. The Project may affect and is likely to adversely modify CCV steelhead critical habitat.

Avoidance and Minimization Efforts

The following are avoidance and minimization measures recommended in order to avoid and minimize impacts to critical habitat.

- Vegetation removal and Project construction shall occur when there is no flow in Little Chico Creek.
- An erosion control plan that incorporates erosion control Best Management Practices (BMPs) shall be created and implemented prior to the wet season (November 1 – April 1) in order to avoid sediment from entering into WOTUS.
- BMPs shall be implemented that are necessary to minimize the risk of sedimentation, turbidity, and hazardous material spills. Applicable BMPs will include permanent and temporary erosion control measures, including use of straw bales, mulch or wattles, silt fences, filter fabric, spill remediation material such as absorbent booms, and ultimately seeding and revegetating.
- All fueling and/or equipment maintenance shall occur 50 feet from all water bodies and riparian areas. Any chemical spill within the channel of Little Chico Creek will be reported to NMFS, CDFW, and other appropriate resource agencies within 48 hours.
- A spill prevention plan (SPP) and storm water pollution prevention plan (SWPPP) shall be developed and implemented by the contractor. Spill prevention measures will include stockpiling absorbent booms, staging hazardous materials at least 50 feet away from WOTUS, and maintaining and checking construction equipment to prevent fuel and lubrication leaks. SWPPP measures will utilize applicable BMPs such as use of silt fences, straw bales, and other methods necessary to minimize storm water discharge associated with construction activities.
- The contractor should have absorbent booms available within 50 feet of the channel during all in-channel work to be prepared for quick containment of any spills within or adjacent to Little Chico Creek.

Compensatory Mitigation

To compensate for direct permanent impacts to 0.04 acres of riverine habitat that may modify CCV steelhead critical habitat, the Project proponent will purchase 0.04 acres of salmonid habitat restoration (1:1 ratio) and 0.08 acres of salmonid habitat preservation (2:1 ratio) credits at the Bullock Bend Mitigation Bank or another NMFS-approved mitigation or conservation bank that services the Project location.

Disturbance to the channel and banks of Little Chico Creek and/or removal of vegetation will be kept to the minimum necessary to complete Project activities. To the extent practicable, portions of the streambed of Little Chico Creek disturbed by construction activities will be restored to a pre-construction condition. Trees with a DBH of 4 inches or greater removed from the banks of Little Chico Creek will be mitigated for onsite and in-kind at a 3:1 ratio; however, these trees are not likely to survive. The area under the bridge and in the surrounding riparian habitat experiences severe degradation by human trespassing and occupation, thus the establishment of replanting success criteria and long-term monitoring is not feasible.

Cumulative Effects

There are no foreseeable projects or activities that could have an effect on CCV steelhead critical habitat within the BSA and surrounding area; therefore, there will be no cumulative impacts.

Chinook Salmon Essential Fish Habitat

Essential fish habitat means those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity (Magnuson-Stevens Fishery Conservation and Management Act (MSA) §3). The MSA, as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-267), established procedures designed to identify, conserve, and enhance EFH for those species regulated under a Federal Fisheries Management Plan. The MSA requires federal agencies to consult with NMFS on projects that may adversely affect EFH and provide an EFH assessment of potential water bodies within the Project area that may serve as EFH. The Pacific Fishery Management Council manages Chinook and Coho salmonid species under the MSA (Pacific Fishery Management Council 2000). The Sacramento River supports populations of California central valley winter-run, spring-run, fall and late fall-run Chinook salmon, which spawn, breed, feed and grow within the associated system and its tributaries; therefore, the Sacramento River and its direct tributaries are considered EFH.

Survey Results

An EFH assessment was conducted to determine the potential impacts to EFH by the proposed Project. The NOAA - NMFS EFH mapper was consulted in June 2020 regarding the designation of EFH within the Project BSA. A summary of the EFH database query can be found in **Appendix A**. Unspecified life stages of CV spring-run Chinook salmon have been observed within portions of Little Chico Creek during high flow years; however, this

watershed is not typically used as a migration corridor or spawning habitat for adult CV spring-run Chinook salmon (NMFS 2019). As Little Chico Creek contains waters and substrate with the potential to support migrating and rearing Chinook salmon, it is considered EFH.

Project Impacts

There will be minor permanent modifications to Little Chico Creek, primarily from the placement of RSP to protect the bridge abutments and banks from erosion and scour. A total of 0.04 acres of EFH will be modified by the placement of permanent RSP within the stream zone of Little Chico Creek.

Avoidance and Minimization Efforts

Avoidance and minimization efforts proposed for CCV steelhead critical habitat will be effective in also avoiding and minimizing impacts to Chinook salmon EFH within the BSA.

Compensatory Mitigation

To compensate for direct permanent impacts to 0.04 acres of riverine habitat that may modify Chinook salmon EFH, the Project proponent will purchase 0.04 acres of salmonid habitat restoration (1:1 ratio) and 0.08 acres of salmonid habitat preservation (2:1 ratio) credits at the Bullock Bend Mitigation Bank or another NMFS-approved mitigation bank that services the Project location.

Cumulative Effects

There are no foreseeable construction projects that could have an effect on Chinook salmon EFH within the BSA; therefore, there will be no cumulative impacts.

Special-Status Animal Species Occurrences

VALLEY ELDERBERRY LONGHORN BEETLE

The VELB is listed as threatened under the federal ESA. The VELB is a small (0.5 - 0.8 inch long) beetle that is endemic to the Central Valley of California (USFWS 2017). The beetle is found only in association with its host plant, elderberry. Adults feed on the foliage and flowers of elderberry shrubs and are present from March through early June. During this period, the beetles mate and females lay eggs on living elderberry plants. The first instar larvae bore to the center of elderberry stems where they feed on the pith of the plant for 1 to 2 years as they develop. Prior to forming their pupae, the elderberry wood boring larvae

chew through the bark and then plug the holes with wood shavings. In the pupal chamber, the larvae metamorphose into their pupae and then into adults where upon they emerge between mid-March through June (Barr 1991). The only identifiable exterior evidence of elderberry use by VELB is the exit hole created by the larvae (USFWS 2017). Current threats to VELB consist primarily of riparian habitat destruction causing extirpation, fragmentation, and isolation of beetle populations (Barr 1991).

Survey Results

Four (4) elderberry clusters were identified within or adjacent to the BSA (**Figure 7**).

Project Impacts

The placement of the new bridge structure will result in the removal of one (1) elderberry cluster, E1, which contributes to the loss of 0.01 acres of riparian habitat (**Figure 7**). Construction is anticipated to come within 25 feet of the dripline of E2, but permanent impacts to the shrub are not expected. Elderberry shrubs E3 and E4 will be avoided.

Avoidance and Minimization Measures

There are four (4) clusters of elderberry shrubs within or adjacent to the BSA. Transplanting elderberry shrubs is not feasible due to steep slopes and the inability to access the shrubs with heavy equipment. Per the *Framework for Assessing Impacts to Valley Elderberry Longhorn Beetle*, suitable riparian habitat may be replaced at a minimum of 3:1 for all acres that will be permanently impacted by the Project (USFWS 2017). As transplantation of individual shrubs will not be feasible, the Project proposes to purchase credits to mitigate for all suitable riparian habitat that will be permanently displaced by the placement of the new bridge structure. The Project proposes to mitigate for VELB by purchasing VELB credits at the Nicolaus Ranch VELB Conservation Bank, River Ranch VELB Conservation Bank, or another USFWS-approved VELB mitigation bank with a service area that includes the Project location (**Table 3**).

Table 3. Proposed Compensatory Mitigation for VELB for the Salem Street Bridge Replacement Project

Habitat	Compensation Ratio*	Total Acres of Disturbance	Acres of Credits	Total Credit Purchase^
Riparian	3:1	0.01	0.03	0.75

* acre(s) of credits: acre(s) of disturbance

^ One credit (unit) = 1,800 sq. ft.



	Project Boundary - (0.98 acres)
	Biological Study Area - (0.98 acres)
	Site Plan
	Elderberry Cluster (including dripline)
	Impacted Elderberry Cluster
	Impacts to Riparian Habitat - (0.01 acres)

1:700
 0 25 50 Feet
 Data Sources: ESRI, NAIP,
 Gallaway Enterprises, Mark Thomas
NORTH

Salem Street Bridge Replacement Project
 Elderberry Location and Impacts
 Figure 7

Avoidance of elderberry shrubs that will not be removed as a result of the Project will be achieved by implementing a core avoidance area of 20 feet from the drip-line of each elderberry shrub measuring 1 inch or greater in diameter at ground level where feasible. The following avoidance and minimization measures shall be implemented per the *Framework for Assessing Impacts to the Valley Elderberry Longhorn Beetle* (USFWS 2017):

- Fencing. All areas to be avoided during construction activities will be fenced and/or flagged as close to construction limits as feasible.
- Avoidance area. Activities that may damage or kill an elderberry shrub (e.g., trenching, paving, etc.) may need an avoidance area of at least 6 meters (20 feet) from the drip-line, depending on the type of activity.
- Worker education. A qualified biologist will provide training for all contractors, work crews, and any onsite personnel on the status of the VELB, its host plant and habitat, the need to avoid damaging the elderberry shrubs, and the possible penalties for noncompliance.
- Construction monitoring. A qualified biologist will monitor the work area at Project-appropriate intervals to assure that all avoidance and minimization measures are implemented. The amount and duration of monitoring will depend on the Project specifics and should be discussed with the USFWS.
- Timing. As much as feasible, all activities that could occur within 50 meters (165 feet) of an elderberry shrub, will be conducted outside of the flight season of the VELB (March - July).
- Trimming. Trimming may remove or destroy VELB eggs and/or larvae and may reduce the health and vigor of the elderberry shrub. In order to avoid and minimize adverse effects to VELB when trimming, trimming will occur between November and February and will avoid the removal of any branches or stems that are ≥ 1 inch in diameter.
- Mowing. Mechanical weed removal within the drip-line of the shrub will be limited to the season when adults are not active (August - February) and will avoid damaging the elderberry.

Compensatory Mitigation

The Project proponent proposes to mitigate for impacted elderberry shrubs by purchasing VELB credits at the Nicolaus Ranch VELB Conservation Bank, River Ranch VELB Conservation Bank, or another USFWS-approved VELB mitigation bank with a service area that includes the Project location (**Table 3**).

Cumulative Effects

No cumulative effects to VELB are expected with the implementation of the avoidance and mitigation measures discussed above. There are no current or planned projects that will have cumulative effects on VELB within the Project BSA.

ANADROMOUS FISH

Central Valley Spring-run Chinook Salmon

Chinook salmon are an anadromous species which originate in freshwater environments, such as major streams and tributaries, before migrating to oceanic environments to grow and mature, then returning to their natal freshwater environments to spawn and eventually die. Chinook salmon are the largest of the salmon species. They range in appearance throughout their developmental stages and aquatic environments.

Central Valley spring-run Chinook salmon are considered an ESU by NMFS and their listing status is threatened under the ESA. Spring-run Chinook salmon are differentiated from the other ESUs or other “runs” of Chinook salmon due to their distinct life history strategy in which natural populations migrate from the Pacific Ocean to their natal spawning habitat in Central Valley tributaries starting in the spring; as early as February for some populations. Unlike other runs of Chinook salmon, spring-run migrate upstream early in the year and then disperse throughout the upper reaches of a river and hold there over the summer months before spawning, instead of spawning quickly upon arrival. Juveniles will then emigrate during late fall and winter with increased flows to make their way to the Pacific Ocean. Key habitat for CV spring-run Chinook salmon includes moderately deep pools utilized for holding habitat over summer, small cobble or gravel substrate for spawning, and slow, off-channel water with debris or vegetation that juveniles utilize for rearing habitat and refuge. Shade and wood cover have been indicated as important for juvenile Chinook salmon holding habitat (Zajanc et al. 2012). Chinook salmon adults utilize deep pools for holding that usually have a large bubble curtain at the head, underwater rocky ledges, and shade cover throughout the day, or hold in smaller “pocket” water behind large rocks in fast water (Moyle 1995).

California Central Valley Steelhead Distinct Population Segment

The CCV steelhead is classified as a Distinct Population Segment (DPS) by NMFS. Steelhead are small-bodied in general compared to their coastal counterparts and rarely exceed 60 centimeters in fork length, which may be an adaptation to the distance inland these fish

migrate to reach their spawning areas in some cases (Moyle 2002). Steelhead will spend one 1 to 3 years growing in a marine environment before migrating into the Sacramento and San Joaquin River systems, as well as far upstream into the tributaries of these river systems, to spawn. Steelhead generally move quickly through the main stem of the Sacramento River to their respective spawning grounds, where they then seek out suitable spawning habitat. The steelhead population is entirely a “winter-run” fish that enter the river system in November through April as fully reproductively mature adults to spawn before emigrating back to marine habitat (Moyle et al. 2008). Adult steelhead require cold, clear, relatively fast-moving water that is usually provided by snowmelt-driven stream systems at the time they are spawning. Depths required for spawning are typically 10 to 150 cm (Moyle 2002 cited in NMFS 2014b), and optimum depth for spawning is 14 inches (Bovee 1978 cited in McEwan 2001). Juvenile steelhead may spend from just months up to 7 years rearing in freshwater, with most emigrating to the ocean after 1 to 2 years (NMFS 2016). For the first year or two of life, juvenile steelhead are found in cool, fast-flowing permanent streams and rivers where riffles predominate over pools and there is ample cover from riparian vegetation or undercut banks (Moyle 2002 cited in NMFS 2014b).

Survey Results

Little Chico Creek has been designated by the NMFS as critical habitat for CCV steelhead (**Figure 4**). Little Chico Creek continues offsite where it flows into the Angel Slough, which flows into Butte Creek, which flows into the Sacramento River. Little Chico Creek’s hydrological connection to the Sacramento River could facilitate migration of Chinook salmon and steelhead during high flows.

Central Valley Spring-run Chinook Salmon and California Central Valley Steelhead Distinct Population Segment

Many of the primary constituent elements (PCEs) of critical habitat for Chinook salmon and steelhead are lacking within the BSA. The stretch of Little Chico Creek in the BSA has sporadic flows in March through May and stays dry from May until the winter rains begin in the late fall. Little Chico Creek within the BSA lacks suitable rearing site elements such as submerged and overhanging large wood, log jams and beaver dams, aquatic vegetation, large rocks and boulders, side channels, and undercut banks (NMFS 2014); however, Little Chico Creek is a known migration and rearing corridor for CCV steelhead (NMFS 2019). Unspecified life stages of CV spring-run Chinook salmon have been observed within portions of Little Chico Creek during high flow years; however, this watershed is not typically used as

a migration corridor or spawning habitat for adult CV spring-run Chinook salmon (NMFS 2019).

CV spring-run Chinook spawning normally occurs between mid-August and early October, peaking in September (Moyle 2002 cited in NMFS 2014) when Little Chico Creek is typically dry. CCV steelhead typically spawn from December through April, with peaks from January through March in small streams and tributaries where cool, well-oxygenated water is available year-round (Hallock et al. 1961; McEwan 2001 cited in NMFS 2014). CCV steelhead have been known to spawn miles upstream of the BSA in the upper reaches of Little Chico Creek; however, there is no spawning potential for either species in the BSA (Brown and Mott 2002 cited in NMFS 2019).

The BSA offers marginal rearing and emigration habitat for non-natal Chinook salmon and steelhead juveniles during the late fall through late spring months (i.e. October 16 – May 30) when water levels are high and temperatures are cool. Both species may use Little Chico Creek as a migration corridor. During the summer months (i.e. June 1 - October 31) Little Chico Creek is typically void of water. If any water is present during this time period, the intermittent hydrology, still water, and warm temperatures make Little Chico Creek within the BSA unsuitable for any life stage of anadromous salmonid (NMFS 2019).

Project Impacts

Permanent RSP is required at the toe of slope below the abutments to prevent erosion and scour. Rock slope protection is anticipated along the bank for the width of the bridge and approximately 20 feet on either side of the bridge. The abutments will be placed above the ordinary high water mark. The existing bridge piers that are in the creek will be removed. Five (5) trees with a DBH of 4 inches or greater will be removed from the banks of Little Chico Creek.

The Project will be completed over one (1) construction season. Construction will be timed when Little Chico Creek is not flowing and the need for a clear water diversion is not anticipated. No listed anadromous fish will be present at the time of construction, thus no impacts to fish will occur.

Avoidance and Minimization Efforts

The following recommendations, when implemented, will avoid and minimize impacts to fish:

- Construction activities within Little Chico Creek shall be limited to a work window of June 1 to October 15, or during a period when there is no flow within the BSA.
- Disturbance to the channel and banks of Little Chico Creek and/or removal of vegetation will be kept to the minimum necessary to complete Project activities.
- Portions of the bank of Little Chico Creek disturbed by construction activities will be restored to a pre-construction condition.
- An erosion control plan that incorporates erosion control BMPs shall be created and implemented prior to the wet season (November 1 – April 1) in order to avoid sediment from entering into WOTUS.
- All fueling and/or equipment maintenance shall occur 50 feet from all water bodies and riparian areas. Any chemical spill within the active channel of the Little Chico Creek will be reported to NMFS, CDFW and other appropriate resource agencies within 48 hours.
- A spill prevention plan (SPP) and storm water pollution prevention plan (SWPPP) shall be developed and implemented by the contractor. Spill prevention measures will include stockpiling absorbent booms, staging hazardous materials at least 50 feet away from WOTUS, and maintaining and checking construction equipment to prevent fuel and lubrication leaks. SWPPP measures will utilize applicable BMPs such as use of silt fences, straw bales, and other methods necessary to minimize storm water discharge associated with construction activities.
- The contractor should have absorbent booms available within 50 feet of the live channel during all in channel work to be further prepared for quick containment of any spills within or adjacent to Little Chico Creek.

Compensatory Mitigation

To compensate for direct permanent impacts to 0.04 acres of riverine habitat that may modify CCV steelhead critical habitat, the Project proponent will purchase 0.04 acres of salmonid habitat restoration (1:1 ratio) and 0.08 acres of salmonid habitat preservation (2:1 ratio) credits at the Bullock Bend Mitigation Bank or another USFWS-approved mitigation bank that services the Project location.

Cumulative Effects

No cumulative effects to CV spring-run Chinook salmon or CCV steelhead are expected with the implementation of the avoidance and mitigation measures discussed above. There are several bridge projects that are proposed over Little Chico Creek, including:

- Ord Ferry Bridge Replacement Project Over Little Chico Creek (Anticipated Start Date: 2022)
- Pomona Avenue Bridge Replacement Project over Little Chico Creek (Anticipated Start Date: 2022)
- Notre Dame Boulevard Bridge Project over Little Chico Creek (Anticipated Start Date: 2025)
- Bruce Road Widening and Bridge Replacement Project (Anticipated Start Date: 2023)

These projects could have a variety of direct and indirect impacts associated with the construction activities, including the installation of additional RSP to protect bridge structures. The projects could also have beneficial impacts by removing dilapidated structures and concrete and replacing abutments above the ordinary high water mark of the banks of Little Chico Creek.

WESTERN POND TURTLE

The western pond turtle is a species of special concern in California. Western pond turtles are drab, darkish-colored turtles with a yellowish to cream colored head. They range from the Washington Puget Sound to the California Sacramento Valley. Pond turtles are frequently found within irrigation canals and drainages throughout their range in the Central Valley and are known to bask on banks and woody debris, such as logs, along the sides of perennial aquatic features. They are also known to travel up to 400 meters from aquatic habitat into upland areas to nest (Reese and Welsh 1997) and they may aestivate in upland areas along intermittent drainages for several months during dry periods (Belli 2015). Suitable aquatic habitats include slow-moving to stagnant water, such as backwaters and ponded areas of rivers and creeks, semi-permanent to permanent ponds, and irrigation ditches. Preferred habitats include features such as hydrophytic vegetation for foraging and cover and basking areas to regulate body temperature. In early spring through early summer, female turtles begin to move over land in search for nesting sites. Eggs are laid on the banks of slow-moving streams. The female digs a hole approximately 4 inches deep and lays up to 11 eggs. Afterwards, the eggs are covered with sediment and are left to incubate

under the warm soils. Eggs are typically laid between March and August (Zeiner et al. 1990). Current threats facing the western pond turtle include loss of suitable aquatic habitats due to rapid changes in water regimes and removal of hydrophytic vegetation.

Survey Results

The stretch of Little Chico Creek that occurs in the BSA contains suitable aquatic habitat for western pond turtles when water is present. Due to the intermittent flow regimes and current habitat degradation, there is low potential for western pond turtle to occur within the BSA.

Project Impacts

Project activities will be timed to occur when Little Chico Creek is dry and western pond turtles are not expected to be present. There will be no impacts to western pond turtle as a result of Project activities.

Avoidance and Minimization Efforts

The following recommendations, when implemented, will avoid and minimize impacts to this species:

- Immediately prior to conducting work within 200 feet of suitable aquatic habitat, a qualified biologist shall conduct a western pond turtle clearance survey.
- If western pond turtles are identified in an area where they will be impacted by Project activities, then the biologist will relocate the turtles outside of the work area or create a species protection buffer (determined by the biologist) until the turtles have left the work area.

Compensatory Mitigation

Compensatory mitigation is not necessary or required.

Cumulative Impacts

There are no current or planned projects that will have cumulative effects on western pond turtles that occur within the Project BSA.

MIGRATORY BIRDS AND RAPTORS

The trees and shrubs within the BSA provide potential nesting habitat for a variety of migratory bird and raptor species. No evidence of bird nesting on the underside of the bridge was observed.

Project Impacts

With the implementation of avoidance and minimization measures specified below there will be no direct or indirect impacts or avian species protected under the MBTA and CFGC.

Avoidance and Minimization Efforts

To avoid impacts to avian species protected under the MBTA and the CFGC, the following avoidance and minimization measures are recommended.

- Construction activities should be conducted during the avian non-nesting season (September 1 – January 31) so as to avoid impacts to nesting avian species.
- If construction activities cannot be initiated outside of the avian breeding season (February 1 – August 31) then the following measures shall be implemented:

Pre-construction Survey

If vegetation trimming and/or construction activities cannot be timed outside of the nesting season (February 1 – August 31) then a nesting migratory bird and raptor survey shall be conducted within the BSA by a qualified biologist. A qualified biologist shall:

- Within the BSA, conduct a survey for all birds protected by the MBTA and CFGC within 7 days prior to construction activities and map all nests located within 50 feet of proposed construction areas;
- Develop buffer zones around active nests as recommended by a qualified biologist. Construction activity shall be prohibited within the buffer zones until the young have fledged or the nest fails.
- All inactive nests should be removed from the existing bridge during the avian non-nesting season, so as to deter avian species from nesting on the bridge. Inactive nests removed during the nesting season (February 1 – August 31) must be surveyed prior to removal and removed by a qualified biologist.

Avian Exclusion Device Installation

Any exclusionary devices that are deemed necessary in order to prevent avian species from nesting on the existing bridge should be established between September 1 and January 31, outside of the nesting season. Exclusion devices can be installed during the nesting season so long as a preconstruction survey is conducted by a qualified biologist within 7 days prior to the start of work and the biologist determines there are no active nests present. Exclusionary devices shall be maintained weekly or as needed until construction activities are complete or the end of the avian breeding season, whichever comes first.

Compensatory Mitigation

There will be no compensatory mitigation necessary for Project activities in regards to avian species of special concern or avian species protected under the MBTA and CFGC.

Cumulative Impacts

There are no foreseeable new actions that have potential to threaten migratory birds within the BSA or contribute to cumulative effects on migratory bird species.

PALLID BAT

Pallid bats are designated as a CDFW SSC. Pallid bats roost alone, in small groups (two to 20 bats), or gregariously (hundreds of individuals). Day and night roosts include crevices in rocky outcrops and cliffs, caves, mines, trees (e.g. basal hollows of coast redwoods and giant sequoias, bole cavities of oaks, exfoliating Ponderosa pine and valley oak bark, deciduous trees in riparian areas, and fruit trees in orchards), and various human structures such as bridges (especially wooden and concrete girder designs), barns, porches, bat boxes, and human-occupied as well as vacant buildings. Roosts generally have unobstructed entrances/exits, and are high above the ground, warm, and inaccessible to terrestrial predators. However, this species has also been found roosting on or near the ground under burlap sacks, stone piles, rags, and baseboards. Lewis 1996 found that pallid bats have low roost fidelity and both pregnant and lactating pallid bats changed roosts an average of once every 1.4 days throughout the summer. Overwintering roosts have relatively cool, stable temperatures and are located in protected structures beneath the forest canopy or on the ground, out of direct sunlight. In other parts of the species' range, males and females have been found hibernating alone or in small groups, wedged deeply into narrow fissures in mines, caves, and buildings. At low latitudes, outdoor winter activity has been reported at temperatures between -5 and 10 °C.

Survey Results

Results from the field survey indicated no suitable roosting habitat within the existing bridge structure. There are several mature trees surrounding the creek within the BSA that feature suitable habitat elements (e.g. cavities, peeling bark) and may provide suitable day roost habitat for bats.

Project Impacts

Construction timing is proposed from June through October, which falls within the end of the bat maternity season (April – July).

Avoidance and Minimization Efforts

To avoid impacts to bat species of special concern or bat species protected under the CFGC, the following avoidance and minimization measures are recommended.

- Mature trees should be removed and/or fallen between September 16 and March 15; outside of the bat maternity season. Trees should be removed at dusk to minimize impacts to roosting bats.

Compensatory Mitigation

No compensatory mitigation is necessary or required.

Cumulative Impacts

There are no foreseeable new actions that have potential to threaten bats within the BSA or contribute to cumulative effects on bats.

5 Conclusions and Regulatory Determinations

Federal Endangered Species Act Consultation Summary

The USFWS was contacted in June 2020 for a list of endangered, threatened, sensitive, and rare species and their habitats within the BSA. The list was used to determine appropriate biological and botanical surveys and potential species occurrence within the BSA.

- The Project may affect and is likely to adversely affect VELB.
- The Project may affect and is likely to adversely modify CCV steelhead critical habitat.
- The Project will have no effect on CV spring-run Chinook salmon or CCV steelhead.

Essential Fish Habitat Consultation Summary

The NMFS was contacted in June 2020 for a list of endangered, threatened, and sensitive fish species and their habitats within the BSA. In California, and specifically Little Chico Creek, Chinook salmon are included in the West Coast Salmon Fisheries Management Plan (NOAA Fisheries 2016), thus Little Chico Creek contains EFH for Chinook salmon. The EFH mapper was consulted and confirmed that Little Chico Creek is designated as EFH for Chinook. As construction activities will occur when the creek is dry, the Project is expected to have no effect on special-status fish species. The Project will result in a minor modification on EFH where RSP will be placed within Little Chico Creek. Mitigation for impacts to EFH will be addressed through the purchase of salmonid habitat restoration and salmonid habitat preservation credits at the Bullock Bend Mitigation Bank or another USFWS-approved mitigation bank that services the Project location.

California Endangered Species Act Consultation Summary

The CDFW was contacted in June 2020 for a list of endangered, threatened, sensitive, and rare species and their habitats within the BSA. The list was used to determine appropriate biological and botanical surveys and potential species occurrence within the BSA. With the implementation of avoidance and minimization measures, the Project is expected to have no effect on State listed species.

Wetlands and Other Waters Coordination Summary

Gallaway Enterprises conducted a delineation of WOTUS within the BSA.

The BSA was surveyed on-foot by Gallaway Enterprises staff on June 12 and July 31, 2020 to identify potentially jurisdictional features. The surveys involved an examination of botanical resources, soils, hydrological features, and determination of wetland characteristics based on the United States Army Corps of Engineers Wetlands Delineation Manual (1987) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (2008). The boundaries of non-tidal, non-wetland waters, when present, were delineated at the OHWM as defined in 33 Code of Federal Regulations (CFR) 328.3 and further described in the U.S. Army Corps of Engineers *Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (2008). The OHWM represents the limit of Corps jurisdiction over non-tidal waters (e.g., streams and ponds) in the absence of adjacent wetlands (33 CFR 328.04) (Curtis et al. 2011).

There is one (1) feature that qualifies as “other waters” within the BSA. “Other waters” are waters of the United States that include intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds. Little Chico Creek, a relatively permanent waterway is considered other waters.

No jurisdictional wetlands will be impacted by the construction of the project. As there are jurisdictional other waters that will be impacted by Project activities, a CDFW §1602 Streambed Alteration Agreement, RWQCB §401 Water Quality Certification permit, and a Corps Nationwide §404 14 permit are necessary. The Project will result in 0.16 acres of temporary impacts and 0.04 acres of permanent impacts to Other Waters. Mitigation for impacts to jurisdictional WOTUS will be addressed through the purchase of credits at a Corps-approved mitigation bank or payment to the Sacramento District California In-lieu Fee Program.

Invasive Species

Many non-native plant species occur in California’s natural lands. Some of these non-natives have become naturalized and are relatively benign; however, there are a number of these non-natives that are considered highly invasive. The non-native plants that are considered invasive are tracked and ranked by their invasiveness by the United States Department of Agricultural (USDA) Natural Resource Conservation Service and the California Invasive Plant Council (Cal-IPC). Within the BSA, six (6) invasive plant species were observed that are included on the USDA and/or Cal-IPC invasive and noxious weed plant list as having a moderate or higher degree of invasiveness in California (**Table 4**).

Table 4. Invasive Plant Species Identified In the BSA.

Scientific Name	Common Name	Cal-IPC	USDA California State
<i>Ailanthus altissima</i>	Tree-of-heaven	Moderate	N/A
<i>Cotoneaster</i> spp.	Cotoneaster	Moderate	N/A
<i>Cynodon dactylon</i>	Bermuda grass	Moderate	CW
<i>Hedera helix</i>	English ivy	High	N/A
<i>Rubus armeniacus</i>	Himalayan blackberry	High	N/A
<i>Vinca</i> spp.	Periwinkle	Moderate	N/A

CODE DESIGNATIONS

<p>Moderate – Ecological impacts are substantial, but not severe; moderate to high rates of dispersal but establishment dependent on ecological disturbance; limited to widespread distribution.</p>

<p>High – Ecological impacts severe; moderate to high rates of dispersal and establishment; widely distributed.</p>
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<p>CW = C List (noxious weeds)</p>

It is recommended that general BMPs be implemented prior to and during construction activities, as recommended under the Cal-IPC's *Preventing the Spread of Invasive Plants: Best Management Practices for Transportation and Utility Corridors* (2012). The following are the recommended general BMPs under Cal-IPC:

- Schedule activities to minimize potential for introduction and spread of invasive plants.
- Designate specific areas for cleaning tools, vehicles, equipment, clothing and gear.
- Designate waste disposal areas for invasive plant materials, and contain invasive plant material during transport.
- Plan travel routes to avoid areas infested with invasive plants.
- Clean tools, equipment, and vehicles before transporting materials and before entering and leaving worksites.

- Clean clothing, footwear and gear before leaving infested areas.
- Prepare worksites to limit the introduction and spread of invasive plants.
- Minimize soil and vegetation disturbance.

Tree Removal

Several native trees with DBH greater than 4 inches will be removed. Five (5) native trees with a DBH of 4 inches or greater are proposed for removal from within the BSA. One (1) mulberry (*Morus* sp.; DBH 10”), one (1) sycamore (DBH 30”), and three (3) valley oak (DBH 23”, 23”, and 45”) are proposed for removal. The City of Chico may require that a qualified arborist conduct an inventory of the trees and health assessment if any native tree with a DBH of 6 inches or greater is proposed for removal. Trees with a DBH of 4 inches or greater removed from the banks of Little Chico Creek will be mitigated for onsite and in-kind at a 2:1 ratio. However, these trees are likely not to survive. The area under the bridge and in the surrounding riparian habitat experiences severe degradation by human occupation, thus the establishment of replanting success criteria and long-term monitoring is not feasible.

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FEDERAL REGISTER

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Appendix A – Species Lists

United States Fish and Wildlife Service, IPaC

NOAA – NMFS Official Species List

California Department of Fish and Wildlife Natural Diversity Database

California Native Plant Society



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:
Consultation Code: 08ESMF00-2021-SLI-0502
Event Code: 08ESMF00-2021-E-01355
Project Name: Salem Street Bridge Replacement Project

December 07, 2020

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

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, 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 <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: 08ESMF00-2021-SLI-0502

Event Code: 08ESMF00-2021-E-01355

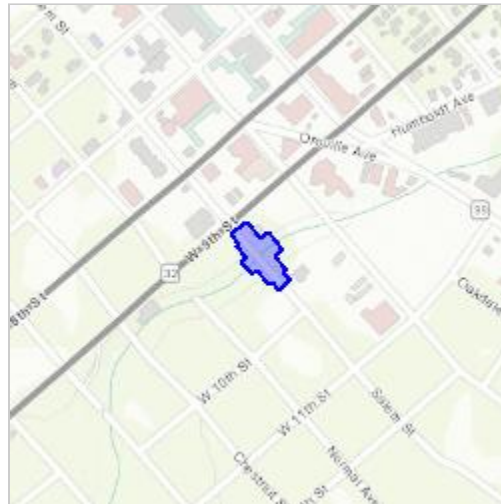
Project Name: Salem Street Bridge Replacement Project

Project Type: BRIDGE CONSTRUCTION / MAINTENANCE

Project Description: bridge replacement

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/39.72387363844873N121.83630973146603W>



Counties: Butte, CA

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.

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. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2891 Species survey guidelines: https://ecos.fws.gov/ipac/guideline/survey/population/205/office/11420.pdf	Threatened

Fishes

NAME	STATUS
Delta Smelt <i>Hypomesus transpacificus</i> There is final critical habitat for this species. Your location is outside the critical habitat. 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. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/7850 Habitat assessment guidelines: https://ecos.fws.gov/ipac/guideline/assessment/population/436/office/11420.pdf	Threatened

Crustaceans

NAME	STATUS
Conservancy Fairy Shrimp <i>Branchinecta conservatio</i> There is final critical habitat for this species. Your location is outside the critical habitat. 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. Your location is outside the critical habitat. 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. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2246	Endangered

Flowering Plants

NAME	STATUS
Butte County Meadowfoam <i>Limnanthes floccosa ssp. californica</i> There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/4223	Endangered

Critical habitats

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

Kevin Sevier

From: Brittany Reaves
Sent: Friday, June 05, 2020 12:17 PM
To: 'nmfswcrca.specieslist@noaa.gov'
Subject: Salem Street Bridge Replacement Project

Salem Street Bridge Replacement Project

Quad Name **Chico**
Quad Number **39121-F7**

ESA Anadromous Fish

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

ESA Anadromous Fish Critical Habitat

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

ESA Marine Invertebrates

Range Black Abalone (E) -

Range White Abalone (E) -

ESA Marine Invertebrates Critical Habitat

Black Abalone Critical Habitat -

ESA Sea Turtles

East Pacific Green Sea Turtle (T) -

Olive Ridley Sea Turtle (T/E) -

Leatherback Sea Turtle (E) -

North Pacific Loggerhead Sea Turtle (E) -

ESA Whales

Blue Whale (E) -

Fin Whale (E) -

Humpback Whale (E) -

Southern Resident Killer Whale (E) -

North Pacific Right Whale (E) -

Sei Whale (E) -

Sperm Whale (E) -

ESA Pinnipeds

Guadalupe Fur Seal (T) -

Steller Sea Lion Critical Habitat -

Essential Fish Habitat

Coho EFH -

Chinook Salmon EFH -

X

Groundfish EFH -

Coastal Pelagics EFH -

Highly Migratory Species EFH -

MMPA Species (See list at left)

ESA and MMPA Cetaceans/Pinnipeds

**See list at left and consult the NMFS Long Beach office
562-980-4000**

MMPA Cetaceans -
MMPA Pinnipeds -

Brittany Reaves

Biologist

Galloway Enterprises

(530) 332-9909



Selected Elements by Common Name

California Department of Fish and Wildlife

California Natural Diversity Database



Query Criteria: Quad (Nord) OR Richardson Springs OR Ord Ferry OR Chico

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
adobe-lily <i>Fritillaria pluriflora</i>	PMLIL0V0F0	None	None	G2G3	S2S3	1B.2
Ahart's paronychia <i>Paronychia ahartii</i>	PDCAR0L0V0	None	None	G3	S3	1B.1
Antioch Dunes anthicid beetle <i>Anthicus antiochensis</i>	IICOL49020	None	None	G1	S1	
bald eagle <i>Haliaeetus leucocephalus</i>	ABNKC10010	Delisted	Endangered	G5	S3	FP
bank swallow <i>Riparia riparia</i>	ABPAU08010	None	Threatened	G5	S2	
big-scale balsamroot <i>Balsamorhiza macrolepis</i>	PDAST11061	None	None	G2	S2	1B.2
Brazilian watermeal <i>Wolffia brasiliensis</i>	PMLEM03020	None	None	G5	S2	2B.3
burrowing owl <i>Athene cunicularia</i>	ABNSB10010	None	None	G4	S3	SSC
Butte County checkerbloom <i>Sidalcea robusta</i>	PDMAL110P0	None	None	G2	S2	1B.2
Butte County fritillary <i>Fritillaria eastwoodiae</i>	PMLIL0V060	None	None	G3Q	S3	3.2
Butte County meadowfoam <i>Limnanthes floccosa ssp. californica</i>	PDLIM02042	Endangered	Endangered	G4T1	S1	1B.1
California beaked-rush <i>Rhynchospora californica</i>	PMCYP0N060	None	None	G1	S1	1B.1
California black rail <i>Laterallus jamaicensis coturniculus</i>	ABNME03041	None	Threatened	G3G4T1	S1	FP
California linderiella <i>Linderiella occidentalis</i>	ICBRA06010	None	None	G2G3	S2S3	
California satintail <i>Imperata brevifolia</i>	PMPOA3D020	None	None	G4	S3	2B.1
chinook salmon - Central Valley spring-run ESU <i>Oncorhynchus tshawytscha pop. 6</i>	AFCHA0205A	Threatened	Threatened	G5	S2	
Coastal and Valley Freshwater Marsh <i>Coastal and Valley Freshwater Marsh</i>	CTT52410CA	None	None	G3	S2.1	
Conservancy fairy shrimp <i>Branchinecta conservatio</i>	ICBRA03010	Endangered	None	G2	S2	
Crotch bumble bee <i>Bombus crotchii</i>	IIHYM24480	None	Candidate Endangered	G3G4	S1S2	



Selected Elements by Common Name
California Department of Fish and Wildlife
California Natural Diversity Database



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Ferris' milk-vetch <i>Astragalus tener</i> var. <i>ferrisiae</i>	PDFAB0F8R3	None	None	G2T1	S1	1B.1
flagella-like atractylocarpus <i>Campylopodia stenocarpa</i>	NBMUS84010	None	None	G5	S1?	2B.2
foothill yellow-legged frog <i>Rana boylei</i>	AAABH01050	None	Endangered	G3	S3	SSC
Gallaway's amphipod <i>Stygobromus gallawayae</i>	ICMAL05E10	None	None	G1	S1	
giant gartersnake <i>Thamnophis gigas</i>	ARADB36150	Threatened	Threatened	G2	S2	
great blue heron <i>Ardea herodias</i>	ABNGA04010	None	None	G5	S4	
great egret <i>Ardea alba</i>	ABNGA04040	None	None	G5	S4	
Great Valley Cottonwood Riparian Forest <i>Great Valley Cottonwood Riparian Forest</i>	CTT61410CA	None	None	G2	S2.1	
Great Valley Mixed Riparian Forest <i>Great Valley Mixed Riparian Forest</i>	CTT61420CA	None	None	G2	S2.2	
Great Valley Valley Oak Riparian Forest <i>Great Valley Valley Oak Riparian Forest</i>	CTT61430CA	None	None	G1	S1.1	
Great Valley Willow Scrub <i>Great Valley Willow Scrub</i>	CTT63410CA	None	None	G3	S3.2	
Greene's tuctoria <i>Tuctoria greenei</i>	PMPOA6N010	Endangered	Rare	G1	S1	1B.1
hoary bat <i>Lasiurus cinereus</i>	AMACC05030	None	None	G5	S4	
Hoover's spurge <i>Euphorbia hooveri</i>	PDEUP0D150	Threatened	None	G1	S1	1B.2
least Bell's vireo <i>Vireo bellii pusillus</i>	ABPBW01114	Endangered	Endangered	G5T2	S2	
midvalley fairy shrim <i>Branchinecta mesovallensis</i>	ICBRA03150	None	None	G2	S2S3	
North American porcupine <i>Erethizon dorsatum</i>	AMAFJ01010	None	None	G5	S3	
Northern Hardpan Vernal Pool <i>Northern Hardpan Vernal Pool</i>	CTT44110CA	None	None	G3	S3.1	
Northern Volcanic Mud Flow Vernal Pool <i>Northern Volcanic Mud Flow Vernal Pool</i>	CTT44132CA	None	None	G1	S1.1	
osprey <i>Pandion haliaetus</i>	ABNKC01010	None	None	G5	S4	WL
pallid bat <i>Antrozous pallidus</i>	AMACC10010	None	None	G5	S3	SSC



Selected Elements by Common Name
California Department of Fish and Wildlife
California Natural Diversity Database



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
pink creamsacs <i>Castilleja rubicundula</i> var. <i>rubicundula</i>	PDSCR0D482	None	None	G5T2	S2	1B.2
Red Bluff dwarf rush <i>Juncus leiospermus</i> var. <i>leiospermus</i>	PMJUN011L2	None	None	G2T2	S2	1B.1
Sacramento anthicid beetle <i>Anthicus sacramento</i>	IICOL49010	None	None	G1	S1	
silky cryptantha <i>Cryptantha crinita</i>	PDBOR0A0Q0	None	None	G2	S2	1B.2
silver-haired bat <i>Lasionycteris noctivagans</i>	AMACC02010	None	None	G5	S3S4	
slender-leaved pondweed <i>Stuckenia filiformis</i> ssp. <i>alpina</i>	PM POT03091	None	None	G5T5	S2S3	2B.2
steelhead - Central Valley DPS <i>Oncorhynchus mykiss irideus</i> pop. 11	AFCHA0209K	Threatened	None	G5T2Q	S2	
Swainson's hawk <i>Buteo swainsoni</i>	ABNKC19070	None	Threatened	G5	S3	
tricolored blackbird <i>Agelaius tricolor</i>	ABPBXB0020	None	Threatened	G2G3	S1S2	SSC
valley elderberry longhorn beetle <i>Desmocerus californicus dimorphus</i>	IICOL48011	Threatened	None	G3T2	S3	
vernal pool fairy shrimp <i>Branchinecta lynchi</i>	ICBRA03030	Threatened	None	G3	S3	
vernal pool tadpole shrimp <i>Lepidurus packardii</i>	ICBRA10010	Endangered	None	G4	S3S4	
western mastiff bat <i>Eumops perotis californicus</i>	AMACD02011	None	None	G5T4	S3S4	SSC
western pond turtle <i>Emys marmorata</i>	ARAAD02030	None	None	G3G4	S3	SSC
western red bat <i>Lasiurus blossevillii</i>	AMACC05060	None	None	G5	S3	SSC
western spadefoot <i>Spea hammondi</i>	AAABF02020	None	None	G3	S3	SSC
western yellow-billed cuckoo <i>Coccyzus americanus occidentalis</i>	ABNRB02022	Threatened	Endangered	G5T2T3	S1	
white-stemmed clarkia <i>Clarkia gracilis</i> ssp. <i>albicaulis</i>	PDONA050J1	None	None	G5T3	S3	1B.2
woolly meadowfoam <i>Limnanthes floccosa</i> ssp. <i>floccosa</i>	PDLIM02043	None	None	G4T4	S3	4.2
woolly rose-mallow <i>Hibiscus lasiocarpus</i> var. <i>occidentalis</i>	PD MAL0H0R3	None	None	G5T3	S3	1B.2
Yuma myotis <i>Myotis yumanensis</i>	AMACC01020	None	None	G5	S4	

Record Count: 61

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

Plant List

19 matches found. [Click on scientific name for details](#)

Search Criteria

California Rare Plant Rank is one of [1A, 1B, 2A, 2B], Found in Quads 3912178, 3912177 3912168 and 3912167;

[Modify Search Criteria](#) [Export to Excel](#) [Modify Columns](#) [Modify Sort](#) [Display Photos](#)

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
Balsamorhiza macrolepis	big-scale balsamroot	Asteraceae	perennial herb	Mar-Jun	1B.2	S2	G2
Campylopodia stenocarpa	flagella-like atractylocarpus	Dicranaceae	moss		2B.2	S1?	G5
Castilleja rubicundula var. rubicundula	pink creamsacs	Orobanchaceae	annual herb (hemiparasitic)	Apr-Jun	1B.2	S2	G5T2
Clarkia gracilis ssp. albicaulis	white-stemmed clarkia	Onagraceae	annual herb	May-Jul	1B.2	S3	G5T3
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
Fritillaria pluriflora	adobe-lily	Liliaceae	perennial bulbiferous herb	Feb-Apr	1B.2	S2S3	G2G3
Hibiscus lasiocarpus var. occidentalis	woolly rose-mallow	Malvaceae	perennial rhizomatous herb (emergent)	Jun-Sep	1B.2	S3	G5T3
Imperata brevifolia	California satintail	Poaceae	perennial rhizomatous herb	Sep-May	2B.1	S3	G4
Juncus leiospermus var. leiospermus	Red Bluff dwarf rush	Juncaceae	annual herb	Mar-Jun	1B.1	S2	G2T2
Limnanthes floccosa ssp. californica	Butte County meadowfoam	Limnanthaceae	annual herb	Mar-May	1B.1	S1	G4T1
Monardella venosa	veiny monardella	Lamiaceae	annual herb	May,Jul	1B.1	S1	G1
Paronychia ahartii	Ahart's paronychia	Caryophyllaceae	annual herb	Feb-Jun	1B.1	S3	G3
Rhynchospora californica	California beaked-rush	Cyperaceae	perennial rhizomatous herb	May-Jul	1B.1	S1	G1
Sidalcea robusta	Butte County checkerbloom	Malvaceae	perennial rhizomatous herb	Apr,Jun	1B.2	S2	G2

<u>Stuckenia filiformis ssp. alpina</u>	slender-leaved pondweed	Potamogetonaceae	perennial rhizomatous herb (aquatic)	May-Jul	2B.2	S2S3	G5T5
<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

Suggested Citation

California Native Plant Society, Rare Plant Program. 2020. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Website <http://www.rareplants.cnps.org> [accessed 07 December 2020].

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Contributors

[The Calflora Database](#)

[The California Lichen Society](#)

[California Natural Diversity Database](#)

[The Jepson Flora Project](#)

[The Consortium of California Herbaria](#)

[CalPhotos](#)

Questions and Comments

rareplants@cnps.org

Appendix B – Observed Species Lists

Appendix C– Draft Delineation of Waters of the US Map

Draft Delineation of Waters of the U.S.

Other Waters

Label	Cowardin	Description	Location (Lat/Long)		Width (ft)*	Length (ft)	Area (sq ft)	Acres
OW01	R4	Intermittent	39.723903	-121.83629	45.3	194.0	8780.5	0.20
Other Waters Totals =					194.0	8780.5	0.20	
Total Waters of the U.S. =					194.0	8780.5	0.20	

*Widths are represented as averages



Project Boundary - (0.98 acres)

5 Foot Contours

OHWM Transect - 'X-X'

Flow Direction

● Photo Points* - P#

Other Waters - OW# - (0.20 acres)

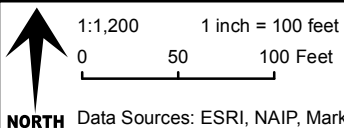
Intermittent

Coordinate System: NAD 1983
California State Plane II (Feet)
Projection: Lambert Conformal Conic
Datum: North American 1983
Vertical Datum: NAVD 88

Made in accordance with the
Updated Map & Drawing
Standards for the South Pacific
Division Regulatory Program

The features represented on this graphic
are considered preliminary until written
verification by the USACE.

*See Figure 3, Ground Photographs Map, for
additional information on Photo Points.



**Salem Street Bridge Replacement Project
Draft Delineation of Waters of the U.S.**

Figure 4

Delineation by: E. Gregg
Map by: B. Reaves
gallaway ENTERPRISES

GE: #15-034a Map Date: 09/03/2020

Data Sources: ESRI, NAIP, Mark Thomas

Appendix D– Project Location Photos

Photos Taken On 08/12/2019



Salem Street Bridge Looking North



Salem Street Bridge Looking South



Salem Street Bridge Looking South



Salem Street Bridge Looking South



Salem Street Bridge Looking North



Salem Street Bridge Looking North