Biological Resources Assessment

Blacker Ditch Bank Stabilization Project

Yolo County, California

Prepared For:

Reclamation District 900

November 25, 2020

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ATTACHMENTS

LIST OF ACRONYMS AND ABBREVIATIONS

AMM	Avoidance and Minimization Measure
BCC	Birds of conservation concern
BRA	Biological Resources Assessment
CBOC	California Burrowing Owl Consortium
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CRPR	California Rare Plant Rank
CWA	Clean Water Act
CWR	Clean Water Rule
DEIR	Draft EIR
DSP	Distinct Population Segments
ECORP	ECORP Consulting, Inc.
EIR	Environmental Impact Report
ESA	Endangered Species Act
ESU	Evolutionarily Significant Unit
ITP	Incidental Take Permit
LSA	Lake or Streambed Alteration
MBTA	Migratory Bird Treaty Act
MSL	Mean sea level
NHD	National Hydrography Dataset
NMFS	National Marine Fisheries Service
NPDES	National Pollutant Discharge Elimination System
NPPA	Native Plant Protection Act
NRCS	Natural Resources Conservation Service
Project	Placer Gold Phase 2 Project
RWQCB	Regional Water Quality Control Board
SSC	Species of Special Concern
USACE	U.S. Army Corps of Engineers
USC	U.S. Code
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WBWG	Western Bat Working Group
Yolo HCP/NCCP	Yolo Habitat Conservation Plan/Natural Community Conservation Plan

1.0 INTRODUCTION

On behalf of Reclamation District 900 (RD900), ECORP Consulting, Inc. conducted a biological resources assessment (BRA) for the 4.53-acre Blacker Ditch Bank Stabilization Project Study Area (Study Area), located in the city of West Sacramento, Yolo County, California.

1.1 Study Area and Project Area Location

The Study Area is located along Blacker Ditch between Jefferson Boulevard and the Reclamation District 900 (RD900) Main Drainage Canal in the city of West Sacramento, Yolo County, California. The Study Area is within the "Sacramento West, California" 7.5-minute quadrangle (U.S. Geological Survey [USGS] 1992) (Figure 1. *Study Area Location and Vicinity*). The approximate center of the Study Area is located at latitude 38.540506° and longitude -121.555818° (NAD83) within the Lower Sacramento Watershed (Hydrologic Unit Code #18020163; USGS 1992).

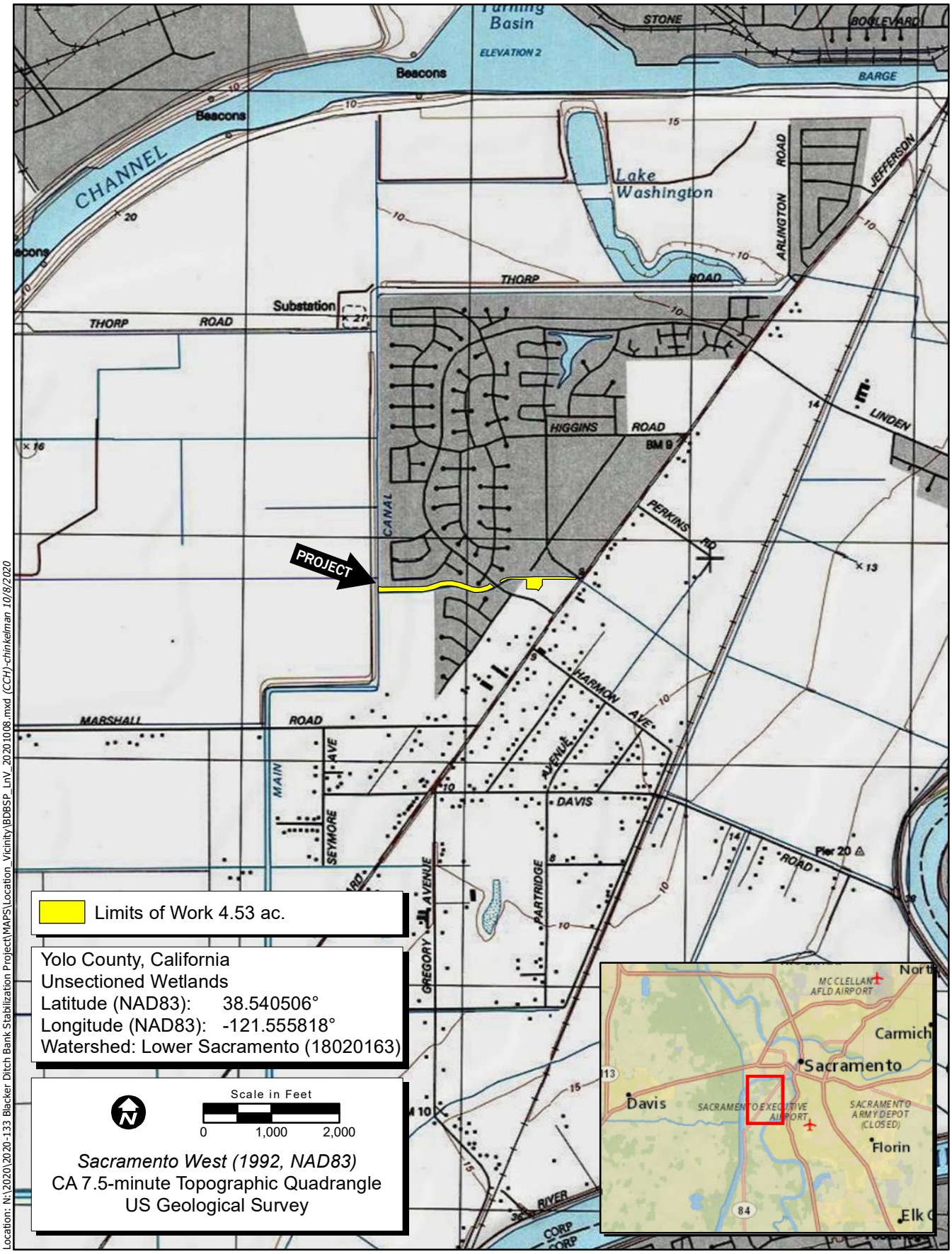
The Study Area includes the south bank of Blacker Ditch between Jefferson Boulevard and Linden Road, both the north and south banks between Linden Road and the RD900 Main Drainage Canal, and the proposed staging area in an undeveloped lot between the Montessori school and the market/commercial strip mall on Linden Road.

1.2 Purpose of this Biological Resources Assessment

The purpose of this BRA is to collect information on the biological resources present or with the potential to occur in the Study Area, to provide an analysis of potential Project impacts on these resources within the Project area, and to recommend mitigation measures. This BRA is intended to support preparation of environmental documents/permit applications including an application for a Yolo Habitat Conservation Plan/Natural Community Conservation Plan (Yolo HCP/NCCP) Permit and is aligned with the City of West Sacramento General Plan Draft Environmental Impact Report (EIR) (ICF International 2016), and the Southport Framework Plan (City of West Sacramento 1995, Amended 1998).

1.3 Project Description

A detailed Project description is currently not available. The project objectives are to maintain channel capacity and armor banks from further erosion. Maintenance will consist primarily of removing bulrush, cattail, and debris constricting flow, and installing wired gabions to protect the banks. Vegetation removal is discontinuous along the channel as needed. Some trees will need to be removed.



Location: N:\2020\2020-133 Blacker Ditch Bank Stabilization Project\MAPS\Location_Vicinity\BDBSP_LnV_20201008.mxd (CCH)-chinkelman 10/8/2020

Map Date: 10/8/2020

Sources: © 2013 National Geographic Society

Figure 1. Study Area Location and Vicinity

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

2020-133 Blacker Ditch Bank Stabilization Project

2.0 REGULATORY SETTING

2.1 Federal Regulations

2.1.1 Endangered Species Act

The Endangered Species Act (ESA) protects plants and animals that are listed as endangered or threatened by the U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS). Section 9 of ESA prohibits, without authorization, the taking of listed wildlife, where take is defined as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in such conduct" (50 Code of Federal Regulations [CFR] 17.3). For plants, this statute governs removing, possessing, maliciously damaging, or destroying any listed plant under federal jurisdiction and removing, cutting, digging up, damaging, or destroying any listed plant in any other area in knowing violation of state law (16 U.S. Code [USC] 1538). Under Section 7 of ESA, federal agencies are required to consult with USFWS and/or NMFS if their actions, including permit approvals and funding, could adversely affect a listed (or proposed) species (including plants) or its critical habitat. Through consultation and the issuance of a biological opinion, USFWS and NMFS may issue an incidental take statement allowing take of the species that is incidental to an otherwise authorized activity provided the activity will not jeopardize the continued existence of the species. Section 10 of ESA provides for the issuance of Incidental Take Permits (ITPs) where no other federal actions are necessary provided a habitat conservation plan is developed. Permitting under the Yolo HCP/NCCP, which was developed pursuant to Section 10 of the ESA, allows for take authorization of certain Covered Species through a streamlined permitting process. The Yolo HCP/NCCP is discussed further in Section 2.2.9.

Critical Habitat

Critical Habitat is defined in Section 3 of ESA as:

1. the specific areas within the geographical area occupied by a species, at the time it is listed in accordance with the ESA, on which are found those physical or biological features essential to the conservation of the species and that may require special management considerations or protection; and

2. the specific areas outside the geographical area occupied by a species at the time it is listed, upon a determination that such areas are essential for the conservation of the species.

For inclusion in a Critical Habitat designation, habitat within the geographical area occupied by the species at the time it was listed must first have features essential to the conservation of the species (16 USC 1533). Critical Habitat designations identify, to the extent known and using the best scientific data available, habitat areas that provide essential life cycle needs of the species (areas on which are found the primary constituent elements). Primary constituent elements are the physical and biological features that are essential to the conservation of the species and that may require special management considerations or protection. These include but are not limited to the following:

1. space for individual and population growth and for normal behavior;

2. food, water, air, light, minerals, or other nutritional or physiological requirements;

3. cover or shelter;

4. sites for breeding, reproduction, or rearing (or development) of offspring; and

5. habitats that are protected from disturbance or are representative of the historic, geographical, and ecological distributions of a species.

2.1.2 Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) implements international treaties between the U.S. and other nations devised to protect migratory birds, any of their parts, eggs, and nests from activities such as hunting, pursuing, capturing, killing, selling, and shipping, unless expressly authorized in the regulations or by permit. As authorized under the MBTA, USFWS issues permits to qualified applicants for the following types of activities: falconry, raptor propagation, scientific collecting, special purposes (rehabilitation, education, migratory game bird propagation, and salvage), take of depredating birds, taxidermy, and waterfowl sale and disposal. The regulations governing migratory bird permits can be found in 50 CFR part 13 General Permit Procedures and 50 CFR part 21 Migratory Bird Permits. The State of California has incorporated the protection of non-game birds in § 3800, migratory birds in § 3513, and birds of prey in § 3503.5 of the California Fish and Game Code.

2.1.3 Clean Water Act

The purpose of the federal Clean Water Act (CWA) is to "restore and maintain the chemical, physical, and biological integrity of the nation's waters." Section 404 of the CWA prohibits the discharge of dredged or fill material into "Waters of the U.S." without a permit from the U.S. Army Corps of Engineers (USACE). The U.S. Environmental Protection Agency (USEPA) and the USACE will assert jurisdiction over Waters of the U.S. according to the Supreme Court's decision in the consolidated cases *Rapanos v. United States* and *Carabell v. United States* (Rapanos). In summary, Waters of the U.S. under Rapanos include traditional navigable waters (TNW), wetlands adjacent to TNW, non-navigable tributaries of TNW that are relatively permanent where the tributaries typically flow at least seasonally (e.g. typically three months), and wetlands that directly about such tributaries. Pursuant to Rapanos, the USEPA and USACE will decide jurisdiction over the following waters based on a fact-specific analysis to determine whether they have a significant nexus with a traditional navigable water over the following: non-navigable tributaries that are not relatively permanent, wetlands adjacent to non-navigable tributaries that are not relatively permanent, and wetlands adjacent to but that do not directly about a relatively permanent non-navigable tributary (USEPA and USACE 2008). Wetlands are defined as those areas "that are inundated or saturated by surface or ground water 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 7b). USEPA also has authority over wetlands, including the authority to veto permits issued by USACE under CWA Section 404.

Projects involving activities that have no more than minimal individual and cumulative adverse environmental effects may meet the conditions of one of the Nationwide Permits already issued by USACE (Federal Register 82:1860, January 6, 2017). If impacts on wetlands could be substantial, an individual permit is required. A Water Quality Certification or waiver pursuant to Section 401 of the CWA is required for Section 404 permit actions. This certification or waiver is issued by the Regional Water Quality Control Board (RWQCB).

2.2 State and Local Regulations

2.2.1 California Endangered Species Act

The California ESA (California Fish and Game Code §§ 2050-2116) protects species of fish, wildlife, and plants listed by the State as endangered or threatened. Species identified as candidates for listing may also receive protection. Section 2080 of the California ESA prohibits the taking, possession, purchase, sale, and import or export of endangered, threatened, or candidate species, unless otherwise authorized by permit. Take is defined in Section 86 of the California Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." The California ESA allows for take incidental to otherwise lawful projects under permits issued by California Department of Fish and Wildlife (CDFW).

Permitting under the Yolo HCP/NCCP provides take authorization of certain Covered Species through a streamlined permitting process. The Yolo HCP/NCCP is discussed further in Section 2.2.9.

2.2.2 Fully Protected Species

The State of California first began to designate species as "fully protected" prior to the creation of the federal and California ESAs. Lists of fully protected species were initially developed to provide protection to those animals that were rare or faced possible extinction and included fish, amphibians and reptiles, birds, and mammals. Most fully protected species have since been listed as threatened or endangered under the federal and/or California ESAs. Fully protected species are identified in the California Fish and Game Code § 4700 for mammals, § 3511 for birds, § 5050 for reptiles and amphibians, and § 5515 for fish.

These sections of the California Fish and Game Code provide that fully protected species may not be taken or possessed at any time, including prohibition of CDFW from issuing ITPs for fully protected species under the California ESA. CDFW will issue licenses or permits for take of these species for necessary scientific research or live capture and relocation pursuant to the permit and may allow incidental take for lawful activities carried out under an approved NCCP within which such species are covered.

Covered species under the Yolo HCP/NCCP do not include any species under the "fully protected" designation. The Yolo HCP/NCCP is discussed further in Section 2.2.9.

2.2.3 Native Plant Protection Act

The Native Plant Protection Act (NPPA) of 1977 (California Fish and Game Code §§ 1900-1913) was established with the intent to "preserve, protect and enhance rare and endangered plants in this state." The NPPA is administered by CDFW. The Fish and Game Commission has the authority to designate native plants as "endangered" or "rare". The NPPA prohibits the take of plants listed under the NPPA, but the NPPA contains a number of exemptions to this prohibition that have not been clarified by regulation or judicial rule. In 1984, the California ESA brought under its protection all plants previously listed as endangered under NPPA. Plants listed as rare under NPPA are not protected under the California ESA, but are still protected under the provisions of NPPA. The Fish and Game Commission no longer lists plants under NPPA, reserving all listings to the California ESA.

2.2.4 California Fish and Game Code Special Protections for Birds

In addition to protections contained within the California ESA and California Fish and Game Code § 3511 described above, the California Fish and Game Code includes a number of sections that specifically protect certain birds.

Section 3800 states that it is unlawful to take nongame birds, such as those occurring naturally in California that are not resident game birds, migratory game birds, or fully protected birds, except when in accordance with regulations of the California Fish and Game Commission or a mitigation plan approved by CDFW for mining operations.

Section 3503 prohibits the take, possession, or needless destruction of the nest or eggs of any bird.

Section 3503.5 protects birds of prey (which includes eagles, hawks, falcons, kites, ospreys, and owls) and prohibits the take, possession, or destruction of any birds and their nests

Section 3505 makes it unlawful to take, sell, or purchase egrets, ospreys, and several exotic nonnative species, or any part of these birds.

Section 3513 specifically prohibits the take or possession of any migratory nongame bird as designated in the MBTA.

2.2.5 Lake or Streambed Alteration Agreements

Section 1600-1616 of the California Fish and Game Code requires individuals or agencies to provide a Notification of Lake or Streambed Alteration (LSA) to CDFW for "any activity that may substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake." CDFW reviews the proposed actions and, if necessary, proposed measures to protect affected fish and wildlife resources. The final proposal mutually agreed upon by CDFW and the applicant is the LSA Agreement.

The Yolo HCP/NCCP does not provide a streamlined process for obtaining an LSA Agreement; therefore, if the Project would impact aquatic features under the jurisdiction of CDFW pursuant to Fish and Game

Code Sections 1600-1616, an LSA Agreement would need to be obtained through the standard LSA Notification procedure.

2.2.6 Porter-Cologne Water Quality Act

The RWQCB implements water quality regulations under the federal CWA and the Porter-Cologne Water Quality Act. These regulations require compliance with the National Pollutant Discharge Elimination System (NPDES), including compliance with the California Storm Water NPDES General Construction Permit for discharges of stormwater runoff associated with construction activities. General Construction Permits for projects that disturb one or more acres of land require development and implementation of a Storm Water Pollution Prevention Plan. Under the Porter-Cologne Water Quality Act, the RWQCB regulates actions that would involve "discharging waste, or proposing to discharge waste, with any region that could affect the water of the state" (Water Code 13260(a)). Waters of the State are defined as "any surface water or groundwater, including saline waters, within the boundaries of the state" (Water Code 13050 (e)). The RWQCB regulates all such activities, as well as dredging, filling, or discharging materials into Waters of the State, that are not regulated by USACE due to a lack of connectivity with a navigable water body. The RWQCB may require issuance of a Waste Discharge Requirements for these activities.

2.2.7 California Environmental Quality Act Species Criteria

In accordance with California Environmental Quality Act (CEQA) Guidelines § 15380 (Guidelines), a species or subspecies not specifically protected under the federal or California ESAs or NPPA may be considered endangered, rare, or threatened for CEQA review purposes if the species meets certain criteria specified in the Guidelines. These criteria include definitions similar to definitions used in ESA, the California ESA, and NPPA. Section 15380 was included in the CEQA Guidelines primarily to address situations in which a project under review may have a significant effect on a species that has not been listed under ESA, the California ESA, or NPPA, but that may meet the definition of endangered, rare, or threatened. Animal species identified as species of special concern (SSC) by CDFW, and plants identified by the California Native Plant Society (CNPS) as rare, threatened, or endangered may meet the CEQA definition of rare or endangered. The Yolo HCP/NCCP is consistent with CEQA and is discussed further in Section 2.2.9.

Species of Special Concern

SSC are defined by CDFW as a species, subspecies, or distinct population of an animal native to California that are not legally protected under ESA, the California ESA, or the California Fish and Game Code, but currently satisfies one or more of the following criteria:

- the species has been completely extirpated from the state or, as in the case of birds, it has been extirpated from its primary seasonal or breeding role;
- the species is listed as federally (but not State) threatened or endangered, or meets the State definition of threatened or endangered but has not formally been listed;

- the species has or is experiencing serious (noncyclical) population declines or range retractions (not reversed) that, if continued or resumed, could qualify it for State threatened or endangered status;
- the species has naturally small populations that exhibit high susceptibility to risk from any factor that if realized, could lead to declines that would qualify it for State threatened or endangered status; and
- SSC are typically associated with habitats that are threatened.

Depending on the policy of the lead agency, projects that result in substantial impacts to SSC may be considered significant under CEQA.

USFWS Birds of Conservation Concern

The 1988 amendment to the Fish and Wildlife Conservation Act mandates USFWS "identify species, subspecies, and populations of all migratory nongame birds that, without additional conservation actions, are likely to become candidates for listing under ESA." To meet this requirement, USFWS published a list of birds of conservation concern (BCC) (USFWS 2008) for the U.S. The list identifies the migratory and nonmigratory bird species (beyond those already designated as federally threatened or endangered) that represent USFWS's highest conservation priorities. Depending on the policy of the lead agency, projects that result in substantial impacts to BCC may be considered significant under CEQA.

Sensitive Natural Communities

The CDFW maintains the California Natural Community List (CDFW 2020a), which provides a list of vegetation alliances, associations, and special stands as defined in the *Manual of California Vegetation* (Sawyer et al. 2009), along with their respective State and global rarity ranks. Natural communities with a State rarity rank of 1, 2, or 3 are considered sensitive natural communities. Depending on the policy of the lead agency, impacts to sensitive natural communities may be considered significant under CEQA.

California Rare Plant Ranks

The CNPS maintains the Inventory of Rare and Endangered Plants of California (CNPS 2020), which provides a list of plant species native to California that are threatened with extinction, have limited distributions, and/or low populations. Plant species meeting one of these criteria are assigned to one of six California Rare Plant Ranks (CRPRs). The rank system was developed in collaboration with government, academia, non-governmental organizations, and private sector botanists, and is jointly managed by CDFW and the CNPS. The CRPRs are currently recognized in the California Natural Diversity Database (CNDDB). The following are definitions of the CNPS CRPRs:

- Rare Plant Rank 1A – presumed extirpated in California and either rare or extinct elsewhere.
- Rare Plant Rank 1B – rare, threatened, or endangered in California and elsewhere.
- Rare Plant Rank 2A – presumed extirpated in California, but more common elsewhere.
- Rare Plant Rank 2B – rare, threatened, or endangered in California but more common elsewhere.

- Rare Plant Rank 3 – a review list of plants about which more information is needed.
- Rare Plant Rank 4 – a watch list of plants of limited distribution.

Additionally, CNPS has defined Threat Ranks that are added to the CRPR as an extension. Threat Ranks designate the level of threat on a scale of 1 through 3, with 1 being the most threatened and 3 being the least threatened. Threat Ranks are generally present for all plants ranked 1B, 2B, or 4, and for the majority of plants ranked 3. Plant species ranked 1A and 2A (presumed extirpated in California), and some species ranked 3, which lack threat information, do not typically have a Threat Rank extension. The following are definitions of the CNPS Threat Ranks:

- Threat Rank 0.1 – Seriously threatened in California (over 80 percent of occurrences threatened/high degree and immediacy of threat).
- Threat Rank 0.2 – Moderately threatened in California (20-80 percent of occurrences threatened/moderate degree and immediacy of threat).
- Threat Rank 0.3 – Not very threatened in California (less than 20 percent of occurrences threatened/low degree and immediacy of threat or no current threats known).

Factors, such as habitat vulnerability and specificity, distribution, and condition of occurrences, are considered in setting the Threat Rank; differences in Threat Ranks do not constitute additional or different protection (CNPS 2020).

Depending on the policy of the lead agency, substantial impacts to plants ranked 1A, 1B, or 2, and 3 are typically considered significant under CEQA Guidelines § 15380. Significance under CEQA is typically evaluated on a case-by-case basis for plants ranked 4 and at the discretion of the CEQA lead agency.

CEQA Significance Criteria

Sections 15063-15065 of the CEQA Guidelines address how an impact is identified as significant. Generally, impacts to listed (rare, threatened, or endangered) species are considered significant. Assessment of "impact significance" to populations of non-listed species (e.g., SSC) usually considers the proportion of the species' range that will be affected by a project, impacts to habitat, and the regional and population level effects.

Specifically, § 15064.7 of the CEQA Guidelines encourages local agencies to develop and publish the thresholds that the agency uses in determining the significance of environmental effects caused by projects under its review. However, agencies may also rely upon the guidance provided by the expanded Initial Study checklist contained in Appendix G of the CEQA Guidelines. Appendix G provides examples of impacts that would normally be considered significant.

An evaluation of whether or not an impact on biological resources would be substantial must consider both the resource itself and how that resource fits into a regional or local context. Substantial impacts would be those that would diminish, or result in the loss of, an important biological resource, or those that would obviously conflict with local, State, or federal resource conservation plans, goals, or regulations. Impacts are sometimes locally important but not significant under CEQA. The reason for this

is that although the impacts would result in an adverse alteration of existing conditions, they would not substantially diminish or result in the permanent loss of an important resource on a population-wide or region-wide basis.

2.2.8 West Sacramento General Plan

The City of West Sacramento General Plan Update Draft EIR (DEIR) was prepared to evaluate and disclose the significant environmental impacts associated with implementation of the proposed West Sacramento General Plan update (ICF International 2016). The DEIR was prepared in accordance with CEQA Guidelines. The proposed General Plan update has the following objectives.

- Incorporate goals, policies, and implementation measures into the General Plan that are consistent with current State law, including changes to California Planning Law enacted since the last major update of the General Plan in 1999.
- Adopt goals, policies, and implementation measures that reflect the City's commitment to community sustainability. Specific examples include a vital central business district; compact, mixed-use developments near transit nodes; encouragement of urban infill where practical; revitalization of areas such as Stone Lock, Pioneer Bluff, and Seaway; flood protection; and passive and active recreation opportunities along the Sacramento River.
- Reflect the land use pattern and intensity set out in the Sustainable Communities Strategy adopted by the Sacramento Area Council of Governments.
- Adopt a climate action plan (CAP) to reduce the city's emissions of greenhouse gases and conform to State CEQA Guidelines Section 15183.5 allowing the streamlining of CEQA analyses of projects that are consistent with the CAP.

The Natural and Cultural Resources Element of the General Plan includes goals and policies to protect natural resources. The goals and policies relevant to biological resources in the Study Area include:

- **Goal NCR-2** – To protect sensitive native vegetation and wildlife communities and habitat in West Sacramento.
- **Policy NCR-2.11** – The City shall encourage the maintenance of marsh and riparian vegetation along irrigation/drainage canals and along the Deep Water Ship Channel through routine maintenance and clearing and by disturbing only one bank per year.
- **Policy NCR-2.12** – The City shall encourage floodway design and flood control facilities to foster riparian habitat enhancement, improved water quality and groundwater recharge.
- **Goal NCR-3** – To protect existing mature trees and encourage the development of a healthy urban forest.

2.2.9 Yolo Habitat Conservation Plan/Natural Communities Conservation Plan

The Yolo HCP/NCCP is a comprehensive, county-wide plan to provide for the conservation of 12 sensitive species and the natural communities and agricultural land on which they depend, as well as a streamline permitting process to address the effect of a range of future anticipated activities on these 12 species.

Table 1 provides a list of the Yolo HCP/NCCP Covered Species.

Table 1. Yolo HCP/NCCP Covered Species

Common Name	Scientific Name	Status *		
		ESA	CESA	Other Status
Plants				
Palmate-bracted bird's beak	*Chloropyron palmatum*	E	E	1B
Invertebrates				
Valley elderberry longhorn beetle	*Desmocerus californicus dimorphus*	T	-	-
Amphibians				
California tiger salamander (Central CA DPS)	*Ambystoma californiense*	T	T	-
Reptiles				
Giant garter snake	*Thamnophis gigas*	T	T	-
Northwestern pond turtle	*Actinemys marmorata*	-	-	SSC
Birds				
Swainson's hawk	*Buteo swainsoni*	-	T	-
White-tailed kite	*Elanus leucurus*	-	-	CFP
Yellow-billed cuckoo	*Coccyzus americanus*	T	E	-
Western burrowing owl	*Athene cunicularia hypugaea*	-	-	SSC
Least Bell's vireo	*Vireo bellii pusillus*	T	-	-
Bank swallow	*Riparia riparia*	-	T	-
Tricolored blackbird	*Lepidurus packardi*	-	T	-

* Status Abbreviations:
E – Endangered
T – Threatened
SC – Federal Species of Concern
SSC – California Species of Special Concern
CFP – California Fish and Game Code Fully Protected Species
1B – California Rare Plant Rank, Rare or Endangered in California and elsewhere.

2.2.10 West Sacramento Tree Preservation Ordinance

The Tree Preservation Ordinance provides standards for tree permits required for actions affecting trees; standards for identifying street, landmark, and heritage trees; measures to protect trees; and replacement requirements. Section 8.24.010, Purpose, of the ordinance states that the "preservation of trees enhances the natural beauty of the city, sustains long-term potential increases in property values, maintains the environment, tempers the effect of extreme temperatures, creates the identity and quality of the city which is necessary for successful business to continue, improves the attractiveness of the city to visitors and increases the oxygen output of the area which is needed to combat air pollution" (City of West Sacramento 2015). Any person seeking to perform any activity on a landmark, heritage, or street tree shall contact the tree administrator to discuss proposed activity and if deemed necessary, the tree administrator will inspect the site of the proposed activity. After initial consultation between the applicant and the tree administrator, the tree administrator shall confirm whether or not a permit is required. If it is determined that a permit is required, the applicant shall apply for a permit. The application shall be signed by the property owner or his or her authorized agent.

"Street tree" means and includes any tree growing or placed within the tree maintenance strip or public right-of-way. "Landmark tree" means any tree or stand of trees that is especially prominent, stately, or that is of historical significance as designated by the City Council. "Heritage tree" means any living tree with a trunk circumference of 75 inches or more or a native oak with a trunk circumference of 50 inches or more, both measured four feet six inches from ground level. The circumference of multi-trunk trees shall be based upon the sum of the circumference of each trunk.

3.0 METHODS

For the purposes of this BRA, special-status species are defined as plants or animals that:

- are listed or are proposed for listing as threatened or endangered under the ESA;
- are candidates for future listing as threatened or endangered under the California ESA;
- are identified as an SSC by the CDFW;
- are considered by the CNPS with a CRPR of 1A, 1B, 2A, 2B, 3, or 4;
- are fully protected in California in accordance with the California Fish and Game Code, §§ 3511 (birds), 4700 (mammals), 5050 (amphibians and reptiles), and 5515 (fishes); or
- are Covered Species as defined by the Yolo HCP/NCCP.

Species that are tracked by the CNDDB, but have no other special status, are not considered to be special-status species in this BRA.

This BRA reviews the potential for both Yolo HCP/NCCP Covered Species and all other remaining special-status species, as defined above, that have potential to occur within the Study Area. Both methods are described in the following sections.

3.1 Analysis of the Yolo Habitat Conservation Plan/Natural Community Conservation Plan Covered Species

3.1.1 Assessment of the Yolo Habitat Conservation Plan/Natural Community Conservation Plan Modeled Species Habitat Data

Yolo HCP/NCCP Species Account data were used to determine which Covered Species are considered to have the potential to occur within the Study Area (Yolo HCP/NCCP Covered Species are listed in Table 1).

3.1.2 Field Assessment for the Yolo Habitat Conservation Plan/Natural Community Conservation Plan Covered Species

A habitat assessment for Yolo HCP/NCCP Covered Species was conducted by ECORP biologists Keith Kwan and Matt Spaulding on September 30, 2020. Information and observations from this habitat assessment were used to determine whether specific potential habitat features for Yolo HCP/NCCP Covered Species were present within the Study Area.

3.2 Analysis of Other Special-Status Species

3.2.1 Literature Review

The following resources were queried to determine whether any special-status species/habitat other than Yolo HCP/NCCP Covered Species have potential to occur within the Study Area (Attachment A):

- CDFW CNDDB record search for the "Sacramento West, California" 7.5-minute quadrangle and the eight surrounding USGS quadrangles (CDFW 2020b).
- USFWS Information, Planning, and Consultation System Resource Report List for the Study Area (USFWS 2020).
- CNPS electronic Inventory of Rare and Endangered Plants of California for the "Sacramento West, California" 7.5-minute quadrangle and the eight surrounding USGS quadrangles (CNPS 2020).
- National Oceanic and Atmospheric Administration Fisheries West Coast Region Species (NOAA 2020a).

3.2.2 Field Assessment for Other Special-Status Species

A survey was conducted by ECORP biologists Keith Kwan and Matt Spaulding on September 30, 2020. During this field assessment, the Study Area was walked on foot, and topographic maps and aerial imagery were referenced. Biological communities occurring within the Study Area were characterized, and the following biological resource information was collected:

- protected trees occurring onsite;
- animal and plant species directly observed;

- habitat and vegetation communities; and
- representative photographs of the Study Area (Attachment B).

3.3 Evaluation of Special-Status Species

Based on Yolo HCP/NCCP species accounts, species occurrence information from the literature review, and the field assessment, a list of special-status plant and animal species considered to have the potential to occur within the Study Area was generated. This list is provided in Table 2 (see Section 4.6).

Each of the species that were considered as potentially occurring within the Study Area or vicinity were evaluated based on the following criteria:

- **Present** – Species was observed during field surveys or is known to occur within the Study Area based on documented occurrences within the CNDDB, Yolo HCP/NCCP, or other literature.
- **Potential to Occur** – Habitat (including soil and elevation requirements) for the species occurs within the Study Area based on site assessment, literature research, or Yolo HCP/NCCP Modeled Species Habitat data.
- **Low Potential to Occur** – Marginal or limited amounts of habitat occur, and/or the species is not known to occur within the vicinity of the Study Area based on CNDDB records and other available documentation.
- **Absent** – No suitable habitat (including soils and elevation requirements) and/or the species is not known to occur within the vicinity of the Study Area based on CNDDB records and other documentation.

3.4 Preliminary Aquatic Resources Assessment

The boundaries of aquatic resources were estimated through aerial photograph interpretation and limited field reconnaissance. Color aerial photographs available on Google Earth were used to assist with field mapping. In addition, the California Aquatic Resources Inventory (CARI) was queried for previously mapped features on-site (San Francisco Estuary Institute [SFEI] 2017). This assessment is intended for general planning purposes and not for detailed project planning and permitting. As such, this assessment was not performed in accordance with the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (USACE 2008).

4.0 RESULTS

4.1 Site Characteristics and Land Use

The Study Area is situated at an elevation of approximately 10 feet above mean sea level (MSL) in Yolo County, California. The Study Area is located in the Great Valley region of the California Floristic Province (Baldwin et al. 2012). This region is characterized by agricultural areas, grasslands, wetlands, and valley oaks (Baldwin et al. 2012). The average annual precipitation for the region is 18.52 inches (with the wettest

period during November-March), and average daily temperatures range from 47.7 degrees Fahrenheit (˚F) in winter to 73.8˚F in summer for the Sacramento Executive Airport reporting station, approximately three miles southeast of the Study Area (NOAA 2020b).

The Study Area is located in a developed setting with surrounding residential and commercial developments. The Study Area is characterized by a drainage ditch and adjacent developed or ruderal lands. There is a concrete culvert crossing at Linden Road. Linden Road and the culvert crossing are not a part of the Study Area. The Study Area includes the north and south banks west of Linden Road, and only the south bank east of Linden Road. The drainage ditch has a uniform width, approximately 25 feet, with shallow to steep banks, some of which have eroded. Vegetation within the ditch ranges from absent to dense patches of emergent species such as hardstem bulrush (*Schoenoplectus acutus*) and broadleaf cattail (*Typha latifolia*). The uplands adjacent to the ditch, including the proposed staging area, are comprised of ruderal and developed lands. The ruderal lands include weedy patches of non-native vegetation on constructed levees. Non-native weedy plants found in these ruderal areas include Bermuda grass (*Cynodon dactylon*) and wild oats (*Avena fatua*). Representative photographs of the Study Area are provided as Attachment B.

4.2 Soils

According to the *Web Soil Survey* (Natural Resources Conservation Service [NRCS] 2020a), two soil units, or types, have been mapped within the Study Area (Figure 2. *Natural Resources Conservation Service Soil Types*):

- (Oa) Omni silty clay loam, and
- (Wa) Willow silty clay loam, 0 percent slopes, MLRA 17

Omni silty clay loam contains Omni, Sacramento, Unnamed, and Merrit hydric components or inclusions (NRCS 2020b). Neither of the two soil units mapped onsite are derived from serpentinite or other ultramafic parent materials (NRCS 2020a).

4.3 Yolo Habitat Conservation Plan/Natural Community Conservation Plan Land Cover Types

The Study Area contains one Yolo HCP/NCCP land cover type, Developed. According to the Yolo HCP/NCCP, the Developed land cover type includes urban vegetation and all areas with structures, graded lots, road and highway medians, anthropogenic drainage canal vegetation, rail rights-of-way, and sewage treatment ponds that do not provide habitat.

4.4 Aquatic Features

Blacker Ditch is the only aquatic feature found onsite (Figure 3. *Land Cover/Preliminary Aquatic Resources Assessment*). An aquatic resources delineation has not been conducted for the Study Area, therefore the USACE has not made a jurisdictional determination of the ditch. A total of 1.459 acres of aquatic resources have been mapped within the Study Area.

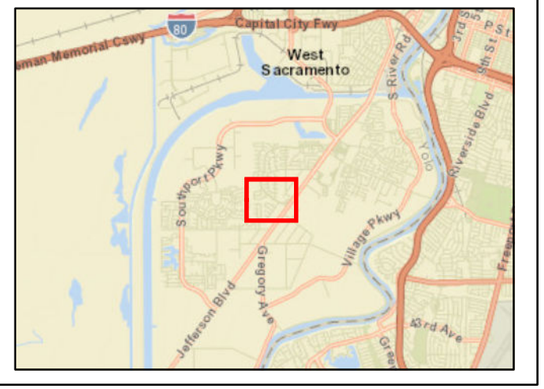
Map Features

- Limits of Work 4.53 ac.

Series Number - Series Name

- Oa - Omni silty clay loam
- W - Water
- Wa - Willows silty clay loam, 0 percent slopes, MLRA 17

Source: Esri, HERE, Garmin, USGS; NAIP (2018)



ECORP: N:\2020\2020-133 Blacker Ditch Bank Stabilization Project\MAPS\Soils_and_Geology\BDBSP_SOILS_20201008.mxd (CCH)-chinkelman 10/8/2020

Map Date: 10/8/2020

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Scale in Feet
0 300

Figure 2. Natural Resources Conservation Service Soils Types

2020-133 Blacker Ditch Bank Stabilization Project

Map Features

- Limits of Work 4.53 ac.
- Reference Coordinates

Land Cover Type

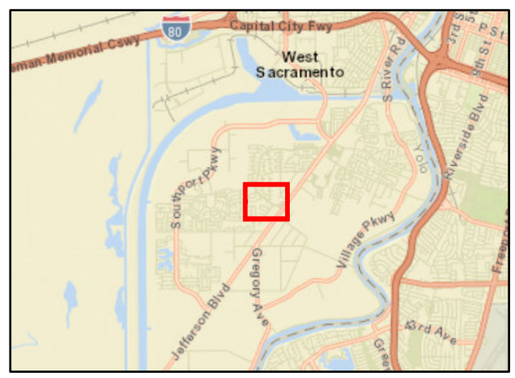
- Developed/Ruderal

Preliminary Aquatic Resources Assessment[1]

- Ditch - 1.459 acres

Photo Source: NAIP (2018)
Boundary Source: M-H-M Incorporated
Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet

[1] *The information depicted on this graphic represents a preliminary wetland assessment. The assessment was not conducted in accordance with the Corps of Engineers Wetland Delineation Manual and Sacramento District Minimum Standards. The project boundaries, wetland boundaries, and acreage values are approximate.*



ECORP: N:\2020\2020-133 Blacker Ditch Bank Stabilization Project\MAPS\Jurisdictional_Delineation\BDBSP_ARD_20201029.mxd (CCH) chinkelman 10/29/2020

Map Date: 10/29/2020

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Scale in Feet
0 250

Figure 3. Land Cover/Preliminary Aquatic Resources Assessment

2020-133 Blacker Ditch Bank Stabilization Project

4.5 Wildlife

Wildlife use of the Study Area is expected to be low due to the developed surroundings. However, the ditch and overhanging trees in the residential backyards provide habitat, including nesting, for some locally nesting bird species. A few of the bird species observed during the September 2020 site visit included wood duck (*Aix sponsa*), red-shouldered hawk (*Buteo lineatus*), California scrub jay (*Aphelocoma californica*), western bluebird (*Sialia mexicana*), house finch (*Haemorhous mexicanus*), white-crowned sparrow (*Zonotrichia leucophrys*), and yellow-rumped warbler (*Setophaga coronata*), among others. Urban-adapted wildlife typically found in this setting could include raccoon (*Procyon lotor*), Virginia opossum (*Didelphis virginiana*), striped skunk (*Mephitis mephitis*), and brown rat (*Rattus norvegicus*).

4.6 Evaluation of Special-Status Species

Based on an analysis of all HCP/NCCP Covered Species, literature review, review of the EIR, professional expertise, and observations in the field, a list of special-status plant and animal species that have the potential to occur within the Study Area was generated (Table 2). Each of these species' potential to occur onsite was assessed using the criteria listed in Section 3.3.

Table 2. Special-Status Species Evaluated for the Study Area

Common Name (Scientific Name)	Status			Habitat Description	Survey Period	Potential to Occur Onsite
	ESA	CESA	Other			
Plants						
Depauperate Milk-Vetch (*Astragalus pauperculus*)	-	-	4.3	Occurs within vernally mesic and volcanic soils in chaparral, cismontane woodland, and valley and foothill grasslands (197'-3,986')	March-June	Absent-there is no suitable habitat onsite.
Ferris' milk-vetch *(Astragalus tener* var. *ferrisiae)*	–	–	1B.1	Vernally mesic meadows and seeps and in sub-alkaline flats within valley and foothill grasslands (7'–246').	April–May	Absent-there is no suitable habitat onsite.
Alkali milk-vetch *(Astragalus tener* var. *tener)*	–	–	1B.2	Playas, mesic areas within valley and foothill grasslands, and alkaline vernal pools (3'–197').	March–June	Absent-there is no suitable habitat onsite.
Heartscale *(Atriplex cordulata* var. *cordulata)*	–	–	1B.2	Alkaline or saline valley and foothill grasslands, meadows and seeps, and chenopod scrub communities (0'–1,837').	April–October	Absent-there is no suitable habitat onsite.

Table 2. Special-Status Species Evaluated for the Study Area

Common Name (Scientific Name)	Status			Habitat Description	Survey Period	Potential to Occur Onsite
	ESA	CESA	Other			
Brittlescale *(Atriplex depressa)*	–	–	1B.2	Alkaline and clay soils within chenopod scrub, meadows and seeps, playas, valley and foothill grasslands, and vernal pools (3'–1,050').	April–October	Absent-there is no suitable habitat onsite.
Valley brodiaea (*Brodiaea rosea* ssp. *vallicola*)	–	–	4.2	Occurs in old alluvial terraces and silt, sandy, or gravelly soils in vernal pools and swales within valley and foothill grassland (33'–1,100').	April–May	Absent-there is no suitable habitat onsite.
Bristly sedge *(Carex comosa)*	–	–	2B.1	Coastal prairie, marshes and swamps including lake margins, and in valley and foothill grassland (0'–2,051').	May–September	Low Potential-the ditch represents marginally suitable habitat.
Parry's rough tarplant (*Centromadia parryi* ssp. *parryi*)	–	–	1B.2	Often on alkaline soils within chaparral, coastal prairie, meadows and seeps, coastal salt marshes and swamps, vernally mesic valley and foothill grassland (0'–1,378').	May–November	Absent-there is no suitable habitat onsite.
Pappose tarplant *(Centromadia parryi* ssp. *rudis)*	–	–	4.2	Alkaline, vernally mesic seeps in valley and foothill grassland and vernal pools, sometimes found on roadsides (0'–328').	May–October	Absent-there is no suitable habitat onsite.
Palmate-bracted bird's-beak *(Chloropyron palmatum)*	FE	CE	1B.1, HCP/ NCCP	Alkaline areas in chenopod scrub and valley and foothill grassland (16'–509').	May–October	Absent-there is no suitable habitat onsite.
Peruvian dodder (*Cuscuta obtusiflora* var. *glandulosa*)	–	–	2B.2	Freshwater marshes and swamps (49'–919').	July–October	Low Potential-the vegetation in the ditch represent marginally suitable habitat.
Dwarf downingia *(Downingia pusilla)*	–	–	2B.2	Mesic areas in valley and foothill grassland, and vernal pools. Species appears to have an affinity for slight disturbance (i.e., scraped depressions, ditches) (Baldwin et al. 2012, CDFW 2018) (3'–1,460').	March–May	Absent-there is no suitable habitat onsite.

Table 2. Special-Status Species Evaluated for the Study Area

Common Name (Scientific Name)	Status			Habitat Description	Survey Period	Potential to Occur Onsite
	ESA	CESA	Other			
Jepson's coyote thistle (*Eryngium jepsonii*)	–	–	1B.2	Clay soils of valley and foothill grassland, and vernal pools (10'–984').	April–August	Absent-there is no suitable habitat onsite.
San Joaquin spearscale (*Extriplex joaquinana*)	–	–	1B.2	Alkaline soils in chenopod scrub, meadows seeps, playas, and valley and foothill grassland (3'–2,740').	April–October	Absent-there is no suitable habitat onsite.
Stinkbells *(Fritillaria agrestis)*	–	–	4.2	Clay and sometimes serpentinite soils in chaparral, cismontane woodland, pinyon and juniper woodland, and valley and foothill grassland (33'–5,102').	March–June	Absent-there is no suitable habitat onsite.
Boggs Lake hedge-hyssop *(Gratiola heterosepala)*	–	CE	1B.2	Marshes, swamps, lake margins, and vernal pools (33'–7,792').	April–August	Absent-there is no suitable habitat onsite.
Hogwallow starfish *(Hesperevax caulescens)*	–	–	4.2	Sometimes alkaline in mesic areas with clay soil within valley and foothill grassland and shallow vernal pools (0'–1,657').	March–June	Absent-there is no suitable habitat onsite.
Woolly rose-mallow *(Hibiscus lasiocarpos* var. *occidentalis)*	–	–	1B.2	Marshes and freshwater swamps. Often in riprap on sides of levees (0'–394').	June–September	Low Potential-the ditch represents marginally suitable habitat.
Alkali-sink goldfields *(Lasthenia chrysantha)*			1B.1	Alkaline vernal pools (0'-657').	February-April	Absent-there is no suitable habitat onsite.
Legenere *(Legenere limosa)*	–	–	1B.1	Various seasonally inundated areas including wetlands, wetland swales, marshes, vernal pools, artificial ponds, and floodplains of intermittent drainages (USFWS 2005) (3'–2,887').	April–June	Absent-there is no suitable habitat onsite.
Heckard's pepper-grass *(Lepidium latipes* var. *heckardii)*	–	–	1B.2	Alkaline flats within valley and foothill grasslands (7'–656').	March–May	Absent-there is no suitable habitat onsite.

Table 2. Special-Status Species Evaluated for the Study Area

Common Name (Scientific Name)	Status			Habitat Description	Survey Period	Potential to Occur Onsite
	ESA	CESA	Other			
Mason's lilaeopsis *(Lilaeopsis masonii)*	–	CR	1B.1	Brackish or freshwater marshes or swamps and riparian scrub (0'–33').	April–November	Low Potential-the ditch represents marginally suitable habitat.
Little mousetail *(Myosurus minimus* ssp. *apus)*	–	–	3.1	Vernal pools (alkaline), valley and foothill grassland (66'–2,100').	March–June	Absent-there is no suitable habitat onsite.
Baker's navarretia *(Navarretia leucocephala* ssp. *bakeri)*	–	–	1B.1	Vernal pools and mesic areas within cismontane woodlands, lower montane coniferous forests, meadows and seeps, and valley and foothill grasslands (16'–5,709').	April–July	Absent-there is no suitable habitat onsite.
Colusa grass *(Neostapfia colusana)*	FT	CE	1B.1	Large vernal pools with adobe soils (16'–656').	May–August	Absent-there is no suitable habitat onsite.
Bearded popcornflower (*Plagiobothrys hystriculus*)	–	–	1B.1	Often in vernal swales, and in mesic areas of valley and foothill grassland and vernal pool margins (0'–899').	April–May	Absent-there is no suitable habitat onsite.
California alkali grass (*Puccinellia simplex*)	–	–	1B.2	Alkaline, vernally mesic areas in sinks, flats and lake margins in chenopod scrub, meadows and seeps, valley and foothill grassland, and vernal pools (7'–3,051').	March–May	Absent-there is no suitable habitat onsite.
Sanford's arrowhead *(Sagittaria sanfordii)*	–	–	1B.2	Shallow marshes and freshwater swamps (0'–2,133').	May–October	Potential-there is suitable habitat present onsite.
Keck's checkerbloom *(Sidalcea keckii)*	FE	–	1B.1	Serpentinite and clay soils within cismontane woodland and valley and foothill grasslands (246'–2,133').	April–May	Absent-there is no suitable habitat onsite.
Suisun marsh aster (*Symphyotrichum lentum*)	–	–	1B.2	Brackish and freshwater marshes and swamps (0'–10').	May–November	Low Potential-the ditch represents marginally suitable habitat.
Saline clover *(Trifolium hydrophilum)*	–	–	1B.2	Marshes and swamps, mesic and alkaline areas in valley and foothill grassland, and vernal pools (0'–984').	April–June	Low Potential-the ditch represents marginally suitable habitat.

Table 2. Special-Status Species Evaluated for the Study Area

Common Name (Scientific Name)	Status			Habitat Description	Survey Period	Potential to Occur Onsite
	ESA	CESA	Other			
Solano grass *(Tuctoria mucronata)*	FE	CE	1B.1	Vernal pools and other mesic areas of valley and foothill grasslands (16'–33').	April–August	Absent-there is no suitable habitat onsite.
Invertebrates						
Crotch bumble bee *(Bombus crotchii)*	-	CC	-	Primarily nests underground in open grassland and scrub habitats from the California coast east to the Sierra Cascade and south to Mexico.	March - September	Absent-there is no suitable habitat onsite.
Western bumble bee *(Bombus occidentalis)*	-	CC	-	Meadows and grasslands with abundant floral resources. Primarily nests underground. Largely restricted to high elevation sites in the Sierra Nevada, although rarely detected on the California coast.	April - November	Absent-there is no suitable habitat onsite.
Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*)	FT	-	HCP/ NCCP	Elderberry shrubs.	Any season	Absent-there is no suitable habitat onsite.
Conservancy fairy shrimp (*Branchinecta conservatio*)	FE	-	-	Vernal pools/wetlands.	November-April	Absent-there is no suitable habitat onsite.
Vernal pool fairy shrimp (*Branchinecta lynchi*)	FT	-	-	Vernal pools/wetlands.	November-April	Absent-there is no suitable habitat onsite.
Vernal pool tadpole shrimp (*Lepidurus packardi*)	FE	-	-	Vernal pools/wetlands.	November-April	Absent-there is no suitable habitat onsite.
Fish						
Delta smelt (*Hypomesus transpacificus*)	FT	CE	-	Sacramento-San Joaquin delta.	N/A	Absent-there is no suitable habitat onsite.
Chinook salmon (Central Valley spring-run Evolutionarily Significant Unit [ESU]) (*Oncorhynchus tshawytscha*)	FT	CT	-	Undammed rivers, streams, creeks.	N/A	Absent-there is no suitable habitat onsite.

Table 2. Special-Status Species Evaluated for the Study Area

Common Name (Scientific Name)	Status			Habitat Description	Survey Period	Potential to Occur Onsite
	ESA	CESA	Other			
Chinook salmon (Sacramento River winter-run ESU) *(Oncorhynchus tshawytscha)*	FE	CE	-	Undammed rivers, streams, creeks.	N/A	Absent-there is no suitable habitat onsite.
Green sturgeon (Southern Distinct Population Segments [DPS]) (*Acipenser medirostris*)	FT	-	SSC, NMFS	Anadromous; waters north of Point Conception	N/A	Absent-there is no suitable habitat onsite.
Longfin smelt (*Spirinchus thaleichthys*)	FC	CT	SSC	Freshwater and seawater estuaries.	N/A	Absent-there is no suitable habitat onsite.
Sacramento splittail *(Pogonichthys macrolepidotus)*	-	-	SSC	San Francisco bay estuary. Spawns in upstream floodplains and backwater sloughs.	N/A	Absent-there is no suitable habitat onsite.
Sacramento perch *(Archoplites interruptus)*	-	-	SSC	Ponds, rivers, backwaters, and lakes.	N/A	Absent-there is no suitable habitat onsite.
Steelhead (CA Central Valley DPS) (*Oncorhynchus mykiss*)	FT	-	-	Undammed rivers, streams, creeks.	N/A	Absent-there is no suitable habitat onsite.
Amphibians						
California red-legged frog (*Rana draytonii*)	FT	-	SSC	Lowlands or foothills at waters with dense shrubby or emergent riparian vegetation. Adults must have aestivation habitat to endure summer dry down.	May 1-November 1	Absent-there is no suitable habitat onsite.
California tiger salamander (Central California DPS) (*Ambystoma californiense*)	FT	CT	SSC, HCP/ NCCP	Vernal pools, wetlands (breeding) and adjacent grassland or oak woodland; needs underground refuge (e.g., ground squirrel and/or gopher burrows). Largely terrestrial as adults.	March-May	Absent-there is no suitable habitat onsite.

Table 2. Special-Status Species Evaluated for the Study Area

Common Name (Scientific Name)	Status			Habitat Description	Survey Period	Potential to Occur Onsite
	ESA	CESA	Other			
Reptiles						
Giant garter snake (*Thamnophis gigas*)	FT	CT	HCP/ NCCP	Freshwater ditches, sloughs, and marshes in the Central Valley. Almost extirpated from the southern parts of its range.	April-October	Absent-there is no suitable habitat onsite. The developed/urban setting, presence of predatory fish, and periodic ditch maintenance activities precludes the potential for GGS occurrence.
Northwestern pond turtle (*Actinemys marmorata*)	-	-	SSC, HCP/ NCCP	Requires basking sites and upland habitats up to 0.5 km from water for egg laying. Uses ponds, streams, detention basins, and irrigation ditches.	April-September	Potential-the ditch is potential habitat for this species.
Birds						
Clark's grebe *(Aechmophorus clarkii)*	-	-	BCC	Winters on salt or brackish bays, estuaries, sheltered sea coasts, freshwater lakes, and rivers. Breeds on freshwater to brackish marshes, lakes, reservoirs and ponds, with a preference for large stretches of open water fringed with emergent vegetation.	June-August (breeding)	Absent-there is no suitable habitat onsite.

Table 2. Special-Status Species Evaluated for the Study Area

Common Name (Scientific Name)	Status			Habitat Description	Survey Period	Potential to Occur Onsite
	ESA	CESA	Other			
Yellow-billed cuckoo (*Coccyzus americanus*)	FT	CE	BCC, HCP/ NCCP	Breeds in California, Arizona, Utah, Colorado, and Wyoming. In California, they nest along the upper Sacramento River and the South Fork Kern River from Isabella Reservoir to Canebrake Ecological Reserve. Other known nesting locations include Feather River (Butte, Yuba, Sutter counties), Prado Flood Control Basin (San Bernardino and Riverside County), Amargosa River and Owens Valley (Inyo County), Santa Clara River (Los Angeles County), Mojave River and Colorado River (San Bernardino County). Nests in riparian woodland. Winters in South America.	June 15- August 15	Absent-there is no suitable habitat onsite.
Costa's hummingbird (*Calypte costae*)	-	-	BCC	In California, breeds in coastal scrub and chaparral communities from Santa Barbara County south into Baja California; from Mexico north into Mojave desert scrub of Eastern Sierra Nevada;	February-June	Absent-there is no suitable habitat onsite.
Rufous hummingbird *(Selasphorus rufus)*	-	-	BCC	Breeds in British Columbia and Alaska (does not breed in California). Winters in coastal Southern California south into Mexico. Common migrant during March-April in Sierra Nevada foothills and June-August in Lower Conifer to Alpine zone of Sierra Nevada. Nesting habitat includes secondary succession communities and openings, mature forests, parks and residential area.	April-July	Absent-this species does not nest in the region.

Table 2. Special-Status Species Evaluated for the Study Area

Common Name (Scientific Name)	Status			Habitat Description	Survey Period	Potential to Occur Onsite
	ESA	CESA	Other			
California black rail (*Laterallus jamaicensis coturniculus*)	-	CT	BCC, CFP	Salt marsh, shallow freshwater marsh, wet meadows, and flooded grassy vegetation. In California, primarily found in coastal and Bay-Delta communities, but also in Sierran foothills (Butte, Yuba, Nevada, Placer, El Dorado counties)	March-September (breeding)	Absent-there is no suitable habitat onsite.
Mountain plover (*Charadrius montanus*)	-	-	BCC, SSC	Breeds in the Great Plains/Midwestern US; winters in California, Arizona, Texas, and Mexico; wintering habitat in California includes tilled fields, heavily grazed open grassland, burned fields, and alfalfa fields.	September-March (wintering)	Absent-there is no suitable habitat onsite.
Western snowy plover *(Charadrius nivosus nivosus)*	FT	-	BCC, SSC	Nests on the ground, on open sandy coastal beaches, barrier islands, barrens shores of inland saline lakes, on river bars, and man-made ponds such as wastewater ponds, dredge spoils, and salt evaporation ponds.	March-September	Absent-there is no suitable habitat onsite.
Whimbrel *(Numenius phaeopus)*	-	-	BCC	Nesting occurs in Alaska and northern Canada; winters in coastal Oregon, California, south to Central America; wintering habitat includes tidal mudflats, coral reefs, lagoons, marshes, swamps, estuaries, sandy beaches, and rocky shores.	October-March	Absent-there is no suitable habitat onsite.

Table 2. Special-Status Species Evaluated for the Study Area

Common Name (Scientific Name)	Status			Habitat Description	Survey Period	Potential to Occur Onsite
	ESA	CESA	Other			
Long-billed curlew (*Numenius americanus*)	-	-	BCC	Breeds east of the Cascades in Washington, Oregon, northeastern California (Siskiyou, Modoc, Lassen counties), east-central California (Inyo County), through Great Basin region into Great Plains. Winters in California, Texas, and Louisiana. Wintering habitat includes tidal mudflats and estuaries, wet pastures, sandy beaches, salt marsh, managed wetlands, evaporation ponds, sewage ponds, and grasslands.	September-March (wintering)	Absent-there is no suitable habitat onsite.
Marbled godwit (*Limosa fedoa*)	-	-	BCC	Nests in Montana, North and South Dakota, Minnesota, into Canada. Winter range along Pacific Coast from British Columbia south to Central America, with small numbers wintering in interior California. Wintering habitat includes coastal mudflats, meadows, estuaries, sandy beaches, sandflats, and salt ponds.	August-April (Migrant/Wintering in CA)	Absent-there is no suitable habitat onsite.
Short-billed Dowitcher *(Limnodromus griseus)*	-	-	BCC	Nests in Canada, southern Alaska; winters in coastal California south to South America; wintering habitat includes coastal mudflats and brackish lagoons	wintering/migrant period: late-August-May	Absent-there is no suitable habitat onsite.
Willet (*Tringa semipalmata*)	-	-	BCC	Breeds locally in interior of western North America. In California, breeding range includes the Klamath Basin and Modoc Plateau and portions of Mono and possibly Inyo counties. Breeding habitat includes prairies, Breeds in wetlands and grasslands on semiarid plains; in uplands near brackish or saline wetlands; prefers temporary, seasonal, and alkali wetlands over semipermanent and permanent wetlands.	April-August	Absent-there is no suitable habitat onsite.

Table 2. Special-Status Species Evaluated for the Study Area

Common Name (Scientific Name)	Status			Habitat Description	Survey Period	Potential to Occur Onsite
	ESA	CESA	Other			
Great blue heron (*Ardea herodias*)	-	-	CNDDB*	Colonial nester; prefers to nest in vegetation on islands or in swamps but may also be found in upland habitats in trees, bushes, on the ground and on artificial structures. Foraging habitat is widely diverse and includes swamps, coastlines, estuaries, beaches, pastures, cultivated fields, and riparian areas.	February-July	Absent-there is no suitable habitat onsite.
Great egret *(Ardea alba)*	-	-	CNDDB	Colonial nester; nests in woody vegetation, shrubs and trees usually near lakes, ponds, marshes estuaries, human-made impoundments, or natural and human-made islands.	March-July	Absent-there is no suitable habitat onsite.
Snowy egret (*Egretta thula*)	-	-	CNDDB	Colonial nester; nests in coastal and inland wetlands in isolated sites. Nesting habitat includes a variety of trees, including cactus, along large rivers, reservoirs/lakes, grassy marshes, wet meadows, irrigation channels, and estuaries.	March-August	Absent-there is no suitable habitat onsite.
Black-crowned night heron (*Nycticorax nycticorax*)	-	-	CNDDB	Colonial nester; Nests in trees, usually above water, within open shrub/grassland, wetlands, riparian, urban habitats, and in rocky crevices on islands.	March-August	Absent-there is no suitable habitat onsite.
White-faced ibis *(Plegadis chihi)*	-	-	CDFW WL	Colonial nester; Nests in shallow marshes with islands of emergent vegetation, flooded shoals and mangrove swamps.	May-August	Absent-there is no suitable habitat onsite.
White-tailed kite (*Elanus leucurus*)	-	-	CFP, HCP/ NCCP	Nesting occurs within trees in low elevation grassland, agricultural, wetland, oak woodland, riparian, savannah, and urban habitats.	March-August	Potential-trees onsite represent potential nesting habitat.

Table 2. Special-Status Species Evaluated for the Study Area

Common Name (Scientific Name)	Status			Habitat Description	Survey Period	Potential to Occur Onsite
	ESA	CESA	Other			
Golden eagle (*Aquila chrysaetos*)	-	-	BCC, CFP	Nesting habitat includes mountainous canyon land, rimrock terrain of open desert and grasslands, riparian, oak woodland/savannah, and chaparral. Nesting occurs on cliff ledges, river banks, trees, and human-made structures (e.g. windmills, platforms, and transmission towers). Breeding occurs throughout California, except the immediate coast, Central Valley floor, Salton Sea region, and the Colorado River region, where they can be found during Winter.	Nest (February-August); winter CV (October-February)	Absent-there is no suitable habitat onsite.
Cooper's hawk *(Accipiter cooperii)*	-	-	CDFW WL	Nests in trees in riparian woodlands in deciduous, mixed and evergreen forests, as well as urban landscapes	March-July	Potential-trees onsite represent potential nesting habitat.
Bald eagle (Haliaeetus leucocephalus)	Delisted	CE	CFP, BCC	Typically nests in forested areas near large bodies of water in the northern half of California; nest in trees and rarely on cliffs; wintering habitat includes forest and woodland communities near water bodies (e.g. rivers, lakes), wetlands, flooded agricultural fields, open grasslands	February – September (nesting); October-March (wintering)	Absent-there is no suitable habitat onsite.
Swainson's hawk (*Buteo swainsoni*)	-	CT	BCC, HCP/ NCCP	Nesting occurs in trees in agricultural, riparian, oak woodland, scrub, and urban landscapes. Forages over grassland, agricultural lands, particularly during disking/harvesting, irrigated pastures	March-August	Potential-larger trees onsite represent potential nesting habitat.

Table 2. Special-Status Species Evaluated for the Study Area

Common Name (Scientific Name)	Status			Habitat Description	Survey Period	Potential to Occur Onsite
	ESA	CESA	Other			
Ferruginous hawk (*Buteo regalis*)	-	-	BCC, CDFW WL	Rarely breeds in California (Lassen County); winter range includes grassland and shrubsteppe habitats from Northern California (except northeast and northwest corners) south to Mexico and east to Oklahoma, Nebraska, and Texas.	September-March (wintering)	Absent-there is no suitable habitat onsite.
Burrowing owl *(Athene cunicularia)*	-	-	BCC, SSC, HCP/ NCCP	Nests in burrows or burrow surrogates in open, treeless, areas within grassland, steppe, and desert biomes. Often with other burrowing mammals (e.g. prairie dogs, California ground squirrels). May also use human-made habitat such as agricultural fields, golf courses, cemeteries, roadside, airports, vacant urban lots, and fairgrounds.	February-August	Potential-scattered California ground squirrel burrows and some burrow surrogates onsite represent potential habitat.
Lewis' woodpecker (*Melanerpes lewis*)	-	-	BCC	In California, breeds in Siskiyou and Modoc Counties, Warmer Mountains, inner coast ranges from Tehama to San Luis Obispo Counties, San Bernardino Mountains, and Big Pine Mountain (Inyo County); nesting habitat includes open ponderosa pine forest, open riparian woodland, logged/burned forest, and oak woodlands. Does not breed on the west side of Sierran crest (Beedy and Pandalfino 2013).	April-September (breeding); September-March (winter in Central Valley).	Absent-there is no suitable habitat onsite.
Nuttall's woodpecker *(Dryobates nuttallii)*	-	-	BCC	Resident from northern California south to Baja California. Nests in tree cavities in oak woodlands and riparian woodlands.	April-July	Potential-trees onsite represent potential nesting habitat.

Table 2. Special-Status Species Evaluated for the Study Area

Common Name (Scientific Name)	Status			Habitat Description	Survey Period	Potential to Occur Onsite
	ESA	CESA	Other			
Merlin *(Falco columbarius)*	-	-	CDFW WL	Breeds in Oregon, Washington north into Canada. Winters in southern Canada to South America, including California. Breeds near forest openings, fragmented woodlots, and riparian areas. Wintering habitat includes wide variety, open forests, grasslands, tidal flats, plains, and urban settings.	September-April (wintering in the Central Valley); does not breed in California	Absent-there is no suitable habitat onsite.
Least Bell's vireo (*Vireo bellii pusillus*)	FE	CE	BCC, HCP/ NCCP	In California, breeding range includes Ventura, Los Angeles, Riverside, Orange, San Diego, and San Bernardino counties, and rarely Stanislaus and Santa Clara counties. Nesting habitat includes dense, low shrubby vegetation in riparian areas, brushy fields, young second-growth woodland, scrub oak, coastal chaparral and mesquite brushland. Winters in southern Baja California Sur.	April 1-July 31	Absent-there is no suitable habitat onsite.
Yellow-billed magpie (*Pica nuttallii*)	-	-	BCC	Endemic to California; found in the Central Valley and coast range south of San Francisco Bay and north of Los Angeles County; nesting habitat includes oak savannah with large in large expanses of open ground; also found in urban parklike settings.	April-June	Potential-trees onsite represent potential nesting habitat.
Bank swallow (*Riparia riparia*)	-	CT	HCP/ NCCP	Nests colonially along coasts, rivers, streams, lakes, reservoirs, and wetlands in vertical banks, cliffs, and bluffs in alluvial, friable soils. May also nest in sand, gravel quarries and road cuts. In California, breeding range includes northern and central California.	May-July	Low Potential-exposed banks of the ditch represent marginally suitable nesting habitat.

Table 2. Special-Status Species Evaluated for the Study Area

Common Name (Scientific Name)	Status			Habitat Description	Survey Period	Potential to Occur Onsite
	ESA	CESA	Other			
Purple martin (*Progne subis*)	-	-	SSC	In California, breeds along coast range, Cascade-northern Sierra Nevada region and isolated population in Sacramento. Nesting habitat includes montane forests, Pacific lowlands with dead snags; the isolated Sacramento population nests in weep holes under elevated highways/bridges. Winters in South America.	May-August	Absent-there is no suitable habitat onsite.
Oak titmouse (*Baeolophus inornatus*)			BCC	Nests in tree cavities within dry oak or oak-pine woodland and riparian; where oaks are absent, they nest in juniper woodland, open forests (gray, Jeffrey, Coulter, pinyon pines and Joshua tree)	March-July	Potential-trees onsite represent potential nesting habitat.
Wrentit (Chamaea fasciata)	-	-	BCC	Coastal sage scrub, northern coastal scrub, chaparral, dense understory of riparian woodlands, riparian scrub, coyote brush and blackberry thickets, and dense thickets in suburban parks and gardens.	March-August	Absent-there is no suitable habitat onsite.
California thrasher (*Toxostoma redivivum*)	-	-	BCC	Resident and endemic to coastal and Sierra Nevada-Cascade foothill areas of California. Nests are usually well hidden in dense shrubs, including scrub oak, California lilac, and chamise.	February-July	Absent-there is no suitable habitat onsite.

Table 2. Special-Status Species Evaluated for the Study Area

Common Name (Scientific Name)	Status			Habitat Description	Survey Period	Potential to Occur Onsite
	ESA	CESA	Other			
Lawrence's goldfinch (*Spinus lawrencei*)	-	-	BCC	Breeds in Sierra Nevada and inner Coast Range foothills surrounding the Central Valley and the southern Coast Range to Santa Barbara County east through southern California to the Mojave Desert and Colorado Desert into the Peninsular Range. Nests in arid and open woodlands with chaparral or other brushy areas, tall annual weed fields, and a water source (e.g. small stream, pond, lake), and to a lesser extent riparian woodland, coastal scrub, evergreen forests, pinyon-juniper woodland, planted conifers, and ranches or rural residences near weedy fields and water.	March-September	Absent-there is no suitable habitat onsite.
Grasshopper sparrow (Ammodramus savannarum)	-	-	SSC	In California, breeding range includes most coastal counties south to Baja California; western Sacramento Valley and western edge of Sierra Nevada region. Nests in moderately open grasslands and prairies with patchy bare ground. Avoids grasslands with extensive shrub cover; more likely to occupy large tracts of habitat than small fragments; removal of grass cover by grazing often detrimental.	May-August	Absent-there is no suitable habitat onsite.

Table 2. Special-Status Species Evaluated for the Study Area

Common Name (Scientific Name)	Status			Habitat Description	Survey Period	Potential to Occur Onsite
	ESA	CESA	Other			
Black-chinned sparrow (Spizella atrogularis)	-	-	BCC	In California, breeds in inner Coast Ranges, Transverse Range, and Peninsular Range, west slope of Sierra Nevada from Kern County to Mariposa County and mountains of southeastern California. Nesting habitat includes moderately dense tall brush on rugged mountain slopes with rocky outcrops and scattered large trees. Prefers young stands with openings.	April-August	Absent-there is no suitable habitat onsite.
Song sparrow "Modesto" (*Melospiza melodia heermanni*)	-	-	BCC, SSC	Resident in central and southwest California, including Central Valley; nests in marsh, scrub habitat	April-June	Potential-dense emergent vegetation within the ditch represents potential nesting habitat.
San Clemente spotted towhee (*Pipilo maculatus clementae*)	-	-	BCC, SSC	Resident on Santa Catalina and Santa Rosa Islands; extirpated on San Clemente Island, California. Breeds in dense, broadleaf shrubby brush, thickets, and tangles in chaparral, oak woodland, island woodland, and Bishop pine forest.	Year round resident; breeding season is April-July	Absent-this subspecies is not found in the region.
Yellow-headed blackbird (Xanthocephalus xanthocephalus)	-	-	SSC	In California, breeds in the Great Basin region, along Colorado River south to Baja California, Salton Sea, Kern, Ventura, Riverside, San Diego and possibly Orange, Lake counties and locally in the Central Valley, Nests are constructed over deep water in emergent vegetation of prairie wetlands, quaking aspen parklands, mountain meadows, forest edges, large lakes.	April-July	Potential-emergent vegetation within the ditch represents potential nesting habitat.

Table 2. Special-Status Species Evaluated for the Study Area

Common Name (Scientific Name)	Status			Habitat Description	Survey Period	Potential to Occur Onsite
	ESA	CESA	Other			
Tricolored blackbird (*Agelaius tricolor*)	-	CT	BCC, SSC, HCP/ NCCP	Breeds locally west of Cascade-Sierra Nevada and southeastern deserts from Humboldt and Shasta Cos south to San Bernardino, Riverside and San Diego Counties. Central California, Sierra Nevada foothills and Central Valley, Siskiyou, Modoc and Lassen Counties. Nests colonially in freshwater marsh, blackberry bramble, milk thistle, triticale fields, weedy (mustard, mallow) fields, giant cane, safflower, stinging nettles, tamarisk, riparian scrublands and forests, fiddleneck and fava bean fields.	March-August	Potential-emergent vegetation within the ditch represents potential nesting habitat.
Saltmarsh common yellowthroat (*Geothlypis trichas sinuosa*)	-	-	BCC, SSC	Breeds in salt marshes of San Francisco Bay; winters San Francisco south along coast to San Diego County.	March-July	Absent-this subspecies is not found in the region.
Mammals						
Pallid bat *(Antrozous pallidus)*	-	-	SSC	Crevices in rocky outcrops and cliffs, caves, mines, trees (e.g. basal hollows of redwoods, cavities of oaks, exfoliating pine and oak bark, deciduous trees in riparian areas, and fruit trees in orchards). Also roosts in various human structures such as bridges, barns, porches, bat boxes, and human-occupied as well as vacant buildings (WBWG 2020).	April-September	Low Potential-the culvert/bridge crossing at Linden Road represents marginally suitable roosting habitat for this species.

Table 2. Special-Status Species Evaluated for the Study Area

Common Name (Scientific Name)	Status			Habitat Description	Survey Period	Potential to Occur Onsite
	ESA	CESA	Other			
American badger *(Taxidea taxus)*	-	-	SSC	Drier open stages of most shrub, forest, and herbaceous habitats with friable soils.	Any season	Absent-there is not suitable habitat onsite.

Status Codes:

ESA	Endangered Species Act
CESA	California Endangered Species Act
FE	ESA listed, Endangered.
FT	ESA listed, Threatened.
FC	Candidate for FESA listing as Threatened or Endangered.
BCC	USFWS Bird of Conservation Concern (USFWS 2002).
NMFS	NOAA/NMFS species of concern
CC	Candidate for CESA listing as Endangered or Threatened.
CE	CESA or NPPA listed, Endangered.
CR	CESA- or NPPA-listed, Rare.
CT	CESA or NPPA listed, Threatened.
CFP	California Fish and Game Code Fully Protected Species (§ 3511-birds, § 4700-mammals, §5 050-reptiles/amphibians).
CDFW WL	CDFW Watch List
SSC	CDFW Species of Special Concern
CNDDB	Species that is tracked by CDFW's CNDDB but does not have any of the above special-status designations otherwise.
HCP/NCCP	Yolo Habitat Conservation Plan/Natural Community Conservation Plan Covered Species
WBWG	Western Bat Working Group
1B	California Rare Plant Ranks (CRPRs)/Rare or Endangered in California and elsewhere.
2B	CRPR /Rare or Endangered in California, more common elsewhere.
3	CRPR/Plants About Which More Information is Needed – A Review List.
4	CRPR/Plants of Limited Distribution – A Watch List.
0.1	Threat Rank/Seriously threatened in California (over 80 percent of occurrences threatened / high degree and immediacy of threat)
0.2	Threat Rank/Moderately threatened in California (20-80 percent occurrences threatened / moderate degree and immediacy of threat)

4.6.1 Special-Status Plants

A total of 33 special-status plant species were evaluated as having the potential to occur in the Study Area (Table 2). However, upon further analysis and after the 2020 site visit, 26 species were considered to be absent from the Study Area due to the lack of suitable habitat or because the Study Area is not within the known range of the species. No further discussion of these species is provided in this analysis. Brief descriptions of the remaining six species that have the potential to occur within the Study Area are presented in the following sections.

Bristly Sedge

Bristly sedge (*Carex comosa*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 2B.1 plant. This species is a perennial rhizomatous herb that occurs in coastal prairies, marshes and swamps including lake margins, and in valley and foothill grassland (CNPS 2020). Bristly sedge blooms from May through September and is known to occur at elevations ranging from sea level to 2,051 feet above MSL (CNPS 2020). The current range of this species in California includes Contra Costa, Lake, Mendocino, Sacramento, San Bernardino, Santa Cruz, San Francisco, Shasta, San Joaquin, and

Sonoma counties, and is considered to be extirpated from San Bernardino and San Francisco counties (CNPS 2020).

There are no documented CNDDB occurrences of this species located within five miles of the Study Area (CDFW 2020). There is marginally suitable habitat for bristly sedge within the Study Area; therefore, this species has low potential to occur onsite.

Peruvian Dodder

Peruvian dodder (*Cuscuta obtusiflora* var. *glandulosa*) is not listed pursuant to either the federal or California ESAs but is designated as a CRPR 2B.2 species. This species is parasitic annual vine that occurs in freshwater marshes and swamps (CNPS 2020). The flowering period of this species is July to October and is known to occur at 49 to 919 feet above MSL (CNPS 2020). The current range of this species in California includes Butte, Los Angeles, Merced, Sacramento (uncertain about distribution or identity), San Bernardino (presumed extirpated), Sonoma, and Sutter counties (CNPS 2020).

There are no documented CNDDB occurrences of this species located within five miles of the Study Area (CDFW 2020). There is marginally suitable habitat for Peruvian dodder within the Study Area; therefore, this species has low potential to occur onsite.

Woolly-Rose Mallow

Woolly rose-mallow (*Hibiscus lasiocarpos* var. *occidentalis*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 1B.2 species. This species is a rhizomatous, herbaceous perennial that occurs in marshes and freshwater swamps, and often in riprap on sides of levees (CNPS 2020). Rose-mallow blooms from June through September and is known to occur at elevations ranging from sea level to 394 feet above MSL (CNPS 2020). Rose-mallow is endemic to California; the current range of this species in California includes Butte, Contra Costa, Colusa, Glenn, Sacramento, San Joaquin, Solano, Sutter, and Yolo counties (CNPS 2020).

There are no documented CNDDB occurrences of this species located within five miles of the Study Area (CDFW 2020). Blacker Ditch represents marginally suitable habitat for this species. Therefore, this species has potential to occur onsite.

Mason's Lilaeopsis

Mason's lilaeopsis (*Lilaeopsis masonii*) is not listed pursuant to the federal ESA, is listed as rare pursuant to the California ESA, and is designated as a CRPR 1B.1 species. This species is an herbaceous perennial rhizome that occurs in brackish or freshwater marshes and swamps as well as in riparian scrub (CNPS 2020). Mason's lilaeopsis blooms between April and November and is known to occur at elevations ranging from sea level to 33 feet above MSL (CNPS 2020). Mason's lilaeopsis is endemic to California; its current range includes Alameda, Contra Costa, Marin, Napa, Sacramento, San Joaquin, Solano, and Yolo counties (CNPS 2020).

There is one documented CNDDB occurrence of this species located within five miles of the Study Area (CDFW 2020). Blacker Ditch represents marginally suitable habitat for this species; therefore, Mason's lilaeopsis has low potential to occur onsite.

Sanford's Arrowhead

Sanford's arrowhead (*Sagittaria sanfordii*) is not listed pursuant to the federal or California ESAs, but is designated as a CRPR 1B.2 species. This species is a perennial rhizomatous herb that occurs in shallow, freshwater marshes and swamps (CNPS 2020). Sanford's arrowhead blooms from May through October, and is known to occur at elevations ranging from sea level to 2,133 feet above MSL (CNPS 2020). Sanford's arrowhead is endemic to California; the current range of this species includes Butte, Del Norte, El Dorado, Fresno, Merced, Mariposa, Marin, Napa, Orange, Placer, Sacramento, San Bernardino, San Joaquin, Shasta, Solano, Tehama, Tulare, Ventura, and Yuba counties; it is believed to be extirpated from both Orange and Ventura counties (CNPS 2020).

There is one documented CNDDB occurrence of this species located within five miles of the Study Area (CDFW 2020). Blacker Ditch represents potentially suitable habitat for this species; therefore, Sanford's arrowhead has potential to occur onsite.

Suisun Marsh Aster

Suisun Marsh aster (*Symphyotrichum lentum*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 1B.2 species. This species is an herbaceous rhizomatous perennial that occurs in marshes and swamps in brackish and freshwater (CNPS 2020). Suisun Marsh aster blooms between May and November and is known to occur at elevations ranging from sea level to 10 feet above MSL (CNPS 2020). Suisun Marsh aster is endemic to California; its current range includes Contra Costa, Napa, Sacramento, San Joaquin, Solano, and Yolo counties (CNPS 2020).

There is one documented CNDDB occurrence of this species located within five miles of the Study Area (CDFW 2020b). Blacker Ditch represents marginally suitable habitat for Suisun Marsh aster; therefore, this species has low potential to occur onsite.

Saline Clover

Saline clover (*Trifolium hydrophilum*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 1B.2 species. This species is an herbaceous annual that occurs in marshes and swamps, mesic and alkaline valley and foothill grassland, and vernal pools (CNPS 2020). Saline clover blooms between April and June and is known to occur at elevations ranging from sea level to 984 feet above MSL (CNPS 2020). Saline clover is endemic to California; its current range includes Alameda, Contra Costa, Colusa, Lake, Monterey, Napa, Sacramento, San Benito, Santa Clara, Santa Cruz, San Joaquin, San Luis Obispo, San Mateo, Solano, Sonoma, and Yolo counties; however, distribution and identity are uncertain in Colusa county (CNPS 2020).

There are no documented CNDDB occurrences of this species located within five miles of the Study Area (CDFW 2020). Blacker Ditch (freshwater) represents marginally suitable habitat for saline clover within the Study Area; therefore, this species has low potential to occur onsite.

4.6.2 Invertebrates

A total of six special-status invertebrate species were evaluated as having the potential to occur in the Study Area (Table 2). Upon further analysis and after the 2020 site visit, all of these special-status invertebrates were considered to be absent due to a lack of suitable habitat.

4.6.3 Fish

A total of eight special-status fish species were evaluated as having the potential to occur in the Study Area (Table 2). However, upon further analysis and after the 2020 site visit, all eight species were considered to be absent from the Study Area because there is no direct connection between Blacker Ditch and the RD900 Main Drainage Canal from the Deep Water Channel or the Sacramento River. No further discussion of these species is provided in this analysis.

4.6.4 Amphibians

Two special-status amphibian species were evaluated as having the potential to occur in the Study Area (Table 2). However, upon further analysis and after the 2020 site visit, both species were considered to be absent from the Study Area due to the lack of suitable habitat or the Study Area is outside the known distribution of the species. No further discussion of these species is provided in this analysis.

4.6.5 Reptiles

Two special-status reptile species were evaluated as having the potential to occur in the Study Area (Table 2). However, upon further analysis and after the 2020 site visit, one species was considered to be absent from the Study Area, giant garter snake (*Thamnophis gigas*), due to the developed/urban setting, presence of predatory fish in the ditch, and periodic ditch maintenance activities. A brief description of the remaining special-status reptile that has the potential to occur within the Study Area is presented in the following section.

Northwestern Pond Turtle

The northwestern pond turtle (*Actinemys marmorata*) is not listed pursuant to either the federal or California ESAs but is designated as a CDFW SSC and a Yolo HCP/NCCP covered species. They can occur in a variety of waters including ponds, lakes, streams, reservoirs, rivers, settling ponds of wastewater treatment plants, and other permanent and ephemeral wetlands (Bury et al. 2012). However, in streams and other lotic features they generally require slack- or slow-water aquatic microhabitats (Jennings and Hayes 1994). Western pond turtles also require basking areas such as logs, rocks, banks, and brush piles for thermoregulation (Bury et al. 2012).

There are no documented CNDDB occurrences of this species located within five miles of the Study Area (CDFW 2020). However, Blacker Ditch supports potentially suitable habitat for this species within the Study Area; therefore, the northwestern pond turtle has potential to occur onsite.

4.6.6 Birds

Forty-two special-status bird species were evaluated as having the potential to occur in the Study Area (Table 2). However, upon further analysis and after the 2020 site visit, 31 species were considered to be absent from the Study Area due to the lack of suitable habitat or the Study Area is outside of the known range of the species. No further discussion of these species is provided in this analysis. A brief description of the remaining 11 species that have the potential to occur within the Study Area is presented in the following sections.

White-Tailed Kite

White-tailed kite (*Elanus leucurus*) is not listed pursuant to either the California or federal Endangered Species Acts; however, the species is fully protected pursuant to Section 3511 of the California Fish and Game Code and a Yolo HCP/NCCP covered species. This species is a common resident in the Central Valley and the entire length of the California coast, and all areas up to the Sierra Nevada foothills and southeastern deserts (Dunk 2020). In northern California, white-tailed kite nesting occurs from March through early August, with nesting activity peaking from March through June. Nesting occurs in trees within riparian, oak woodland, savannah, and agricultural communities that are near foraging areas such as low elevation grasslands, agricultural, meadows, farmlands, savannahs, and emergent wetlands (Dunk 2020).

There is one documented CNDDB occurrence of this species located within five miles of the Study Area (CDFW 2020). There is suitable nesting and foraging habitat for this species within the Study Area; therefore, white-tailed kite has potential to occur onsite.

Cooper's Hawk

The Cooper's hawk (*Accipiter cooperii*) is not listed pursuant to either the California or federal Endangered Species Acts. However, it is a CDFW "watch list" species and is currently tracked in the CNDDB. Typical nesting and foraging habitats include riparian woodland, dense oak woodland, and other woodlands near water. Cooper's hawk nest throughout California from Siskiyou County to San Diego County and includes the Central Valley (Rosenfield et al. 2020). Breeding occurs during March through July, with a peak from May through July.

There is one documented CNDDB occurrence of this species located within five miles of the Study Area (CDFW 2020). There is suitable nesting and foraging habitat for this species within the Study Area; therefore, Cooper's hawk has potential to occur onsite.

Swainson's Hawk

The Swainson's hawk (*Buteo swainsoni*) is listed as not listed under the federal ESA; however, it is a threatened species pursuant to the California ESA and a Yolo HCP/NCCP covered species. This species nests in North America (Canada, western U.S., and Mexico) and typically winters from South America north to Mexico. However, a small population has been observed wintering in the Sacramento-San Joaquin River Delta (Bechard et al. 2020). In California, the nesting season for Swainson's hawk ranges from mid-March to late August. Swainson's hawks nest in tall trees in a variety of wooded communities including

riparian, oak woodland, roadside landscape corridors, urban areas, and agricultural areas, among others. Foraging habitat includes open grassland, savannah, low-cover row crop fields, and livestock pastures. In the Central Valley, Swainson's hawks typically feed on a combination of California vole (*Microtus californicus*), California ground squirrel (*Spermophilus beecheyi*), ring-necked pheasant (*Phasianus colchicus*), many passerine birds, and grasshoppers (*Melanopulus* species). Swainson's hawks are opportunistic foragers and will readily forage in association with agricultural mowing, harvesting, disking, and irrigating (Estep 1989). The removal of vegetative cover by such farming activities results in more readily available prey items for this species.

There are over 60 documented CNDDB occurrences of this species located within five miles of the Study Area (CDFW 2020). There is suitable nesting habitat for this species within the Study Area; therefore, Swainson's hawk has potential to occur onsite. There is no potential foraging habitat within the Study Area, as the setting is largely developed.

Burrowing Owl

The burrowing owl (*Athene cunicularia*) is not listed pursuant to either the California or federal ESAs; however, it is designated as a bird of conservation concern by the USFWS, a CDFW SSC, and a Yolo HCP/NCCP covered species. Burrowing owls inhabit dry open rolling hills, grasslands, desert floors, and open bare ground with gullies and arroyos. They can also inhabit developed areas such as golf courses, cemeteries, roadsides within cities, airports, vacant lots in residential areas, school campuses, and fairgrounds (Poulin et al. 2011). This species typically uses burrows created by fossorial mammals, most notably the California ground squirrel (*Otospermophilus beecheyi)*, but may also use man-made structures such as cement culverts or pipes; cement, asphalt, or wood debris piles; or openings beneath cement or asphalt pavement (California Department of Fish and Game [CDFG] 2012). The breeding season typically occurs between February 1 and August 31 (California Burrowing Owl Consortium [CBOC] 1993; CDFG 2012).

There are four documented CNDDB occurrences of this species located within five miles of the Study Area (CDFW 2020b). There is potentially suitable nesting and foraging habitat for this species within the Study Area; therefore, burrowing owl has potential to occur onsite.

Nuttall's Woodpecker

The Nuttall's woodpecker (*Dryobates nuttallii*) is not listed and protected under either state or federal Endangered Species Acts but is considered a USFWS bird of conservation concern. They are resident from Siskiyou County south to Baja California. Nuttall's woodpeckers nest in tree cavities primarily within oak woodlands, but also can be found in riparian woodlands (Lowther et al. 2020). Breeding occurs during April through July.

There are no documented CNDDB occurrences of this species located within five miles of the Study Area (CDFW 2020b). The larger trees within the Study Area represent potentially suitable nesting and foraging habitat for this species; therefore, Nuttall's woodpecker has potential to occur onsite.

Yellow-Billed Magpie

The yellow-billed magpie (*Pica nuttalli*) is not listed pursuant to either the California or federal Endangered Species Acts but is considered a USFWS bird of conservation concern. This endemic species is a yearlong resident of the Central Valley and Coast Ranges from San Francisco Bay to Santa Barbara County. Yellow-billed magpies build large, bulky nests in trees in a variety of open woodland habitats, typically near grassland, pastures or cropland. Nest building begins in late-January to mid-February, which may take up to 6-8 weeks to complete, with eggs laid during April-May, and fledging during May-June (Koenig and Reynolds 2020). The young leave the nest at about 30 days after hatching (Koenig and Reynolds 2020). Yellow-billed magpies are highly susceptible to West Nile Virus, which may have been the cause of death to thousands of magpies during 2004-2006 (Koenig and Reynolds 2020).

There are no documented CNDDB occurrences of this species located within five miles of the Study Area (CDFW 2020b). However, there is suitable nesting and foraging habitat for this species within the Study Area; therefore, yellow-billed magpie has potential to occur onsite.

Bank Swallow

Bank swallow (*Riparia riparia*) is listed as a threatened species and protected pursuant to the California Endangered Species Act but has no federal special status. The subspecies that breeds in North America can also be found breeding in Eurasia, the Mediterranean region and winters in Central and South American and Africa (Garrison and Turner 2020). This species occurs on ocean coasts, along rivers and creeks, lakes, reservoirs, and wetlands where exposed banks are utilized for nesting (Garrison and Turner 2020). Most colonies within California are located in the extreme northern portion of the state with scattered populations along the north coast, Central Valley, Mono Basin, and Crowley Lake (Mono County) (Small 1994). Burrows are typically excavated within banks which have friable soils and nesting occurs during May through July.

There are no documented CNDDB occurrences of this species located within five miles of the Study Area (CDFW 2020b). The banks of Blacker Ditch represent marginally suitable nesting habitat for this species within the Study Area; therefore, bank swallow has low potential to occur onsite.

Oak Titmouse

Oak titmouse (*Baeolophus inornatus*) are not listed and protected under either state or federal Endangered Species Acts but are considered a USFWS bird of conservation concern. Oak titmouse breeding range includes southwestern Oregon south through California's Coast, Transverse and Peninsular ranges, western foothills of the Sierra Nevada, into Baja California; they are absent from the humid northwestern coastal region and the San Joaquin Valley (Cicero et al. 2020). They are found in dry oak or oak-pine woodlands but may also use scrub oaks or other brush near woodlands (Cicero et al. 2020). Nesting occurs during March through July.

There are no documented CNDDB occurrences of this species located within five miles of the Study Area (CDFW 2020b). However, there is suitable nesting and foraging habitat for this species within the Study Area; therefore, oak titmouse has potential to occur onsite.

"Modesto" Song Sparrow

The song sparrow (*Melospiza melodia*) is considered one of the most polytypic songbirds in North America (Miller 1956 as cited in Arcese et al.2020). The subspecies *Melospiza melodia heermanni* includes as synonyms *M. m. mailliardi* (the "Modesto song sparrow") and *M. m. cooperi* (Arcese et al. 2020). The "Modesto song sparrow" is not listed and protected pursuant to either the California or federal Endangered Species Acts but is considered a CDFW species of special concern. The subspecies *M. m. heermanni* can be found in central and southwestern California to northwestern Baja California (Arcese et al. 2020). Song sparrows in this group may have slight morphological differences but they are genetically indistinguishable from each other. The "Modesto song sparrow" occurs in the Central Valley from Colusa County south to Stanislaus County, and east of the Suisun Marshes (Grinnell and Miller 1944). Nesting habitat includes riparian thickets and freshwater marsh communities, with nesting occurring from April through June.

There are two documented CNDDB occurrences of this species located within five miles of the Study Area (CDFW 2020b). The dense thickets of emergent vegetation within Blacker Ditch represent potentially suitable nesting and foraging habitat for this species within the Study Area; therefore, "Modesto" song sparrow has potential to occur onsite.

Yellow-Headed Blackbird

The yellow-headed blackbird (*Xanthocephalus xanthocephalus*) is not listed pursuant to either the California or federal ESAs but is currently an SSC according to the CDFW. In California, yellow-headed blackbirds breed along the lower Colorado River; at the Salton Sea; locally in Kern Ventura, Riverside, San Diego, and possibly Orange counties; Clear Lake in Lake County; locally in the Central Valley from Tehama to Kern counties; Klamath Basin; Modoc Plateau; and Mono Basin (Twedt and Crawford 2020). Yellow-headed blackbird nests in colonies in emergent vegetation of deep-water palustrine wetlands (Twedt and Crawford 2020). Foraging occurs in emergent marsh, along shorelines, or in adjacent grasslands and croplands. Nesting generally occurs from April through July.

There are no documented CNDDB occurrences of this species located within five miles of the Study Area (CDFW 2020b). The patches of emergent vegetation within Blacker Ditch represent potentially suitable nesting habitat for this species within the Study Area; therefore, yellow-headed blackbird has potential to occur on site.

Tricolored Blackbird

The tricolored blackbird (*Agelaius tricolor*) is not listed under the federal ESA; however, it is listed as threatened pursuant to the California ESA. In addition, it is currently considered a USFWS BCC a CDFW SSC, and a Yolo HCP/NCCP covered species. This colonial nesting species is distributed widely throughout the Central Valley, Coast Range, and into Oregon, Washington, Nevada, and Baja California (Meese 2014). Tricolored blackbird nest in colonies that can range from several pairs to several thousand pairs, depending on prey availability, the presence of predators, or level of human disturbance. Tricolored blackbird nesting habitat includes emergent marsh, riparian woodland/scrub, blackberry thickets, densely vegetated agricultural and idle fields (e.g., wheat, triticale, safflower, fava bean fields, thistle, mustard,

cane, and fiddleneck), usually with some nearby standing water or ground saturation (Meese 2014). They feed mainly on grasshoppers during the breeding season, but may also forage upon a variety of other insects, grains, and seeds in open grasslands, wetlands, feedlots, dairies, and agricultural fields (Meese 2014). The nesting season is generally from March through August.

There are three documented CNDDB occurrences of this species located within five miles of the Study Area (CDFW 2020b). The patches of emergent vegetation within Blacker Ditch represent potentially suitable nesting habitat for this species within the Study Area; therefore, tricolored blackbird has potential to occur on site.

4.6.7 Mammals

Two special-status mammal species were evaluated as having the potential to occur in the Study Area (Table 2). However, upon further analysis and after the 2020 site visit, one species was considered to be absent from the Study Area due to the lack of suitable habitat. No further discussion of this species is provided in this analysis. A brief description of the remaining species that have the potential to occur within the Study Area is presented in the following sections.

Pallid Bat

Pallid bats (*Antrozous pallidus*) are not listed pursuant to either the California or federal Endangered Species Acts; however, it is designated as a CDFW SSC. Their range extends from British Columbia to central Mexico (Harvey et al. 2011). Pallid bat has a strong association with arid regions with rocky outcrops near water (Harvey et al. 2011). Roosting usually occurs in rock crevices and buildings, but is also found in tree cavities, caves, mines, and piles of rocks (Harvey et al. 2011). Pallid bat roosts in small colonies of 20 or more individuals (Harvey et al. 2011). This species will give birth to one to two offspring in May or June (Harvey et al. 2011).

There are no documented CNDDB occurrences of this species located within five miles of the Study Area (CDFW 2020b). However, the concrete culvert/bridge crossing at Linden Road represents marginally suitable roost habitat for this species within the Study Area; therefore, pallid bat has low potential to occur onsite.

4.7 Wildlife Movement/Corridors

The Study Area is surrounded by residential, rural residential and commercial development. As such, wildlife use is expected to be relatively low. The Study Area does not fall within an Essential Habitat Connectivity area mapped by the CDFW (CDFW 2020b). The waterway, emergent vegetation, and residential trees may support cover for local wildlife, but it is not expected to be significant due to the relatively small size of the Survey Area.

4.8 Sensitive Natural Communities

Two sensitive natural communities were evaluated in having the potential to occur within the Study Area based on the literature review (CDFW 2020b). These communities include Great Valley Cottonwood

Riparian Forest and Elderberry Savanna. During the 2020 site visit, no evidence of these plant communities was observed; in addition, no other sensitive natural communities were found onsite.

4.9 Trees

The Study Area supports a variety of native and non-native trees; most are overhanging from the adjacent residences. Tree species encountered onsite include blue gum (*Eucalyptus globulus*), Fremont's cottonwood (*Populus fremontii*), California black walnut (*Juglans hindsii*), mulberry (*Morus alba*), olive (*Olea europaea*), Chinese pistache (*Pistache chinensis*), unidentified fruit tree (*Prunus* species), valley oak (*Quercus lobata*), Goodding's black willow (*Salix gooddingii*), and coast redwood (*Sequoia sempervirens*), among many others. However, there do not appear to be any "street, "landmark," or "heritage" trees, as defined by the West Sacramento Tree Preservation Ordinance.

5.0 RECOMMENDATIONS

Based on the potential Project impacts, the following measures are recommended in order to mitigate impacts on biological resources.

5.1 Aquatic Features Recommendations

The Project may impact aquatic resources, potential Waters of the U.S./State. The following measures are recommended as a possible permitting and mitigation strategy to address potential impacts to Waters of the U.S./State:

- Conduct a delineation of aquatic resources according to methods established in the USACE wetlands delineation manual (Environmental Laboratory 1987) and Arid West Supplement (USACE 2008) and to delineate any aquatic resources that may meet the definition of Waters of the U.S. and/or Waters of the state. The delineation shall map and quantify the acreage of all aquatic resources on the Project site and shall be submitted to USACE for jurisdictional determination.
- If there are jurisdictional Waters of the U.S. present, a permit from the USACE will be required for any activity resulting in fill of wetlands and other waters. A wetland mitigation plan that satisfies USACE requirements will be needed as part of the permit application. Project proponents that obtain a Section 404 permit will also be required to obtain water quality certification from the Central Valley RWQCB pursuant to Section 401 of the CWA.
- The Applicant shall replace or restore on a "no-net-loss" basis the function of all wetlands and other waters that would be removed as a result of implementing the project. Wetland habitat will be restored or replaced at an acreage and location and by methods agreeable to USACE and the Central Valley RWQCB, depending on agency jurisdiction, and as determined during the Section 401 and Section 404 permitting processes.

5.1.1 California Department of Fish and Wildlife Lake or Streambed Alteration Agreement

This project will likely require a Notification to CDFW under California Fish and Game Code Section 1602 to request authorization to impact the aquatic features located in the Study Area.

5.2 Yolo Habitat Conservation Plan/Natural Community Conservation Plan Measures

The following Yolo HCP/NCCP measures are recommended for potential impacts to covered species:

AMM14, Minimize Take and Adverse Effects on Habitat of Western Pond Turtle

There are no specific design requirements for western pond turtle habitat, and there are no design requirements because the Project involves flood control and drainage management improvements.

If modeled upland habitat will be impacted, a qualified biologist will assess the likelihood of western pond turtle nests occurring in the disturbance area (based on sun exposure, soil conditions, and other species habitat requirements).

If a qualified biologist determines that there is a moderate to high likelihood of western pond turtle nests within the disturbance area, the qualified biologist will monitor all initial ground disturbing activity for nests that may be unearthed during the disturbance, and will move out of harm's way any turtles or hatchlings.

AMM16, Minimize Take and Adverse Effects on Habitat of Swainson's Hawk and White-tailed Kite

The Project proponent will retain a qualified biologist to conduct planning-level surveys and identify any nesting habitat present within 1,320 feet of the project footprint. Adjacent parcels under different land ownership will be surveyed only if access is granted or if the parcels are visible from authorized areas.

If the project cannot avoid potential nest trees (as determined by the qualified biologist) by 1,320 feet, the Project proponent will retain a qualified biologist to conduct preconstruction surveys for active nests consistent, with guidelines provided by the Swainson's Hawk Technical Advisory Committee (2000), between March 15 and August 30, within 15 days prior to the beginning of the construction activity. The results of the survey will be submitted to the Yolo Habitat Conservancy (Conservancy) and CDFW. If active nests are found during preconstruction surveys, a 1,320-foot initial temporary nest disturbance buffer shall be established. If project related activities within the temporary nest disturbance buffer are determined to be necessary during the nesting season, then the qualified biologist will monitor the nest and will, along with the Project proponent, consult with CDFW to determine the best course of action necessary to avoid nest abandonment or take of individuals. Work may be allowed only to proceed within the temporary nest disturbance buffer if Swainson's hawk or white-tailed kite are not exhibiting agitated behavior, such as defensive flights at intruders, getting up from a brooding position, or flying off the nest, and only with the agreement of CDFW and USFWS. The designated onsite biologist/monitor shall be on-

site daily while construction-related activities are taking place within the 1,320-foot buffer and shall have the authority to stop work if raptors are exhibiting agitated behavior.

For covered activities that involve pruning or removal of a potential Swainson's hawk or white-tailed kite nest tree, the Project proponent will conduct preconstruction surveys that are consistent with the guidelines provided by the Swainson's Hawk Technical Advisory Committee (2000). If active nests are found during preconstruction surveys, no tree pruning or removal of the nest tree will occur during the period between March 1 and August 30 within 1,320 feet of an active nest, unless a qualified biologist determines that the young have fledged and the nest is no longer active.

AMM18, Minimize Take and Adverse Effects on Western Burrowing Owl

The Project proponent will retain a qualified biologist to conduct planning-level surveys and identify western burrowing owl habitat (as defined in the Yolo HCP/NCCP Appendix A, Covered Species Accounts) within or adjacent to (i.e., within 500 feet of) a covered activity. If habitat for this species is present, additional surveys for the species by a qualified biologist are required, consistent with CDFW guidelines (CDFG 2012).

If burrowing owls are identified during the planning-level survey, the Project proponent will minimize activities that will affect occupied habitat as follows. Occupied habitat is considered fully avoided if the project footprint does not impinge on a nondisturbance buffer around the suitable burrow. For occupied burrowing owl nest burrows, this nondisturbance buffer could range from 150 to 1,500 feet (Table 3, Recommended Restricted Activity Dates and Setback Distances by Level of Disturbance for Burrowing Owls), depending on the time of year and the level of disturbance, based on current guidelines (CDFG 2012). The Yolo HCP/NCCP generally defines low, medium, and high levels of disturbances of burrowing owls as follows.

- Low: Typically 71-80 dB, generally characterized by the presence of passenger vehicles, small gas-powered engines (e.g., lawn mowers, small chain saws, portable generators), and high-tension power lines. Includes electric hand tools (except circular saws, impact wrenches and similar). Management and enhancement activities would typically fall under this category. Human activity in the immediate vicinity of burrowing owls would also constitute a low level of disturbance, regardless of the noise levels.
- Moderate: Typically 81-90 dB, and would include medium- and large-sized construction equipment, such as backhoes, front end loaders, large pumps and generators, road graders, dozers, dump trucks, drill rigs, and other moderate to large diesel engines. Also includes power saws, large chainsaws, pneumatic drills and impact wrenches, and large gasoline-powered tools. Construction activities would normally fall under this category.
- High: Typically 91-100 dB, and is generally characterized by impacting devices, jackhammers, compression ("jake") brakes on large trucks, and trains. This category includes both vibratory and impact pile drivers (smaller steel or wood piles) such as used to install piles and guard rails, and large pneumatic tools such as chipping machines. It may also include large diesel and gasoline engines, especially if in concert with other impacting devices. Felling of large trees (defined as

dominant or subdominant trees in mature forests), truck horns, yarding tower whistles, and muffled or underground explosives are also included. Very few covered activities are expected to fall under this category, but some construction activities may result in this level of disturbance.

Table 3. Recommended Restricted Activity Dates and Setback Distances by Level of Disturbance for Burrowing Owls

Time of Year	Level of Disturbance (feet) from Occupied Burrows		
	Low	Medium	High
April 1 – August 15	600	1,500	1,500
August 16 – October 15	600	600	1,500
October 16 – March 31	150	300	1,500

The Project proponent may qualify for a reduced buffer size, based on existing vegetation, human development, and land use, if agreed upon by CDFW and USFWS (CDFG 2012).

If the Project does not fully avoid direct and indirect effects on nesting sites (i.e., if the Project cannot adhere to the buffers described above), the Project proponent will retain a qualified biologist to conduct preconstruction surveys and document the presence or absence of western burrowing owls that could be affected by the covered activity. Prior to any ground disturbance related to covered activities, the qualified biologist will conduct the preconstruction surveys within three days prior to ground disturbance in areas identified in the planning-level surveys as having suitable burrowing owl burrows, consistent with CDFW preconstruction survey guidelines (CDFG 2012 "Take Avoidance Surveys"). The qualified biologist will conduct the preconstruction surveys three days prior to ground disturbance. Time lapses between ground-disturbing activities will trigger subsequent surveys prior to ground disturbance.

If the biologist finds the site to be occupied (occupancy is confirmed when at least one burrowing owl or sign is observed at or near a burrow entrance) by western burrowing owls during the breeding season (February 1 to August 31), the Project proponent will avoid all nest sites, based on the buffer distances described above, during the remainder of the breeding season or while the nest is occupied by adults or young (occupation includes individuals or family groups that forage on or near the site following fledging). Construction may occur inside of the disturbance buffer during the breeding season if the nest is not disturbed and the Project proponent develops an AMM plan that is approved by the Conservancy, CDFW, and USFWS prior to Project construction, based on the following criteria:

- The Conservancy, CDFW, and USFWS approves the AMM plan provided by the Project proponent.
- A qualified biologist monitors the owls for at least three days prior to construction to determine baseline nesting and foraging behavior (i.e., behavior without construction).
- The same qualified biologist monitors the owls during construction and finds no change in owl nesting and foraging behavior in response to construction activities.
- If the qualified biologist identifies a change in owl nesting and foraging behavior as a result of construction activities, the qualified biologist will have the authority to stop all construction-related activities within the non-disturbance buffers described above. The qualified biologist will report this information to the Conservancy, CDFW, and USFWS within 24 hours, and the

Conservancy will require that these activities immediately cease within the non-disturbance buffer. Construction cannot resume within the buffer until the adults and juveniles from the occupied burrows have moved out of the Project site, and the Conservancy, CDFW, and USFWS agree.

- If monitoring indicates that the nest is abandoned prior to the end of nesting season and the burrow is no longer in use by owls, the Project proponent may remove the nondisturbance buffer, only with concurrence from CDFW and USFWS. If the burrow cannot be avoided by construction activity, the biologist will excavate and collapse the burrow in accordance with CDFW's 2012 guidelines to prevent reoccupation after receiving approval from the wildlife agencies.

If evidence of western burrowing owl is detected outside the breeding season (December 1 to January 31), the Project proponent will establish a non-disturbance buffer around occupied burrows, consistent with Table 4-2, as determined by a qualified biologist. Construction activities within the disturbance buffer are allowed if the following criteria are met to prevent owls from abandoning important overwintering sites:

- A qualified biologist monitors the owls for at least three days prior to construction to determine baseline foraging behavior (i.e., behavior without construction).
- The same qualified biologist monitors the owls during construction and finds no change in owl foraging behavior in response to construction activities.
- If there is any change in owl roosting and foraging behavior as a result of construction activities, these activities will cease within the buffer.
- If the owls are gone for at least one week, the project proponent may request approval from the Conservancy, CDFW, and USFWS for a qualified biologist to excavate and collapse usable burrows to prevent owls from reoccupying the site if the burrow cannot be avoided by construction activities. The qualified biologist will install one-way doors for a 48-hour period prior to collapsing any potentially occupied burrows. After all usable burrows are excavated, the buffer will be removed and construction may continue.

Monitoring must continue as described above for the nonbreeding season as long as the burrow remains active.

A qualified biologist will monitor the site, consistent with the requirements described above, to ensure that buffers are enforced and owls are not disturbed. Passive relocation (i.e., exclusion) of owls has been used in the past in the Plan Area to remove and exclude owls from active burrows during the nonbreeding season (Trulio 1995). Exclusion and burrow closure will not be conducted during the breeding season for any occupied burrow. If the Conservancy determines that passive relocation is necessary, the Project proponent will develop a burrowing owl exclusion plan in consultation with CDFW biologists. The methods will be designed as described in the species monitoring guidelines (CDFG 2012) and consistent with the most up-to-date checklist of passive relocation techniques (the Conservancy will maintain a checklist of passive relocation techniques. The wildlife agencies will approve the initial list prepared by the Conservancy, and the Conservancy will update as needed in coordination with the wildlife agencies). This may include the installation of one-way doors in burrow entrances by a qualified biologist during the nonbreeding season. These doors will be in place for 48 hours and monitored twice daily to ensure that

the owls have left the burrow, after which time the biologist will collapse the burrow to prevent reoccupation. Burrows will be excavated using hand tools. During excavation, an escape route will be maintained at all times. This may include inserting an artificial structure, such as piping, into the burrow to prevent collapsing until the entire burrow can be excavated and it can be determined that no owls are trapped inside the burrow. The Conservancy may allow other methods of passive or active relocation, based on best available science, if approved by the wildlife agencies.

AMM20, Minimize Take and Adverse Effects on Habitat of Bank Swallow

The Project proponent will retain a qualified biologist to identify and quantify (in acres) bank swallow nesting habitat (as defined in Appendix A, Covered Species Accounts) within 500 feet of the Project footprint. If a 500-foot buffer from nesting habitat cannot be maintained, the qualified biologist will check records maintained by the Conservancy and CDFW to determine if bank swallow nesting colonies have been active on the site within the previous five years. If there are no records of nesting bank swallows on the site, the qualified biologist will conduct visual surveys during the period from March 1 to August 31 to determine if a nesting colony is present.

For operations and maintenance activities or other temporary activities that do not remove nesting habitat and occur outside the nesting season (September 1 to February 28), it is not necessary to conduct a record search, planning and preconstruction surveys, or any additional avoidance measures. If activities will occur during the nesting season, surveys will be necessary as for other covered activities, but the 500-foot survey distance and buffer distance may be reduced upon Conservancy and wildlife agency approval based on site-specific conditions, such as the level of noise and disturbance generated by the activity, the duration of the activity, and the presence of visual and noise buffers (e.g., vegetation, structures) between the activity and the nesting colony.

If an active bank swallow colony is present or has been present within the last five years within the planning-level survey area, the Conservancy, USFWS, and CDFW will be notified in writing within 15 working days, and the project proponent will design the project to avoid adverse effects within 500 feet of the colony site(s), unless a shorter distance is approved by the Conservancy, USFWS, and CDFW, based on site-specific conditions such as visual barriers (trees or structures) between the activity and the colony. Adjacent parcels under different land ownership will be surveyed only if access is granted or if the parcels are visible from authorized areas.

AMM21, Minimize Take and Adverse Effects on Habitat of Tricolored Blackbird

The project proponent will retain a qualified biologist to identify and quantify (in acres) tricolored blackbird nesting and foraging habitat (as defined in Yolo HCP/NCCP Appendix A, Covered Species Accounts) within 1,300 feet of the footprint of the covered activity. If a 1,300-foot buffer from nesting habitat cannot be maintained, the qualified biologist will check records maintained by the Conservancy (which will include CNDDB data, and data from the tricolored blackbird portal) to determine if tricolored blackbird nesting colonies have been active in or within 1,300 feet of the Project footprint during the previous five years. If there are no records of nesting tricolored blackbirds on the site, the qualified biologist will conduct visual surveys to determine if an active colony is present, during the period from March 1 to July 30, consistent with protocol described by Kelsey (2008).

Operations and maintenance activities or other temporary activities that do not remove nesting habitat and occur outside the nesting season (March 1 to July 30) do not need to conduct planning or construction surveys or implement any additional avoidance measures.

If an active tricolored blackbird colony is present or has been present within the last five years within the planning-level survey area, the project proponent will design the Project to avoid adverse effects within 1,300 feet of the colony site(s), unless a shorter distance is approved by the Conservancy, USFWS, and CDFW. If a shorter distance is approved, the Project proponent will still maintain a 1,300-foot buffer around active nesting colonies during the nesting season but may apply the approved lesser distance outside the nesting season. Adjacent parcels under different land ownership will be surveyed only if access is granted or if the parcels are visible from authorized areas.

5.3 Other (Non-Habitat Conservation Plan/ Natural Community Conservation Plan) Special-Status Species, Nesting Birds, and Roosting Bat Recommendations

Special-Status Plant Species Protection Guidelines. The Applicant, as a condition of Project approval, to retain qualified botanists to conduct protocol-level botanical surveys. The guidelines, at a minimum, shall require the following:

- All plant species encountered on the Project site shall be identified to the taxonomic level necessary to determine species status.
- The surveys shall be conducted no more than five years prior and no later than the blooming period immediately preceding the approval of a grading or improvement plan or any ground disturbing activities, including grubbing or clearing. If special-status plants are identified on the project site, the Project applicants shall be required to implement the following measures to mitigate the potential loss of special-status plant species:

    1. Avoid special-status plant occurrences through project design to the extent technically feasible and appropriate. Avoidance shall be deemed technically feasible and appropriate if the habitat occupied by special-status plants may be preserved onsite while still obtaining the Project purpose and objectives and if the preserved habitat features could reasonably be expected to continue to function as suitable habitat for special-status plants following project implementation.
    2. If, after examining all feasible means to avoid impacts to potential special-status plant species habitat through Project site planning and design, adverse effects cannot be avoided, then impacts shall be mitigated in accordance with guidance from the appropriate State or federal agency charged with the protection of the subject species.

3. Notify CDFW, as required by the California NPPA, if any special-status plants are found on the Project site. Notify the USFWS if any plant species listed under the Endangered Species Act are found.
4. Develop a mitigation and monitoring plan to compensate for the loss of special-status plant species found during preconstruction surveys, if any. The mitigation and monitoring plan shall be submitted to CDFW or USFWS, as appropriate depending on species status, for review and comment. The County shall consult with these entities, as appropriate depending on species status, before approval of the plan to determine the appropriate mitigation measures for impacts on any special-status plant population. Mitigation measures may include preserving and enhancing existing onsite populations, creation of off-site populations on Project mitigation sites through seed collection or transplantation, and/or preserving occupied habitat off-site in sufficient quantities to offset loss of occupied habitat or individuals.
5. If transplantation is part of the mitigation plan, the plan shall include a description and map of mitigation sites, details on the methods to be used, including collection, storage, propagation, receptor site preparation, installation, long-term protection and management, monitoring and reporting requirements, remedial action responsibilities should the initial effort fail to meet long-term monitoring requirements, and sources of funding to purchase, manage, and preserve the sites. The following performance standards shall be applied:

    i. The extent of occupied area and the flower density in compensatory reestablished populations shall be equal to or greater than the affected occupied habitat and shall be self-producing. Re-established populations shall be considered self-producing when:

        1. plants re-establish annually for a minimum of five years with no human intervention, such as supplemental seeding; and
        2. re-established habitats contain an occupied area and flower density comparable to existing occupied habitat areas in similar habitat types.

6. If offsite mitigation includes dedication of conservation easements, purchase of mitigation credits, or other off-site conservation measures, the details of these measures shall be included in the mitigation plan, including information on responsible parties for long-term management, conservation easement holders, long-term management requirements, and other details, as appropriate to target the preservation of long-term viable populations.

Special-Status (Cooper's Hawk) and other Raptors-. The Project may affect potentially nesting special-status raptors, Cooper's hawk, and other protected raptors. The Applicant shall implement the following preconstruction survey and nest avoidance measures.

- For Project activities, including tree and other vegetation removal, that begin between February 1 and September 15, qualified biologists shall conduct preconstruction surveys for white-tailed kite and northern harrier and to identify active nests on and within 500 feet of the project site. The surveys shall be conducted before the beginning of any construction activities between February 1 and September 15.
- Impacts to nesting raptors shall be avoided by establishing appropriate buffers around active nest sites identified during preconstruction raptor surveys. Project activity shall not commence within the buffer areas until a qualified biologist has determined, in coordination with CDFW, that the young have fledged, the nest is no longer active, or reducing the buffer would not likely result in nest abandonment. CDFW guidelines recommend implementation of a 500-feet-wide buffer for these raptor species, but the size of the buffer may be adjusted if a qualified biologist and the project proponent, in consultation with CDFW, determine that such an adjustment would not be likely to adversely affect the nest. Monitoring of the nest by a qualified biologist during and after construction activities shall be required if the activity has potential to adversely affect the nest.
- Trees shall not be removed during the breeding season for nesting raptors unless a survey by a qualified biologist verifies that there is not an active nest in the tree. Similarly, because northern harrier is a ground nester, ground disturbances within suitable nesting habitat for northern harrier shall not commence unless a survey verifies that an active nest is not present.

Other Special-Status Birds-Nuttall's Woodpecker, Yellow-Billed Magpie, Oak Titmouse, "Modesto" Song Sparrow, Yellow-Headed Blackbird, and MBTA-protected Birds. Before any ground-disturbing project activities begin, a qualified biologist will identify potential habitat for nesting Nuttall's Woodpecker, Yellow-Billed Magpie, Oak Titmouse, "Modesto" Song Sparrow, Yellow-Headed Blackbird, and other MBTA-protected bird species in areas that could be affected during the breeding season (February 1—August 31) by construction. To the extent feasible, construction-related vegetation removal shall occur outside the nesting season. If vegetation removal or other disturbance related to construction is required during the nesting season, focused surveys for active nests of special-status birds will be conducted before and within 14 days of initiating construction. A qualified biologist will conduct preconstruction surveys to identify active nests that could be affected. The appropriate area to be surveyed and timing of the survey may vary depending on the activity and species that could be affected. If no active nests are found during focused surveys, no further action under this measure will be required. If an active nest is located during the preconstruction surveys, the biologist will notify CDFW. If necessary, modifications to the project design to avoid removal of occupied habitat while still achieving project objectives will be evaluated and implemented to the extent feasible. If avoidance is not feasible, construction will be prohibited within a minimum of 100 feet of the nest to avoid disturbance until the nest is no longer active. These recommended buffer areas may be reduced or expanded through

consultation with CDFW. Monitoring of all occupied nests shall be conducted by a qualified biologist during construction activities to adjust the 100-foot buffer if agitated behavior by the nesting bird is observed.

Special-Status Bats- Minimize disturbance and loss of bat roost sites. The concrete culvert bridge may represent potential roosting habitat for pallid bat. There is no proposed work on or under the bridge associated with this Project. However, the Project includes vegetation clearing and bank stabilization near the bridge. As such, the following measures are recommended in order to avoid impacts to potential roost habitat for special-status bats:

- Bat surveys shall be conducted by a qualified wildlife biologist within 14 days prior to any ground disturbance. Specific survey methodologies will be determined in coordination with CDFW, and may include visual surveys of bats (e.g., observation of bats during foraging period), inspection for suitable habitat, bat sign (e.g., guano), or use of ultrasonic detectors (e.g., SonoBat, Anabat). Disturbances of any significant roost sites will be avoided to the extent feasible. If it is determined that an active roost site cannot be avoided and will be affected, bats will be excluded from the roost site before the disturbance occurs. The biologist shall first notify and consult with CDFW on appropriate bat exclusion methods and roost removal procedures. Exclusion methods may include use of one-way doors at roost entrances (bats may leave, but not reenter), or sealing roost entrances when the site can be confirmed to contain no bats. Once it is confirmed that all bats have left the roost, crews will be allowed to continue work in the area.
- Exclusion efforts may be restricted during periods of sensitive activity (e.g., during winter hibernation or while females in maternity colonies are nursing young [generally, during late spring and summer]). If a hibernation or maternity roosting site is discovered, the project developer will consult with CDFW to establish appropriate exclusionary buffers until all young are determined to be volant (i.e., able to fly) by a qualified biologist. Once it is determined that all young are volant, passive exclusion devices shall be installed and all bats will be allowed to leave voluntarily. Once it is determined by a qualified biologist that all bats have left the roost, crews will be allowed to work within the buffer zone.

5.4 Trees

There do not appear to be any “street,” “landmark,” or “heritage” trees, as defined under the tree preservation ordinance, based on the initial site reconnaissance. However, an arborist survey should be performed by an International Society of Arboriculture targeting any “street,” “landmark,” or “heritage” trees present within the Survey Area.

Any person seeking to perform any activity on a landmark, heritage, or street tree shall contact the tree administrator to discuss proposed activity and if deemed necessary, the tree administrator will inspect the site of the proposed activity. After initial consultation between the applicant and the tree administrator, the tree administrator shall confirm whether or not a permit is required. If it is determined that a permit is

required, the applicant shall apply for a permit. The application shall be signed by the property owner or his or her authorized agent.

6.0 REFERENCES

Arcese, P., M. K. Sogge, A. B. Marr, and M. A. Patten. 2020. Song Sparrow (Melospiza melodia), version 1.0. In Birds of the World (A. F. Poole and F. B. Gill, Editors). Cornell Lab of Ornithology, Ithaca, NY, USA. https://doi.org/10.2173/bow.sonspa.01.

Baldwin, B.G; D.H. Goldman; D.J. Keil; R. Patterson; and T.J. Rosatti, editors. 2012. The Jepson Manual: Vascular Plants of California, Second Edition. University of California Press, Berkeley.

Bechard, M. J., C. S. Houston, J. H. Saransola, and A. S. England. 2020. Swainson's Hawk (Buteo swainsoni), version 1.0. In Birds of the World (A. F. Poole, Editor). Cornell Lab of Ornithology, Ithaca, NY, USA. https://doi.org/10.2173/bow.swahaw.01.

Bury, R. B., D. T. Ashton, H. H. Welsh Jr., D. A. Reese, and D. J. Germano. 2012. Synopsis of Biology. Pages 9 – 19 in Bury, R. B., H. H. Welsh Jr., D. J. Germano, and D. A. Ashton, editors. Western Pond Turtle: Biology, Sampling Techniques, Inventory and Monitoring, Conservation, and Management. Northwest Fauna No. 7.

CBOC. 1993. Burrowing Owl Survey Protocol and Mitigation Guidelines.

CDFG. 2012. Staff Report on Burrowing Owl Mitigation. State of California Natural Resources Agency. March 7, 2012.

CDFW. 2020a. California Sensitive Natural Communities. Available online: https://wildlife.ca.gov/Data/VegCAMP/Natural-Communities/Background#sensitive%20natural%20communities. Accessed November 2020.

_____. 2020b. Rarefind 5 (Internet), Commercial Version. Dated August 30, 2020. California Natural Diversity Database. The Resources Agency, Sacramento.. Accessed September 2020.

Cicero, C., P. Pyle, and M. A. Patten. 2020. Oak Titmouse (Baeolophus inornatus), version 1.0. In Birds of the World (P. G. Rodewald, Editor). Cornell Lab of Ornithology, Ithaca, NY, USA. https://doi.org/10.2173/bow.oaktit.01.

CNPS. 2020. Inventory of Rare and Endangered Plants in California (online edition, v8-03 0.39). California Native Plant Society. Sacramento, CA. Available online: http://www.rareplants.cnps.org/.

Dunk, J. R. 2020. White-tailed Kite (Elanus leucurus), version 1.0. In Birds of the World (A. F. Poole and F. B. Gill, Editors). Cornell Lab of Ornithology, Ithaca, NY, USA. https://doi.org/10.2173/bow.whtkit.01..

Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual. Technical Report Y-87-1. U. S. Army Engineer Waterways Experiment Station. Vicksburg, Mississippi.

Eriksen, C. H. and D. Belk. 1999. Fairy Shrimps of California's Puddles, Pools, and Playas. Mad River Press, Inc. Eureka, California.

Estep, J.A. 1989. Biology, movements, and habitat relationships of the Swainson's hawk in the Central Valley of California, 1986-1987. California Department of Fish and Game, Nongame Bird and Mammal Section Report.

Garrison, B. A. and A. Turner. 2020. Bank Swallow (Riparia riparia), version 1.0. In Birds of the World (S. M. Billerman, Editor). Cornell Lab of Ornithology, Ithaca, NY, USA. https://doi.org/10.2173/bow.banswa.01.

Grinnell, J., and A.H. Miller. 1944. The Distribution of the Birds of California. Cooper Ornithological Club, Berkeley (reprinted 1986 by Artemisia Press, Lee Vining, California).

Harvey, M. J., S. J. Altenbach, T. L. Best. 2011. Bats of the United States and Canada. The Johns Hopkins University Press, Baltimore Maryland.

ICF International. 2016. City of West Sacramento General Plan Update Draft Environmental Impact Report. Prepared for the City of West Sacramento. Available online: https://www.cityofwestsacramento.org/government/departments/community-development/planning-division/general-plan-2035. August 2016.

Jennings, M. R. and M. P. Hayes. 1994. Amphibian and Reptile Species of Special Concern in California. Final report to California Department of Fish and Game, Inland Fisheries Branch. Rancho Cordova, CA.

Kelsey, R. 2008. Results of the 2008 Tricolored Blackbird Census: Population Status and an Analysis of Statewide Trends. Report submitted to the U.S. Fish & Wildlife Service, Portland, OR.

Koenig, W. D. and M. D. Reynolds. 2020. Yellow-billed Magpie (Pica nuttalli), version 1.0. In Birds of the World (A. F. Poole, Editor). Cornell Lab of Ornithology, Ithaca, NY, USA. https://doi.org/10.2173/bow.yebmag.01.

Lowther, P. E., P. Pyle, and M. A. Patten. 2020. Nuttall's Woodpecker (Dryobates nuttallii), version 1.0. In Birds of the World (P. G. Rodewald, Editor). Cornell Lab of Ornithology, Ithaca, NY, USA. https://doi.org/10.2173/bow.nutwoo.01.

Meese, R. J. 2014. Results of the 2014 Tricolored Blackbird Statewide Survey. University of California, Davis.

NOAA. 2020. NCDC 1981-2010 Climate Normals for Sacramento Executive Airport, CA US. Available Online: https://www.ncdc.noaa.gov/cdo-web/datatools/normals. Accessed November 2020.

National Oceanic and Atmospheric Administration (NOAA). 2020. NOAA Fisheries, West Coast Region Species Overview. Available online: https://www.fisheries.noaa.gov/region/west-coast#species. Accessed October 2020.

NRCS. 2020a. Soil Survey Geographic Database. Available Online: https://sdmdataaccess.sc.egov.usda.gov/. Accessed November 2020.

NRCS. 2020b. State Soil Data Access (SDA) Hydric Soils List. Available Online: https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcseprd1316619.html. Accessed November 2020.

Poulin, R., Todd, L. D., Haug, E. A., Millsap, B. A., & Martell, M. S. 2011. Burrowing owl (*Athene cunicularia*). The Birds of North America Online (A. Poole, Ed.). Ithaca: Cornell Lab of Ornithology, 61.

Rosenfield, R. N., K. K. Madden, J. Bielefeldt, and O. E. Curtis. 2020. Cooper's Hawk (Accipiter cooperii), version 1.0. In Birds of the World (P. G. Rodewald, Editor). Cornell Lab of Ornithology, Ithaca, NY, USA. https://doi.org/10.2173/bow.coohaw.01. Sawyer, J.O., T. Keeler-Wolf, and J. M. Evens. 2009. A Manual of California Vegetation, Second Edition. California Native Plant Society, Sacramento, California.

San Francisco Estuary Institute (SFEI). 2017. "California Aquatic Resource Inventory (CARI) version 0.3." Accessed October 2020. Available online: http://www.sfei.org/data/california-aquatic-resource-inventory-cari-version-03-gis-data#sthash.0SjnlwfO.dpbs.

Shedd, J.D. 2016. Distribution of the Western Spadefoot (*Spea hammondii*) in the Northern Sacramento Valley of California, with comments on status and survey methodology. Pages 19-29 in R.A. Schlising, E.E. Gottschalk Fisher, and C.M. Giulliams (Editors), Vernal Pools in Changing Landscapes. Studies from the Herbarium, Number 18. California State University, Chico, CA.

Small, A. 1994. California Birds: Their Status and Distribution. Ibis Publishing Company. Vista, California. 342 pp.

Stebbins, R. C., McGinnis S. M. 2012. Field Guide to Amphibians and Reptiles of California Revised Edition. Berkeley and Los Angeles, California: University of California Press.

Swainson's Hawk Technical Advisory Committee. 2000. Recommended timing and methodology for Swainson's hawk nesting surveys in California's Central Valley.

Trulio, L.A., 1995. Passive Relocation: A Method to Preserve Burrowing Owls on Disturbed Sites. Journal of Field Ornithology 66 (1):99-106

Twedt, D. J. and R. D. Crawford (2020). Yellow-headed Blackbird (*Xanthocephalus xanthocephalus*), version 1.0. In Birds of the World (A. F. Poole and F. B. Gill, Editors). Cornell Lab of Ornithology, Ithaca, NY, USA. https://doi.org/10.2173/bow.yehbla.01

USACE. 2008. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region*. Wakeley J.S., Lichvar R.W., Noble C.V. Vicksburg, Mississippi: U.S. Army Engineer Research and Development Center.

USEPA and USACE. 2008. Clean Water Act Jurisdiction Following the U.S. Supreme Court's Decision in Rapanos v. United States & Carabell v. United States. Internet website: https://www.epa.gov/sites/production/files/2016-02/documents/cwa_jurisdiction_following_rapanos120208.pdf

USFWS. 2020. USFWS Resource Report List. Information for Planning and Conservation. Internet website: https://ecos.fws.gov/ipac/location/JQMUJDODDNA5TIU3QK7PKO6OHM/resources. Accessed September 2020.

_____. 2008. Birds of Conservation Concern 2008. USFWS, Division of Migratory Bird Management, Arlington, Virginia. (Online version available at http://migratorybirds.fws.gov/reports/bcc2008.pdf).

_____. 2007. Conservancy Fairy Shrimp (*Branchinecta conservatio*), 5-Year Review: Summary and Evaluation. Sacramento Fish and Wildlife Office, Sacramento, California. Dated September 2007.

_____. 2006. Designation of Critical Habitat for Four Vernal Pool Crustaceans and Eleven Vernal Pool Plants; Final Rule. Federal Register 71(28):7118-7316.

_____. 2005a. Recovery plan for vernal pool ecosystems of California and Southern Oregon. Portland, OR. Dated December 15, 2005. http://ecos.fws.gov/docs/recovery_plan/060614.pdf

_____. 2005b. Vernal Pool Recovery Plan: Species Account for Legenere. United States Department of the Interior, USFWS. Sacramento, California. Available Online: http://www.fws.gov/sacramento/ES/Recovery-Planning/Vernal-Pool/Documents/legenere.pdf.

_____. 2004. 12-Month Finding for a Petition to List the Midvalley Fairy Shrimp as Endangered. Federal Register 69(16):3592-3598.

_____. 2003. Final Designation of Critical Habitat for Four Vernal Pool Crustaceans and Eleven Vernal Pool Plants in California and Southern Oregon; Final Rule. Federal Register 8(151):46684-46867. U.S. Department of the Interior, Fish and Wildlife Service (USFWS).

_____. 1999. Conservation Guidelines for the Valley Elderberry Longhorn Beetle. Dated July 9, 1999.

_____. 1994. Endangered and Threatened Wildlife and Plants; Determination of Endangered Status for the Conservancy Fairy Shrimp, Longhorn Fairy Shrimp, and the Vernal Pool Tadpole Shrimp; and Threatened Status for the Vernal Pool Fairy Shrimp. Portland, Oregon.

_____. 1980. Listing the Valley Elderberry Longhorn Beetle as a Threatened Species with Critical Habitat. Final Rule. Federal Register 45(155):52803-52807.

USGS. 1992. "Roseville, California" 7.5-minute Quadrangle. Geological Survey. Denver, Colorado.

Vickery, P. D. 2020. Grasshopper Sparrow (Ammodramus savannarum), version 1.0. In Birds of the World (A. F. Poole and F. B. Gill, Editors). Cornell Lab of Ornithology, Ithaca, NY, USA. https://doi.org/10.2173/bow.graspa.01. WBWG. 2020. Western Bat Species Accounts. http://wbwg.org/western-bat-species/. Accessed October 2020.

West Sacramento, City of. 1995, amended 1998. Southport Framework Plan.

_____. 2015. Chapter 8.24 Tree Preservation. Available: http://qcode.us/codes/westsacramento/view.php?topic=8-8_24&showAll=1&frames=on. Accessed: October 2020.

Williams, D.F. 1986. Mammalian Species of Special Concern in California. State of California Department of Fish and Game, Wildlife Management Division. Sacramento, California. 112 pp.

LIST OF ATTACHMENTS

ATTACHMENT A

Special-Status Species Search Results

CNPS California Native Plant Society

Inventory of Rare and Endangered Plants

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

Plant List

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

Search Criteria

Found in Quads 3812166, 3812165, 3812164, 3812156, 3812155, 3812154, 3812146 3812145 and 3812144;

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 pauperculus	depauperate milk-vetch	Fabaceae	annual herb	Mar-Jun	4.3	S4	G4
Astragalus tener var. ferrisiae	Ferris' milk-vetch	Fabaceae	annual herb	Apr-May	1B.1	S1	G2T1
Astragalus tener var. tener	alkali milk-vetch	Fabaceae	annual herb	Mar-Jun	1B.2	S1	G2T1
Atriplex cordulata var. cordulata	heartscale	Chenopodiaceae	annual herb	Apr-Oct	1B.2	S2	G3T2
Atriplex depressa	brittlescale	Chenopodiaceae	annual herb	Apr-Oct	1B.2	S2	G2
Brodiaea rosea ssp. vallicola	valley brodiaea	Themidaceae	perennial bulbiferous herb	Apr-May(Jun)	4.2	S3	G5T3
Carex comosa	bristly sedge	Cyperaceae	perennial rhizomatous herb	May-Sep	2B.1	S2	G5
Centromadia parryi ssp. parryi	pappose tarplant	Asteraceae	annual herb	May-Nov	1B.2	S2	G3T2
Centromadia parryi ssp. rudis	Parry's rough tarplant	Asteraceae	annual herb	May-Oct	4.2	S3	G3T3
Chloropyron palmatum	palmate-bracted bird's-beak	Orobanchaceae	annual herb (hemiparasitic)	May-Oct	1B.1	S1	G1
Cuscuta obtusiflora var. glandulosa	Peruvian dodder	Convolvulaceae	annual vine (parasitic)	Jul-Oct	2B.2	SH	G5T4?
Downingia pusilla	dwarf downingia	Campanulaceae	annual herb	Mar-May	2B.2	S2	GU
Eryngium jepsonii	Jepson's coyote thistle	Apiaceae	perennial herb	Apr-Aug	1B.2	S2?	G2?

Extriplex joaquinana	San Joaquin spearscale	Chenopodiaceae	annual herb	Apr-Oct	1B.2	S2	G2
Fritillaria agrestis	stinkbells	Liliaceae	perennial bulbiferous herb	Mar-Jun	4.2	S3	G3
Gratiola heterosepala	Boggs Lake hedge-hyssop	Plantaginaceae	annual herb	Apr-Aug	1B.2	S2	G2
Hesperevax caulescens	hogwallow starfish	Asteraceae	annual herb	Mar-Jun	4.2	S3	G3
Hibiscus lasiocarpos var. occidentalis	woolly rose-mallow	Malvaceae	perennial rhizomatous herb (emergent)	Jun-Sep	1B.2	S3	G5T3
Juglans hindsii	Northern California black walnut	Juglandaceae	perennial deciduous tree	Apr-May	1B.1	S1	G1
Legenere limosa	legenere	Campanulaceae	annual herb	Apr-Jun	1B.1	S2	G2
Lepidium latipes var. heckardii	Heckard's pepper-grass	Brassicaceae	annual herb	Mar-May	1B.2	S1	G4T1
Lilaeopsis masonii	Mason's lilaeopsis	Apiaceae	perennial rhizomatous herb	Apr-Nov	1B.1	S2	G2
Myosurus minimus ssp. apus	little mousetail	Ranunculaceae	annual herb	Mar-Jun	3.1	S2	G5T2Q
Navarretia leucocephala ssp. bakeri	Baker's navarretia	Polemoniaceae	annual herb	Apr-Jul	1B.1	S2	G4T2
Neostapfia colusana	Colusa grass	Poaceae	annual herb	May-Aug	1B.1	S1	G1
Plagiobothrys hystriculus	bearded popcornflower	Boraginaceae	annual herb	Apr-May	1B.1	S2	G2
Puccinellia simplex	California alkali grass	Poaceae	annual herb	Mar-May	1B.2	S2	G3
Sagittaria sanfordii	Sanford's arrowhead	Alismataceae	perennial rhizomatous herb (emergent)	May-Oct(Nov)	1B.2	S3	G3
Symphyotrichum lentum	Suisun Marsh aster	Asteraceae	perennial rhizomatous herb	(Apr)May-Nov	1B.2	S2	G2
Trifolium hydrophilum	saline clover	Fabaceae	annual herb	Apr-Jun	1B.2	S2	G2
Tuctoria mucronata	Crampton's tuctoria or Solano grass	Poaceae	annual herb	Apr-Aug	1B.1	S1	G1

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 30 September 2020].

Join CNPS

The Consortium of California Herbaria

CalPhotos

Selected Elements by Element Code

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Sacramento West (3812155) OR Grays Bend (3812166) OR Taylor Monument (3812165) OR Rio Linda (3812164) OR Davis (3812156) OR Sacramento East (3812154) OR Saxon (3812146) OR Clarksburg (3812145) OR Florin (3812144))

Element Code	Species	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
ABNFD01020	***Phalacrocorax auritus*** double-crested cormorant	None	None	G5	S4	WL
ABNGA04010	***Ardea herodias*** great blue heron	None	None	G5	S4	
ABNGA04040	***Ardea alba*** great egret	None	None	G5	S4	
ABNGA06030	***Egretta thula*** snowy egret	None	None	G5	S4	
ABNGA11010	***Nycticorax nycticorax*** black-crowned night heron	None	None	G5	S4	
ABNGE02020	***Plegadis chihi*** white-faced ibis	None	None	G5	S3S4	WL
ABNKC06010	***Elanus leucurus*** white-tailed kite	None	None	G5	S3S4	FP
ABNKC12040	***Accipiter cooperii*** Cooper's hawk	None	None	G5	S4	WL
ABNKC19070	***Buteo swainsoni*** Swainson's hawk	None	Threatened	G5	S3	
ABNKC19120	***Buteo regalis*** ferruginous hawk	None	None	G4	S3S4	WL
ABNKD06030	***Falco columbarius*** merlin	None	None	G5	S3S4	WL
ABNME03041	***Laterallus jamaicensis coturniculus*** California black rail	None	Threatened	G3G4T1	S1	FP
ABNNB03031	***Charadrius alexandrinus nivosus*** western snowy plover	Threatened	None	G3T3	S2S3	SSC
ABNNB03100	***Charadrius montanus*** mountain plover	None	None	G3	S2S3	SSC
ABNRB02022	***Coccyzus americanus occidentalis*** western yellow-billed cuckoo	Threatened	Endangered	G5T2T3	S1	
ABNSB10010	***Athene cunicularia*** burrowing owl	None	None	G4	S3	SSC
ABPAU01010	***Progne subis*** purple martin	None	None	G5	S3	SSC
ABPAU08010	***Riparia riparia*** bank swallow	None	Threatened	G5	S2	
ABPBW01114	***Vireo bellii pusillus*** least Bell's vireo	Endangered	Endangered	G5T2	S2	

Element Code	Species	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
ABPBXA0020	***Ammodramus savannarum*** grasshopper sparrow	None	None	G5	S3	SSC
ABPBXA3010	***Melospiza melodia*** song sparrow ("Modesto" population)	None	None	G5	S3?	SSC
ABPBXB0020	***Agelaius tricolor*** tricolored blackbird	None	Threatened	G2G3	S1S2	SSC
ABPBXB3010	***Xanthocephalus xanthocephalus*** yellow-headed blackbird	None	None	G5	S3	SSC
AFCHA0205A	***Oncorhynchus tshawytscha pop. 6*** chinook salmon - Central Valley spring-run ESU	Threatened	Threatened	G5	S2	
AFCHA0205B	***Oncorhynchus tshawytscha pop. 7*** chinook salmon - Sacramento River winter-run ESU	Endangered	Endangered	G5	S1	
AFCHA0209K	***Oncorhynchus mykiss irideus pop. 11*** steelhead - Central Valley DPS	Threatened	None	G5T2Q	S2	
AFCHB03010	***Spirinchus thaleichthys*** longfin smelt	Candidate	Threatened	G5	S1	
AFCJB34020	***Pogonichthys macrolepidotus*** Sacramento splittail	None	None	GNR	S3	SSC
AFCQB07010	***Archoplites interruptus*** Sacramento perch	None	None	G2G3	S1	SSC
AMACC02010	***Lasionycteris noctivagans*** silver-haired bat	None	None	G5	S3S4	
AMACC05030	***Lasiurus cinereus*** hoary bat	None	None	G5	S4	
AMACC10010	***Antrozous pallidus*** pallid bat	None	None	G5	S3	SSC
AMAJF04010	***Taxidea taxus*** American badger	None	None	G5	S3	SSC
ARAAD02030	***Emys marmorata*** western pond turtle	None	None	G3G4	S3	SSC
ARADB36150	***Thamnophis gigas*** giant gartersnake	Threatened	Threatened	G2	S2	
CTT44110CA	***Northern Hardpan Vernal Pool*** Northern Hardpan Vernal Pool	None	None	G3	S3.1	
CTT44120CA	***Northern Claypan Vernal Pool*** Northern Claypan Vernal Pool	None	None	G1	S1.1	
CTT61410CA	***Great Valley Cottonwood Riparian Forest*** Great Valley Cottonwood Riparian Forest	None	None	G2	S2.1	
CTT63440CA	***Elderberry Savanna*** Elderberry Savanna	None	None	G2	S2.1	
ICBRA03010	***Branchinecta conservatio*** Conservancy fairy shrimp	Endangered	None	G2	S2	

Element Code	Species	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
ICBRA03030	***Branchinecta lynchi*** vernal pool fairy shrimp	Threatened	None	G3	S3	
ICBRA03150	***Branchinecta mesovallensis*** midvalley fairy shrimp	None	None	G2	S2S3	
ICBRA06010	***Linderiella occidentalis*** California linderiella	None	None	G2G3	S2S3	
ICBRA10010	***Lepidurus packardi*** vernal pool tadpole shrimp	Endangered	None	G4	S3S4	
IICOL02106	***Cicindela hirticollis abrupta*** Sacramento Valley tiger beetle	None	None	G5TH	SH	
IICOL48011	***Desmocerus californicus dimorphus*** valley elderberry longhorn beetle	Threatened	None	G3T2	S2	
IIHYM15010	***Myrmosula pacifica*** Antioch multilid wasp	None	None	GH	SH	
IIHYM24250	***Bombus occidentalis*** western bumble bee	None	Candidate Endangered	G2G3	S1	
IIHYM24480	***Bombus crotchii*** Crotch bumble bee	None	Candidate Endangered	G3G4	S1S2	
IMBIV19010	***Gonidea angulata*** western ridged mussel	None	None	G3	S1S2	
PDAPI0Z130	***Eryngium jepsonii*** Jepson's coyote-thistle	None	None	G2	S2	1B.2
PDAPI19030	***Lilaeopsis masonii*** Mason's lilaeopsis	None	Rare	G2	S2	1B.1
PDAST4R0P2	***Centromadia parryi ssp. parryi*** pappose tarplant	None	None	G3T2	S2	1B.2
PDAST5L030	***Lasthenia chrysantha*** alkali-sink goldfields	None	None	G2	S2	1B.1
PDASTE8470	***Symphyotrichum lentum*** Suisun Marsh aster	None	None	G2	S2	1B.2
PDBOR0V0H0	***Plagiobothrys hystriculus*** bearded popcornflower	None	None	G2	S2	1B.1
PDBRA1M0K1	***Lepidium latipes var. heckardii*** Heckard's pepper-grass	None	None	G4T1	S1	1B.2
PDCAM060C0	***Downingia pusilla*** dwarf downingia	None	None	GU	S2	2B.2
PDCAM0C010	***Legenere limosa*** legenere	None	None	G2	S2	1B.1
PDCHE040B0	***Atriplex cordulata var. cordulata*** heartscale	None	None	G3T2	S2	1B.2
PDCHE041F3	***Extriplex joaquinana*** San Joaquin spearscale	None	None	G2	S2	1B.2

Element Code	Species	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
PDCHE042L0	***Atriplex depressa*** brittlescale	None	None	G2	S2	1B.2
PDCUS01111	***Cuscuta obtusiflora var. glandulosa*** Peruvian dodder	None	None	G5T4?	SH	2B.2
PDFAB0F8R1	***Astragalus tener var. tener*** alkali milk-vetch	None	None	G2T1	S1	1B.2
PDFAB0F8R3	***Astragalus tener var. ferrisiae*** Ferris' milk-vetch	None	None	G2T1	S1	1B.1
PDFAB400R5	***Trifolium hydrophilum*** saline clover	None	None	G2	S2	1B.2
PDMAL0H0R3	***Hibiscus lasiocarpos var. occidentalis*** woolly rose-mallow	None	None	G5T3	S3	1B.2
PDMAL110D0	***Sidalcea keckii*** Keck's checkerbloom	Endangered	None	G2	S2	1B.1
PDPLM0C0E1	***Navarretia leucocephala ssp. bakeri*** Baker's navarretia	None	None	G4T2	S2	1B.1
PDSCR0J0J0	***Chloropyron palmatum*** palmate-bracted bird's-beak	Endangered	Endangered	G1	S1	1B.1
PDSCR0R060	***Gratiola heterosepala*** Boggs Lake hedge-hyssop	None	Endangered	G2	S2	1B.2
PMALI040Q0	***Sagittaria sanfordii*** Sanford's arrowhead	None	None	G3	S3	1B.2
PMCYP032Y0	***Carex comosa*** bristly sedge	None	None	G5	S2	2B.1
PMLIL0V010	***Fritillaria agrestis*** stinkbells	None	None	G3	S3	4.2
PMPOA4C010	***Neostapfia colusana*** Colusa grass	Threatened	Endangered	G1	S1	1B.1
PMPOA53110	***Puccinellia simplex*** California alkali grass	None	None	G3	S2	1B.2
PMPOA6N020	***Tuctoria mucronata*** Crampton's tuctoria or Solano grass	Endangered	Endangered	G1	S1	1B.1

Record Count: 77

IPaC **U.S. Fish & Wildlife Service**

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Yolo County, California

Local office

San Francisco Bay-Delta Fish And Wildlife

(916) 930-5603
(916) 930-5654

650 Capitol Mall
Suite 8-300
Sacramento, CA 95814

http://kim_squires@fws.gov

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population, even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information.
2. 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.

The following species are potentially affected by activities in this location:

Birds

NAME	STATUS
Least Bell's Vireo Vireo bellii pusillus There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/5945	Endangered

Reptiles

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

Amphibians

NAME	STATUS
California Red-legged Frog Rana draytonii There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/2891	Threatened
California Tiger Salamander Ambystoma californiense There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/2076	Threatened

Fishes

NAME	STATUS
Delta Smelt Hypomesus transpacificus There is **final** critical habitat for this species. Your location overlaps the critical habitat. https://ecos.fws.gov/ecp/species/321	Threatened

Insects

NAME	STATUS
Valley Elderberry Longhorn Beetle Desmocerus californicus dimorphus There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/7850	Threatened

Crustaceans

NAME	STATUS
Vernal Pool Fairy Shrimp Branchinecta lynchi There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/498	Threatened
Vernal Pool Tadpole Shrimp Lepidurus packardi There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/2246	Endangered

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

This location overlaps the critical habitat for the following species:

NAME	TYPE

Delta Smelt Hypomesus transpacificus Final
https://ecos.fws.gov/ecp/species/321#crithab

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Measures for avoiding and minimizing impacts to birds http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Nationwide conservation measures for birds http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the

relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE" INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Jan 1 to Aug 31
Black-chinned Sparrow *Spizella atrogularis* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9447	Breeds Apr 15 to Jul 31
Burrowing Owl *Athene cunicularia* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9737	Breeds Mar 15 to Aug 31

California Thrasher Toxostoma redivivum — Breeds Jan 1 to Jul 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Clark's Grebe Aechmophorus clarkii — Breeds Jan 1 to Dec 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Common Yellowthroat Geothlypis trichas sinuosa — Breeds May 20 to Jul 31
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/2084

Costa's Hummingbird Calypte costae — Breeds Jan 15 to Jun 10
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/9470

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

Lawrence's Goldfinch Carduelis lawrencei — Breeds Mar 20 to Sep 20
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9464

Lewis's Woodpecker Melanerpes lewis — Breeds Apr 20 to Sep 30
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9408

Long-billed Curlew Numenius americanus — Breeds elsewhere

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/5511

Marbled Godwit Limosa fedoa — Breeds elsewhere

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9481

Nuttall's Woodpecker Picoides nuttallii — Breeds Apr 1 to Jul 20

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/9410

Oak Titmouse Baeolophus inornatus — Breeds Mar 15 to Jul 15

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9656

Rufous Hummingbird selasphorus rufus — Breeds elsewhere

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/8002

Short-billed Dowitcher Limnodromus griseus — Breeds elsewhere

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9480

Song Sparrow Melospiza melodia — Breeds Feb 20 to Sep 5

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

Spotted Towhee Pipilo maculatus clementae — Breeds Apr 15 to Jul 20
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/4243

Tricolored Blackbird Agelaius tricolor — Breeds Mar 15 to Aug 10
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/3910

Whimbrel Numenius phaeopus — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9483

Willet Tringa semipalmata — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Wrentit Chamaea fasciata — Breeds Mar 15 to Aug 10
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Yellow-billed Magpie Pica nuttalli — Breeds Apr 1 to Jul 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9726

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ “Proper Interpretation and Use of Your Migratory Bird Report” before using or

attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

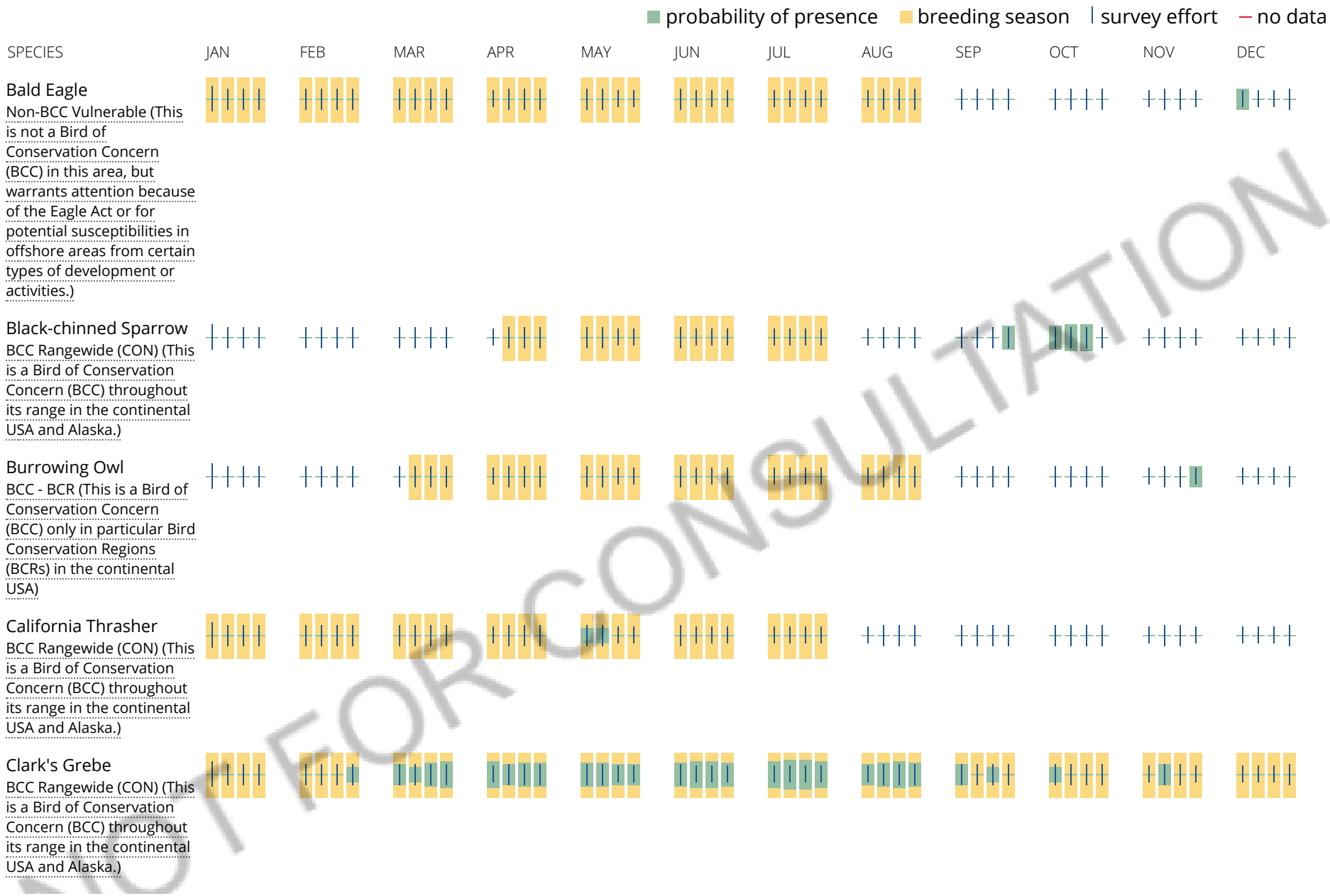
Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

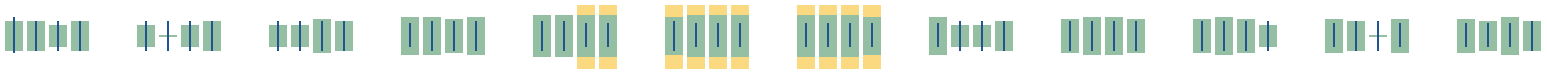
No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

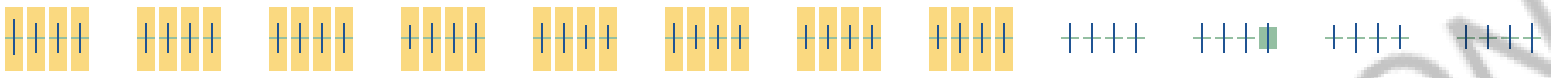


Common Yellowthroat
BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)



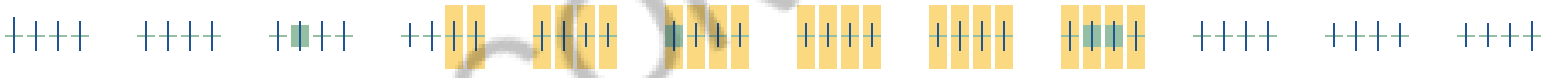
Costa's Hummingbird
BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)

Golden Eagle
Non-BCC Vulnerable (This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.)



Lawrence's Goldfinch
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Lewis's Woodpecker
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



Long-billed Curlew
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Marbled Godwit
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

SPECIES	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Nuttall's Woodpecker BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)												
Oak Titmouse BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)												
Rufous Hummingbird BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)												
Short-billed Dowitcher BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)												
Song Sparrow BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)												

Spotted Towhee
BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)

Tricolored Blackbird
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Whimbrel
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Willet
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Wrentit
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Yellow-billed Magpie
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure.

To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures and/or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the AKN Phenology Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets .

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds guide. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ “What does IPaC use to generate the migratory birds potentially occurring in my specified location”. Please be aware this report provides the “probability of presence” of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the “no data” indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and

helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

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

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

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

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

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

This location overlaps the following wetlands:

RIVERINE

R2UBHx
R4SBCx
R5UBFx

A full description for each wetland code can be found at the National Wetlands Inventory website

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

NMFS Species List

Sacramento West 7.5-minute USGS Quad

ESA Anadromous Fish

CVSR Chinook Salmon ESU (T)

SRWR Chinook Salmon ESU (E)

CCV Steelhead DPS (T)

sDPS Green Sturgeon (T)

ESA Anadromous Fish Critical Habitat

CVSR Chinook Salmon Critical Habitat

SRWR Chinook Salmon Critical Habitat

CCV Steelhead Critical Habitat

sDPS Green Sturgeon Critical Habitat

Essential Fish Habitat

Chinook Salmon EFH

Groundfish EFH

Accessed 10/27/2020

https://archive.fisheries.noaa.gov/wcr/maps_data/california_species_list_tools.html

ATTACHMENT B

Representative Site Photographs

Photo 1. Western Portion of Blacker Ditch, facing E, September 30, 2020.

Photo 2. Linden Road Culvert Crossing, facing NE, September 30, 2020.

Photo 3. Blacker Ditch at Jefferson Boulevard, Facing NE, September 30, 2020.

Photo 4. Proposed Staging Area, facing N, September 30, 2020.