

# BIOLOGICAL RESOURCE EVALUATION

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LAKEPORT EVA BRIDGE PROJECT  
LAKE COUNTY, CALIFORNIA



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# Executive Summary

The project applicant proposes to construct an emergency vehicle access (EVA) bridge across Forbes Creek in Lakeport, Lake County, California. The proposed EVA bridge project (Project) will link Wrigley Street to the south with Craig Avenue to the north. The Project will involve construction on an approximately 1-acre parcel that currently supports riparian forest, fallowed agricultural land, and disturbed grassland.

To evaluate whether the Project may affect biological resources under California Environmental Quality Act (CEQA) purview, we (1) obtained lists of special-status species from the United States Fish and Wildlife Service, the California Department of Fish and Wildlife, and the California Native Plant Society; (2) reviewed other relevant background information such as satellite imagery and topographic maps; and (3) conducted a field reconnaissance survey at the Project site.

This biological resource evaluation summarizes (1) existing biological conditions on the Project site, (2) the potential for special-status species and regulated habitats to occur on or near the Project site, (3) the potential impacts of the proposed Project on biological resources and regulated habitats, and (4) measures to reduce those potential impacts to less-than-significant levels under CEQA.

We concluded that three special-status wildlife species could occur within the survey area: the state listed as threatened Clear Lake hitch (*Lavinia exilicauda chi*) and the state species of special concern purple martin (*Progne subis*) and pallid bat (*Antrozous pallidus*), as well as nesting migratory birds. However, effects can be reduced to less-than-significant levels with mitigation. The Project will also adversely affect riparian habitat, but these effects can also be reduced to less-than-significant levels with mitigation.

# Abbreviations

Abbreviation	Definition
CCR	California Code of Regulations
CDFG	California Department of Fish and Game
CDFW	California Department of Fish and Wildlife
CESA	California Endangered Species Act
CEQA	California Environmental Quality Act
CFGF	California Fish and Game Code
CFR	Code of Federal Regulations
CNDDDB	California Natural Diversity Database
CNPS	California Native Plant Society
EVA	Emergency Vehicle Access
FCE	Federal Candidate Endangered
FE	Federally listed as Endangered
FESA	Federal Endangered Species Act
FT	Federally listed as Threatened
MBTA	Migratory Bird Treaty Act
NRCS	Natural Resources Conservation Science
SE	State listed as Endangered
SSSC	State Species of Special Concern
ST	State listed as Threatened
SWRCB	State Water Resources Control Board
USACE	United States Army Corps of Engineers
USC	United States Code
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey

# 1.0 Introduction

## 1.1 Background

The project applicant proposes to construct an emergency vehicle access (EVA) bridge across Forbes Creek in Lakeport, Lake County, California. The proposed EVA bridge project (Project) will involve construction on an approximately 1-acre parcel that currently supports riparian forest, fallowed agricultural land, and disturbed grassland.

The purpose of this biological resource evaluation is to assess whether the Project will affect protected biological resources pursuant to California Environmental Quality Act guidelines. Such resources include species of plants or animals listed or proposed for listing under the Federal Endangered Species Act or the California Endangered Species Act as well as those covered under the Migratory Bird Treaty Act, the California Native Plant Protection Act, and various other sections of California Fish and Game Code. This biological resource evaluation also addresses Project-related impacts to regulated habitats, which are those under the jurisdiction of the United States Army Corps of Engineers, State Water Resources Control Board, or California Department of Fish and Wildlife.

## 1.2 Project Description

The Project will involve installing a bridge across Forbes Creek, linking Wrigley Street and Craig Avenue. The bridge will be assembled off-site. Bridge footings will be drilled into the ground and constructed outside of the top of bank. A crane will be used to place the prefabricated bridge on the footings. Funding for the Project is expected to come from the Infill Infrastructure Grant program, which is administered by California Department of Housing and Community Development.

## 1.3 Project Location

The approximately 1-acre Project site is within the City of Lakeport, Lake County, California (Figure 1). The Project site is immediately north of the Wrigley Street terminus and south of Craig Avenue (Figure 2).



**Figure 1.** Project site vicinity map.





**Figure 2.** Project site map.



## 1.4 Regulatory Framework

The relevant state and federal regulatory requirements and policies that guide the impact analysis of the Project are summarized below.

### 1.4.1 State Requirements

**California Department of Fish and Wildlife Jurisdiction.** The California Department of Fish and Wildlife (CDFW) has regulatory jurisdiction over lakes and streams in California. Activities that divert or obstruct the natural flow of a stream; substantially change its bed, channel, or bank; or use any materials (including vegetation) from the streambed, may require that the project applicant enter into a Lake and Streambed Alteration Agreement with the CDFW in accordance with California Fish and Game Code (CFGF) Section 1602.

**California Endangered Species Act.** The California Endangered Species Act (CESA) of 1970 (Fish and Game Code § 2050 et seq., and California Code of Regulations (CCR) Title 14, Subsection 670.2, 670.51) prohibits the take of species listed under CESA (14 CCR Subsection 670.2, 670.5). Take is defined as hunt, pursue, catch, capture, or kill or attempt to hunt, pursue, catch, capture, or kill. Under CESA, state agencies are required to consult with the CDFW when preparing CEQA documents. Consultation ensures that proposed projects or actions do not have a negative effect on state listed species. During consultation, CDFW determines whether take would occur and identifies “reasonable and prudent alternatives” for the project and conservation of special-status species. CDFW can authorize take of state listed species under Sections 2080.1 and 2081(b) of the CFGF in those cases where it is demonstrated that the impacts are minimized and mitigated. Take authorized under section 2081(b) must be minimized and fully mitigated. A CESA permit must be obtained if a project will result in take of listed species, either during construction or over the life of the project. Under CESA, CDFW is responsible for maintaining a list of threatened and endangered species designated under state law (CFGF Section 2070). CDFW also maintains lists of species of special concern, which serve as “watch lists.” Pursuant to the requirements of CESA, a state or local agency reviewing a proposed project within its jurisdiction must determine whether the proposed project will have a potentially significant impact upon such species. Project-related impacts to species on the CESA list would be considered significant and would require mitigation. Impacts to species of concern or fully protected species would be considered significant under certain circumstances.

**California Environmental Quality Act.** The California Environmental Quality Act (CEQA) of 1970 (Subsections 21000–21178) requires that CDFW be consulted during the CEQA review process regarding impacts of proposed projects on special-status species. Special-status species are defined under CEQA Guidelines subsection 15380(b) and (d) as those listed under FESA and CESA and species that are not currently protected by statute or regulation but would be considered rare, threatened, or endangered under these criteria or by the scientific community. Therefore, species considered rare or endangered are addressed in this biological resource evaluation regardless of whether they are afforded protection through any other statute or regulation. The

California Native Plant Society (CNPS) inventories the native flora of California and ranks species according to rarity (CNPS 2022). Plants with Rare Plant Ranks 1A, 1B, 2A, or 2B are considered special-status species under CEQA.

Although threatened and endangered species are protected by specific federal and state statutes, CEQA Guidelines Section 15380(d) provides that a species not listed on the federal or state list of protected species may be considered rare or endangered if it can be shown to meet certain specified criteria. These criteria have been modeled after the definition in the Federal Endangered Species Act and the section of the CFGC dealing with rare and endangered plants and animals. Section 15380(d) 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 United States Fish and Wildlife Service (USFW) or CDFW (i.e., candidate species) would occur. Thus, CEQA provides an agency with the ability to protect a species from the potential impacts of a project until the respective government agency has an opportunity to designate the species as protected, if warranted.

**California Native Plant Protection Act.** The California Native Plant Protection Act of 1977 (CFGC Sections 1900–1913) requires all state agencies to use their authority to carry out programs to conserve endangered and otherwise rare species of native plants. Provisions of the act prohibit the taking of listed plants from the wild and require the project proponent to notify CDFW at least 10 days in advance of any change in land use, which allows CDFW to salvage listed plants that would otherwise be destroyed.

**Nesting birds.** CFGC Sections 3503, 3503.5, and 3800 prohibit the possession, incidental take, or needless destruction of birds, their nests, and eggs. CFGC Section 3511 lists birds that are “Fully Protected” as those that may not be taken or possessed except under specific permit.

**Porter-Cologne Water Quality Control Act.** The Porter-Cologne Water Quality Control Act (California Water Code Section 13000 et. sec.) was established in 1969 and entrusts the State Water Resources Control Board (SWRCB) and nine Regional Water Quality Control Boards (collectively Water Boards) with the responsibility to preserve and enhance all beneficial uses of California’s diverse waters. The Act grants the Water Boards authority to establish water quality objectives and regulate point- and nonpoint-source pollution discharge to the state’s surface and ground waters. Under the auspices of the United States Environmental Protection Agency, the Water Boards are responsible for certifying, under Section 401 of the federal Clean Water Act, that activities affecting waters of the United States comply California water quality standards. The Porter-Cologne Water Quality Control Act addresses all “waters of the State,” which are more broadly defined than waters of the United States. Waters of the State include any surface water or groundwater, including saline waters, within the boundaries of the state. They include artificial as well as natural water bodies and federally jurisdictional and federally non-jurisdictional waters. The Water Boards may issue a Waste Discharge Requirement permit for projects that will affect only federally non-jurisdictional waters of the State.

## 1.4.2 Federal Requirements

**Federal Endangered Species Act.** The United States Fish and Wildlife Service (USFWS) and the National Oceanographic and Atmospheric Association and National Marine Fisheries Service enforce the provisions stipulated in the Federal Endangered Species Act (FESA) of 1973 (FESA, 16 United States Code [USC] Section 1531 et seq.). Threatened and endangered species on the federal list (50 Code of Federal Regulations [CFR] 17.11 and 17.12) are protected from take unless a Section 10 permit is granted to an entity other than a federal agency or a Biological Opinion with incidental take provisions is rendered to a federal lead agency via a Section 7 consultation. Take is defined as harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in any such conduct. Pursuant to the requirements of the FESA, an agency reviewing a proposed action within its jurisdiction must determine whether any federally listed species may be present in the proposed action area and determine whether the proposed action may affect such species. Under the FESA, habitat loss is considered an effect to a species. In addition, the agency is required to determine whether the proposed action is likely to jeopardize the continued existence of any species that is listed or proposed for listing under the FESA (16 USC Section 1536[3], [4]). Therefore, proposed action-related effects to these species or their habitats would be considered significant and would require mitigation.

**Migratory Bird Treaty Act.** The federal Migratory Bird Treaty Act (MBTA; 16 USC Section 703, Supp. I, 1989) prohibits killing, possessing, trading, or other forms of take of migratory birds except in accordance with regulations prescribed by the Secretary of the Interior. “Take” is defined as the pursuing, hunting, shooting, capturing, collecting, or killing of birds, their nests, eggs, or young (16 USC Section 703 and Section 715n). This act encompasses whole birds, parts of birds, and bird nests and eggs. The MBTA specifically protects migratory bird nests from possession, sale, purchase, barter transport, import, and export, and take. For nests, the definition of take per 50 CFR 10.12 is to collect. The MBTA does not include a definition of an “active nest.” However, the “Migratory Bird Permit Memorandum” issued by the USFWS in 2003 and updated in 2018 clarifies the MBTA in that regard and states that the removal of nests, without eggs or birds, is legal under the MBTA, provided no possession (which is interpreted as holding the nest with the intent of retaining it) occurs during the destruction (USFWS 2018).

**United States Army Corps of Engineers Jurisdiction.** Areas meeting the regulatory definition of “waters of the United States” (jurisdictional waters) are subject to the jurisdiction of the United States Army Corps of Engineers (USACE) under provisions of Section 404 of the Clean Water Act (1972) and Section 10 of the Rivers and Harbors Act (1899). These waters may include all waters used, or potentially used, for interstate commerce, including all waters subject to the ebb and flow of the tide, all interstate waters, all other waters (intrastate lakes, rivers, streams, mudflats, sandflats, playa lakes, natural ponds, etc.), all impoundments of waters otherwise defined as waters of the United States, tributaries of waters otherwise defined as waters of the United States, the territorial seas, and wetlands adjacent to waters of the United States (33 CFR part 328.3). Ditches and drainage canals where water flows intermittently or ephemerally are not regulated as waters of the United States. Wetlands on non-agricultural lands are identified using the *Corps of Engineers Wetlands Delineation Manual* and related Regional Supplement (USACE



1987 and 2008). Construction activities, including direct removal, filling, hydrologic disruption, or other means in jurisdictional waters are regulated by the USACE. The placement of dredged or fill material into such waters must comply with permit requirements of the USACE. No USACE permit will be effective in the absence of state water quality certification pursuant to Section 401 of the Clean Water Act. The SWRCB is the state agency (together with the Regional Water Quality Control Boards) charged with implementing water quality certification in California.

## 2.0 Methods

### 2.1 Desktop Review

As a framework for the evaluation and reconnaissance survey, we obtained a USFWS species list for the Project (USFWS 2023a, Appendix A). In addition, we searched the California Natural Diversity Database (CNDDDB, CDFW 2023, Appendix B) and the CNPS Inventory of Rare and Endangered Plants (CNPS 2023, Appendix C) for records of special-status plant and animal species from the vicinity of the Project site. Regional lists of special-status species were compiled using USFWS, CNDDDB, and CNPS database searches confined to the Lakeport 7.5-minute United States Geological Survey (USGS) topographic quadrangle, which encompasses the Project site, and the eight surrounding quadrangles (Cow Mountain, Upper Lake, Bartlett Mountain, Purdys Gardens, Lucerne, Hopland, Highland Springs, and Kelseyville). A local list of special-status species was compiled using CNDDDB records from within 5 miles of the Project site. Species that lack a CEQA-recognized special-status designation by state or federal regulatory agencies or public interest groups were omitted from the final list. Species for which the Project site does not provide habitat were eliminated from further consideration. We also reviewed satellite imagery from Google Earth (Google 2023) and other sources, USGS topographic maps, the Web Soil Survey (NRCS 2023), the National Wetlands Inventory (USFWS 2023b), and relevant literature.

### 2.2 Reconnaissance Survey

Colibri Senior Scientist Ryan Slezak conducted a field reconnaissance survey of the Project site on 18 July 2023. The Project site and a 50-foot buffer surrounding the Project site (Figure 3) were walked and thoroughly inspected to evaluate and document the potential for the area to support state- or federally protected resources. All plants except those under cultivation or planted in residential areas and all vertebrate wildlife species observed within the survey area were identified and documented. The survey area was evaluated for the presence of regulated habitats, including lakes, streams, and other waters using methods described in the *Wetlands Delineation Manual* and regional supplement (USACE 1987, 2008) and as defined by the CDFW (<https://www.wildlife.ca.gov/conservation/lisa>) or under the Porter-Cologne Water Quality Control Act.

### 2.3 Significance Criteria

CEQA defines “significant effect on the environment” as “a substantial, or potentially substantial, adverse change in the environment” (California Public Resource Code Section 21068). Under CEQA Guidelines Section 15065, a Project’s effects on biological resources are deemed significant where the Project would do the following:

- a) Substantially reduce the habitat of a fish or wildlife species,

- b) Cause a fish or wildlife population to drop below self-sustaining levels,
- c) Threaten to eliminate a plant or animal community, or
- d) Substantially reduce the number or restrict the range of a rare or endangered plant or animal.

In addition to the Section 15065 criteria, Appendix G within the CEQA Guidelines includes six additional impacts to consider when analyzing the effects of a project. Under Appendix G, a project's effects on biological resources are deemed significant where the project would do any of the following:

- e) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS;
- f) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the CDFW or USFWS;
- g) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- h) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- i) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
- j) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

These criteria were used to determine whether the potential effects of the Project on biological resources qualify as significant.





**Figure 3.** Reconnaissance survey area map.

## 3.0 Results

### 3.1 Desktop Review

The USFWS species list for the Project included three species listed as threatened, endangered, or candidate under the FESA (USFWS 2023a, Table 1, Appendix A). Of those three species, none are expected to occur on or near the Project site due to either (1) the lack of habitat, (2) the Project site being outside the current range of the species, or (3) the presence of development that would otherwise preclude occurrence (Table 1).

Searching the CNDDDB for records of special-status species from the Lakeport 7.5-minute USGS topographic and the eight surrounding quads produced 258 records of 65 species (Table 1, Appendix B). Of those 65 species, 16 are not given further consideration because they are not CEQA-recognized as special-status species or are considered extirpated in California (Appendix B). Of the remaining 49 species, 18 are known from within 5 miles of the Project site (Table 1, Figure 4). Of those species, only the Clear Lake hitch (*Lavinia exilicauda chi* – ST) could occur on or near the Project site (Table 1). In addition, purple martin (*Progne subis* – SSSC) and pallid bat (*Antrozous pallidus* – SSSC) were identified in the nine-quad search and could occur on or near the Project site (Table 1).

Searching the CNPS inventory of rare and endangered plants of California yielded 61 species (CNPS 2023, Appendix C), 5 of which have a rank of 2B, and 30 of which have a rank of 1B (Table 1). None of those species are expected to occur on or near the Project site due to (1) lack of habitat, (2) the Project site being outside the current range of the species, or (3) lack of detection during the 18 July 2023 field survey (Table 1).

The Project site is underlain by still loam, stratified substratum, Cole variant clay loam, and Wappo loam with 2 to 8% slopes (NCRS 2023). The Project site is at an elevation of 1367–1385 feet above mean sea level (Google 2023).

**Table 1.** Special-status species, their listing status, habitats, and potential to occur on or near the Project site.

Species	Status <sup>1</sup>	Habitat	Potential to Occur <sup>2</sup>
<b>Federally and State-Listed Endangered or Threatened Species</b>			
Bogg's Lake hedge-hyssop ( <i>Gratiola heterosepala</i> )	SE, 1B.2	Shallow water, margins of vernal pools at or below 5250 feet elevation.	<b>None.</b> Habitat lacking; the Project site lacked vernal pools.
Burke's goldfields ( <i>Lasthenia burkei</i> )	FE, SE, 1B.1	Vernal pools and undisturbed wet meadows below 1640 feet elevation.	<b>None.</b> Habitat lacking; the Project site lacked vernal pools or undisturbed meadows.
Few-flowered navarretia ( <i>Navarretia leucocephala</i> ssp. <i>pauciflora</i> )	FE, ST, 1B.1	Vernal pools at 1300– 2950 feet elevation.	<b>None.</b> Habitat lacking; the Project site lacked vernal pools.
Many-flowered navarretia ( <i>Navarretia leucocephala</i> ssp. <i>plieantha</i> )	FE, SE, 1B.1	Vernal pools at 2600– 3600 feet elevation.	<b>None.</b> Habitat lacking; the Project site lacked vernal pools and is below the elevational range of this species.
Slender Orcutt grass ( <i>Orcuttia tenuis</i> )	FT, SE, 1B.1	Vernal pools at 650– 3600 feet elevation.	<b>None.</b> Habitat lacking; the Project site lacked vernal pools.
Monarch California overwintering population ( <i>Danaus plexippus</i> )	FCE	Groves of trees within 1.5 miles of the ocean that produce suitable micro-climates for overwintering such as high humidity, dappled sunlight, access to water and nectar, and protection from wind.	<b>None.</b> Habitat lacking; the Project site is not within 1.5 miles of the ocean.
Western bumble bee ( <i>Bombus occidentalis</i> )	SCE	Mixed woodlands, farmlands, urban areas, montane meadows, prairie grasslands with underground cavities for nesting.	<b>None.</b> Habitat lacking; the Project site supports woodland and farmland but lacks underground cavities for nesting.



Clear Lake hitch <sup>3</sup> ( <i>Lavinia exilicauda chi</i> )	ST	Slow-moving streams that are tributaries of Clear Lake, California.	<b>Moderate.</b> Forbes Creek could provide spawning and juvenile rearing habitat for this species.
California red-legged frog ( <i>Rana draytonii</i> )	FT, SSSC	Creeks, ponds, and marshes for breeding; burrows for upland refuge.	<b>None.</b> Habitat lacking; the Project site is outside the current known range of this species.
Northern spotted owl ( <i>Strix occidentalis caurina</i> )	FT, ST	Old growth forests with multi-tiered canopy layers.	<b>None.</b> Habitat lacking; the Project site lacked old growth forest.
Tricolored blackbird <sup>3</sup> ( <i>Agelaius tricolor</i> )	ST	Large freshwater marshes with dense stands of cattails or bulrushes.	<b>None.</b> Habitat lacking; the Project site lacked dense stands of cattails or bulrushes.
Humboldt marten ( <i>Martes caurina humboldtensis</i> )	FT, SE	Old growth coastal forests of extreme northern California.	<b>None.</b> Habitat lacking; the Project site lacked old growth forest and is outside the current known range of this species.
<b>State Species of Special Concern</b>			
Clear Lake Tule perch <sup>3</sup> ( <i>Hysterocarpus traskii lagunae</i> )	SSSC	Endemic to Clear Lake, Upper and Lower Blue lakes in Lake County, California.	<b>None.</b> Habitat lacking; the Project site is outside the current known local range of this species.
Sacramento perch <sup>3</sup> ( <i>Archoplites interruptus</i> )	SSSC	Currently known only from Clear Lake, Alameda Creek, and ponds within the Calaveras Reservoir.	<b>None.</b> Habitat lacking; the Project site is outside the current known local range of this species.
Foothill yellow-legged frog – North Coast DPS <sup>3</sup> ( <i>Rana boylei</i> )	SSSC	Perennial streams and rivers with rocky substrates, and with open, sunny banks may be in forests, chaparral, or woodlands.	<b>None.</b> Habitat lacking; Forbes Creek within the survey area lacks open, sunny banks and did not contain sufficient flows to support the species.

Red-bellied newt <sup>3</sup> ( <i>Taricha rivularis</i> )	SSSC	Permanent streams and rivers in coastal woodlands and redwood forests.	<b>None.</b> Habitat lacking; Forbes Creek did not contain sufficient flows to support the species.
Northwestern pond turtle <sup>3</sup> ( <i>Actinemys marmorata</i> )	SSSC	Ponds, rivers, marshes, streams, and irrigation ditches, usually with aquatic vegetation and woody debris for basking and adjacent natural upland areas for egg laying.	<b>None.</b> Habitat lacking; Forbes Creek within the survey area lacked aquatic vegetation and did not contain sufficient flows to support the species.
Grasshopper sparrow ( <i>Ammodramus savannarum</i> )	SSSC	Moderately open grasslands with scattered shrubs and patches of bare ground.	<b>None.</b> Habitat lacking; the Project site supported patchy, disturbed grassland that lacked shrubs.
Purple martin ( <i>Progne subis</i> )	SSSC	Montane forests or lowlands containing cavities in live or dead trees for nesting.	<b>Low.</b> Tree cavities in the riparian forest along Forbes Creek could support this species.
American badger <sup>3</sup> ( <i>Taxidea taxus</i> )	SSSC	Open areas including meadows, grasslands, and chaparral with less than 50% plant cover.	<b>None.</b> Habitat lacking; the Project site supported patchy, disturbed grassland unsuitable for the species.
Pacific fisher – Northern California/Southern Oregon DPS <sup>3</sup> ( <i>Pekania pennanti</i> )	SSSC	Large areas of mature, dense forest stands with snags and greater than 50% canopy closure with tree cavities, hollow logs, and snags, and rock crevices used for den sites.	<b>None.</b> Habitat lacking, the Project site lacked mature, dense forest stands with greater than 50% canopy cover.
Pallid bat ( <i>Antrozous pallidus</i> )	SSSC	Arid or semi-arid locations in rocky areas and sparsely vegetated grassland near water. Rock	<b>Low.</b> Tree cavities in the riparian forest along Forbes Creek could support this species.

		crevices, caves, mine shafts, bridges, building, and tree hollows for roosting.	
Townsend's big-eared bat ( <i>Corynorhinus townsendii</i> )	SSSC	Open buildings, caves, or mines for roosting in a variety of habitats including cismontane woodland and low elevation conifer forest.	<b>None.</b> Habitat lacking; the Project site lacked buildings, caves, or mines.
<b>California Rare Plants</b>			
Anthony Peak lupine ( <i>Lupinus antoninus</i> )	1B.2	Openings in yellow pine, red fir, or lodgepole forests below 6695 feet elevation.	<b>None.</b> Habitat lacking; the Project site lacked yellow pine, red fir, or lodgepole forests.
Beaked tracyina <sup>3</sup> ( <i>Tracyina rostrata</i> )	1B.2	Undisturbed grassy slopes at 328–1310 feet elevation.	<b>None.</b> Habitat lacking; the Project site lacked undisturbed grassy slopes and is above the known elevational range of this species.
Bent-flowered fiddleneck <sup>3</sup> ( <i>Amsinckia lunaris</i> )	1B.2	Gravelly slopes, grassland, openings in woodland, often in serpentine soils at 150–2400 feet elevation.	<b>None.</b> Habitat lacking; grassland at the Project site was highly disturbed and lacked serpentine soils.
Bolander's catchfly ( <i>Silene bolanderi</i> )	1B.2	Serpentine and non-serpentine soils in oak and conifer woodland below 3280 feet elevation.	<b>None.</b> Habitat lacking; the Project site was highly disturbed and lacked oak and conifer woodland.
Bolander's horkelia ( <i>Horkelia bolanderi</i> )	1B.2	Edges of vernal wet places in pine forest at 1475–3610 feet elevation.	<b>None.</b> Habitat lacking; the Project site lacked pine forest and is below the elevational range of this species.
Brandegee's eriastrum ( <i>Eriastrum brandegeae</i> )	1B.1	Open flats of volcanic soils and shales at 1310–3280 feet elevation.	<b>None.</b> Habitat lacking; the Project site lacked volcanic soils and shales.



Bristly sedge ( <i>Carex comosa</i> )	2B.1	Wet places below 1200 feet elevation.	<b>None.</b> Habitat lacking; the Project site is above the known elevational range of this species.
Cobb Mountain lupine ( <i>Lupinus sericatus</i> )	1B.2	Open wooded slopes, broadleaf upland forest, chaparral, and lower montane conifer forest at 900–5000 feet elevation.	<b>None.</b> Habitat lacking; the Project site was highly disturbed and lacked broadleaf upland forest, chaparral, and lower montane conifer forest.
Colusa layia <sup>3</sup> ( <i>Layia septentrionalis</i> )	1B.2	Serpentine or sandy soils at 328–2950 feet elevation.	<b>None.</b> Habitat lacking; the Project site lacked serpentine or sandy soils.
Eel-grass pondweed ( <i>Potamogeton zosteriformis</i> )	2B.2	Ponds, lakes, streams, and freshwater marshes with open canopies at or below 4270 feet elevation.	<b>None.</b> Habitat lacking; the Project site was highly disturbed and lacked suitable aquatic resources for this species.
Glandular western flax <sup>3</sup> ( <i>Hesperolinon adenophyllum</i> )	1B.2	Serpentine soils in chaparral at 490–3280 feet elevation.	<b>None.</b> Habitat lacking; the Project site lacked serpentine soils.
Grassland suncup <sup>3</sup> ( <i>Camissonia lacustris</i> )	1B.2	Open grassland on serpentine soils at 1310–1970 feet elevation and on non-serpentine soils at 700–5250 feet elevation.	<b>None.</b> Habitat lacking; the Project site lacked serpentine soils; grassland on the Project site was patchy and highly disturbed.
Hall’s harmonia ( <i>Harmonia hallii</i> )	1B.2	Open sites and disturbed areas in serpentine chaparral at 1640–3280 feet elevation.	<b>None.</b> Habitat lacking; the Project site is below the known elevational range of this species.
Hoffman’s bristly jewelflower ( <i>Streptanthus glandulosus</i> ssp. <i>hoffmanii</i> )	1B.3	Serpentine outcrops around 410 feet elevation.	<b>None.</b> Habitat lacking; the Project site is above the known elevational range of this species.

Koch's cord moss ( <i>Entosthodon kochii</i> )	1B.3	Soil in cismontane woodland 590–3280 feet elevation.	<b>None.</b> Habitat lacking; the Project site was highly disturbed and lacked cismontane woodland.
Konocti manzanita <sup>3</sup> ( <i>Arctostaphylos manzanita</i> ssp. <i>elegans</i> )	1B.3	Volcanic soils in woodland, chaparral, or conifer forest at 720–6070 feet elevation.	<b>None.</b> Habitat lacking; the Project site lacked volcanic soils in woodland, chaparral, or conifer forest.
Legenere ( <i>Legenere limosa</i> )	1B.1	Wet areas, vernal pools, ponds below 2850 feet elevation.	<b>None.</b> Habitat lacking; the Project site lacked suitable wetland resources for this species.
Marsh checkerbloom ( <i>Sidalcea oregana</i> ssp. <i>hydrophila</i> )	1B.2	Wet soil of streambanks and meadows in pine forests at 1440–7550 feet elevation.	<b>None.</b> Habitat lacking; the Project site is below the known elevational range of this species.
Napa bluecurls ( <i>Trichostema ruygtii</i> )	1B.2	Open areas with thin seasonally saturated clay soils at 100–1970 feet elevation.	<b>None.</b> Habitat lacking; the Project site is outside the current known local range of this species.
Oval-leaved viburnum ( <i>Viburnum ellipticum</i> )	2B.3	Chaparral, woodland, and conifer forests; 700–4600 feet elevation.	<b>None.</b> Habitat lacking; the Project site was highly disturbed; not detected during the 18 July 2023 reconnaissance survey.
Raiche's manzanita ( <i>Arctostaphylos stanfordiana</i> ssp. <i>raichei</i> )	1B.1	Chaparral at 1300–3100 feet elevation.	<b>None.</b> Habitat lacking; the Project site lacked chaparral.
Rincon Ridge ceanothus ( <i>Ceanothus confusus</i> )	1B.1	Chaparral or woodland with volcanic slopes.	<b>None.</b> Habitat lacking; the Project site lacked chaparral or woodland with volcanic slopes.

Serpentine cryptantha <sup>3</sup> ( <i>Cryptantha dissita</i> )	1B.2	Rocky outcrops, gravelly slopes, and serpentine soils in chaparral and foothill woodland at 490–2950 feet elevation.	<b>None.</b> Habitat lacking; the Project site lacked rocky outcrops, gravelly slopes, and serpentine soils.
Small ground-cone ( <i>Kopsiopsis hookeri</i> )	2B.3	Open woodland, mixed conifer forest, generally on <i>Gaultheria shallon</i> , occasionally on <i>Arbutus menziesii</i> or <i>Arctostaphylos uva-ursi</i> below 2300 feet elevation.	<b>None.</b> Habitat lacking; the Project site was highly disturbed; host plants were not detected during the 18 July reconnaissance survey.
Small-flowered calycadenia <sup>3</sup> ( <i>Calycadenia micrantha</i> )	1B.2	Dry, open, rocky ridges, hillsides and talus slopes or openings in scrub or woodland at 1640–4920 feet elevation.	<b>None.</b> Habitat lacking; the Project site is below the known elevational range of this species.
Sonoma beardtongue ( <i>Penstemon newberryi</i> var. <i>sonomensis</i> )	1B.3	Outcrops and talus in Lake, Napa, and Sonoma counties at 1640–7870 feet elevation.	<b>None.</b> Habitat lacking; the Project site lacked outcrops and talus.
Toren’s grimmia ( <i>Grimmia torenii</i> )	1B.3	Chaparral, cismontane woodland, lower montane coniferous forest; openings in rocky boulders and rock walls at 1065–3805 feet elevation.	<b>None.</b> Habitat lacking; the Project site lacked openings in rocky boulders and rock walls.
Two-carpellate western flax ( <i>Hesperolinon bicarpellatum</i> )	1B.2	Serpentine soils in chaparral at 200–3280 feet elevation.	<b>None.</b> Habitat lacking; the Project site lacked chaparral and serpentine soils.
Watershield <sup>3</sup> ( <i>Brasenia schreberi</i> )	2B.3	Ponds and slow-moving streams with an open canopy below 6600 feet elevation.	<b>None.</b> Habitat lacking; Forbes Creek within the survey area supported a dense, closed canopy.

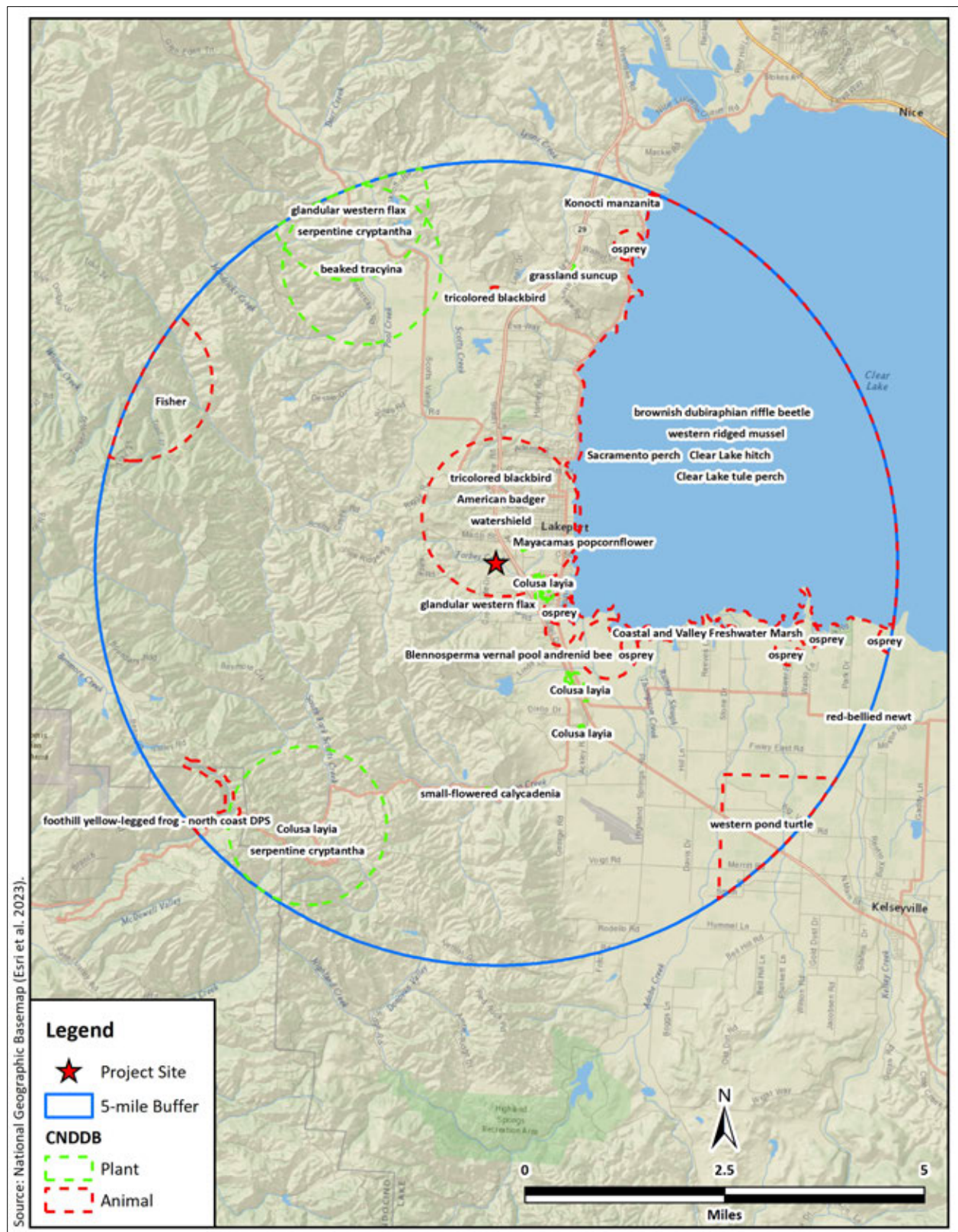
CDFW (2023), CNPS (2023), USFWS (2023).

<b>Status<sup>1</sup></b>	<b>Potential to Occur<sup>2</sup></b>
FE = Federally listed Endangered	None: Species or sign not observed; conditions unsuitable for occurrence.
FT = Federally listed Threatened	Low: Neither species nor sign observed; conditions marginal for occurrence.
FCE = Federal Candidate Endangered	Moderate: Neither species nor sign observed; conditions suitable for occurrence.
SE = State listed Endangered	High: Neither species nor sign observed; conditions highly suitable for occurrence.
ST = State listed Threatened	Present: Species or sign observed; conditions suitable for occurrence.
SSSC = State Species of Special Concern	

<b>CNPS California Rare Plant Rank<sup>1</sup>:</b>	<b>Threat Ranks<sup>1</sup>:</b>
1A – plants presumed extirpated in California and either rare or extinct elsewhere.	0.1 – seriously threatened in California (> 80% of occurrences).
1B – plants rare, threatened, or endangered in California and elsewhere.	0.2 – moderately threatened in California (20-80% of occurrences).
2B – plants rare, threatened, or endangered in California but more common elsewhere.	0.3 – not very threatened in California (<20% of occurrences).
3 – plants about which more information is needed.	
4 – plants have limited distribution in California.	

<sup>3</sup>Record from within 5 miles of the Project site.





**Figure 4.** CNDDDB occurrence map.

## 3.2 Reconnaissance Survey

### 3.2.1 Land Use and Habitats

The Project site supported an intermittent drainage, riparian forest, nonnative grassland, and fallowed agricultural land (Figures 5–11). The Project site was bisected by Forbes Creek, an intermittent drainage. Fallen logs and other coarse woody debris were prevalent in Forbes Creek, which was dry at the time of survey. A strip of riparian forest lined both banks of Forbes Creek. The riparian forest supported a dense canopy dominated by interior live oak (*Quercus wislizeni*), valley oak (*Quercus lobata*), red willow (*Salix laevigata*), Oregon ash (*Fraxinus latifolia*), and Fremont cottonwood (*Populus fremontii*). The understory consisted of diverse herbaceous vegetation with dense shrubs, dominated by Himalayan blackberry (*Rubus armeniacus*), coyote brush (*Baccharis pilularis*), and red willow.

Nonnative grassland was present in the northern quarter of the Project site between Forbes Creek and Craig Avenue. This area supported nonnative grasses and ruderal forbs and was recently disturbed, evidently by road construction between 2021 and 2023 (Google 2023). The riparian forest and nonnative grassland on the Project site were crossed by utility lines. Fallowed agricultural land was present in the southern third of the Project site between Forbes Creek and Wrigley Street. This area was recently disturbed and was largely dominated by yellow star-thistle (*Centaurea solstitialis*), an invasive weed listed in the California Invasive Plant Inventory (CAL-IPC 2006). The area between Forbes Creek and Wrigley Street supported an orchard from at least 1993 until 2006 and was a regularly disturbed fallowed field from 2006 to 2023 (Google 2023).

The Project site was bordered by commercial storage units to the north, disturbed grassland and commercial businesses to the east, fallowed agricultural land to the south, and riparian forest and oak woodland to the west.





**Figure 5.** Photograph of the Project site, looking south-southwest, showing nonnative grassland and riparian forest along Forbes Creek.



**Figure 6.** Photograph of Forbes Creek, looking west (upstream) from the Project site.





**Figure 7.** Photograph of Forbes Creek, looking east (downstream) from the Project site.



**Figure 8.** Photograph of the Project site, looking north-northeast at the proposed bridge crossing, showing riparian vegetation along Forbes Creek.





**Figure 9.** Photograph of the Project site, looking south-southwest at the proposed bridge crossing, showing nonnative grassland and riparian vegetation along Forbes Creek. .



**Figure 10.** Photograph of the Project site, looking south, showing fallowed agricultural field and Wrigley Street.





**Figure 11.** Photograph of the Project site, looking north-northwest from Wrigley Street, showing fallowed agricultural field and riparian forest.

### 3.2.2 Plant and Animal Species Observed

A total of 44 plant species (23 native and 21 nonnative), one reptile species, and 23 bird species were observed during the survey (Table 2).

**Table 2.** Plant and animal species observed during the reconnaissance survey.

Common Name	Scientific Name	Status
<b>Plants</b>		
<b>Family Anacardiaceae</b>		
Poison oak	<i>Toxicodendron diversilobum</i>	Native
<b>Family Asteraceae</b>		
California cudweed	<i>Gnaphalium californicum</i>	Native
California mugwort	<i>Artemisia douglasiana</i>	Native
Coyote bush	<i>Baccharis pilularis</i>	Native
Prickly lettuce	<i>Lactuca serriola</i>	Nonnative
Yellow star-thistle	<i>Centaurea solstitialis</i>	Nonnative

Common Name	Scientific Name	Status
<b>Family Caprifoliaceae</b>		
Common snowberry	<i>Symphoricarpos albus</i>	Native
<b>Family Cyperaceae</b>		
Tall flatsedge	<i>Cyperus eragrostis</i>	Native
<b>Family Euphorbiaceae</b>		
Doveweed	<i>Croton setigerus</i>	Native
<b>Family Fabaceae</b>		
Hairy vetch	<i>Vicia villosa</i>	Nonnative
Rose clover	<i>Trifolium hirtum</i>	Nonnative
Spanish clover	<i>Lotus purshianus</i>	Native
<b>Family Fagaceae</b>		
Interior live oak	<i>Quercus wislizeni</i>	Native
Valley oak	<i>Quercus lobata</i>	Native
<b>Family Fraxinus</b>		
Oregon ash	<i>Fraxinus latifolia</i>	Native
<b>Family Hypericaceae</b>		
Common St. John's wort	<i>Hypericum perforatum</i>	Nonnative
<b>Family Juncaceae</b>		
Iris-leaved rush	<i>Juncus xiphioides</i>	Native
Spreading rush	<i>Juncus patens</i>	Native
<b>Family Lamiaceae</b>		
Pennyroyal	<i>Mentha pulegium</i>	Nonnative
Whitestem hedgenettle	<i>Stachys albens</i>	Native
<b>Family Onagraceae</b>		
Denseflower willowherb	<i>Epilobium densiflorum</i>	Native
<b>Family Plantaginaceae</b>		
Ribwort plantain	<i>Plantago lanceolata</i>	Nonnative
<b>Family Poaceae</b>		
Annual blue grass	<i>Poa annua</i>	Nonnative
Blue wildrye	<i>Elymus glaucus</i>	Native
California oatgrass	<i>Danthonia californica</i>	Native
Common barley	<i>Hordeum vulgare</i>	Nonnative
Foxtail brome	<i>Bromus madritensis</i>	Nonnative
Harding grass	<i>Phalaris aquatica</i>	Nonnative

Common Name	Scientific Name	Status
Italian rye grass	<i>Festuca perennis</i>	Nonnative
Lemmon's needlegrass	<i>Achnatherum lemmonii</i>	Native
Little quaking grass	<i>Briza minor</i>	Nonnative
Orchard grass	<i>Dactylis glomerata</i>	Nonnative
Ripgut brome	<i>Bromus diandrus</i>	Nonnative
Soft brome	<i>Bromus hordeaceus</i>	Nonnative
Wild oat	<i>Avena fatua</i>	Nonnative
<b>Family Polygonaceae</b>		
Curly dock	<i>Rumex crispus</i>	Nonnative
<b>Family Rosaceae</b>		
California wild rose	<i>Rosa californica</i>	Native
Golden plum	<i>Prunus domestica</i>	Nonnative
Himalayan blackberry	<i>Rubus armeniacus</i>	Nonnative
<b>Family Sapindaceae</b>		
California buckeye	<i>Aesculus californica</i>	Native
<b>Family Salicaceae</b>		
Fremont cottonwood	<i>Populus fremontii</i>	Native
Red willow	<i>Salix laevigata</i>	Native
<b>Family Simaroubaceae</b>		
Tree of heaven	<i>Ailanthus altissima</i>	Nonnative
<b>Family Viburnaceae</b>		
Blue elderberry	<i>Sambucus nigra ssp. caerulea</i>	Native
<b>Reptiles</b>		
<b>Family Anguidae</b>		
California alligator lizard	<i>Elgaria multicarinata multicarinata</i>	--
<b>Birds</b>		
<b>Family Ardeidae</b>		
Great egret	<i>Ardea alba</i>	MBTA, CFGC
<b>Family Cardinalidae</b>		
Western tanager	<i>Piranga ludoviciana</i>	MBTA, CFGC
<b>Family Cathartidae</b>		
Turkey vulture	<i>Cathartes aura</i>	MBTA, CFGC
<b>Family Columbidae</b>		
Eurasian collared-dove	<i>Streptopelia decaocto</i>	Nonnative



Common Name	Scientific Name	Status
Mourning dove	<i>Zenaida macroura</i>	MBTA, CFGC
Rock pigeon	<i>Columba livia</i>	Nonnative
<b>Family Corvidae</b>		
American crow	<i>Corvus brachyrhynchos</i>	MBTA, CFGC
California scrub-jay	<i>Aphelocoma californica</i>	MBTA, CFGC
<b>Family Fringillidae</b>		
House finch	<i>Haemorhous mexicanus</i>	MBTA, CFGC
<b>Family Icteridae</b>		
Hooded oriole	<i>Icterus cucullatus</i>	MBTA, CFGC
<b>Family Mimidae</b>		
Northern mockingbird	<i>Mimus polyglottos</i>	MBTA, CFGC
<b>Family Passeridae</b>		
House sparrow	<i>Passer domesticus</i>	MBTA, CFGC
<b>Family Passerellidae</b>		
California towhee	<i>Melospiza crissalis</i>	MBTA, CFGC
Song sparrow	<i>Melospiza melodia</i>	MBTA, CFGC
Spotted towhee	<i>Pipilo maculatus</i>	MBTA, CFGC
<b>Family Picidae</b>		
Acorn woodpecker	<i>Melanerpes formicivorus</i>	MBTA, CFGC
Downy woodpecker	<i>Dryobates pubescens</i>	MBTA, CFGC
Nuttall's woodpecker	<i>Dryobates nuttallii</i>	MBTA, CFGC
<b>Family Sylviidae</b>		
Wrentit	<i>Chamaea fasciata</i>	MBTA, CFGC
<b>Family Troglodytidae</b>		
Bewick's wren	<i>Thryomanes bewickii</i>	MBTA, CFGC
<b>Family Tyrannidae</b>		
Ash-throated flycatcher	<i>Myiarchus cinerascens</i>	MBTA, CFGC
Western kingbird	<i>Tyrannus verticalis</i>	MBTA, CFGC
Western wood-pewee	<i>Contopus sordidulus</i>	MBTA, CFGC

MBTA = Protected under the Migratory Bird Treaty Act (16 USC § 703 et seq.); CFGC = Protected under the California Fish and Game Code (FGC §§ 3503 and 3513).

### 3.2.3 Nesting Birds

Migratory birds could nest on or near the Project site. Bird species that may nest on or near the property include, but are not limited to, acorn woodpecker (*Melanerpes formicivorus*), ash-throated flycatcher (*Myiarchus cinerascens*), and California scrub-jay (*Aphelocoma californica*).

### 3.2.4 Regulated Habitats

Forbes Creek bisects the Project site. As a stream in California, it is under the regulatory jurisdiction of the CDFW; as a potential surface water in California, it may be under the regulatory jurisdiction of the SWRCB; and as a potential tributary of Clear Lake, it may be under the regulatory jurisdiction of the USACE. The Project is anticipated to impact riparian vegetation adjacent to Forbes Creek. No other impacts to Forbes Creek are anticipated.

## 3.3 Special-Status Species

### 3.3.1 Clear Lake hitch (*Lavinia exilicauda chi*, ST)

Clear lake hitch is a state listed as threatened fish in the family Cyprinidae. It is a potamodromous species endemic to Clear Lake, Lake County, California. Once locally abundant and commercially harvested, this species is now rare due to habitat loss, overfishing, and invasive species (Thompson et al. 2013). It reaches a maximum size of approximately 14 inches and feeds primarily on macroinvertebrates (Geary and Moyle 1980). Clear Lake hitch reach reproductive maturity within 2–3 years and live to be approximately 6 years old (Geary and Moyle 1980). Spawning occurs in tributary streams and rivers of Clear Lake between February and July (Geary and Moyle 1980). As many as 3000 to 63,000 eggs can be produced by a single female. Fertilized eggs settle into gravel substrate and hatch within 3–7 days (Geary and Moyle 1980). Young hitch may remain in tributary streams or migrate to Clear Lake and inhabit shallow vegetated waters along the shoreline (Feyrer et al. 2019, Young et al. 2021). Adults occupy deeper waters and return to tributary streams for spawning (Geary and Moyle 1980, Young et al. 2021).

There is one CNDDDB record of Clear Lake hitch from within 5 miles of the Project site from 1962 (CDFW 2023). Forbes Creek on the Project site could provide spawning and juvenile foraging habitat for this species. However, Forbes Creek has been heavily modified in and around its connection to Clear Lake and drains into the lake through a heavily urbanized area. The petition to list this species under the CESA cited no evidence of this species in Forbes Creek for several years prior to 2013 (Bonham 2013). However, recent survey data show Clear Lake hitch have been using lower Forbes Creek in recent years and have been reported up to 0.29 miles downstream of the Project site (Clear Lake Hitch Observation Program 2023; Sarah Ryan, personal communication, 2023). Therefore, the potential for this species to occur is moderate.

### 3.3.2 Purple martin (*Progne subis*, SSSC)

Purple martin is a state species of special concern in the family Hirundinidae. Purple martin is an uncommon to rare summer migrant in California, inhabiting a variety of wooded, low-elevation habitats throughout the state (Zeiner et al. 1988–1990). Purple martins overwinter in South America and arrive in California from mid-March to late September. They breed from May to mid-August (Shuford and Gardali 2008). In the breeding season, purple martins inhabit open forests, woodlands, and riparian areas. Purple martins often nest in old woodpecker cavities but also use artificial structures such as utility poles, bridges, and buildings (Shuford and Gardali 2008). Common to all nesting areas are concentrations of nesting cavities, relatively open air space above accessible nest sites, and relatively abundant aerial insect prey (Shuford and Gardali 2008). Purple martins feed primarily on flying insects using long, gliding flights but will occasionally forage for ants and other insects on the ground (Airola 1980, Zeiner et al. 1988–1990).

The nearest CNDDDB occurrence is from approximately 13 miles from the Project site (CNDDDB 2023). However, the Project site supports potential nesting habitat along Forbes Creek. The Project site contains open areas and riparian forest that may provide foraging habitat. Potential nest sites are limited, and much of the foraging habitat is disturbed. Therefore, the species has a low potential to occur on the Project site.

### 3.3.3 Pallid bat (*Antrozous pallidus*, SSSC)

Pallid bat is a member of the family Vespertilionidae and is recognized as a Species of Special Concern by the CDFW (CDFW 2023). It is widespread in the western United States from southern British Columbia, Canada to northern Baja California, Mexico (Hermanson and O'Shea 1983). In California, pallid bat is locally common year-round at low elevations, where it occupies dry, open areas in grassland, shrubland, woodland, and forest (Zeiner et al. 1988–1990). Pallid bat is nocturnal and roosts during the day in caves, crevices in rocky outcrops, mines, and occasionally tree hollows and buildings; night roosts tend to be in more open areas including porches (Zeiner et al. 1988–1990). It forages almost exclusively on the ground, where it preys on insects, arachnids, beetles, moths, and scorpions; few prey items are taken aerially (Zeiner et al. 1988–1990). Pallid bat hibernates during winter, usually near a day roost that it occupies in summer (Hermanson and O'Shea 1983).

There are no CNDDDB occurrence records of pallid bat from within 5 miles of the Project site (CDFW 2023). However, the Project site supports potential day roost habitat in the form of tree hollows and snags along Forbes Creek. The Project site contains open areas and riparian forest that may provide foraging habitat. Potential roost sites are limited, however, to possible tree cavities. Therefore, the species has a low potential to occur on the Project site.

## 4.0 Environmental Impacts

### 4.1 Significance Determinations

This Project, which will result in temporary and permanent impacts to riparian forest, nonnative grassland, and fallowed agricultural land, will not: (1) substantially reduce the habitat of a fish or wildlife species (criterion a) as no such impacts to habitats are expected; (2) cause a fish or wildlife population to drop below self-sustaining levels (criterion b) as no impacts to such vulnerable populations are expected; (3) threaten to eliminate a plant or animal community (criterion c) as no such impacts to at-risk communities are expected; (4) substantially reduce the number or restrict the range of a rare or endangered plant or animal (criterion d) as no such impacts to vulnerable plants or animals are expected; (5) have a substantial adverse effect on state or federally protected wetlands (including, but not limited to marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means (criterion g) as no impacts to wetlands will occur; (8) conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance (criterion i) as no such ordinances are pertinent to the Project; or (9) conflict with the provisions of an adopted Habitat Conservation Plan, Natural Communities Conservation Plan, or other approved local, regional, or state habitat conservation plan (criterion j) as no such plan has been adopted. Thus, these significance criteria are not analyzed further.

The remaining statutorily defined criteria provided the framework for Criteria BIO1 through BIO3 below. These criteria are used to assess the impacts to biological resources stemming from the Project and provide the basis for determinations of significance:

- Criterion BIO1: Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS (significance criterion e).
- Criterion BIO2: Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the CDFW or USFWS (significance criterion f).
- Criterion BIO3: Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites (significance criterion h).



#### 4.1.1 Direct and Indirect Impacts

##### **4.1.1.1 Potential Impact: Have a substantial Effect on any Special-Status Species (Criterion BIO1)**

The Project could adversely affect three special-status animal species that could occur on or near the Project site. Construction activities such as excavating, trenching, or using other heavy equipment that disturbs or harms a special-status species could constitute a significant impact. We recommend that Mitigation Measures BIO1–BIO3 (below) be included in the conditions of approval to reduce the potential impacts to a less-than-significant level.

##### **Mitigation Measure BIO1. Protect Clear Lake hitch.**

1. To the extent practicable, construction shall be conducted during the non-rainy season (June through October) and when Forbes Creek is dry.
2. Stormwater and sediment controls, including silt containment fence and fiber rolls, shall be installed prior to any ground disturbing work to prevent sedimentation of potential spawning and rearing habitat for Clear Lake hitch.
3. All refueling, maintenance, and staging of equipment and vehicles will occur at least 100 feet from riparian habitat or bodies of water and in a location where a potential spill would not drain directly toward aquatic habitat (e.g., on a slope that drains away from the water source). Equipment will be checked daily for leaks prior to the initiation of construction activities. A spill kit will be placed near the creek and will remain readily available during construction in the event that any contaminant is accidentally released.
4. If it is not possible to schedule construction during the non-rainy season (June through October) and when Forbes Creek is dry:
  - a. Before construction activities begin, a qualified biologist shall conduct a training session for all construction personnel working within 50 feet of Forbes Creek. At a minimum, the training will include a description of Clear Lake hitch and its habitat, the specific measures that are being implemented to protect this species for the Project, and the boundaries within which the Project may be accomplished.
  - b. Immediately prior to all construction activities within 50 feet of Forbes Creek, a qualified biologist shall conduct a visual pre-construction survey for Clear Lake hitch. The qualified biologist shall then monitor all construction activities within 50 feet of Forbes Creek to ensure impacts to Clear Lake hitch and its habitat are avoided. The qualified biologist will stop work if Clear Lake hitch behavior is

affected by Project activities. In such cases, work may need to be redirected to other areas or postponed until Clear Lake hitch is no longer present in the reach of Forbes Creek potentially affected by Project activities.

**Mitigation Measure BIO2. Protect nesting purple martin.**

1. To the extent practicable, construction shall be scheduled to avoid the nesting season, which extends from May through August.
2. If it is not possible to schedule construction between September and April, pre-construction surveys for nesting purple martins shall be conducted by a qualified biologist to ensure that no active nests will be disturbed during Project implementation. A pre-construction survey shall be conducted no more than 14 days prior to the initiation of construction activities. During this survey, the qualified biologist shall inspect all potential nest substrates (trees or snags with cavities) in and immediately adjacent to the impact areas. If an active nest is found close enough to the construction area to be disturbed by these activities, the qualified biologist shall determine the extent of a construction-free buffer to be established around the nest. If work cannot proceed without disturbing the nesting birds, work may need to be halted or redirected to other areas until nesting and fledging are completed or the nest has failed for non-construction related reasons.

**Mitigation Measure BIO3. Protect roosting pallid bat.**

1. A pre-construction clearance survey shall be conducted by a qualified biologist to ensure that no roosting pallid bats will be disturbed during the implementation of the Project. A pre-construction clearance survey shall be conducted no more than 14 days prior to the initiation of construction activities. During this survey, the qualified biologist shall inspect all potential roosting habitat in and immediately adjacent to the impact areas. If an active roost is found close enough to the construction area to be disturbed by these activities, the qualified biologist shall determine the extent of a construction-free buffer to be established around the roost. If work cannot proceed without disturbing the roosting bats, work may need to be halted or redirected to other areas until the roost is no longer in use.

**4.2.1.2 Potential Impact: Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the CDFW or USFWS (Criterion BIO2)**

The Project will impact riparian habitat along Forbes Creek. The proposed bridge installation is anticipated to impact an approximately 750-square-foot area (15 feet x 50 feet) of riparian forest dominated by red willow and Himalayan blackberry, a nonnative

shrub. Based on the abundance of Himalayan blackberry in the local area and at this location, including on and adjacent to the impact area, recolonization after Project completion is expected to occur naturally and probably within one growing season. Therefore, we conclude that Project-related impacts to Himalayan blackberry will be negligible, don't meet the threshold of significance, and consequently require no mitigation. However, to mitigate potential impacts to native trees or shrubs, we recommend that Mitigation Measure BIO4 (below) be included in the conditions of approval to reduce the potential impact to a less-than-significant level.

**Mitigation Measure BIO4. Mitigate impacts to riparian vegetation.**

1. To the extent practical, avoid impacting riparian vegetation.
2. If impacts to valley oak, red willow, or other riparian trees or shrubs are unavoidable, the Project applicant shall implement the tree replacement and maintenance requirements detailed in the Streambed Alteration Agreement issued by the CDFW for the Project. Those requirements are likely to involve replacing trees or shrubs that are damaged or removed by replanting native species at a 3:1 ratio (replaced to lost) and ensuring a performance criterion of 70 percent survival of plantings for a minimum period of five consecutive years, including up to three years with supplemental irrigation and a minimum of two years without such assistance.

**4.1.1.3 Potential Impact: Interfere Substantially with Native Wildlife Movements, Corridors, or Nursery Sites (Criterion BIO3)**

The Project could impede the use of nursery sites for native birds protected under the MBTA and CFGC. Migratory birds are expected to nest on and near the Project site. Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings or otherwise lead to nest abandonment. Disturbance that causes nest abandonment or loss of reproductive effort can be considered take under the MBTA and CFGC. Loss of fertile eggs or nesting birds, or any activities resulting in nest abandonment, could constitute a significant effect if the species is particularly rare in the region. Construction activities such as excavating, trenching, and grading that disturb a nesting bird on the Project site or immediately adjacent to the construction zone could constitute a significant impact.

The Project could also impede the use of nursery sites for Clear Lake hitch, a state listed as threatened fish. Clear Lake hitch may use Forbes Creek for spawning and juvenile rearing in spring and early summer. We recommend that Mitigation Measures BIO5 (below) and BIO1 (above) be included in the conditions of approval to reduce the potential effect to a less-than-significant level.

**Mitigation Measure BIO5. Protect nesting birds.**

1. To the extent practicable, construction shall be scheduled to avoid the nesting season, which extends from February through August.
2. If it is not possible to schedule construction between September and January, pre-construction surveys for nesting birds shall be conducted by a qualified biologist to ensure that no active nests will be disturbed during the implementation of the Project. A pre-construction survey shall be conducted no more than 14 days prior to the initiation of construction activities. During this survey, the qualified biologist shall inspect all potential nest substrates in and immediately adjacent to the impact areas. If an active nest is found close enough to the construction area to be disturbed by these activities, the qualified biologist shall determine the extent of a construction-free buffer to be established around the nest. If work cannot proceed without disturbing the nesting birds, work may need to be halted or redirected to other areas until nesting and fledging are completed or the nest has otherwise failed for non-construction related reasons.

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**Appendix A.** USFWS list of threatened and endangered species.

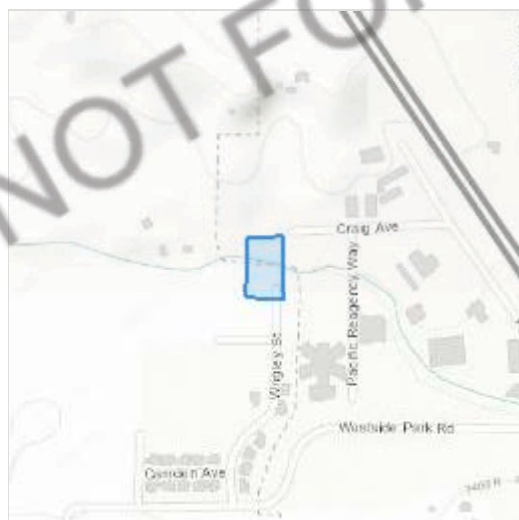
# IPaC resource list

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


Lake 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

NOT FOR CONSULTATION

# 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<sup>1</sup> 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<sup>2</sup>).

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. IPaC only shows species that are regulated by USFWS (see FAQ).
  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
Northern Spotted Owl <i>Strix occidentalis caurina</i> Wherever found There is <b>final</b> critical habitat for this species. Your location does not overlap the critical habitat. <a href="https://ecos.fws.gov/ecp/species/1123">https://ecos.fws.gov/ecp/species/1123</a>	Threatened

## Insects

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> Wherever found No critical habitat has been designated for this species. <a href="https://ecos.fws.gov/ecp/species/9743">https://ecos.fws.gov/ecp/species/9743</a>	Candidate

## Flowering Plants

NAME	STATUS
Burke's Goldfields <i>Lasthenia burkei</i> Wherever found No critical habitat has been designated for this species. <a href="https://ecos.fws.gov/ecp/species/4338">https://ecos.fws.gov/ecp/species/4338</a>	Endangered

## Critical habitats

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

There are no critical habitats at this location.

You are still required to determine if your project(s) may have effects on all above listed species.

# Bald & Golden Eagles

Bald and golden eagles are protected under the [Bald and Golden Eagle Protection Act](#) and the [Migratory Bird Treaty Act](#).

Any person or organization who plans or conducts activities that may result in impacts to bald or golden eagles, or their habitats, should follow appropriate regulations and consider implementing appropriate conservation measures, as described [below](#).

Additional information can be found using the following links:

- Eagle Management <https://www.fws.gov/program/eagle-management>
- Measures for avoiding and minimizing impacts to birds <https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds>
- Nationwide conservation measures for birds <https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf>

**There are bald and/or golden eagles in your project area.**

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
<b>Bald Eagle</b> <i>Haliaeetus leucocephalus</i> 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.	Breeds Jan 1 to Aug 31
<b>Golden Eagle</b> <i>Aquila chrysaetos</i> 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. <a href="https://ecos.fws.gov/ecp/species/1680">https://ecos.fws.gov/ecp/species/1680</a>	Breeds Jan 1 to Aug 31

## Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read

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.

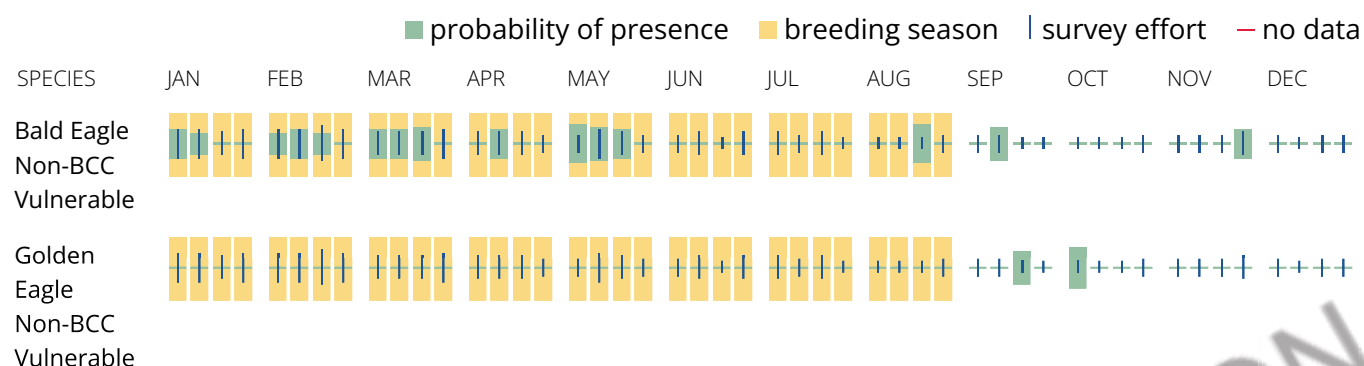
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

### 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.



### What does IPaC use to generate the potential presence of bald and golden eagles in my specified location?

The potential for eagle presence 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). To see a list of all birds potentially present in your project area, please visit the [Rapid Avian Information Locator \(RAIL\) Tool](#).

### What does IPaC use to generate the probability of presence graphs of bald and golden eagles 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 [Rapid Avian Information Locator \(RAIL\) Tool](#).

### 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. Please contact your local Fish and Wildlife Service Field Office if you have questions.

# Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act<sup>1</sup> and the Bald and Golden Eagle Protection Act<sup>2</sup>.

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 <https://www.fws.gov/program/migratory-birds/species>
- Measures for avoiding and minimizing impacts to birds <https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds>
- Nationwide conservation measures for birds <https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.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



**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.

**Belding's Savannah Sparrow** *Passerculus sandwichensis beldingi*

Breeds Apr 1 to Aug 15

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/8>

**Bullock's Oriole** *Icterus bullockii*

Breeds Mar 21 to Jul 25

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

**California Gull** *Larus californicus*

Breeds Mar 1 to Jul 31

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

**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 Jun 1 to Aug 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>

**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>

**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>

**Olive-sided Flycatcher** *Contopus cooperi*

Breeds May 20 to Aug 31

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

<https://ecos.fws.gov/ecp/species/3914>

**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>

**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>

**Western Grebe** *aechmophorus occidentalis*

Breeds Jun 1 to Aug 31

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

<https://ecos.fws.gov/ecp/species/6743>

**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.

## 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.

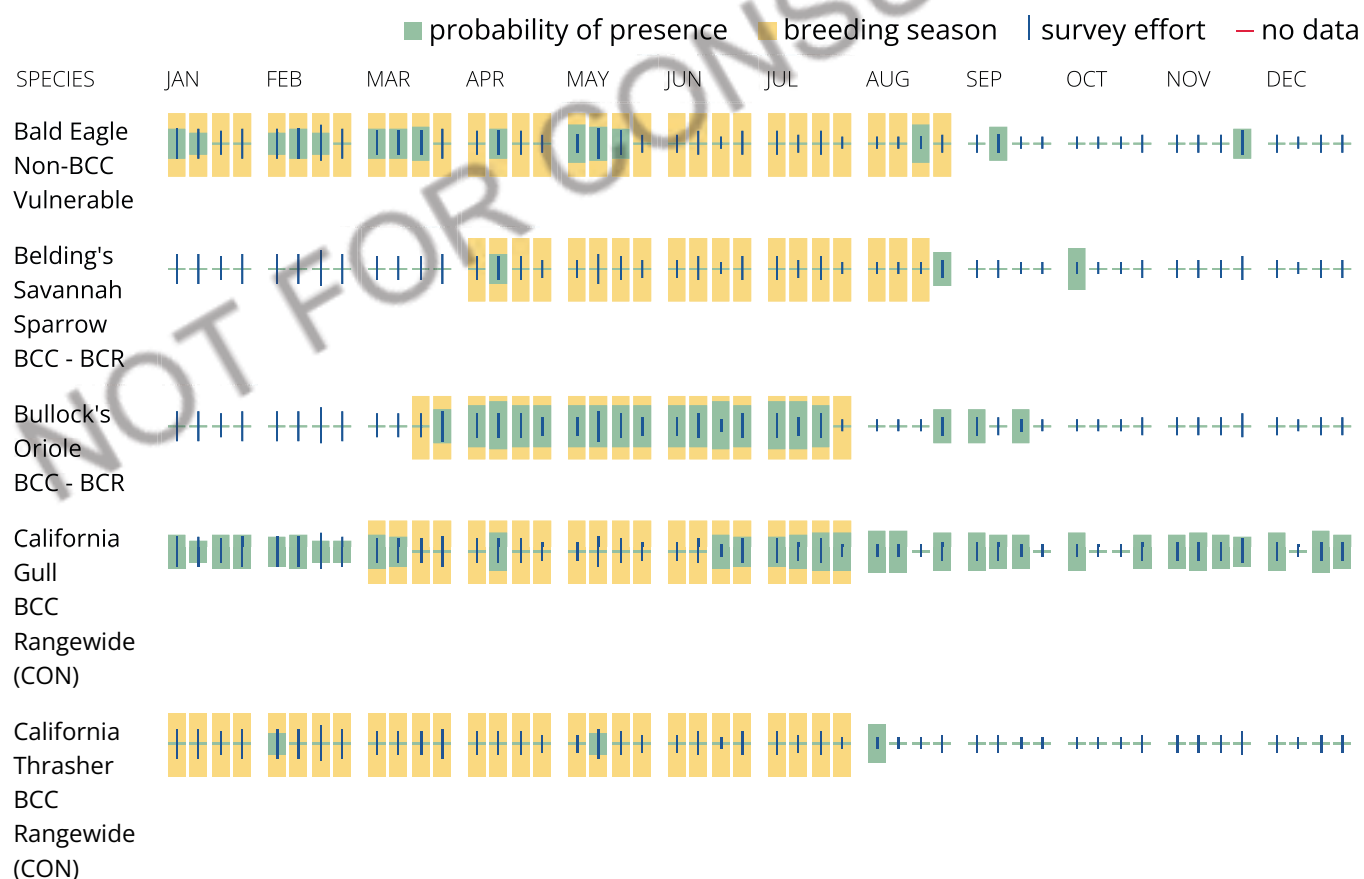
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

## No Data (—)

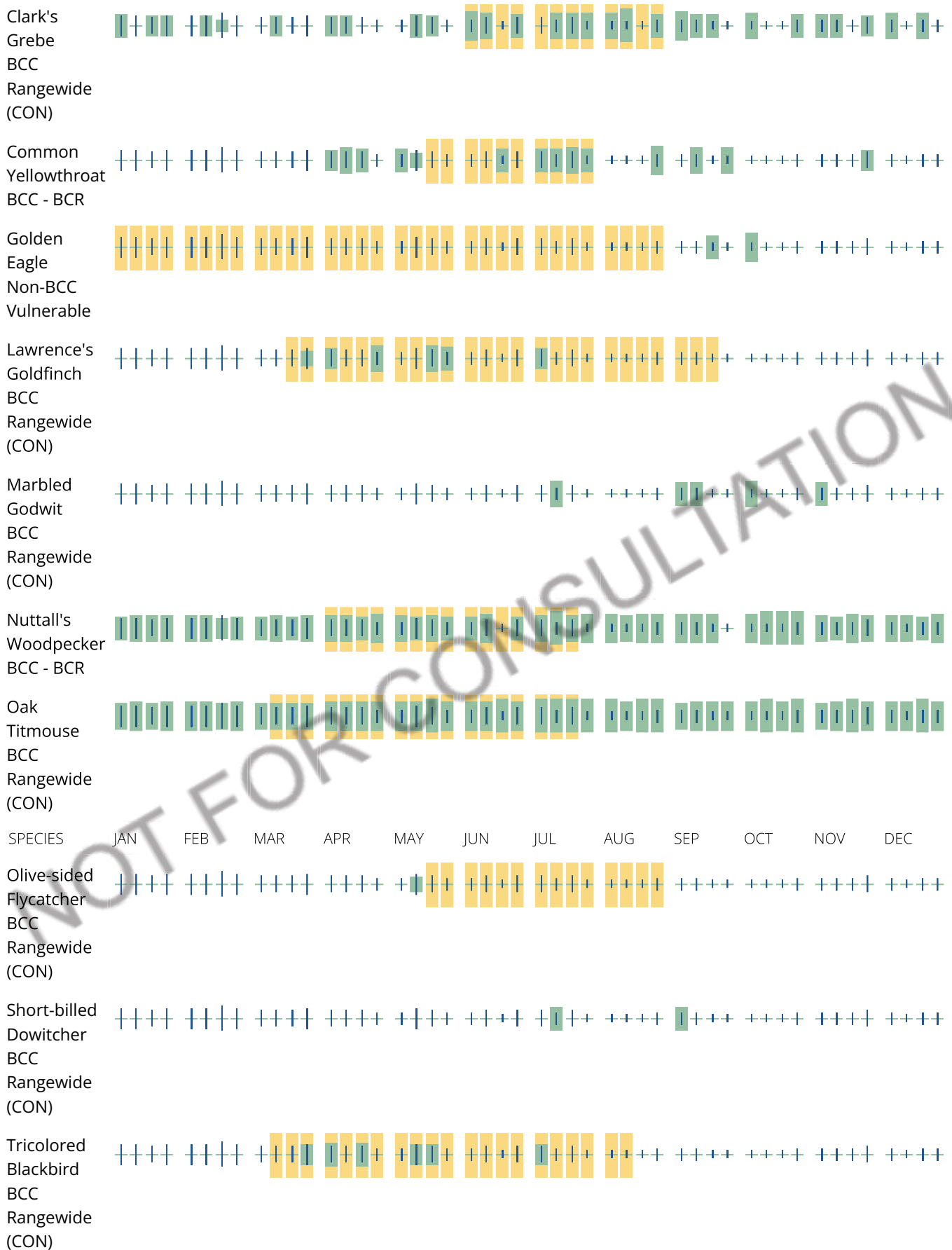
A week is marked as having no data if there were no survey events for that week.

## 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](#) 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 list of migratory birds that potentially occur 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 [Rapid Avian Information Locator \(RAIL\) 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 or migrating in my 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 query your location using the [RAIL Tool](#) and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. 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 (NWI)

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

## **Appendix B.** CNDDDB occurrence records.



# Summary Table Report

## California Department of Fish and Wildlife

### California Natural Diversity Database



**Query Criteria:** Quad<span style='color:Red'> IS </span>(Lakeport (3912218)<span style='color:Red'> OR </span>Cow Mountain (3912321)<span style='color:Red'> OR </span>Upper Lake (3912228)<span style='color:Red'> OR </span>Bartlett Mtn. (3912227)<span style='color:Red'> OR </span>Lucerne (3912217)<span style='color:Red'> OR </span>Kelseyville (3812287)<span style='color:Red'> OR </span>Highland Springs (3812288)<span style='color:Red'> OR </span>Hopland (3812381)<span style='color:Red'> OR </span>Purdys Gardens (3912311))

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
<b><i>Agelaius tricolor</i></b> tricolored blackbird	G1G2 S2	None Threatened	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_EN-Endangered USFWS_BCC-Birds of Conservation Concern	495 1,430	955 S:8	1	1	0	0	1	5	3	5	7	1	0
<b><i>Ammodramus savannarum</i></b> grasshopper sparrow	G5 S3	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	840 1,000	27 S:2	2	0	0	0	0	0	2	0	2	0	0
<b><i>Amsinckia lunaris</i></b> bent-flowered fiddleneck	G3 S3	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive SB_UCBG-UC Botanical Garden at Berkeley SB_UCSC-UC Santa Cruz	1,300 2,200	93 S:6	0	2	0	0	0	4	3	3	6	0	0
<b><i>Andrena blennospermatis</i></b> Blennosperma vernal pool andrenid bee	G2 S1	None None		1,330 1,400	15 S:3	0	0	0	0	0	3	3	0	3	0	0
<b><i>Antirrhinum subcordatum</i></b> dimorphic snapdragon	G3 S3	None None	Rare Plant Rank - 4.3 USFS_S-Sensitive	1,560 1,560	49 S:1	0	0	0	0	0	1	1	0	1	0	0
<b><i>Antrozous pallidus</i></b> pallid bat	G4 S3	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFS_S-Sensitive	500 950	420 S:2	0	0	0	0	0	2	2	0	2	0	0
<b><i>Archoplites interruptus</i></b> Sacramento perch	G1 S1	None None	AFS_TH-Threatened CDFW_SSC-Species of Special Concern IUCN_EN-Endangered	1,326 1,326	5 S:1	0	0	0	0	1	0	1	0	0	1	0
<b><i>Arctostaphylos manzanita ssp. elegans</i></b> Konocti manzanita	G5T3 S3	None None	Rare Plant Rank - 1B.3 SB_UCSC-UC Santa Cruz	1,404 4,400	69 S:21	0	3	1	0	0	17	17	4	21	0	0



# Summary Table Report

## California Department of Fish and Wildlife

### California Natural Diversity Database



Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
<b><i>Arctostaphylos stanfordiana ssp. raichei</i></b> Raiche's manzanita	G3T2 S2	None None	Rare Plant Rank - 1B.1 BLM_S-Sensitive SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden SB_USDA-US Dept of Agriculture	1,200 3,410	13 S:7	1	0	0	0	0	6	6	1	7	0	0
<b><i>Ardea herodias</i></b> great blue heron	G5 S4	None None	CDF_S-Sensitive IUCN_LC-Least Concern	1,350 1,350	156 S:1	0	0	0	0	0	1	1	0	1	0	0
<b><i>Artemisiospiza belli belli</i></b> Bell's sparrow	G5T2T3 S3	None None	CDFW_WL-Watch List	1,525 2,700	61 S:2	2	0	0	0	0	0	2	0	2	0	0
<b><i>Bombus caliginosus</i></b> obscure bumble bee	G2G3 S1S2	None None	IUCN_VU-Vulnerable	900 3,500	181 S:4	0	0	0	0	0	4	4	0	4	0	0
<b><i>Bombus occidentalis</i></b> western bumble bee	G3 S1	None Candidate Endangered	IUCN_VU-Vulnerable USFS_S-Sensitive	1,400 1,400	306 S:1	0	0	0	0	0	1	1	0	1	0	0
<b><i>Brasenia schreberi</i></b> watershield	G5 S3	None None	Rare Plant Rank - 2B.3 IUCN_LC-Least Concern	2,800 2,800	43 S:3	0	0	0	0	0	3	3	0	3	0	0
<b><i>Calasellus californicus</i></b> An isopod	G2 S3	None None		1,380 1,380	3 S:1	0	0	0	0	0	1	1	0	1	0	0
<b><i>Calycadenia micrantha</i></b> small-flowered calycadenia	G2 S2	None None	Rare Plant Rank - 1B.2 USFS_S-Sensitive	1,430 4,429	22 S:5	0	0	0	0	0	5	3	2	5	0	0
<b><i>Camissonia lacustris</i></b> grassland suncup	G2 S2	None None	Rare Plant Rank - 1B.2	1,400 1,800	14 S:6	0	0	0	0	0	6	2	4	6	0	0
<b><i>Carex comosa</i></b> bristly sedge	G5 S2	None None	Rare Plant Rank - 2B.1 IUCN_LC-Least Concern	982 1,360	31 S:2	0	1	0	0	0	1	2	0	2	0	0
<b><i>Ceanothus confusus</i></b> Rincon Ridge ceanothus	G1 S1	None None	Rare Plant Rank - 1B.1 BLM_S-Sensitive SB_SBBG-Santa Barbara Botanic Garden	3,300 4,000	33 S:2	0	0	0	0	0	2	2	0	2	0	0
<b>Clear Lake Drainage Cyprinid/Catostomid Stream</b> Clear Lake Drainage Cyprinid/Catostomid Stream	GNR SNR	None None		1,400 1,480	2 S:2	0	0	2	0	0	0	2	0	2	0	0





# Summary Table Report

## California Department of Fish and Wildlife

### California Natural Diversity Database



Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
<b>Clear Lake Drainage Resident Trout Stream</b> Clear Lake Drainage Resident Trout Stream	GNR SNR	None None		2,000 2,300	3 S:3	0	2	0	0	0	1	3	0	3	0	0
<b>Clear Lake Drainage Seasonal Lakefish Spawning Stream</b> Clear Lake Drainage Seasonal Lakefish Spawning Stream	GNR SNR	None None		1,340 1,340	1 S:1	0	0	0	1	0	0	1	0	1	0	0
<b>Coastal and Valley Freshwater Marsh</b> Coastal and Valley Freshwater Marsh	G3 S2.1	None None		1,328 1,330	60 S:2	0	0	0	0	0	2	2	0	2	0	0
<b>Corynorhinus townsendii</b> Townsend's big-eared bat	G4 S2	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFS_S-Sensitive	820 4,618	635 S:6	0	0	0	0	0	6	5	1	6	0	0
<b>Cryptantha dissita</b> serpentine cryptantha	G3 S3	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive	1,375 1,400	23 S:5	0	2	0	0	0	3	3	2	5	0	0
<b>Dubiraphia brunnescens</b> brownish dubiraphian riffle beetle	G1 S1	None None		1,330 1,330	1 S:1	0	0	0	0	0	1	1	0	1	0	0
<b>Emys marmorata</b> western pond turtle	G3G4 S3	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_VU-Vulnerable USFS_S-Sensitive	505 2,800	1449 S:11	1	8	1	0	0	1	5	6	11	0	0
<b>Entosthodon kochii</b> Koch's cord moss	G1 S1	None None	Rare Plant Rank - 1B.3 BLM_S-Sensitive	900 900	4 S:1	0	0	0	0	0	1	1	0	1	0	0
<b>Erethizon dorsatum</b> North American porcupine	G5 S3	None None	IUCN_LC-Least Concern	470 1,920	523 S:6	0	0	0	0	0	6	0	6	6	0	0
<b>Eriastrum brandegeae</b> Brandegee's eriastrum	G1Q S1	None None	Rare Plant Rank - 1B.1 BLM_S-Sensitive	1,680 1,680	6 S:2	0	0	1	0	0	1	2	0	2	0	0
<b>Gonidea angulata</b> western ridged mussel	G3 S2	None None	IUCN_VU-Vulnerable	1,326 1,360	157 S:2	0	0	0	0	0	2	2	0	2	0	0
<b>Gratiola heterosepala</b> Boggs Lake hedge-hyssop	G2 S2	None Endangered	Rare Plant Rank - 1B.2 BLM_S-Sensitive	2,790 3,300	99 S:4	0	0	0	0	0	4	1	3	4	0	0
<b>Grimmia torenii</b> Toren's grimmia	G2 S2	None None	Rare Plant Rank - 1B.3 BLM_S-Sensitive	1,900 1,900	13 S:1	0	0	0	0	0	1	1	0	1	0	0



# Summary Table Report

## California Department of Fish and Wildlife

### California Natural Diversity Database



Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
<i>Harmonia hallii</i> Hall's harmonia	G2? S2?	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden		23 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Hesperolinon adenophyllum</i> glandular western flax	G2G3 S2S3	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive	1,400 3,900	48 S:24	1	8	1	0	0	14	22	2	24	0	0
<i>Hesperolinon bicarpellatum</i> two-carpellate western flax	G2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive SB_UCSC-UC Santa Cruz	1,900 1,900	25 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Horkelia bolanderi</i> Bolander's horkelia	G1 S1	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive	1,500 2,800	13 S:3	1	1	0	0	0	1	1	2	3	0	0
<i>Hydrochara rickseckeri</i> Ricksecker's water scavenger beetle	G2? S2?	None None		2,780 2,780	13 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Hysteroecarpus traskii lagunae</i> Clear Lake tule perch	G5T3 S3	None None	CDFW_SSC-Species of Special Concern	1,326 1,360	3 S:3	0	0	0	0	1	2	1	2	2	1	0
<i>Kopsiopsis hookeri</i> small groundcone	G4? S1S2	None None	Rare Plant Rank - 2B.3	1,000 1,000	21 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Lasionycteris noctivagans</i> silver-haired bat	G3G4 S3S4	None None	IUCN_LC-Least Concern		139 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Lasthenia burkei</i> Burke's goldfields	G1 S1	Endangered Endangered	Rare Plant Rank - 1B.1 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden SB_UCBG-UC Botanical Garden at Berkeley	1,380 1,380	36 S:1	0	0	0	1	0	0	0	1	1	0	0
<i>Lavinia exilicauda chi</i> Clear Lake hitch	G4T1 S1	None Threatened	AFS_VU-Vulnerable USFS_S-Sensitive	1,326 1,413	4 S:3	0	0	0	0	0	3	3	0	3	0	0
<i>Layia septentrionalis</i> Colusa layia	G2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive SB_UCBG-UC Botanical Garden at Berkeley	485 2,700	69 S:18	3	3	0	0	1	11	13	5	17	1	0



# Summary Table Report

## California Department of Fish and Wildlife

### California Natural Diversity Database



Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
<b><i>Legenere limosa</i></b> legenere	G2 S2	None None	Rare Plant Rank - 1B.1 BLM_S-Sensitive SB_UCBG-UC Botanical Garden at Berkeley	2,790 2,790	83 S:1	0	1	0	0	0	0	0	1	1	0	0
<b><i>Limnanthes floccosa ssp. floccosa</i></b> woolly meadowfoam	G4T4 S3	None None	Rare Plant Rank - 4.2 SB_UCBG-UC Botanical Garden at Berkeley	1,400 1,400	54 S:1	0	0	0	0	0	1	1	0	1	0	0
<b><i>Linderiella occidentalis</i></b> California linderiella	G2G3 S2S3	None None	IUCN_NT-Near Threatened	2,786 2,786	508 S:1	0	1	0	0	0	0	1	0	1	0	0
<b><i>Lupinus antoninus</i></b> Anthony Peak lupine	G2 S2	None None	Rare Plant Rank - 1B.2 USFS_S-Sensitive	4,000 4,000	6 S:1	0	0	0	0	0	1	1	0	1	0	0
<b><i>Martes caurina humboldtensis</i></b> Humboldt marten	G4G5T1 S1	Threatened Endangered	CDFW_SSC-Species of Special Concern USFS_S-Sensitive	4,800 4,800	44 S:1	0	0	0	0	0	1	1	0	1	0	0
<b><i>Nannopterum auritum</i></b> double-crested cormorant	G5 S4	None None	CDFW_WL-Watch List IUCN_LC-Least Concern	1,350 1,350	39 S:1	0	0	0	0	0	1	1	0	1	0	0
<b><i>Navarretia leucocephala ssp. pauciflora</i></b> few-flowered navarretia	G4T1 S1	Endangered Threatened	Rare Plant Rank - 1B.1 BLM_S-Sensitive SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	1,600 1,600	10 S:1	0	0	0	0	0	1	1	0	1	0	0
<b><i>Navarretia leucocephala ssp. plieantha</i></b> many-flowered navarretia	G4T1 S1	Endangered Endangered	Rare Plant Rank - 1B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	2,800 2,800	8 S:1	0	1	0	0	0	0	0	1	1	0	0
<b><i>Northern Interior Cypress Forest</i></b> Northern Interior Cypress Forest	G2 S2.2	None None		3,240 3,240	22 S:1	0	0	0	0	0	1	1	0	1	0	0
<b><i>Northern Volcanic Ash Vernal Pool</i></b> Northern Volcanic Ash Vernal Pool	G1 S1.1	None None		2,760 2,760	2 S:1	0	1	0	0	0	0	1	0	1	0	0
<b><i>Orcuttia tenuis</i></b> slender Orcutt grass	G2 S2	Threatened Endangered	Rare Plant Rank - 1B.1 SB_UCBG-UC Botanical Garden at Berkeley	280 280	100 S:1	0	1	0	0	0	0	0	1	1	0	0



# Summary Table Report

## California Department of Fish and Wildlife

### California Natural Diversity Database



Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
<b><i>Pandion haliaetus</i></b> osprey	G5 S4	None None	CDF_S-Sensitive CDFW_WL-Watch List IUCN_LC-Least Concern	570 1,482	504 S:20	0	0	18	0	0	2	19	1	20	0	0
<b><i>Pekania pennanti</i></b> Fisher	G5 S2S3	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFS_S-Sensitive	2,200 4,600	555 S:2	0	0	0	0	0	2	2	0	2	0	0
<b><i>Penstemon newberryi</i> var. <i>sonomensis</i></b> Sonoma beardtongue	G4T3 S3	None None	Rare Plant Rank - 1B.3 BLM_S-Sensitive	4,200 4,200	15 S:1	0	0	0	0	0	1	0	1	1	0	0
<b><i>Plagiobothrys lithocaryus</i></b> Mayacamas popcornflower	GX SX	None None	Rare Plant Rank - 1A	1,350 1,350	2 S:1	0	0	0	0	0	1	1	0	1	0	0
<b><i>Potamogeton zosteriformis</i></b> eel-grass pondweed	G5 S3	None None	Rare Plant Rank - 2B.2		20 S:1	0	0	0	0	0	1	1	0	1	0	0
<b><i>Progne subis</i></b> purple martin	G5 S3	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	2,791 2,791	71 S:1	0	1	0	0	0	0	1	0	1	0	0
<b><i>Rana boylei</i> pop. 1</b> foothill yellow-legged frog - north coast DPS	G3T4 S4	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern USFS_S-Sensitive	140 2,800	1606 S:24	1	7	4	0	0	12	18	6	24	0	0
<b><i>Rana draytonii</i></b> California red-legged frog	G2G3 S2S3	Threatened None	CDFW_SSC-Species of Special Concern IUCN_VU-Vulnerable	1,330 2,331	1685 S:2	0	0	0	0	0	2	2	0	2	0	0
<b><i>Serpentine Bunchgrass</i></b> Serpentine Bunchgrass	G2 S2.2	None None			22 S:1	0	0	0	0	0	1	1	0	1	0	0
<b><i>Sidalcea oregana</i> ssp. <i>hydrophila</i></b> marsh checkerbloom	G5T2 S2	None None	Rare Plant Rank - 1B.2 SB_UCSC-UC Santa Cruz	1,500 1,500	35 S:1	0	0	0	0	0	1	1	0	1	0	0
<b><i>Silene bolanderi</i></b> Bolander's catchfly	G2 S2	None None	Rare Plant Rank - 1B.2	3,050 3,328	30 S:2	0	0	0	0	0	2	0	2	2	0	0
<b><i>Streptanthus glandulosus</i> ssp. <i>hoffmanii</i></b> Hoffman's bristly jewelflower	G4T2 S2	None None	Rare Plant Rank - 1B.3 SB_UCSC-UC Santa Cruz	1,300 1,300	16 S:2	0	0	0	0	0	2	2	0	2	0	0



Summary Table Report  
California Department of Fish and Wildlife  
California Natural Diversity Database



Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
<b><i>Taricha rivularis</i></b> red-bellied newt	G2 S2	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	900 1,900	136 S:8	0	0	0	0	0	8	8	0	8	0	0
<b><i>Taxidea taxus</i></b> American badger	G5 S3	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	1,350 1,600	594 S:2	0	0	0	0	0	2	2	0	2	0	0
<b><i>Tracyina rostrata</i></b> beaked tracyina	G2 S2	None None	Rare Plant Rank - 1B.2 USFS_S-Sensitive	850 2,600	15 S:6	0	4	0	1	0	1	4	2	6	0	0
<b><i>Trichostema ruygtii</i></b> Napa bluecurls	G1G2 S1S2	None None	Rare Plant Rank - 1B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	1,500 1,500	19 S:1	0	0	0	0	1	0	1	0	0	1	0
<b><i>Viburnum ellipticum</i></b> oval-leaved viburnum	G4G5 S3?	None None	Rare Plant Rank - 2B.3		39 S:1	0	0	0	0	0	1	1	0	1	0	0







## **Appendix C.** CNPS plant list.









Search Results










61 matches found. Click on scientific name for details

Search Criteria: 9-Quad include [3912227:3912321:3912228:3812287:3812381:3812288:3912311:3912218:3912217]

CA RARE												DATE ADDED	PHOTO
▲ SCIENTIFIC NAME	COMMON NAME	FAMILY	LIFEFORM	BLOOMING PERIOD	FED LIST	STATE LIST	GLOBAL RANK	STATE RANK	PLANT RANK	CA ENDEMIC			
<i>Amsinckia lunaris</i>	bent-flowered fiddleneck	Boraginaceae	annual herb	Mar-Jun	None	None	G3	S3	1B.2	Yes	1974-01-01		
												© 2011	Neal Kramer
<i>Antirrhinum subcordatum</i>	dimorphic snapdragon	Plantaginaceae	annual herb	Apr-Jul	None	None	G3	S3	4.3	Yes	1974-01-01		
												© 2015	Dean Wm. Taylor
<i>Antirrhinum virga</i>	twig-like snapdragon	Plantaginaceae	perennial herb	Jun-Jul	None	None	G3?	S3?	4.3	Yes	1974-01-01		
												© 2013	Aaron Schusteff
<i>Arctostaphylos manzanita ssp. elegans</i>	Konocti manzanita	Ericaceae	perennial evergreen shrub	(Jan)Mar-May(Jul)	None	None	G5T3	S3	1B.3	Yes	2001-01-01		
												©2018	Dean Wm. Taylor
<i>Arctostaphylos stanfordiana ssp. raichei</i>	Raiche's manzanita	Ericaceae	perennial evergreen shrub	Feb-Apr	None	None	G3T2	S2	1B.1	Yes	1988-01-01	No Photo Available	
<i>Astragalus breweri</i>	Brewer's milk-vetch	Fabaceae	annual herb	Apr-Jun	None	None	G3	S3	4.2	Yes	1974-01-01	No Photo Available	
<i>Azolla microphylla</i>	Mexican mosquito fern	Azollaceae	annual/perennial herb	Aug	None	None	G5	S4	4.2		1994-01-01	No Photo Available	





<u><a href="#">Brasenia schreberi</a></u>	watershield	Cabombaceae	perennial rhizomatous herb (aquatic)	Jun-Sep	None	None	G5	S3	2B.3		2010-10-27	 ©2014 Kirsten Bovee
<u><a href="#">Bryum chryseum</a></u>	brassy bryum	Bryaceae	moss		None	None	G5	S3	4.3		2014-05-05	No Photo Available
<u><a href="#">Calycadenia micrantha</a></u>	small-flowered calycadenia	Asteraceae	annual herb	Jun-Sep	None	None	G2	S2	1B.2	Yes	2005-01-01	 ©2021 Aaron Arthur
<u><a href="#">Calyptridium quadripetalum</a></u>	four-petaled pussypaws	Montiaceae	annual herb	Apr-Jun	None	None	G4	S4	4.3	Yes	1974-01-01	No Photo Available
<u><a href="#">Calystegia collina</a></u> ssp. <u><a href="#">oxyphylla</a></u>	Mt. Saint Helena morning-glory	Convolvulaceae	perennial rhizomatous herb	Apr-Jun	None	None	G4T3	S3	4.2	Yes	1984-01-01	No Photo Available
<u><a href="#">Camissonia lacustris</a></u>	grassland suncup	Onagraceae	annual herb	Mar-Jun	None	None	G2	S2	1B.2		2022-09-19	 © 2021 Ryan O'Dell
<u><a href="#">Carex comosa</a></u>	bristly sedge	Cyperaceae	perennial rhizomatous herb	May-Sep	None	None	G5	S2	2B.1		1994-01-01	 Dean Wm. Taylor 1997
<u><a href="#">Ceanothus confusus</a></u>	Rincon Ridge ceanothus	Rhamnaceae	perennial evergreen shrub	Feb-Jun	None	None	G1	S1	1B.1	Yes	1980-01-01	 © 2012 Jake Ruygt
<u><a href="#">Clarkia gracilis</a></u> ssp. <u><a href="#">tracyi</a></u>	Tracy's clarkia	Onagraceae	annual herb	Apr-Jul	None	None	G5T3	S3	4.2	Yes	2001-01-01	No Photo Available
<u><a href="#">Collomia diversifolia</a></u>	serpentine collomia	Polemoniaceae	annual herb	May-Jun	None	None	G4	S4	4.3	Yes	1974-01-01	 ©2019 Zoya Akulova
<u><a href="#">Cordylanthus tenuis</a></u> ssp. <u><a href="#">brunneus</a></u>	serpentine bird's-beak	Orobanchaceae	annual herb (hemiparasitic)	Jul-Aug	None	None	G4G5T3	S3	4.3	Yes	1988-01-01	No Photo Available
<u><a href="#">Cryptantha dissita</a></u>	serpentine cryptantha	Boraginaceae	annual herb	Apr-Jun	None	None	G3	S3	1B.2	Yes	1994-01-01	 ©2019 Terry Gosliner

<u>Entosthodon</u> <u>kochii</u>	Koch's cord moss	Funariaceae	moss		None	None	G1	S1	1B.3	Yes	2001- 01-01	No Photo Available
<u>Epilobium</u> <u>septentrionale</u>	Humboldt County fuchsia	Onagraceae	perennial herb	Jul-Sep	None	None	G4	S4	4.3	Yes	1974- 01-01	 Image by BLM,Arcata Field Office
<u>Eriastrum</u> <u>brandegeae</u>	Brandegee's eriastrum	Polemoniaceae	annual herb	Apr-Aug	None	None	G1Q	S1	1B.1	Yes	1974- 01-01	No Photo Available
<u>Erythranthe</u> <u>nudata</u>	bare monkeyflower	Phrymaceae	annual herb	May-Jun	None	None	G4	S4	4.3	Yes	1974- 01-01	 John Doyen 2015
<u>Fritillaria</u> <u>purdyi</u>	Purdy's fritillary	Liliaceae	perennial bulbiferous herb	Mar-Jun	None	None	G4	S4	4.3		1974- 01-01	 Aaron Schusteff, 2004
<u>Gratiola</u> <u>heterosepala</u>	Boggs Lake hedge-hyssop	Plantaginaceae	annual herb	Apr-Aug	None	CE	G2	S2	1B.2		1974- 01-01	 ©2004 Carol W. Witham
<u>Grimmia</u> <u>toreni</u>	Toren's grimmia	Grimmiaceae	moss		None	None	G2	S2	1B.3	Yes	2014- 05-14	 ©2021 Scot Loring
<u>Harmonia hallii</u>	Hall's harmonia	Asteraceae	annual herb	(Mar)Apr- Jun	None	None	G2?	S2?	1B.2	Yes	1984- 01-01	 © 2015 John Doyen
<u>Hemizonia</u> <u>congesta</u> ssp. <u>calyculata</u>	Mendocino tarplant	Asteraceae	annual herb	Jul-Nov	None	None	G5T4	S4	4.3	Yes	1974- 01-01	 © 2015 John Doyen
<u>Hesperolinon</u> <u>adenophyllum</u>	glandular western flax	Linaceae	annual herb	May-Aug	None	None	G2G3	S2S3	1B.2	Yes	1974- 01-01	 © 2002 John Game
<u>Hesperolinon</u> <u>bicarpellatum</u>	two-carpellate western flax	Linaceae	annual herb	(Apr)May- Jul	None	None	G2	S2	1B.2	Yes	1974- 01-01	 © 2016 John Doyen

<u><a href="#">Horkelia bolanderi</a></u>	Bolander's horkelia	Rosaceae	perennial herb	(May)Jun-Aug	None	None	G1	S1	1B.2	Yes	1988-01-01	 © 2012 Barry Rice
<u><a href="#">Iris longipetala</a></u>	coast iris	Iridaceae	perennial rhizomatous herb	Mar-May(Jun)	None	None	G3	S3	4.2	Yes	2006-10-12	 © 2014 Aaron Schusteff
<u><a href="#">Kopsiopsis hookeri</a></u>	small groundcone	Orobanchaceae	perennial rhizomatous herb (parasitic)	Apr-Aug	None	None	G4?	S1S2	2B.3		1994-01-01	 ©2016 Vernon Smith
<u><a href="#">Lasthenia burkei</a></u>	Burke's goldfields	Asteraceae	annual herb	Apr-Jun	FE	CE	G1	S1	1B.1	Yes	1974-01-01	 © 2015 Neal Kramer
<u><a href="#">Layia septentrionalis</a></u>	Colusa layia	Asteraceae	annual herb	Apr-May	None	None	G2	S2	1B.2	Yes	1994-01-01	 © 2013 Jake Ruygt
<u><a href="#">Legenere limosa</a></u>	legenere	Campanulaceae	annual herb	Apr-Jun	None	None	G2	S2	1B.1	Yes	1974-01-01	 ©2000 John Game
<u><a href="#">Leptosiphon aureus</a></u>	bristly leptosiphon	Polemoniaceae	annual herb	Apr-Jul	None	None	G4?	S4?	4.2	Yes	1994-01-01	 © 2007 Len Blumin
<u><a href="#">Leptosiphon latisectus</a></u>	broad-lobed leptosiphon	Polemoniaceae	annual herb	Apr-Jun	None	None	G4	S4	4.3	Yes	2001-01-01	 © 2015 Steve Matson
<u><a href="#">Lilium rubescens</a></u>	redwood lily	Liliaceae	perennial bulbiferous herb	(Mar)Apr-Aug(Sep)	None	None	G3	S3	4.2	Yes	1974-01-01	 Gerald and Buff Corsi © 2022 California Academy of Sciences



<u><a href="#">Limnanthes floccosa ssp. floccosa</a></u>	woolly meadowfoam	Limnanthaceae	annual herb	Mar-May(Jun)	None	None	G4T4	S3	4.2			1980-01-01	 © 2021 Scot Loring
<u><a href="#">Lomatium repostum</a></u>	Napa lomatium	Apiaceae	perennial herb	Mar-Jun	None	None	G3	S3	4.2	Yes		1974-01-01	No Photo Available
<u><a href="#">Lupinus antoninus</a></u>	Anthony Peak lupine	Fabaceae	perennial herb	May-Jul	None	None	G2	S2	1B.2	Yes		1980-01-01	 ©2018 John Doyen
<u><a href="#">Lupinus sericatus</a></u>	Cobb Mountain lupine	Fabaceae	perennial herb	Mar-Jun	None	None	G2?	S2?	1B.2	Yes		1974-01-01	No Photo Available
<u><a href="#">Micropus amphibolus</a></u>	Mt. Diablo cottonweed	Asteraceae	annual herb	Mar-May	None	None	G3G4	S3S4	3.2	Yes		1974-01-01	 © 2008 Aaron Arthur
<u><a href="#">Monardella viridis</a></u>	green monardella	Lamiaceae	perennial rhizomatous herb	Jun-Sep	None	None	G3	S3	4.3	Yes		1974-01-01	No Photo Available
<u><a href="#">Navarretia jepsonii</a></u>	Jepson's navarretia	Polemoniaceae	annual herb	Apr-Jun	None	None	G4	S4	4.3	Yes		1974-01-01	 © 2011 Vernon Smith
<u><a href="#">Navarretia leucocephala ssp. pauciflora</a></u>	few-flowered navarretia	Polemoniaceae	annual herb	May-Jun	FE	CT	G4T1	S1	1B.1	Yes		1974-01-01	 © 2013 Jake Ruygt
<u><a href="#">Navarretia leucocephala ssp. plieantha</a></u>	many-flowered navarretia	Polemoniaceae	annual herb	May-Jun	FE	CE	G4T1	S1	1B.2	Yes		1974-01-01	No Photo Available
<u><a href="#">Orcuttia tenuis</a></u>	slender Orcutt grass	Poaceae	annual herb	May-Sep(Oct)	FT	CE	G2	S2	1B.1	Yes		1974-01-01	 © 2013 Justy Leppert
<u><a href="#">Penstemon newberryi var. sonomensis</a></u>	Sonoma beardtongue	Plantaginaceae	perennial herb	Apr-Aug	None	None	G4T3	S3	1B.3	Yes		1988-01-01	 Jason Matthias Mills 2020

<u><i>Perideridia gairdneri</i> ssp. <i>gairdneri</i></u>	Gairdner's yampah	Apiaceae	perennial herb	Jun-Oct	None	None	G5T3T4	S3S4	4.2	Yes	1974-01-01	 ©2007 Neal Kramer
<u><i>Plagiobothrys lithocaryus</i></u>	Mayacamas popcornflower	Boraginaceae	annual herb	Apr-May	None	None	GX	SX	1A	Yes	1974-01-01	No Photo Available
<u><i>Potamogeton zosteriformis</i></u>	eel-grass pondweed	Potamogetonaceae	annual herb (aquatic)	Jun-Jul	None	None	G5	S3	2B.2		1994-01-01	No Photo Available
<u><i>Ranunculus lobbii</i></u>	Lobb's aquatic buttercup	Ranunculaceae	annual herb (aquatic)	Feb-May	None	None	G4	S3	4.2		1974-01-01	No Photo Available
<u><i>Sidalcea oregana</i> ssp. <i>hydrophila</i></u>	marsh checkerbloom	Malvaceae	perennial herb	(Jun)Jul-Aug	None	None	G5T2	S2	1B.2	Yes	1974-01-01	No Photo Available
<u><i>Silene bolanderi</i></u>	Bolander's catchfly	Caryophyllaceae	perennial herb	May-Jun	None	None	G2	S2	1B.2		2021-07-30	No Photo Available
<u><i>Streptanthus barbiger</i></u>	bearded jewelflower	Brassicaceae	annual herb	May-Jul	None	None	G3	S3	4.2	Yes	2001-01-01	 © 2017 John Doyen
<u><i>Streptanthus glandulosus</i> ssp. <i>hoffmanii</i></u>	Hoffman's bristly jewelflower	Brassicaceae	annual herb	Mar-Jul	None	None	G4T2	S2	1B.3	Yes	1980-01-01	No Photo Available
<u><i>Tracyina rostrata</i></u>	beaked tracyina	Asteraceae	annual herb	May-Jun	None	None	G2	S2	1B.2	Yes	1974-01-01	 ©2018 John Game
<u><i>Trichostema ruygtii</i></u>	Napa bluecurls	Lamiaceae	annual herb	Jun-Oct	None	None	G1G2	S1S2	1B.2	Yes	2007-01-03	No Photo Available
<u><i>Viburnum ellipticum</i></u>	oval-leaved viburnum	Viburnaceae	perennial deciduous shrub	May-Jun	None	None	G4G5	S3?	2B.3		1974-01-01	 © 2006 Tom Engstrom

Showing 1 to 61 of 61 entries

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