

Biological Resources Letter Report and Preliminary Wetlands Assessment for the Thorntree Drive Grading Project APN 016-200-122

NorthStar biologists, Matt Rogers, Andrew Huneycutt and Jake Sivertson conducted a biological resources evaluation survey at the Thorntree Drive Grading project site (**Attachment A-Location Map**). The survey was conducted on June 7, 2018 during the morning from approximately 9:00 a.m. to 12:30 p.m., temperatures were in the low-70s with very little cloud cover and light winds. The survey began at the northern boundary of the parcel and traveled south covering the entirety of the project area. The purpose of the survey was to document existing site conditions and evaluate the project area for habitats that may be suitable for special-status species.

PROJECT DESCRIPTION

The proposed project involves grading and leveling an approximate 6.9-acre area. The purpose of the grading is to facilitate the future development of the site, with a land use allowed under the existing zoning classification and consistent with the general plan land use designations. The grading will involve a cut volume of approximately 1017 cubic yards with a fill volume of approximately 8550 cubic yards of material across the site. The types of equipment utilized for the project may include but are not limited to a grader, dump haul trucks, backhoe, excavator, and work trucks.

An upland flow conveyance ditch will be constructed along the eastern, southern, and a portion of the western boundaries of the property. The conveyance ditch will be approximately 10 feet wide and contain a berm approximately 0.5 feet tall and one foot wide. Additionally, a bio-retention basin will be constructed on the western side of the parcel. The bio-retention basin will be approximately 10 feet wide and the base and approximately two feet deep. The bottom of the bio-retention basin will contain a subsurface drainage/storage layer consisting of gravel overlain with a layer of soil. Native grasses will be planted along the slope of the basin to prevent erosion. The basin will also include an outfall weir near its southern intersection with the upland flow ditch.

The project will maintain a distance of 15 feet away from the toe of the existing Sycamore Creek Federal setback levee. With the addition of the 10-foot width for the upland flow conveyance ditch the distance the grading will maintain from the setback levee is 25 feet. The project is approximately 110 feet away from the top of the bank of Sycamore Creek and approximately 165 feet away from the centerline of Sycamore Creek.

EXISTING CONDITIONS

The proposed project site is located in the northern part of the City of Chico located just north of Sycamore Creek. The project is located in Section 11, Township 22N, Range 1E of the Richardson Springs U.S. Geologic Survey (USGS) 7.5-minute quadrangle. More specifically, the project is located within APN 016-200-122 on Thorntree Drive approximately 700 feet east of Cohasset Road within the City of Chico city limits. The topography of the project area is gentle and flat, with an elevation of approximately 198 feet above mean sea level. The most prominent man-made feature within the BSA is the Sycamore Creek Federal setback levee present on the north bank of Sycamore Creek and south of the proposed project area.

The project site area is characterized as vacant undeveloped land in the northeastern portion of Chico along Thorntree Drive. Vegetation found on-site is typical of annual grasslands within the northern Central Valley. The habitat present is comprised primarily of non-native and invasive annual grass species such as wild oat (*Avena barbata*), ripgut brome (*Bromus diandrus*), medusa head (*Elymus caput-medusae*), foxtail barley (*Hordeum murinum*), and Italian rye (*Festuca perennis*). Non-native forbs present include yellow-star thistle (*Centaurea solstitialis*), bristly ox-tongue (*Helminthotheca echioides*), chickory (*Cichorium intybus*), Klamath weed (*Hypericum*

perforatum), winter vetch (*Vicia villosa*), hawksbit (*Leontodon saxatilis*), and German chamomile (*Matricaria chamomile*). Native plant species present include bicolored lupine (*Lupinus bicolor*), Indian milkweed (*Asclepias eriocarpa*), and harvest brodiaea (*Brodiaea elegans*). Surrounding uses include commercial and industrial uses to the north and open space to the east, west, and south (**Attachment B – Site Photos**).

No trees or shrubs are present within the project area. A valley oak (*Quercus lobata*) and a black locust (*Robinia pseudoacacia*) are present on the adjacent parcel to the west near Thorntree Drive. Trees and shrubs are found south of the Sycamore Creek Federal setback levee along the banks of the creek. Species present include Fremont cottonwood (*Populus fremontii*), arroyo willow (*Salix lasiolepis*), and buckbrush (*Ceanothus cuneatus*).

There are no aquatic features within the project area that would be considered jurisdictional under the current U.S. Army Corps of Engineers (USACE) definition for Waters of the United States (WOUS). Additionally, there are no aquatic features within the project area that would be considered special aquatic sites such as vernal pools, springs or wetlands. Two elevational features are found within the project area that collect and direct on-site sheet flow only; prior to conveying off-site. These elevational features do not exhibit an ordinary high water mark, and do not contain bed, bank, and/or scour morphology. Additionally, the plant communities within and surrounding these features are not indicative of wetlands as the species present are not hydrophytic. Additionally, the soils found within these elevational features are loamy in texture indicating they are relatively well draining. Wetland and vernal pool soils in the area tend to have larger portions of clay which allow the soils to hold water or perch it. Therefore, the elevational features do not contain any of the three diagnostic features of a wetland (wetland hydrology, hydric soils, hydrophytic vegetation) nor do they contain the scour morphology or hydrogeomorphic characteristics to classify them as WOUS.

Sycamore Creek is present within the BSA but is found outside of the project area, as the grading will maintain a minimum distance from the Federal Setback levee. Sycamore creek would likely be considered jurisdictional by the USACE as an Other Water of the United States designated as a non-relatively permanent water. The feature is ephemeral in nature as water is only present during and immediately following the rainy season (November-March). The project will maintain a large set back from Sycamore Creek due to the Federal Setback levee and its position in relation to the project area and the creek.

The full list of the species observed during the survey can be found in **Attachment C**.

REGULATORY FRAMEWORK

The following laws and regulations were identified as possible constraints to project activities within the survey area based on the occurrence and/or potential for occurrence of sensitive natural resources.

Federal Endangered Species Act

The United States Congress passed the federal Endangered Species Act (ESA) in 1973 to protect those species that are endangered or threatened with extinction. The ESA is intended to operate in conjunction with the National Environmental Policy Act (NEPA) to help protect the ecosystems upon which endangered and threatened species depend.

Under the ESA, species may be listed as “endangered”, “threatened”, “candidate”, or “proposed” An endangered species is in danger of extinction throughout all or a significant portion of its range. A threatened species is likely to become endangered within the foreseeable future throughout all or a significant portion of its range. “Candidate” species are species for which there is enough information to warrant proposing them for listing, but that have not yet been proposed. “Proposed” species are those that have been proposed for listing but have not yet been listed.

Section 9 of the ESA prohibits the “take” a listed animal without a permit. “Take” is defined to include harassing, harming, pursuing, hunting, shooting, wounding, killing, trapping, capturing, or collecting or any attempt to engage in any such conduct. “Harm” is defined as “an act which actually kills or injures wildlife. Such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering.” Under Section 7 of the ESA, federal agencies are required to consult with the USFWS or National Marine Fisheries Service (NMFS) if their actions, including permit approvals or funding, could adversely affect an endangered plant or wildlife species or its habitat, or could adversely affect designated critical habitat. Through consultation and the issuance of a biological opinion, USFWS or NMFS can issue an incidental take statement allowing take of the species, provided the action will not jeopardize the continued existence of any federally listed species or result in the destruction or adverse modification of habitats of those species. Section 10 of the ESA provides for issuance of incidental take permits to private parties without a federal nexus provided a Habitat Conservation Plan (HCP) is developed.

Migratory Bird Treaty Act

The federal Migratory Bird Treaty Act (MBTA) (16 USC §703) prohibits the killing of migratory birds or the destruction of their occupied nests and eggs except in accordance with regulations prescribed by the USFWS. The bird species covered by the MBTA includes nearly all of those that breed in North America, excluding introduced (i.e. exotic) species (50 Code of Federal Regulations §10.13).

California Endangered Species Act

The California Endangered Species Act enacted in 1984, is similar to the federal ESA, but pertains to state-listed endangered and threatened species. The CESA requires state agencies to consult with the CDFW when preparing documents to comply with the CEQA. The purpose is to ensure that the actions of the lead agency do not jeopardize the continued existence of a listed species or result in the destruction, or adverse modification of habitat essential to the continued existence of those species. In addition to formal listing under the federal and state endangered species acts, “species of special concern” receive consideration by CDFW. Species of special concern are those whose numbers, reproductive success, or habitat may be threatened.

California Fish and Game Code Sections 3503 and 3503.5

The California Fish and Game Code (CFG) (§3503) states that “It is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto.” “Take” includes the disturbance of an active nest resulting in the abandonment or loss of young.

Section §3503.5 of the CFG states that it is “unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation pursuant thereto.”

California Fish and Game Code Section 1900-1913

The California Native Plant Protection Act (CFG §1900-1913) prohibits the taking, possessing, or sale within the state of any plants with a state designation of rare, threatened, or endangered as defined by CDFW. An exception to this prohibition allows landowners, under specific circumstances, to take listed plant species, provided that the owners first notify CDFW and give the agency at least 10 days to retrieve (and presumably replant) the plants before they are destroyed. Fish and Game Code §1913 exempts from the “take” prohibition “the removal of endangered or rare native plants from a canal, lateral ditch, building site, or road, or other right of way.” Very few of the plants constituting List 3 and List 4 meet the definitions of §1901, Chapter 10 (Native Plant Protection Act) or Sections 2062 and 2067 (California Endangered Species Act) of the California Department of Fish and Game Code,

and few, if any, are eligible for state listing. Therefore, List 3 and List 4 plant species are not required to be considered in the preparation of environmental documents relating to CEQA unless they are considered locally or regionally significant.

The CNPS maintains a list of plant species native to California with low population numbers, limited distribution, or otherwise threatened with extinction. This information is published in the Inventory of Rare and Endangered Vascular Plants of California (CNPS 2001). Potential impacts to populations of CNPS-listed plants receive consideration under CEQA review. The CNPS listings categorize plants as follows:

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

Public Resources Code CEQA Guidelines Section 15380

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

METHODS

Prior to conducting the onsite survey, existing databases, topographic maps, and aerial photos of the Biological Survey Area (BSA) consisting of the site plus a surrounding 200-foot buffer were reviewed and areas of potential habitat noted. After conducting the survey, agency special-status species lists were reviewed and edited taking into account existing conditions observed within the BSA.

NorthStar obtained lists of special-status species that potentially occur in the vicinity of the BSA from the United States Fish and Wildlife Service (USFWS) Information for Planning and Consultation, the California Department of Fish and Wildlife's (CDFW) California Natural Diversity Database (CNDDDB), and the California Native Plant Society's (CNPS) Online Rare and Endangered Plant Inventory v8-02. The lists of special-status species identified as potentially occurring are found in **Attachment D**.

NorthStar biologists conducted a biological survey of the project site and surrounding habitat to examine the site for potentially sensitive biological resources. The survey methodology involved traversing a meandering transect through the project area and surrounding habitat. The survey was general in nature and was conducted to determine the presence of special-status species and habitats within the BSA and to determine if these resources would be impacted by the proposed project. Species encountered during the survey were noted.

Following the field survey, the "potential for occurrence" was determined based on the quality and types of habitats observed at the site. For plants, the potential for occurrence is considered during the appropriate

flowering period. For birds and bats, the potential for occurrence is considered during the appropriate timeframes when these species breed, forage, roost, over-winter, or stop-over in the BSA during migration. Any bird or bat species could flyover the BSA, but this is not considered a potential for occurrence. The categories for the potential for occurrence include:

- **None:** The species or natural community is known not to occur, and has no potential to occur in the BSA based on sufficient surveys, the lack of suitable habitat (including soil, vegetation, connectivity, etc.), and/or the BSA is well outside of the known distribution of the species.
- **Low:** Potential habitat in the BSA is sub-marginal and the species is not known to occur in the vicinity of the BSA. Protocol-level surveys are not recommended.
- **Moderate:** Suitable habitat is present in the BSA and the species is known to occur in the vicinity of the BSA.
- **High:** Habitat in the BSA is highly suitable for the species and there are reliable records close to the BSA, but the species was not observed.
- **Known:** The species or natural community was detected in the BSA or a recent reliable record exists for the BSA.

RESULTS

A list of the special-status species identified by resources agencies and their potential for occurrence within the project area can be found in **Attachment E**. The following narrative focuses on the species identified in agency lists and their potential to occur within the project area. After an examination of the habitat present on-site, there are no federally listed species with potential to occur within the project area or the surroundings. The only special-status species with potential to occur on-site are birds protected by the MBTA.

Plants

There were two federally listed plant species found on the official USFWS list Butte County meadowfoam (*Limnanthes floccosa* ssp. *californica*) and slender Orcutt grass (*Orcuttia tenuis*). Two additional federally listed species were identified on the CDFW and CNPS agency lists including Greene's tuctoria (*Tuctoria greenei*), and Hoover's spurge (*Euphorbia hooveri*). All four of these species are associated with vernal pool habitats in California.

There are no vernal pools or wetlands present within the project area completely eliminating the potential for those federally listed species to occur. Many of the other special-status species listed in agency lists are found in vernal pools, wetlands, and mesic habitats which are not present within the BSA.

The BSA is heavily invaded by non-native and invasive grass species, much of the BSA is covered in slender oat and medusa head eliminating the potential habitat for the special-status species identified in the agency lists. Non-native and invasive grasses are extremely adept at utilizing moisture and nutrients in the upper soil layers, limiting availability for more deeply rooted native species. Additionally, non-native and invasive grasses produce a layer of thatch that covers the ground limiting germination for special-status species. Due to the disturbed nature of the grassland present within the BSA no special-status plant species have the potential to occur on-site.

Invertebrates

Four federally listed invertebrates were found on the official USFWS list including valley elderberry longhorn beetle (VELB, *Desmocerus californicus dimorphus*), conservancy fairy shrimp (*Branchinecta conservatio*), vernal pool fairy shrimp (*Branchinecta lynchi*), and vernal pool tadpole shrimp (*Lepidurus packardi*).

The VELB is found exclusively in blue elderberry (*Sambucus nigra* spp. *caerulea*) shrubs in California's Central Valley where the species utilizes the shrubs for all life stages. Females will lay eggs on the bark of the shrub where they

hatch and the larvae will bore into a stem where it will live for one to two years feeding on the pith. After developing, an adult beetle will exit the stem and emerge to seek a mate. The adults are not particularly strong fliers and do not appear to disperse very far. The beetle will utilize shrubs with stems at least one inch in diameter. Typically, blue elderberry shrubs are found along riparian corridors at lower elevations. A majority of the valley elderberry longhorn beetle occurrences in the northern Central Valley are found along the main stem of the Sacramento River. At a local level, much of the variation in VELB occupancy of elderberry results from variables including elderberry condition, elderberry density, water availability, and the health of the riparian habitat. Research indicates that healthy riparian systems with dense elderberry clumps are the primary habitat of the beetle.

No elderberry shrubs are present within the BSA or within the vicinity of the proposed project, completely eliminating the potential for the species to occur.

Conservancy fairy shrimp, vernal pool fairy shrimp, and vernal pool tadpole shrimp are species that rely on vernal pool landscapes in northern California. They require ephemeral water to complete their life cycles. There are no vernal pools or wetland habitats present within the project area completely eliminating the potential for these species to occur.

Fish

The only federally listed fish species found on the official USFWS list is delta smelt (*Hypomesus transpacificus*). The CDFW list contains two additional species, Central Valley Spring Run Chinook Salmon (*Oncorhynchus tshawytscha*), and Central Valley steelhead (*Oncorhynchus mykiss*). Delta smelt are confined to the Delta region of California in estuary habitats. Spring Run Chinook Salmon and Central valley steelhead are found on the Sacramento River and its tributaries, favoring cold and clean water for holding and spawning.

The project area does not contain any riverine habitat that would support the four federally listed species found on the agency lists. There is no potential for these species to be affected by the proposed project.

Reptiles and Amphibians

Two federally listed species were found on the official USFWS list including giant garter snake (*Thamnophis gigas*) and California red-legged frog (*Rana draytonii*).

The giant garter snake is an endemic species found only within California's Central Valley. The species inhabits seasonal and permanent marsh and wetland habitat, low gradient streams, sloughs, small lakes, and adjacent uplands but will also utilize agricultural wetlands such as irrigation and drainage canals. Due to direct loss of habitat the species is especially reliant on rice in the Central Valley. The nearest known occurrence of giant garter snake in Butte County is approximately 7.4 miles to the southwest of the project site at the Chico Water Pollution Control Plant. Additionally, there is no aquatic habitat to support the species within the project area. Therefore, there is no potential for the species to occur within the project area.

The California red-legged frog is found in deep slow-moving water with dense stands of overhanging willow, cattail, or bulrush. California red-legged frogs have been extirpated from most historical localities including the Central Valley. There is no potential for the species to occur within the project area as they are presumed extinct from the entire Central Valley.

Foothill yellow-legged frog (*Rana boylei*) is found in many environs throughout California from the coast range to the transverse mountains in Los Angeles and throughout northern California west of the Cascade crest. It is found in rocky streams in a variety of habitats including riparian, conifer dominated, chaparral, wet meadow, etc. The species generally is found in partially shaded, shallow stream riffles typically in low to moderate gradient streams,

especially for breeding and egg laying. The tadpoles require at least three to four months to develop, therefore, the species is rarely found away from permanent water sources. American bullfrog (*Lithobates catesbiana*) is a voracious predator of foothill yellow-legged frogs of all life stages and is one of the drivers of the species decline in California. There are no permanent sources of water within the BSA that could support foothill yellow-legged frog. Sycamore Creek is ephemeral and only contains water during the winter and early spring. Additionally, the nearest known occurrences are over five miles from the BSA in the foothills near Richardson Springs where permanent water is present. The record found near the confluence of Big Chico Creek and the Sacramento River is presumed extinct as they have not been detected at the location for over 50 years. A prominent expert on the species made that determination.

Northwestern pond turtle is found in a variety of aquatic habitats within California and is the only abundant native turtle in the state. They are associated with permanent or nearly permanent water in a wide variety of habitats and elevations ranging from sea-level to 4,500 feet. The species requires basking sites such as rocks, submerged logs, mud banks, etc. Nests are typically constructed along banks of permanent water in soils at least four inches deep. There is no permanent or nearly permanent water within the BSA, water in Sycamore Creek is only ephemeral present during the rainy season.

Western spadefoot (*Spea hammondi*) is a relatively small, smooth skinned toad, with white and orange tipped tubercles on its back, and distinctive vertical pupils. It is named for the sharp-edged “spades” on its hind feet utilized for digging. The species occupies grassland, sage scrub, and woodland habitats from Tehama County to Baja. The species is dependent on ephemeral pools or slow-moving water courses that are predator free for breeding. Larval development can be rapid (approximately 30 days) if vernal pools are drying. There is no ephemeral water found within the project area. Sycamore Creek may provide suitable habitat but the area is heavily invaded with non-native predators including bullfrog, thus limiting the potential for the species to utilize this area for breeding.

Birds

The only federally listed bird species found on the agency lists was the federally endangered least Bell’s vireo (*Vireo bellii pusillus*). The least Bell’s vireo is found in willow scrub habitats within riparian habitats in California. The species has not been detected in the northern Central Valley for a very long time, the most recent record from the area is an occurrence from the Chico area in the early 1900’s. The most recent record from the Central Valley was from the Yolo Bypass in 2011 over 80 miles from the project area. There is no willow scrub or riparian habitat found within the project area, therefore, there is no potential for the species to occur.

Many of the other species listed require trees or shrubs for nesting and none are present within the project area. The cottonwoods found adjacent to Sycamore Creek could provide suitable habitat for raptors such as Swainson’s hawk, however, no large stick nests were observed during the biological survey of the site.

Migratory birds are protected in varying degrees under California Fish and Game code, Section 3503.5, and the Migratory Bird Treaty Act (MBTA). The habitat within the project area could provide suitable nesting and foraging habitat for several species protected by the MBTA including western meadowlark (*Sturnella neglecta*), lark sparrow (*Chondestes grammacus*), savannah sparrow (*Passerculus sandwichensis*), Lincoln’s sparrow (*Melospiza lincolnii*) and northern harrier (*Circus hudsonius*). Additionally, species protected by the MBTA were observed during the biological survey of the project area. However, there was no evidence they were utilizing the project area for nesting.

Mammals

The special-status mammals found in Attachment E primarily consist of bat species such as hoary bat, pallid bat, silver-haired bat, western mastiff bat, and Yuma myotis. There is no potential roosting habitat for any of these species as there are no trees or rocky cliffs found within the BSA. There is potential foraging habitat above the grassland within the BSA, however, it is of lower quality than the greater surrounding areas such as lower and upper Bidwell Park where a variety of habitats are present providing a more robust prey base.

CONCLUSIONS AND RECOMMENDATIONS

The following measures would ensure impacts to special-status species would be avoided or minimized.


Migratory Birds and Raptors

Vegetation removal or ground disturbance in areas where nests of birds protected by the MBTA (16 USC §703) potentially occur, should be conducted between September 1 and February 28 (i.e. the non-breeding season). If vegetation removal or ground disturbance occurs during the breeding season (i.e. March 1 to August 31) then it is recommended that a qualified biologist perform the following:

- Conduct a survey for raptors and all other birds protected by the MBTA and map all nests located within 250 feet of construction areas. The survey should be conducted no more than two weeks prior to the start of project activities.
- If an active nest is located, develop buffer zones around active nests that are sufficient enough in size to ensure impacts to nesting species are avoided. Project activities shall be prohibited within the buffer zones until the young have fledged or the nest fails, as determined by a qualified biologist.

Please feel free to contact NorthStar with any questions at (530) 893-1600 or via email at mrogers@northstareng.com

Prepared by:


Matt Rogers
Associate Biologist

Attachments

Attachment A-Site Photos
Attachment B-Map of Survey Area
Attachment C- Observed Species List
Attachment D- USFWS, CDFW, and CNPS Special-Status Species Lists
Attachment E - Special-status species and sensitive natural communities

ATTACHMENT A:

SITE PHOTOS



PHOTO 1 -

APN 016-200-122.

Proposed project parcel found on the left side of the photo.

- Standing along the western boundary of the property approximately halfway into the parcel facing southeast looking towards the Sycamore Creek levee.

7 June 2018



PHOTO 2 -

APN 012-200-122.

Central portion of the proposed project area with the eastern boundary off in the background.

- Standing in the central portion of the project area looking northeast.

7 June 2018



PHOTO 3 -

Sycamore Creek levee and APN 012-200-122.

The Sycamore Creek levee and the surrounding land. The proposed project area is found on the right side of the photo.

- Standing on the Sycamore Creek levee looking southwest.

7 June 2018



PHOTO 4 -

APN 012-200-122.

Eastern boundary of the proposed project area. Project area found on the right side of the photo.

- Standing along the eastern boundary looking southeast towards the Sycamore Creek levee.

7 June 2018



PHOTO 5 -

APN 012-200-122.

Large patch of invasive Klamath weed present within the project area. Non-native and invasive grasses are present in the background of the photo.

- Standing within the property looking generally south towards Sycamore Creek.

7 June 2018



PHOTO 6 -

APN 012-200-122.

Annual grassland habitat within project area consisting of primarily non-native and invasive grasses such as medusa head and slender oat.

- Standing within the property looking west.

7 June 2018





PHOTO 7 -

Sycamore Creek setback levee and Sycamore Creek.

The Sycamore Creek federal setback levee and the habitat surrounding Sycamore Creek.

- Standing on the Sycamore Creek levee looking southeast towards Sycamore Creek.

7 June 2018



PHOTO 8 -

Sycamore Creek.

The main channel of Sycamore Creek with limited riparian vegetation consisting of willow and cottonwood.

- Standing within the channel looking downstream.

7 June 2018


ATTACHMENT B:

MAP OF SURVEY AREA




Content may not reflect National Geographic's current map policy.
 Sources: National Geographic, Esri, DeLorme, HERE, UNEP-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, increment P Corp.

Legend

 Project Parcel

0 250 500 1,000 Feet
 1 inch = 500 ft (printed at 8.5 x 11)


Imagery Source: USGS Topo
 Inset Imagery: National Geographic

 Within Section 11, Township 22N, Range 01E, Butte County, CA
 RICHARDSON SPRINGS USGS 7.5' Quad

Map Date: November 5, 2018	Drawn By: BSA	NSE Project # 18-001
-------------------------------	------------------	-------------------------

Figure 1: Location Map

North Sycamore Creek Grading Plan
 - Butte County, CA -

 **NORTHSTAR**
 ... Designing Solutions

111 MISSION RANCH BLVD., SUITE 100 CHICO, CA 95926
 PHONE: (530) 893-1600 - www.northstar.com

Appendix B

ATTACHMENT C:

OBSERVED SPECIES LIST

Plants

Bicolored lupine	<i>Lupinus bicolor</i>
Black locust	<i>Robinia pseudoacacia</i>
Bristly ox tongue	<i>Helminthotheca echioides</i>
Buck brush	<i>Ceanothus cuneatus</i>
Chicory	<i>Cichorium intybus</i>
Foxtail barley	<i>Hordeum murinum</i>
German chamomile	<i>Metricaria chamomilla</i>
Harvest brodiaea	<i>Brodiaea elegans</i>
Hawksbit	<i>Leontodon saxatilis</i>
Indian milkweed	<i>Asclepias eriocarpa</i>
Italian rye	<i>Festuca perennis</i>
Klamath weed	<i>Hypericum perforatum</i>
Medusa head	<i>Elymus caput-medusae</i>
Ripgut brome	<i>Bromus diandrus</i>
Valley oak	<i>Quercus lobata</i>
Wild oat	<i>Avena barbata</i>
Winter vetch	<i>Vicia villosa</i>
Yellow star thistle	<i>Centaurea solstitialis</i>

Birds

American goldfinch	<i>Spinus tristis</i>
Barn swallow	<i>Hirundo rustica</i>
Bullock's oriole	<i>Icterus bullockii</i>
Cliff swallow	<i>Petrochelidon pyrrhonota</i>
Eurasian collared dove	<i>Streptopelia decaocto</i>
European starling	<i>Sternus vulgaris</i>
House finch	<i>Haemorhous mexicanus</i>
House sparrow	<i>Passer domesticus</i>
Lesser goldfinch	<i>Spinus psaltria</i>
Mourning dove	<i>Zenaida macroura</i>
Northern rough-winged swallow	<i>Stelgidopteryx serripennis</i>
Oak titmouse	<i>Baeolophus inornatus</i>
Red-shouldered hawk	<i>Buteo lineatus</i>
Red-tailed hawk	<i>Buteo jamacensis</i>
Turkey vulture	<i>Carthartes aura</i>
Western bluebird	<i>Sialia mexicana</i>
Western kingbird	<i>Tyrannus verticalis</i>

ATTACHMENT D:

USFWS, CDFW, AND CNPS SPECIAL-STATUS SPECIES LISTS

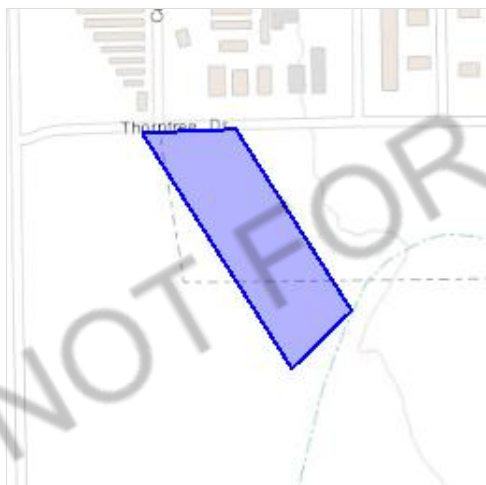
IPaC resource list

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

Butte County, California



Local office

Sacramento Fish And Wildlife Office

☎ (916) 414-6600

📅 (916) 414-6713

Federal Building

2800 Cottage Way, Room W-2605

Sacramento, CA 95825-1846

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 species¹ 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 Fisheries²).

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:

Reptiles

NAME

STATUS

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

Amphibians

NAME	STATUS
California Red-legged Frog <i>Rana draytonii</i>	Threatened
There is final critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/2891	

Fishes

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

Insects

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

Crustaceans

NAME	STATUS
Conservancy Fairy Shrimp <i>Branchinecta conservatio</i>	Endangered
There is final critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/8246	
Vernal Pool Fairy Shrimp <i>Branchinecta lynchi</i>	Threatened
There is final critical habitat for this species. Your location overlaps the critical habitat. https://ecos.fws.gov/ecp/species/498	
Vernal Pool Tadpole Shrimp <i>Lepidurus packardii</i>	Endangered
There is final critical habitat for this species. Your location overlaps the critical habitat. https://ecos.fws.gov/ecp/species/2246	

Flowering Plants

NAME	STATUS
Butte County Meadowfoam <i>Limnanthes floccosa</i> ssp. <i>californica</i> There is final critical habitat for this species. Your location overlaps the critical habitat. https://ecos.fws.gov/ecp/species/4223	Endangered
Slender Orcutt Grass <i>Orcuttia tenuis</i> There is final critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/1063	Threatened

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
Butte County Meadowfoam <i>Limnanthes floccosa</i> ssp. <i>californica</i> https://ecos.fws.gov/ecp/species/4223#crithab	Final
Vernal Pool Fairy Shrimp <i>Branchinecta lynchi</i> https://ecos.fws.gov/ecp/species/498#crithab	Final
Vernal Pool Tadpole Shrimp <i>Lepidurus packardii</i> https://ecos.fws.gov/ecp/species/2246#crithab	Final

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act¹ and the Bald and Golden Eagle Protection Act².

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*

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.

Burrowing Owl *Athene cunicularia*

Breeds Mar 15 to Aug 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/9737>

<p>California Thrasher <i>Toxostoma redivivum</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p>	Breeds Jan 1 to Jul 31
<p>Common Yellowthroat <i>Geothlypis trichas sinuosa</i> 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</p>	Breeds May 20 to Jul 31
<p>Costa's Hummingbird <i>Calypte costae</i> 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</p>	Breeds Jan 15 to Jun 10
<p>Lewis's Woodpecker <i>Melanerpes lewis</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9408</p>	Breeds Apr 20 to Sep 30
<p>Nuttall's Woodpecker <i>Picoides nuttallii</i> 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</p>	Breeds Apr 1 to Jul 20
<p>Oak Titmouse <i>Baeolophus inornatus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9656</p>	Breeds Mar 15 to Jul 15
<p>Rufous Hummingbird <i>selasphorus rufus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8002</p>	Breeds elsewhere
<p>Song Sparrow <i>Melospiza melodia</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA</p>	Breeds Feb 20 to Sep 5
<p>Spotted Towhee <i>Pipilo maculatus clementae</i> 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</p>	Breeds Apr 15 to Jul 20
<p>Wrentit <i>Chamaea fasciata</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p>	Breeds Mar 15 to Aug 10

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.

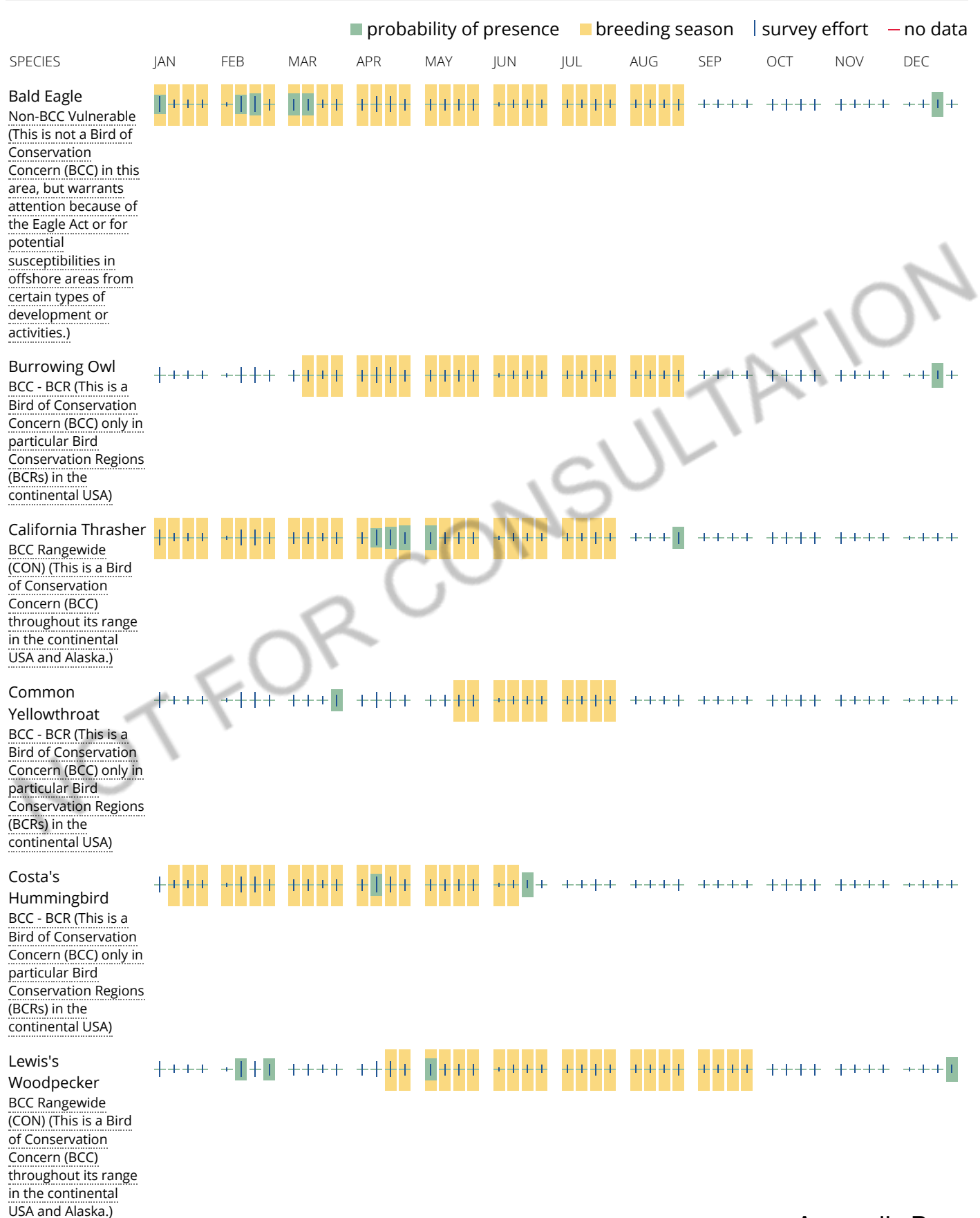
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

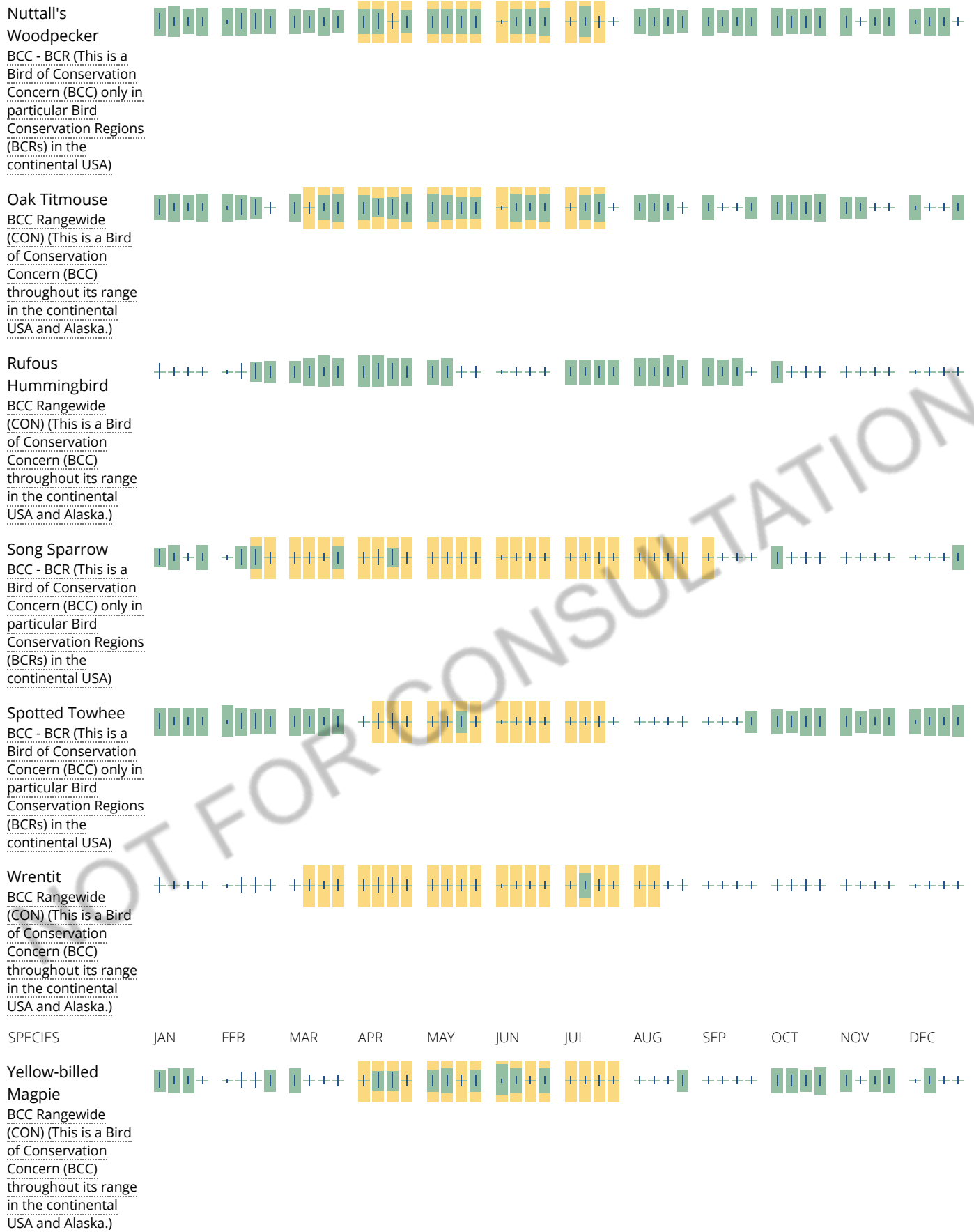
No Data (—)

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.





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 [E-bird Explore Data 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](#).

WETLAND INFORMATION IS NOT AVAILABLE AT THIS TIME

This can happen when the National Wetlands Inventory (NWI) map service is unavailable, or for very large projects that intersect many wetland areas. Try again, or visit the [NWI map](#) to view wetlands at this location.

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 tubercid 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.

NOT FOR CONSULTATION



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



Query Criteria: Quad (Richardson Springs (3912177)) OR Campbell Mound (3912187) OR Nord (3912178) OR Paradise West (3912176) OR Chico (3912167))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
adobe-lily <i>Fritillaria pluriflora</i>	PMLIL0V0F0	None	None	G2G3	S2S3	1B.2
Ahart's buckwheat <i>Eriogonum umbellatum var. ahartii</i>	PDPGN086UY	None	None	G5T3	S3	1B.2
Ahart's paronychia <i>Paronychia ahartii</i>	PDCAR0L0V0	None	None	G3	S3	1B.1
American peregrine falcon <i>Falco peregrinus anatum</i>	ABNKD06071	Delisted	Delisted	G4T4	S3S4	FP
bald eagle <i>Haliaeetus leucocephalus</i>	ABNKC10010	Delisted	Endangered	G5	S3	FP
big-scale balsamroot <i>Balsamorhiza macrolepis</i>	PDAST11061	None	None	G2	S2	1B.2
brownish beaked-rush <i>Rhynchospora capitellata</i>	PMCYP0N080	None	None	G5	S1	2B.2
burrowing owl <i>Athene cunicularia</i>	ABNSB10010	None	None	G4	S3	SSC
Butte County checkerbloom <i>Sidalcea robusta</i>	PDMAL110P0	None	None	G2	S2	1B.2
Butte County fritillary <i>Fritillaria eastwoodiae</i>	PMLIL0V060	None	None	G3Q	S3	3.2
Butte County meadowfoam <i>Limnanthes floccosa ssp. californica</i>	PDLIM02042	Endangered	Endangered	G4T1	S1	1B.1
Butte County morning-glory <i>Calystegia atriplicifolia ssp. buttensis</i>	PDCON04012	None	None	G5T3	S3	4.2
California beaked-rush <i>Rhynchospora californica</i>	PMCYP0N060	None	None	G1	S1	1B.1
California black rail <i>Laterallus jamaicensis coturniculus</i>	ABNME03041	None	Threatened	G3G4T1	S1	FP
California linderiella <i>Linderiella occidentalis</i>	ICBRA06010	None	None	G2G3	S2S3	
California satintail <i>Imperata brevifolia</i>	PMPOA3D020	None	None	G4	S3	2B.1
chinook salmon - Central Valley spring-run ESU <i>Oncorhynchus tshawytscha pop. 6</i>	AFCHA0205A	Threatened	Threatened	G5	S1	
Conservancy fairy shrimp <i>Branchinecta conservatio</i>	ICBRA03010	Endangered	None	G2	S2	
dissected-leaved toothwort <i>Cardamine pachystigma var. dissectifolia</i>	PDBRA0K1B1	None	None	G3G5T2Q	S2	1B.2



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



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Ferris' milk-vetch <i>Astragalus tener var. ferrisiae</i>	PDFAB0F8R3	None	None	G2T1	S1	1B.1
flagella-like atractylocarpus <i>Campylopodia stenocarpa</i>	NBMUS84010	None	None	G5	S1?	2B.2
foothill yellow-legged frog <i>Rana boylei</i>	AAABH01050	None	Candidate Threatened	G3	S3	SSC
Great Valley Mixed Riparian Forest <i>Great Valley Mixed Riparian Forest</i>	CTT61420CA	None	None	G2	S2.2	
Great Valley Valley Oak Riparian Forest <i>Great Valley Valley Oak Riparian Forest</i>	CTT61430CA	None	None	G1	S1.1	
Greene's tuctoria <i>Tuctoria greenei</i>	PMPOA6N010	Endangered	Rare	G1	S1	1B.1
hoary bat <i>Lasiurus cinereus</i>	AMACC05030	None	None	G5	S4	
Hoover's spurge <i>Euphorbia hooveri</i>	PDEUP0D150	Threatened	None	G1	S1	1B.2
least Bell's vireo <i>Vireo bellii pusillus</i>	ABPBW01114	Endangered	Endangered	G5T2	S2	
midvalley fairy shrimp <i>Branchinecta mesovallensis</i>	ICBRA03150	None	None	G2	S2S3	
North American porcupine <i>Erethizon dorsatum</i>	AMAFJ01010	None	None	G5	S3	
Northern Hardpan Vernal Pool <i>Northern Hardpan Vernal Pool</i>	CTT44110CA	None	None	G3	S3.1	
Northern Volcanic Mud Flow Vernal Pool <i>Northern Volcanic Mud Flow Vernal Pool</i>	CTT44132CA	None	None	G1	S1.1	
pallid bat <i>Antrozous pallidus</i>	AMACC10010	None	None	G5	S3	SSC
pink creamsacs <i>Castilleja rubicundula var. rubicundula</i>	PDSCR0D482	None	None	G5T2	S2	1B.2
Red Bluff dwarf rush <i>Juncus leiospermus var. leiospermus</i>	PMJUN011L2	None	None	G2T2	S2	1B.1
silver-haired bat <i>Lasionycteris noctivagans</i>	AMACC02010	None	None	G5	S3S4	
slender-leaved pondweed <i>Stuckenia filiformis ssp. alpina</i>	PMPOT03091	None	None	G5T5	S3	2B.2
steelhead - Central Valley DPS <i>Oncorhynchus mykiss irideus pop. 11</i>	AFCHA0209K	Threatened	None	G5T2Q	S2	
Swainson's hawk <i>Buteo swainsoni</i>	ABNKC19070	None	Threatened	G5	S3	
tricolored blackbird <i>Agelaius tricolor</i>	ABPBXB0020	None	Candidate Endangered	G2G3	S1S2	SSC



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



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
valley elderberry longhorn beetle <i>Desmocerus californicus dimorphus</i>	IICOL48011	Threatened	None	G3T2	S2	
vernal pool fairy shrimp <i>Branchinecta lynchi</i>	ICBRA03030	Threatened	None	G3	S3	
vernal pool tadpole shrimp <i>Lepidurus packardi</i>	ICBRA10010	Endangered	None	G4	S3S4	
western mastiff bat <i>Eumops perotis californicus</i>	AMACD02011	None	None	G5T4	S3S4	SSC
western pond turtle <i>Emys marmorata</i>	ARAAD02030	None	None	G3G4	S3	SSC
western spadefoot <i>Spea hammondi</i>	AAABF02020	None	None	G3	S3	SSC
white-stemmed clarkia <i>Clarkia gracilis ssp. albicaulis</i>	PDONA050J1	None	None	G5T3	S3	1B.2
woolly meadowfoam <i>Limnanthes floccosa ssp. floccosa</i>	PDLIM02043	None	None	G4T4	S3	4.2
woolly rose-mallow <i>Hibiscus lasiocarpus var. occidentalis</i>	PDMAL0H0R3	None	None	G5T3	S3	1B.2
Yuma myotis <i>Myotis yumanensis</i>	AMACC01020	None	None	G5	S4	

Record Count: 50

Plant List

Inventory of Rare and Endangered Plants

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

Search Criteria

Found in Quads 3912187, 3912178, 3912177 3912176 and 3912167;

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

Common Name	Scientific Name	Family	Lifeform	Blooming Period	CA Rare Plant Rank	State Rank	Global Rank
depauperate milk-vetch	Astragalus pauperculus	Fabaceae	annual herb	Mar-Jun	4.3	S4	G4
Ferris' milk-vetch	Astragalus tener var. ferrisiae	Fabaceae	annual herb	Apr-May	1B.1	S1	G2T1
big-scale balsamroot	Balsamorhiza macrolepis	Asteraceae	perennial herb	Mar-Jun	1B.2	S2	G2
Butte County calycadenia	Calycadenia oppositifolia	Asteraceae	annual herb	Apr-Jul	4.2	S3	G3
Butte County morning-glory	Calystegia atriplicifolia ssp. buttensis	Convolvulaceae	perennial rhizomatous herb	May-Jul	4.2	S3	G5T3
flagella-like atractylocarpus	Campylopodia stenocarpa	Dicranaceae	moss		2B.2	S1?	G5
dissected-leaved toothwort	Cardamine pachystigma var. dissectifolia	Brassicaceae	perennial rhizomatous herb	Feb-May	1B.2	S2	G3G5T2Q
pink creamsacs	Castilleja rubicundula var. rubicundula	Orobanchaceae	annual herb (hemiparasitic)	Apr-Jun	1B.2	S2	G5T2
white-stemmed clarkia	Clarkia gracilis ssp. albicaulis	Onagraceae	annual herb	May-Jul	1B.2	S2S3	G5T2T3
marsh claytonia	Claytonia palustris	Montiaceae	perennial herb	May-Oct	4.3	S4	G4
shield-bracted monkeyflower	Erythranthe glaucescens	Phrymaceae	annual herb	Feb-Aug(Sep)	4.3	S3S4	G3G4
Hoover's spurge	Euphorbia hooveri	Euphorbiaceae	annual herb	Jul-Sep(Oct)	1B.2	S1	G1
Butte County fritillary	Fritillaria eastwoodiae	Liliaceae	perennial bulbiferous herb	Mar-Jun	3.2	S3	G3Q
adobe-lily	Fritillaria pluriflora	Liliaceae	perennial bulbiferous herb	Feb-Apr	1B.2	S2S3	G2G3
hogwallow starfish	Hesperis matronalis	Asteraceae	annual herb	Mar-Jun	4.2	S3	G3
woolly rose-mallow	Hibiscus lasiocarpus var. occidentalis	Malvaceae	perennial rhizomatous herb (emergent)	Jun-Sep	1B.2	S3	G5T3
California satintail	Imperata brevifolia	Poaceae	perennial rhizomatous herb	Sep-May	2B.1	S3	G4
Red Bluff dwarf rush	Juncus leiospermus var. leiospermus	Juncaceae	annual herb	Mar-Jun	1B.1	S2	G2T2
Humboldt lily		Liliaceae	perennial bulbiferous	May-	4.2	S3	G4T3

	<u>Lilium humboldtii ssp. humboldtii</u>		herb		Jul(Aug)			
Butte County meadowfoam	<u>Limnanthes floccosa ssp. californica</u>	Limnanthaceae	annual herb	Mar-May	1B.1	S1	G4T1	
woolly meadowfoam	<u>Limnanthes floccosa ssp. floccosa</u>	Limnanthaceae	annual herb	Mar-May(Jun)	4.2	S3	G4T4	
veiny monardella	<u>Monardella venosa</u>	Lamiaceae	annual herb	May,Jul	1B.1	S1	G1	
Tehama navarretia	<u>Navarretia heterandra</u>	Polemoniaceae	annual herb	Apr-Jun	4.3	S4	G4	
adobe navarretia	<u>Navarretia nigelliformis ssp. nigelliformis</u>	Polemoniaceae	annual herb	Apr-Jun	4.2	S3	G4T3	
Ahart's paronychia	<u>Paronychia ahartii</u>	Caryophyllaceae	annual herb	Feb-Jun	1B.1	S3	G3	
Bidwell's knotweed	<u>Polygonum bidwelliae</u>	Polygonaceae	annual herb	Apr-Jul	4.3	S4	G4	
California beaked-rush	<u>Rhynchospora californica</u>	Cyperaceae	perennial rhizomatous herb	May-Jul	1B.1	S1	G1	
brownish beaked-rush	<u>Rhynchospora capitellata</u>	Cyperaceae	perennial herb	Jul-Aug	2B.2	S1	G5	
Butte County checkerbloom	<u>Sidalcea robusta</u>	Malvaceae	perennial rhizomatous herb	Apr,Jun	1B.2	S2	G2	
slender-leaved pondweed	<u>Stuckenia filiformis ssp. alpina</u>	Potamogetonaceae	perennial rhizomatous herb (aquatic)	May-Jul	2B.2	S3	G5T5	
Greene's tuctoria	<u>Tuctoria greenei</u>	Poaceae	annual herb	May-Jul(Sep)	1B.1	S1	G1	

Suggested Citation

California Native Plant Society, Rare Plant Program. 2018. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Website <http://www.rareplants.cnps.org> [accessed 22 May 2018].

Search the Inventory

[Simple Search](#)

[Advanced Search](#)

[Glossary](#)

Information

[About the Inventory](#)

[About the Rare Plant Program](#)

[CNPS Home Page](#)

[About CNPS](#)

[Join CNPS](#)

Contributors

[The Calflora Database](#)

[The California Lichen Society](#)

[California Natural Diversity Database](#)

[The Jepson Flora Project](#)

[The Consortium of California Herbaria](#)

[CalPhotos](#)

Questions and Comments

rareplants@cnps.org

© Copyright 2010-2018 California Native Plant Society. All rights reserved.

ATTACHMENT E:

SPECIAL-STATUS SPECIES AND SENSITIVE NATURAL COMMUNITIES

Table 1. Special-status species that occur or potentially occur in the survey area.

Common Name (Scientific Name)	Status Fed/State/ CNPS	Associated Habitats	Potential for Occurrence*
SENSITIVE NATURAL COMMUNITIES			
Great Valley Mixed Riparian Forest	_/_SNC/_	A tall, dense, winter-deciduous, broadleaved riparian forest. The tree canopy is usually fairly well closed and moderately to densely stocked with several species including <i>Acer negundo</i> , <i>Juglans hindsii</i> , <i>Platanus racemosa</i> , <i>Populus fremontii</i> , and <i>Salix</i> spp.	<u>None</u> : Does not occur within the BSA.
Great Valley Valley Oak Riparian Forest	_/_SNC/_	Occurs on the deep alluvial soils of higher floodplain terraces in association with river systems. Can also be found in other upland communities.	<u>None</u> : Does not occur within the BSA.
Northern Hardpan Vernal Pool	_/_SNC/_	Seasonally flooded depressions on impermeable soils or rock.	<u>None</u> : Does not occur within the BSA.
Northern Volcanic Mud Flow Vernal Pool	_/_SNC/_	Seasonally flooded depressions on impermeable soils or rock.	<u>None</u> : Does not occur within the BSA.
PLANTS			
Adobe Lily (<i>Fritillaria pluriflora</i>)	_/__/1B.2	Chaparral, cismontane woodland, valley and foothill grassland. (Feb-Apr)	<u>Low</u> : Sub-marginal habitat present in the BSA.
Adobe Navarretia (<i>Navarretia nigelliformis</i> ssp. <i>nigelliformis</i>)	_/__/4.2	Woodland, lower montane coniferous forest, meadows and seeps, valley and foothill grassland, vernal pools. (Apr-Jul)	<u>Low</u> : No suitable vernal pool habitat, submarginal grassland habitat present.
Ahart's Buckwheat (<i>Eriogonum umbellatum</i> var. <i>ahartii</i>)	_/__/1B.2	Serpentinite soils, openings, and slopes in chaparral and cismontane woodland. (Jun-Sep)	<u>None</u> : No suitable cismontane woodland or serpentinite soils within BSA.
Ahart's Paronychia (<i>Paronychia ahartii</i>)	_/__/1B.1	Cismontane woodland, valley and foothill grassland, and vernal pools. (Mar-Jun)	<u>None</u> : No vernal pool habitat present within the BSA
Bidwell's knotweed (<i>Polygonum bidwelliae</i>)	_/__/4.3	Grows in chaparral, woodland, and grassland habitat on volcanic soils.	<u>Low</u> : Sub-marginal grassland habitat present within the BSA.
Big-scale Balsam Root (<i>Balsamorhiza macrolepis</i>)	_/__/1B.2	Cismontane woodlands and chaparral. Valley and Foothill grasslands. Sometimes serpentinite. (Mar-June)	<u>Low</u> : Sub-marginal grassland habitat present within the BSA.

Common Name (Scientific Name)	Status Fed/State/ CNPS	Associated Habitats	Potential for Occurrence*
Brownish Beaked-Rush (<i>Rhynchospora capitellata</i>)	___/___/2B.2	Lower montane coniferous forest, meadows and seeps, marshes and swamps, upper montane coniferous forest.	<u>Low</u> : Sub-marginal mesic habitat present within the BSA.
Butte County Calycadenia (<i>Calycadenia oppositifolia</i>)	___/___/4.2	Chaparral, cismontane woodland, lower montane coniferous forest, meadows and seeps, valley and foothill grassland. (Apr-Jul)	<u>None</u> : No suitable chaparral or woodland habitats present within the BSA.
Butte County Checkerbloom (<i>Sidalcea robusta</i>)	___/___/1B.2	Chaparral and cismontane woodland. (Apr-Jun)	<u>None</u> : No suitable chaparral or woodland habitats present within the BSA.
Butte County Fritillary (<i>Fritillaria eastwoodiae</i>)	___/___/3.2	Chaparral, cismontane woodland, openings in lower montane coniferous forests, sometimes serpentinite. (Mar-Jun)	<u>None</u> : No suitable chaparral or coniferous habitat present within the BSA.
Butte County Meadowfoam (<i>Limnanthes floccosa</i> ssp. <i>californica</i>)	FE/SE/1B.1	Valley and foothill grassland, vernal pools. (Mar-May)	<u>None</u> : No vernal swale or pool habitat present within the BSA.
Butte County Morning-glory (<i>Calystegia atriplicifolia</i> ssp. <i>buttensis</i>)	___/___/4	Chaparral and rocky lower montane coniferous forest, sometimes roadsides. (May-Jul)	<u>None</u> : No suitable rocky montane habitat present within the BSA.
California Beaked-rush (<i>Rhynchospora californica</i>)	___/___/1B.1	Bogs and fens, lower montane coniferous forest, meadows and seeps, and marshes and swamps. (May-Jul)	<u>None</u> : No suitable marsh habitat present within the BSA.
California Satintail (<i>Imperata brevifolia</i>)	___/___/2B.1	Chaparral, coastal scrub, Mojavean desert scrub, meadows and seeps (often alkali), and mesic riparian scrub, 0-500 meters. (Sep-May)	<u>Low</u> : Sub-marginal mesic habitat present within the BSA.
Depauperate Milk-Vetch (<i>Astragalus pauperculus</i>)	___/___/4.3	Vernally mesic, volcanic, chaparral, cismontane woodland, valley and foothill grassland. (Mar-Jun)	<u>None</u> : No vernal wet grassland habitat within BSA
Dissected-leaved Toothwort (<i>Cardamine pachystigma</i> var. <i>dissectifolia</i>)	___/___/1B.2	Chaparral and lower montane coniferous forests, usually serpentinite and rocky. (Feb-May)	<u>None</u> : No suitable chaparral or coniferous forest habitat present within the BSA.
Ferris's Milk-vetch (<i>Astragalus tener</i> var. <i>ferrisiae</i>)	___/___/1B.1	Meadows and seeps, valley and foothill grassland. (Apr-May)	<u>Low</u> : Sub-marginal mesic habitat present within the BSA.
Flagella-like Atractylocarpus (<i>Campylopodia stenocarpa</i>)	___/___/2B.2	Cismontane woodland, 100-500 meters.	<u>None</u> : No suitable woodland habitat present within the BSA.
Greene's Tuctoria (<i>Tuctoria greenei</i>)	FE/___/1B.1	Vernal pools. (May-Jul/Sept)	<u>None</u> : No vernal pool habitat present within BSA.
Hogwallow Starfish (<i>Hesperex caulescens</i>)	___/___/4.2	Sometimes alkaline. Valley and foothill grassland (mesic, clay), vernal pools (shallow). (Mar-Jun)	<u>None</u> : No suitable vernal pool habitat within the BSA.
Hoover's Spurge (<i>Chamaesyce hooveri</i>)	FT/___/1B.2	Vernal pools. (Jul-Sep/Oct)	<u>None</u> : No vernal pool habitat present within BSA.

Common Name (Scientific Name)	Status Fed/State/ CNPS	Associated Habitats	Potential for Occurrence*
Humboldt Lily (<i>Lilium humboldtii</i> ssp. <i>humboldtii</i>)	___/___/1B.1	Openings. Chaparral. Cismontane woodland, and lower montane coniferous forest. (May-Jul(Aug))	<u>None</u> : No suitable chaparral, cismontane forest, or lower montane forest habitat present within the BSA.
Marsh Claytonia (<i>Claytonia palustris</i>)	___/___/4.3	Meadows and seeps (mesic). Marshes and swamps. Upper montane coniferous forest. (May-Oct)	<u>None</u> : No suitable habitat within BSA
Pink Creamsacs (<i>Castilleja rubicundula</i> ssp. <i>rubicundula</i>)	___/___/1B.2	Chaparral, cismontane woodland, meadows and seeps, valley and foothill grassland (serpentine). (Apr-Jun)	<u>Low</u> : Sub-marginal grassland habitat present within the BSA.
Red Bluff Dwarf Rush (<i>Juncus leiospermus</i> var. <i>leiospermus</i>)	___/___/1B.1	Chaparral, cismontane woodland, meadows and seeps, valley and foothill grassland and vernal pools/vernally mesic habitats. (Mar-May)	<u>Low</u> : Sub-marginal mesic habitat present within the BSA.
Shield-bracted monkeyflower (<i>Erythranthe glaucescens</i>)	___/___/4.3	Serpentine seeps, sometimes streambanks. Chaparral, cismontane woodland, lower montane coniferous forest, and valley and foothill grassland. (Feb-Aug(Sep))	<u>None</u> : No suitable seep habitat within BSA
Slender-leaved Pondweed (<i>Stuckenia filiformis</i> ssp <i>alpina</i>)	___/___/2B.2	Marshes and swamps (assorted shallow freshwater). (May-July)	<u>None</u> : No suitable marsh habitat present within the BSA.
Tehama Navarretia (<i>Navarretia heterandra</i>)	___/___/4.3	Mesic valley and foothill grasslands, vernal pools. (April-June)	<u>None</u> : No suitable vernal pool habitat present within the BSA.
Veiny Monardella (<i>Monardella venosa</i>)	___/___/1B.1	Cismontane woodlands. Valley and foothill grasslands in heavy clay soils. (May-July)	<u>None</u> : Only known population in Butte County is found approximately 9.6 miles southeast of the BSA.
White-stemmed Clarkia (<i>Clarkia gracilis</i> ssp. <i>albicaulis</i>)	___/___/1B.2	Chaparral and cismontane woodland (sometimes serpentine). (May-Jul)	<u>None</u> : No suitable chaparral or woodland habitat present within the BSA.
Woolly meadowfoam (<i>Limnanthes floccosa</i> ssp. <i>floccosa</i>)	___/___/4	Edge of vernal pools at elevations of 375 to 400 meters. (Mar-Apr)	<u>None</u> : No vernal pool habitat within BSA
Woolly Rose-mallow (<i>Hibiscus lasiocarpus</i> var. <i>occidentalis</i>)	___/___/1B.2	Marshes and swamps (freshwater). (Jun-Sep)	<u>None</u> : No suitable swamp or marsh habitat within BSA
INVERTEBRATES			
Conservancy Fairy Shrimp (<i>Branchinecta conservatio</i>)	FE/___/___	Moderately turbid, deep, cool-water vernal pool	<u>None</u> : No vernal pool habitat present in BSA.
California Linderiella (<i>Linderiella occidentalis</i>)	___/___/___	Vernal pools, swales, and ephemeral freshwater habitat.	<u>None</u> : No vernal pool habitat present in BSA.

Common Name (Scientific Name)	Status Fed/State/ CNPS	Associated Habitats	Potential for Occurrence*
Conservancy Fairy Shrimp (<i>Branchinecta conservatio</i>)	FE/__/__	Moderately turbid, deep, cool-water vernal pool	<u>None</u> : No vernal pool habitat present in BSA.
Midvalley fairy shrimp (<i>Branchinecta mesovallensis</i>)	__/__/__	Vernal pools, swales, and ephemeral freshwater habitat	<u>None</u> : No vernal pool habitat present in BSA.
Valley Elderberry Longhorn Beetle (<i>Desmocerus californicus dimorphus</i>)	FT/__/__	Blue elderberry shrubs usually associated with riparian areas.	<u>None</u> : No elderberry plants (the sole host plant of this beetle) occur within the BSA.
Vernal Pool Fairy Shrimp (<i>Branchinecta lynchi</i>)	FT/__/__	Vernal pools, swales, and ephemeral freshwater habitat.	<u>None</u> : No vernal pool habitat present in BSA..
Vernal Pool Tadpole Shrimp (<i>Lepidurus packardii</i>)	FE/__/__	Vernal pools, swales, and ephemeral freshwater habitat.	<u>None</u> : No vernal pool habitat present in BSA.
REPTILES AND AMPHIBIANS			
California Red-legged Frog (<i>Rana draytonii</i>)	FT/__/__	Inhabits quiet pools of streams, marshes, and occasionally ponds.	<u>None</u> : Species presumed extirpated from the valley. Additionally, no suitable aquatic habitat present within the BSA.
Foothill Yellow-legged Frog (<i>Rana boylei</i>)	__/SSC/__	Partly-shaded, shallow streams and riffles with cobble-sized substrate for egg-laying.	<u>None</u> : No suitable stream habitat present within the BSA.
Giant Garter Snake (<i>Thamnophis gigas</i>)	FT/ST/__	Agricultural wetlands and other wetlands such as irrigation and drainage canals, low gradient streams, marshes, ponds, sloughs, small lakes, and their associated uplands.	<u>None</u> : No suitable wetland habitat present within the BSA.
Northwestern Pond Turtle (<i>Actinemys marmorata marmorata</i>)	__/SSC/__	Associated with permanent ponds, lakes, streams, and irrigation ditches or permanent pools along intermittent streams.	<u>None</u> : No suitable stream habitat present within the BSA.
Western Spadefoot (<i>Spea hammondi</i>)	__/SSC/__	Grassland and woodland and vernal pools without aquatic predators for breeding.	<u>Low</u> : No suitable breeding habitat is present within the BSA.
FISH			
Central Valley Spring-Run Chinook Salmon (<i>Oncorhynchus tshawytscha</i>)	FT/ST/__	Sacramento River and tributaries.	<u>None</u> : No suitable riverine habitat present within the BSA.
Central Valley Steelhead (<i>Oncorhynchus mykiss</i>)	FT/__/__	Sacramento and San Joaquin Rivers and their tributaries.	<u>None</u> : No suitable riverine habitat present within the BSA.
Delta Smelt (<i>Hypomesus transpacificus</i>)	FT/ST/__	Sacramento-San Joaquin Estuary	<u>None</u> : No suitable estuary habitat within the BSA.
BIRDS			

Common Name (Scientific Name)	Status Fed/State/ CNPS	Associated Habitats	Potential for Occurrence*
American peregrine falcon (<i>Falco peregrinus anatum</i>)	_/_/_	Breeding Peregrine Falcons utilize habitats containing cliffs and almost always nest near water. Open habitats for foraging. Non-breeding Peregrine Falcons may also occur in open areas without cliffs.	<u>Low</u> : No nesting habitat present in the BSA; however suitable foraging habitat is present.
Bald Eagle (<i>Haliaeetus leucocephalus</i>)	_/SE/_	Lakes, rivers, estuaries, reservoirs and some coastal habitats.	<u>None</u> : No suitable habitat present within the BSA.
Burrowing Owl (<i>Athene cunicularia</i>)	_/SSC/_	Nests in burrows in the ground, often in old ground squirrel burrows or badger, within open dry grassland and desert habitat.	<u>Low</u> : Sub-marginally suitable grassland habitat present within the BSA. However, no burrows were present within the BSA.
California Black Rail (<i>Laterallus jamaicensis coturniculus</i>)	_/ST/_	Yearlong resident of saline, brackish, and fresh emergent wetlands in the San Francisco Bay Area, Sacramento-San Joaquin Delta, coastal Southern California, the Salton Sea and lower Colorado River area.	<u>None</u> : No suitable habitat present within the BSA.
Least Bell's Vireo (<i>Vireo bellii pusillus</i>)	FE/SE/_	Riparian forests, woodlands, scrubs.	<u>None</u> : No suitable riparian habitat present in the BSA.
Swainson's Hawk (<i>Buteo swainsoni</i>)	_/ST/_	Nests in isolated trees or riparian woodlands adjacent to suitable foraging habitat including grasslands or suitable grain or alfalfa fields, or livestock pastures.	<u>Low</u> : No suitable nesting habitat present in the BSA; however suitable foraging habitat is present.
Tri-colored Blackbird (<i>Agelaius tricolor</i>)	_/SSC/_	Nests in dense blackberry, cattail, tules, willow, or wild rose within emergent wetlands throughout the Central valley and foothills surrounding the valley.	<u>None</u> : No suitable nesting habitat present within the BSA.
Migratory Birds and Raptors	MBTA	Nest and forage in a variety of habitats including hardwood woodlands, coniferous forests, meadows, grasslands and riparian.	<u>Known</u> : Birds protected by the MBTA observed on-site. Additionally, nesting habitat present in the BSA; and suitable foraging habitat is present.
MAMMALS			
Hoary Bat (<i>Lasiurus cinereus</i>)	_/_/_	Roosting habitat includes woodlands and forests with medium to large-sized trees and dense foliage. Adjacent open areas are required for feeding.	<u>Low</u> : No suitable roosting habitat present, open area for foraging present within the BSA.
North American porcupine (<i>Erethizon dorsatum</i>)	_/_/_	Coniferous, deciduous and mixed forests. Prefers scrubby areas	<u>None</u> : No suitable habitat within BSA.
Pallid Bat (<i>Antrozous pallidus</i>)	_/SSC/_	Arid and semi-arid habitats; roosts in rock crevices, caves, and mine shafts.	<u>Low</u> : No suitable roosting habitat present within the BSA.

Common Name (<i>Scientific Name</i>)	<u>Status</u> Fed/State/ CNPS	Associated Habitats	Potential for Occurrence*
Silver-haired Bat (<i>Lasionycteris noctivagans</i>)	_/_/_	Coniferous and mixed deciduous forest as well as riparian areas.	<u>Low</u> : No suitable deciduous forest habitat present within the BSA.
Western Mastiff Bat (<i>Eumops perotis californicus</i>)	_/_SSC/_	Common species of low elevations in California. Crevices in steep cliff faces or in the roof eaves of buildings of two or more stories (needs vertical faces to take flight).	<u>Low</u> : No suitable roosting habitat present within the BSA. Foraging habitat present in the BSA.
Yuma Myotis (<i>Myotis yumanensis</i>)	_/_/_	Woodland and forested areas, large buildings and abandoned mine tunnels within one-half mile of a surface water source; abandoned swallow nests under bridges.	<u>Low</u> : No suitable roosting habitat present within the BSA.
<p><u>CODE DESIGNATIONS</u></p> <p>FE = Federally-listed Endangered FT = Federally-listed Threatened FC = Federal Candidate Species BCC = Federal Bird of Conservation Concern MBTA = protected by the federal Migratory Bird Treaty Act</p> <p>SE = State-listed Endangered ST = State-listed Threatened SH = Presumed extinct in California</p> <p>SSC = CDFW Species of Special Concern FP = CDFW Fully Protected Species SNC = CDFW Sensitive Natural Community</p> <p>CNPS 1B = Rare or Endangered in California or elsewhere CNPS 2 = rare or Endangered in California, more common elsewhere CNPS 3 = More information is needed CNPS 4 = Plants with limited distribution</p>			
<p>*Potential for occurrence: for plants it is considered the potential to occur during the survey period; for birds and bats it is considered the potential to breed, forage, roost, over-winter, or stop-over in the BSA during migration. Any bird or bat species could fly over the BSA, but this is not considered a potential for occurrence. The categories for the potential for occurrence include:</p> <p><u>None</u>: The species or natural community is known not to occur, and has no potential to occur in the BSA based on sufficient surveys, the lack of suitable habitat, and/or the BSA is well outside of the known distribution of the species.</p> <p><u>Low</u>: Potential habitat in the BSA is sub-marginal and the species is not known to occur in the vicinity of the BSA. Protocol-level surveys are not recommended.</p> <p><u>Moderate</u>: Suitable habitat is present in the BSA and the species is known to occur in the vicinity of the BSA.</p> <p><u>High</u>: Habitat in the BSA is highly suitable for the species and there are reliable records close to the BSA, but the species was not observed.</p> <p><u>Known</u>: Species was detected in the BSA or a recent reliable record exists for the BSA.</p>			