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## Biological Resource Assessment

Gas Station Rehabilitation Project  
Project File Number P22-021  
3200 Rio Linda Boulevard, Sacramento, CA



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## Executive Summary

Sarita Prasad (Client) plans to rehabilitate a half-acre Fuel Stop Gas Station (Project) located at 3200 Rio Linda Boulevard, Sacramento, CA 95815. As lead agency, the City of Sacramento (City) requires a full environmental review including review of biological resources in the area, and reconnaissance survey of the property and preparation of an Initial Study (IS). The City will use this technical report in its review to approve the proposed Project. The Client has tasked Soar Environmental Consulting Inc. (Soar Environmental) to conduct this Biological Resource Assessment (BRA) as part of the IS in accordance with the California Environmental Quality Act (CEQA).

As a condition of approval for a Conditional Use Permit to rehabilitate the site, the City of Sacramento requires a full environmental review to be conducted on-site due to the history of a leaking gas tank that was certified as remediated over one year ago. The land is zoned for C2-General Commercial, and no change to the City's general plan is anticipated.

The objectives of this BRA are: 1) provide a general characterization of biological resources for the property; 2) inventory plant and wildlife species; 3) evaluate the potential for federal or state listed plant and animal species afforded other special regulatory protection; and 4) describe the property's sensitive biological resources and applicable federal, state, and local land use policies.

Prior to conducting a site visit to assess potentially significant biological features, Soar Environmental researched the California Natural Diversity Database (CNDDDB) and the United States Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC), and California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants of California, to compile a list of special-status species that could potentially be present in the vicinity of the Project area. An analysis of habitat requirements for the species identified in the literature review was conducted and included listing status, proximal species observations, and significant biological features in the vicinity of the Project site.

The Project site is in an urban environment, ground cover is mostly concrete with small patches of ruderal weeds and grasses. No trees or shrubs exist on the property. Although the Project site is in the vicinity of Arcade Creek, Project activities are expected only to occur on the property which is already developed.

No special-status species, or habitat conditions that would be conducive for the special-status species identified in this report were observed. Based on analysis of habitat conditions in the vicinity of the Project site, all special-status species identified in this report were found unlikely to occur in the Project area.



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## 1. Introduction

The proposed Project is to rehabilitate a gas station within the city of Sacramento, on Assessor Parcel Number (APN) 251-0292-016. Soar Environmental Consulting (Soar) is tasked with providing this Biological Resource Assessment (BRA) in accordance with the California Environmental Quality Act (CEQA). The Project site is a Fuel Stop Gas Station on 0.5 acres of concrete and paved roads. Soar Environmental Consulting, Inc. (Soar Environmental) prepared this BRA in support of the CEQA requirements.

A review of California Natural Diversity Database (CNDDDB) and the United States Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) was conducted to identify sensitive wildlife species potentially occurring in the area. Results indicated a Habitat Assessment would be necessary to search for potential suitable habitat or presence for the 27 special-status wildlife species listed in **Table 1**, Literature Review section of this report. Potential sensitive plant species were reviewed using the CNPS Inventory of Rare and Endangered Plants of California and CNDDDB records. The data records search identified 16 special-status plant species listed in **Table 2**.

A Habitat Assessment was conducted by a Soar Environmental biologist in the Project area on February 2, 2023. The purpose of the Habitat Assessment Survey was to search for the presence of special-status species or suitable habitat for special-status species that have historically been observed within, or surrounding, the Project area. No special-status species, or suitable habitat conditions were observed during the site visit.

Based on a review of documented occurrences of special-status species, and analysis of current habitat conditions at the subject property, special-status species that have the potential to occur in the vicinity of the Project site include:

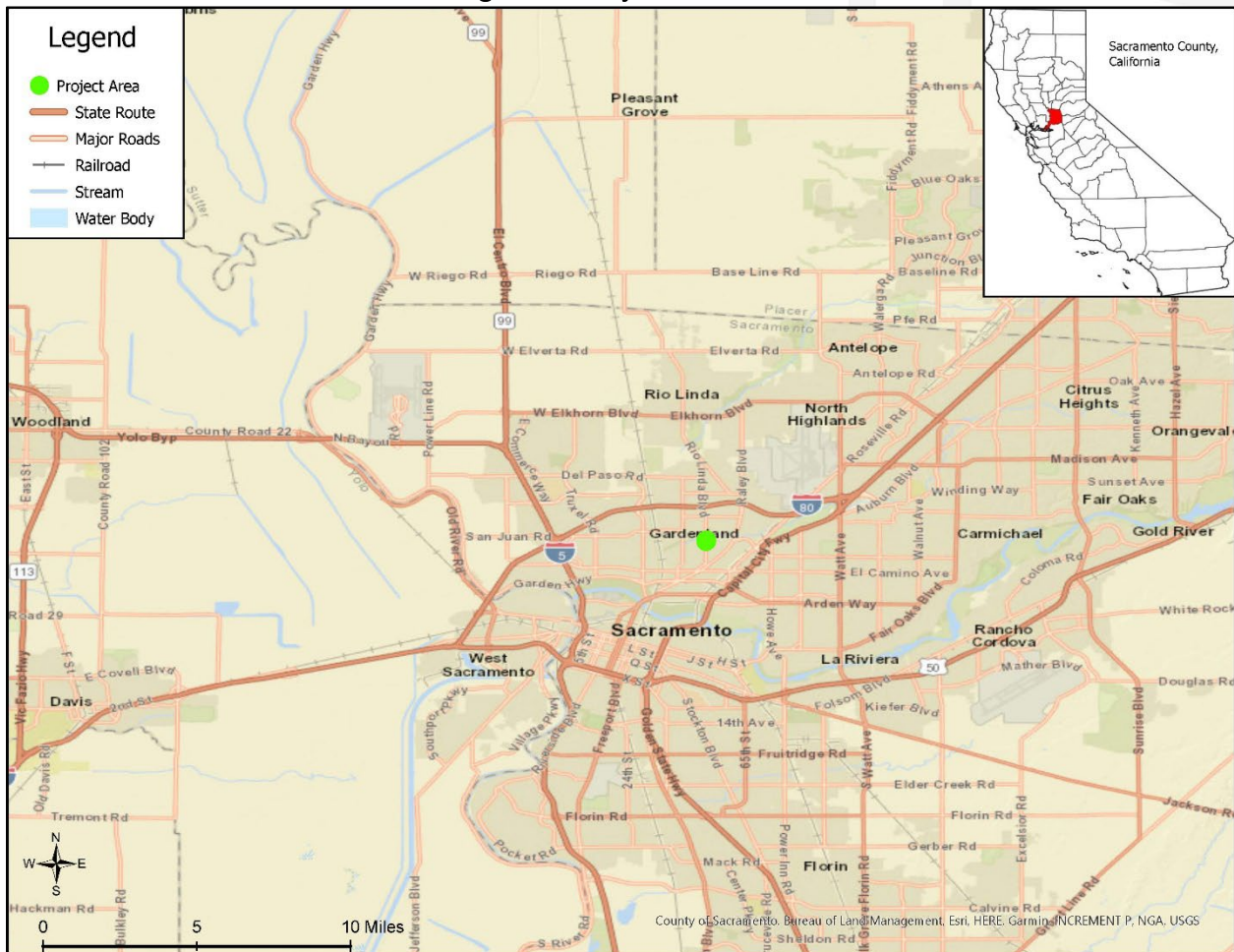
- 1) Burrowing owl (*Athene cunicularia*)
- 2) Purple martin (*Progne subis*)
- 3) Swainson's hawk (*Buteo swainsoni*)
- 4) Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*)
- 5) Vernal pool fairy shrimp (*Branchinecta lynchi*)
- 6) Sanford's arrowhead (*Sagittaria sanfordii*)

Survey and analysis efforts emphasized the search for presence and suitable habitats of the above-mentioned species. All other special-status species identified in this report were found unlikely to occur in the Project area, due to lack of suitable habitat, proximity, and time since historical occurrences. No listed species were observed during the Habitat Assessment site visit, and no suitable habitat conditions were observed in the immediate vicinity of the Project site.

## 1.1 Project Location

The Project Site is located at 3200 Rio Linda Boulevard, Sacramento, in the County of Sacramento, California. At the corner of Rio Linda Boulevard and Arcade Street, in an urbanized area approximately 1 mile south of Interstate 80, and 3.75 miles east of Interstate 5, the property is comprised of Assessor Parcel Number (APN) 251-0292-016. Located in the California quadrangle 7.5-minute series topographic map, Rio Linda can be found in Township 9 North, Range 5 East, on the west half of section 36, at an elevation of approximately 35 feet. The subject property is a gas station, in a highly urbanized area of the city along Arcade Creek. Located near the center of the Sacramento metropolitan area, approximately 2.35 miles north of the American River, 1.10 mile south of Interstate 80 and 3.75 miles east of Interstate 5 Project location depicted and **Figure 1** below.

Figure 1. Project Location



The Project site is located at 3200 Rio Linda Boulevard, Sacramento, California.

## 1.2 Project Description

The proposed Project plan is to rehabilitate an abandoned gas station that sits on a 0.5-acre parcel of land, at the corner of Rio Linda Boulevard and Arcade Street, in the city of Sacramento. A development plan and project description will be developed using this Assessment as a planning tool for avoidance and minimization of impacts to sensitive biological resources. As a condition of approval for a Conditional Use Permit to rehabilitate the site, the City of Sacramento requires a full environmental review to be conducted on-site due to the history of a leaking gas tank that was certified as remediated over one year ago.

This Biological Resources Assessment consists of a review of special-status species, and other biological resources known to occur in the Project footprint. An on-site assessment for suitable sensitive habitats, and special-status species known to occur within the Project footprint was conducted as part of an Initial Study Biological section write-up. Potential project-related impacts on sensitive biological resources that could be considered significant under CEQA, and recommendations of any mitigation measures for future potential protection of species, based on the initial site visit, data records and literature review are discussed in section 4. **Findings** of this report.

Figure 2 – Project Site Boundary



Project Site 0.5-acres: 3200 Rio Linda Boulevard, Sacramento, CA. (APN 251-0292-016)

## 1.3 Environmental Setting

There are two existing structures on the Project site, the main building, and a sheltered gas pump area. The main building has been boarded up for two years, and the pumps remain on site. The Project site is in an urban environment within the city limits of Sacramento, bounded by Rio Linda Boulevard to the west and Arcade Street to the south. The property is at approximately 35 feet elevation. Arcade Creek runs northeast to southwest approximately 120 feet north of the Project site, which is otherwise surrounded by residential neighborhoods. Groundcover is mostly concrete with some ruderal weeds and grasses around the perimeter.

The Arcade Creek watershed is a small, urbanized watershed bounded by a service road on both sides. It is a highly degraded stream ecosystem with severe water quality problems, is subject to moderate flood damage, and has significantly compromised habitat conditions. The urbanized nature of the landscape causes high loadings of toxicants, and the hot, dry summer climate creates high ambient temperatures in the creek and its tributaries. Related problems include high peak flows, excessive erosion, loss of riparian habitat, low dissolved oxygen levels, and low flows, resulting in negative impacts from invasive fish and plant species. These and other problems have virtually eliminated salmonids in the Arcade Creek watershed.

## 2. Methods

### 2.1 Literature Review

Prior to performing the Habitat Assessment, Soar Environmental conducted a records search for threatened or endangered species that could potentially occur in the vicinity of the Project site. The records search included a review of the California Natural Diversity Database (CNDDDB), the United States Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC), and California Native Plant Society (CNPS) Online Rare Plant Inventory. The area covered by the data records search included the nine USGS 7.5-minute quadrangles of *Carmichael*, *Citrus Heights*, *Pleasant Grove*, *Rio Linda*, *Roseville*, *Sacramento East*, *Sacramento West*, *Taylor Monument*, and *Verona*. From these and other sources a list of special-status plant and animal species was generated. Proximal locations of special-status plant and animal species with potential to occur in the vicinity of the Project site are shown in **(Figure 3)**. A list of special-status wildlife and plant species considered for potential impacts related to the proposed Project is listed in **Tables 1 & 2** of this report.

Based on a review of CNDDDB records (conducted January 30, 2023) it was determined there was potential for 25 State listed special-status wildlife species to occur within or in the vicinity of the Project site (listed below).

- American badger (*Taxidea taxus*)
- Bank swallow (*Riparia riparia*)
- Burrowing owl (*Athene cunicularia*)
- California black rail (*Laterallus jamaicensis coturniculus*)
- Chinook salmon (*Oncorhynchus tshawytscha* pop. 11)



- Chinook salmon (*Oncorhynchus tshawytscha* pop. 7)
- Cooper's hawk (*Accipiter cooperii*)
- Ferruginous hawk (*Buteo regalis*)
- Giant garter snake (*Thamnophis gigas*)
- Golden eagle (*Aquila chrysaetos*)
- Least Bell's vireo (*Vireo bellii pusillus*)
- Longfin smelt (*Spirinchus thaleichthys*)
- Purple martin (*Progne subis*)
- Sacramento perch (*Archoplites interruptus*)
- Sacramento splittail (*Pogonichthys macrolepidotus*)
- Steelhead (*Oncorhynchus mykiss irideus* pop. 11)
- Swainson's hawk (*Buteo swainsoni*)
- Tricolored blackbird (*Agelaius tricolor*)
- Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*)
- Vernal pool fairy shrimp (*Branchinecta lynchi*)
- Vernal pool tadpole shrimp (*Lepidurus packardii*)
- Western pond turtle (*Actinemys marmorata*)
- Western spadefoot (*Spea hammondi*)
- Western yellow-billed cuckoo (*Coccyzus americanus occidentalis*)
- White-tailed kite (*Elanus leucurus*)

A search of the IPaC database indicated 2 additional Federally listed special-status wildlife species likely to occur within or near the Project site include:

- California Tiger Salamander (*Ambystoma californiense*)
- Delta smelt (*Hypomesus transpacificus*)

A search of the California Native Plant Society (CNPS) Online Rare Plant Inventory identified 14 special-status plant species.

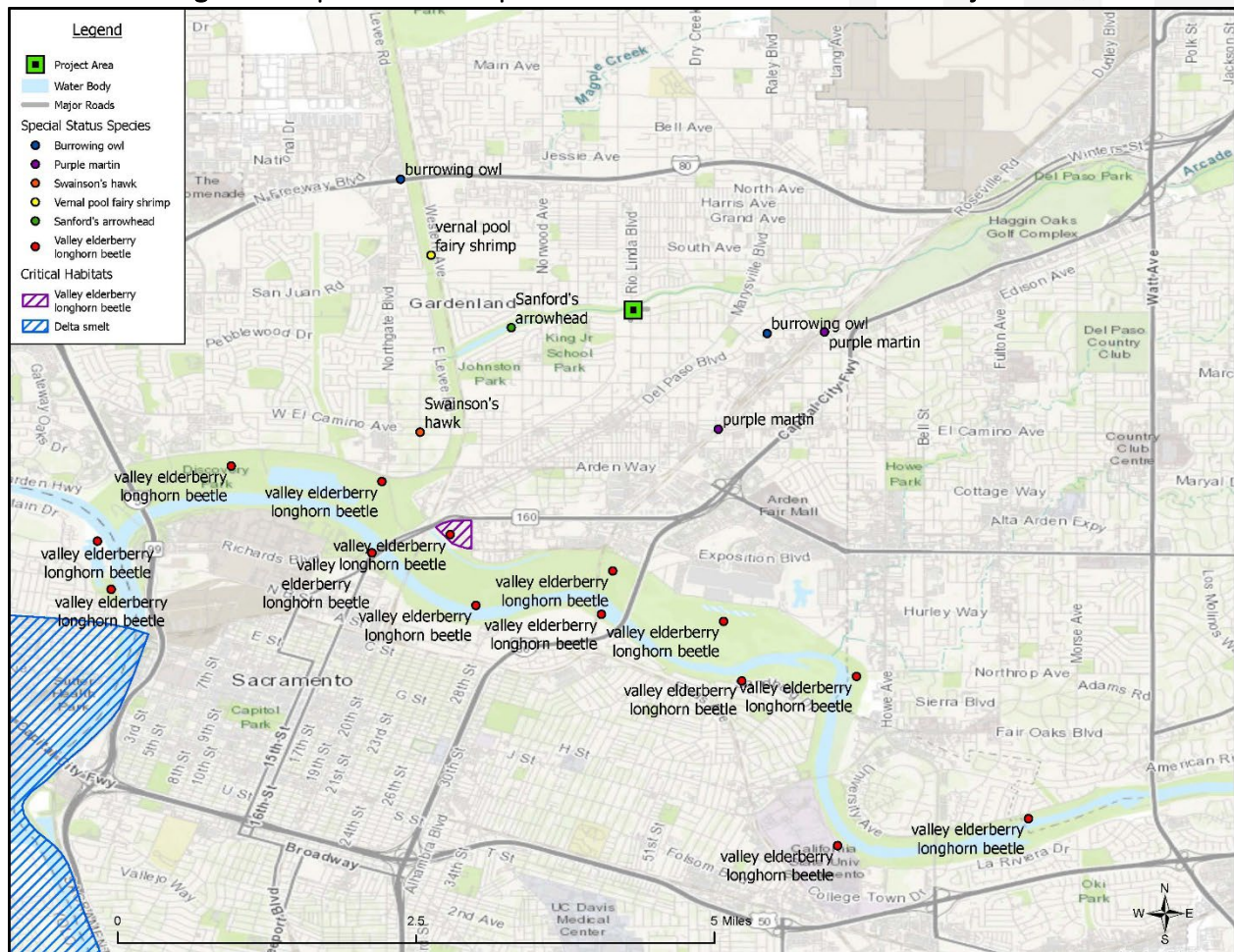
- Ahart's dwarf rush (*Juncus leiospermus* var. *ahartii*)
- Big-scale balsamroot (*Balsamorhiza macrolepis*)
- Boggs Lake hedge-hyssop (*Gratiola heterosepala*)
- Dwarf downingia (*Downingia pusilla*)
- Hispid salty bird's-beak (*Chloropyron molle* ssp. *hispidum*)
- Legenere (*Legenere limosa*)
- Parry's rough tarplant (*Centromadia parryi* ssp. *rudis*)
- Red Bluff dwarf rush (*Juncus leiospermus* var. *leiospermus*)
- Sacramento Orcutt grass (*Orcuttia viscida*)
- Sanford's arrowhead (*Sagittaria sanfordii*)
- Stinkbells (*Fritillaria agrestis*)
- Suisun Marsh aster (*Symphotrichum lentum*)
- Valley brodiaea (*Brodiaea rosea* ssp. *vallicola*)
- Woolly rose-mallow (*Hibiscus lasiocarpus* var. *occidentalis*)

After review of the data records search, analysis of proximal historic occurrences, and known

environmental conditions, records indicated potential presence of the 6 following special-status species.

- 1) Burrowing owl (*Athene cunicularia*)
- 2) Purple martin (*Progne subis*)
- 3) Swainson's hawk (*Buteo swainsoni*)
- 4) Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*)
- 5) Vernal pool fairy shrimp (*Branchinecta lynchi*)
- 6) Sanford's arrowhead (*Sagittaria sanfordii*)

Figure 3 – Special-Status Species Locations Proximate to the Project Site



This map shows the closest and most recent special-status species locations from the CDFW RareFind CNDDB database.

## 2.2 Field Reconnaissance Methodology

On February 2, 2023, a Soar Environmental biologist conducted a Habitat Assessment on the property for the aforementioned species. Throughout the Project area, the surveyor searched for bird nests, possible small mammal dens, identified vegetation, and looked for vernal pools or other signs of wildlife occupancy. Survey efforts emphasized the search for special-status species and associated suitable habitats that had documented occurrences in the data records search of the CNDDDB, IPaC, and CNPS databases. The surrounding area was also surveyed by vehicle in accessible areas within 0.5 miles of the Project site, to look for biological resources and features that may be conducive for suitable habitat of the identified special-status species. Photos were taken of the Project boundaries, and other points of interest depicting the habitat and potential biological resources (**Appendix A**).

## 3. Special-Status Species

Special-status plants and animals that have a reasonable possibility to occur in the Project area based on habitat suitability and requirements, elevation and geographic range, soils, topography, surrounding land uses, and proximity of known occurrences in the CNDDDB, IPaC, and CNPS databases are listed in **Tables 1 and 2**. The likelihood for occurrence of special-status species was assessed using information from the various listed sources, wildlife and botanical surveys. Narratives are provided for species for which there are land use planning and regulatory implications (**3.1 Special-Status Species Descriptions**). Special-status species for which there are no habitat features are excluded from consideration due to the lack of suitable habitat and distance of occurrences from the subject property.

Based upon a review of the resources and databases listed in Section 2.1 (Literature Review) for the *Carmichael, Citrus Heights, Pleasant Grove, Rio Linda, Roseville, Sacramento East, Sacramento West, Taylor Monument and Verona* USGS 7.5-minute quadrangles; it was determined that 27 special-status wildlife species, and 14 special-status plant species have been documented within 10 miles of the Project area. Of these 41 special-status species, 6 were determined to have reasonable potential for occurrence.

### ***Special-Status Species with Potential for Occurrence:***

- 1) Burrowing owl (*Athene cunicularia*)
- 2) Purple martin (*Progne subis*)
- 3) Swainson's hawk (*Buteo swainsoni*)
- 4) Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*)
- 5) Vernal pool fairy shrimp (*Branchinecta lynchi*)
- 6) Sanford's arrowhead (*Sagittaria sanfordii*)

Special-status species and sensitive habitats include plant and wildlife taxa, or other unique biological features that are afforded special protection by local land use policies, state and federal regulations. Special-status plant and animal species are those that are listed as rare, threatened, or endangered under the state or federal Endangered Species Acts. Vegetation communities may warrant special

status if they are of limited distribution, have high wildlife value, or are particularly vulnerable to disturbance. Listed and special-status species are defined as:

- Listed or proposed for listing under the state or Federal Endangered Species acts.
- Protected under other regulations (e.g., Migratory Bird Treaty Act).
- CDFG Species of Special Concern.
- Listed as species of concern by CNPS or USFWS; or
- Receive consideration during environmental review under CEQA.

Special-status species considered for this analysis are based on field survey results, review of the CNDDDB occurrence records of species, review of the USFWS lists for special-status species occurring in the region, and CNPS literature.

- **Present:** Species known to occur on the site, based on CNDDDB records, and/or was observed on the site during the field survey.
- **High:** Species known to occur on or near the site (based on CNDDDB records within 8 km or 5 mi) and there is suitable habitat on the site.
- **Low:** Species known to occur in the vicinity of the site, and there is marginal habitat onsite. -  
**OR-** Species is not known to occur in the vicinity of the site, however there is suitable habitat on the site.
- **None:** Species is not known to occur on or in the vicinity of the site and there is no suitable habitat for the species on the site. -  
**OR-** Species was surveyed for during the appropriate season with negative results.

Table 1 – Potentially Occurring Listed Wildlife Species

Common/ Scientific Name	*Listing Status	Habitat Requirements	Potential for Occurrence
<b>Amphibians</b>			
California tiger salamander ( <i>Ambystoma californiense</i> )	FT/ST/-	Grasslands, oak savannah riparian woodlands and lower elevations of coniferous forests, ditches, vernal pools, and wetlands.	<b>None:</b> Species is not known to occur on or in the vicinity of the site and there is no suitable habitat for the species on the site.
Western spadefoot ( <i>Spea hammondi</i> )	FE/-/SSC	Rivers with sandy banks, willows, cottonwoods, and sycamores; loose, gravelly areas of streams in drier parts of range.	<b>Low:</b> Species is not known to occur in the vicinity of the site, however there is suitable habitat near the site.

Birds			
Bank swallow ( <i>Riparia riparia</i> )	-/-ST/-	Requires vertical banks/cliffs with fine-textured/sandy soils near streams, rivers, lakes, ocean to dig nesting hole.	<b>None:</b> Species is not known to occur on or in the vicinity of the site and there is no suitable habitat for the species on the site.
Burrowing owl ( <i>Athene cunicularia</i> )	-/-/SSC	Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.	<b>Low:</b> Species known to occur in the vicinity of the site, and there is marginal habitat onsite.
California black rail ( <i>Laterallus jamaicensis coturniculus</i> )	FT/SE/FP	Woodlands near streams or lakes, abandoned farmland, old fruit orchards, successional shrubland and dense thickets.	<b>None:</b> Species is not known to occur on or in the vicinity of the site and there is no suitable habitat for the species on the site.
Cooper's hawk ( <i>Accipiter cooperii</i> )	-/-/WL	Woodland, chiefly of open, interrupted or marginal type. Nest sites mainly in riparian growths of deciduous trees, as in canyon bottoms on river floodplains; also, live oaks.	<b>Low:</b> Species known to occur in the vicinity of the site, and there is marginal habitat onsite.
Ferruginous hawk ( <i>Buteo regalis</i> )	-/-/WL	Open grasslands, sagebrush flats, desert scrub, low foothills and fringes of pinyon and juniper habitats.	<b>None:</b> Species is not known to occur on or in the vicinity of the site and there is no suitable habitat for the species on the site.
Golden eagle ( <i>Aquila chrysaetos</i> )	-/-/FP	Open areas with large, rocky cliffs or large trees, such as Ponderosa pines.	<b>None:</b> Species is not known to occur on or in the vicinity of the site and there is no suitable habitat for the species on the site.
Least Bell's vireo ( <i>Vireo bellii pusillus</i> )	FE/SE/WL	Nests placed along margins of bushes or on twigs projecting into pathways, usually willow, <i>Baccharis</i> , mesquite.	<b>None:</b> Species is not known to occur on or in the vicinity of the site and there is no suitable habitat for the species on the site.
Purple martin ( <i>Progne subis</i> )	-/-/SSC	Inhabits woodlands, low elevation coniferous forest of Douglas-fir, ponderosa pine, and Monterey pine,	<b>High:</b> Species known to occur on or near the site (based on CNDDB records within 8 km or 5 mi) and there is suitable habitat on

		broad leaved upland forest, lower montane coniferous forest.	the site
Swainson's hawk ( <i>Buteo swainsoni</i> )	-/ST/-	Nests in isolated trees or riparian woodlands adjacent to suitable foraging habitat (agricultural fields, grasslands, etc.).	<b>High:</b> Species known to occur on or near the site (based on CNDDDB records within 8 km or 5 mi) and there is suitable habitat on the site
Tricolored blackbird ( <i>Agelaius tricolor</i> )	-/ST/BCC	Found in areas near water, such as marshes, grasslands, and wetlands. They require some sort of substrate nearby to build nests.	<b>Low:</b> Species known to occur in the vicinity of the site, and there is marginal habitat onsite.
Western yellow-billed cuckoo ( <i>Coccyzus americanus occidentalis</i> )	FT/SE/BCC	Woodlands near streams or lakes, abandoned farmland, old fruit orchards, successional shrubland and dense thickets.	<b>None:</b> Species is not known to occur on or in the vicinity of the site and there is no suitable habitat for the species on the site.
White-tailed kite ( <i>Elanus leucurus</i> )	-/FP	Open grasslands, meadows, or marshes for foraging close to isolated, dense-topped trees for nesting and perching.	<b>Low:</b> Species known to occur in the vicinity of the site, and there is marginal habitat onsite.
<b>Fishes</b>			
Chinook salmon - Central Valley spring-run ESU ( <i>Oncorhynchus tshawytscha</i> pop. 11)	FT/ST/-	Federal listing refers to populations spawning in Sacramento River and tributaries.	<b>None:</b> Species is not known to occur on or in the vicinity of the site and there is no suitable habitat for the species on the site.
Chinook salmon - Sacramento River winter-run ESU ( <i>Oncorhynchus tshawytscha</i> pop. 7)	FE/SE/-	Sacramento River below Keswick Dam. Spawns in the Sacramento River, but not in tributary streams.	<b>None:</b> Species is not known to occur on or in the vicinity of the site and there is no suitable habitat for the species on the site.
Delta smelt ( <i>Hypomesus transpacificus</i> )	FT/-/-	Shallow, fresh, or slightly brackish backwater sloughs and edge waters, with good water quality and substrate for spawning.	<b>Low:</b> Species is not known to occur in the vicinity of the site, however there is suitable habitat on the site.

Longfin smelt ( <i>Spirinchus thaleichthys</i> )	FC/ST/-	Found in open waters of estuaries, mostly in middle or bottom of water column. Prefer salinities of 15-30 ppt but can be found in completely freshwater to almost pure seawater.	<b>None:</b> Species is not known to occur on or in the vicinity of the site and there is no suitable habitat for the species on the site.
Sacramento perch ( <i>Archoplites interruptus</i> )	-/-/SSC	Historically found in the sloughs, slow-moving rivers, and lakes of the Central Valley. Prefers warm water. Aquatic vegetation is essential for young. Tolerates wide range of physio-chemical water conditions.	<b>None:</b> Species is not known to occur on or in the vicinity of the site and there is no suitable habitat for the species on the site.
Sacramento splittail ( <i>Pogonichthys macrolepidotus</i> )	-/-/SSC	Endemic to the lakes and rivers of the Central Valley, but now confined to the Delta, Suisun Bay and associated marshes. Slow moving river sections, dead end sloughs. Requires flooded vegetation for spawning and foraging	<b>None:</b> Species is not known to occur on or in the vicinity of the site and there is no suitable habitat for the species on the site.
Steelhead - Central Valley DPS ( <i>Oncorhynchus mykiss irideus pop. 11</i> )	FT/-/-	Populations in the Sacramento and San Joaquin rivers and their tributaries.	<b>None:</b> Species is not known to occur on or in the vicinity of the site and there is no suitable habitat for the species on the site.
<b>Invertebrates</b>			
Valley elderberry longhorn beetle ( <i>Desmocerus californicus dimorphus</i> )	-/FT/-	Occurs only in the Central Valley of California, in association with blue elderberry ( <i>Sambucus mexicana</i> ), in riparian scrub	<b>Low:</b> Species known to occur in the vicinity of the site, and there is marginal habitat onsite.
Vernal pool fairy shrimp ( <i>Branchinecta lynchi</i> )	-/FT/-	Endemic to the grasslands of the Central Valley, Central Coast mountains, and South Coast mountains, in valley foothills grasslands, vernal pools, and wetlands.	<b>None:</b> Species is not known to occur on or in the vicinity of the site and there is no suitable habitat for the species on the site.



Vernal pool tadpole shrimp ( <i>Lepidurus packardii</i> )	-/FE/-	Vernal pools, (hardpan, duripan, or claypan), grassland. Pools commonly found in grass-bottomed or mud-bottomed swales.	<b>None:</b> Species is not known to occur on or in the vicinity of the site and there is no suitable habitat for the species on the site.
<b>Mammals</b>			
American badger ( <i>Taxidea taxus</i> )	-/-/ SSC	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils.	<b>None:</b> Species is not known to occur on or in the vicinity of the site and there is no suitable habitat for the species on the site.
<b>Reptiles</b>			
Giant garter snake ( <i>Thamnophis gigas</i> )	-/-/FT	Marshes, sloughs, drainage canals, irrigation ditches, and prefers locations with vegetation close to water for basking.	<b>None:</b> Species is not known to occur on or in the vicinity of the site and there is no suitable habitat for the species on the site.
Western pond turtle ( <i>Phrynosoma blainvillii</i> )	-/-/SSC	A thoroughly aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches, usually with aquatic vegetation, below 6000 ft elevation.	<b>None:</b> Species is not known to occur on or in the vicinity of the site and there is no suitable habitat for the species on the site.

\*Listing Status Notes:

Federal:

- FE – Federally listed Endangered
- FT – Federally listed Threatened
- FC – Federal Candidate Species
- WL – USFWS Watch list
- BCC – USFWS Bird of Conservation Concern
- MTBA – Migratory Bird Treaty Act

State:

- SE – State listed Endangered
- ST – State listed Threatened
- SC – State Candidate Species
- SR – State Rare Species
- SA – State Special Animal
- FP – CDFW Fully Protected Species
- SSC – CDFW Species of Special Concern
- WL – CDFW Watch List



Table 2 – Potentially Occurring Listed Plant Species

Common/ Scientific Name	*Status Fed/CA/CNPS/ Bloom Period	Habitat Description	Habitat Present/ Absent
Ahart's dwarf rush ( <i>Juncus leiospermus</i> var. <i>ahartii</i> )	-/-/1B.2 Mar-May	Valley and foothill grassland (mesic)	Present
Big-scale balsamroot ( <i>Balsamorhiza macrolepis</i> )	-/-/1B.2 Mar-Jun	Chaparral, Cismontane woodland, Valley and foothill grassland	Present
Boggs Lake hedge- hyssop ( <i>Gratiola heterosepala</i> )	-/-/1B.2 Apr-Aug	Clay marshes and swamps (Lake margins), vernal pools. 35 - 7790 ft elev.	Absent
Dwarf downingia ( <i>Downingia pusilla</i> )	-/-/2B.2 Mar-May	Valley and foothill grassland (mesic), Vernal pools	Present
Hispid salty bird's-beak ( <i>Gratiola heterosepala</i> )	-/-/1B.1 Jun-Sep	Meadows and seeps, Playas, Valley and foothill grassland	Present
Legenere ( <i>Legenere limosa</i> )	-/-/1B.1 Apr-Jun	Vernal pools	Absent
Parry's rough tarplant ( <i>Centromadia parryi</i> ssp. <i>rudis</i> )	-/-/4.2 May-Oct	Valley and foothill grassland, Vernal pools	Present
Red Bluff dwarf rush ( <i>Juncus leiospermus</i> var. <i>leiospermus</i> )	-/-/1B.1 Mar-Jun	Chaparral, Cismontane woodland, Meadows and seeps, Valley and foothill grassland, Vernal pools	Present
Sacramento Orcutt Grass ( <i>Orcuttia viscida</i> )	FE/SE/1B.1 Apr-Jul (Sep)	Vernal pools. 100 - 330 ft elev.	Absent

Sanford's arrowhead ( <i>Sagittaria sanfordii</i> )	-/-/1B.2 May-Oct (Nov)	Chaparral, Cismontane woodland, Pinyon and juniper woodland, Valley and foothill grassland	Present
Stinkbells ( <i>Fritillaria agrestis</i> )	-/-/4.2 Mar-Jun	Marshes and swamps (brackish, freshwater)	Absent
Suisun Marsh aster ( <i>Symphotrichum lentum</i> )	-/-/1B.2 (Apr)May-Nov	Valley and foothill grassland, Vernal pools	Present
Valley brodiaea ( <i>Brodiaea rosea ssp. vallicola</i> )	-/-/4.2 Apr-May (Jun)	Marshes and swamps (freshwater)	Absent
Woolly rose-mallow ( <i>Hibiscus lasiocarpus var. occidentalis</i> )	-/-/1B.2 Jun-Sep	Chaparral, Cismontane woodland, Pinyon and juniper woodland, Valley and foothill grassland	Present

\*Listing Status Notes:

Federal:

FE – Federally listed Endangered  
FT – Federally listed Threatened  
FC – Federal Candidate Species

CRPR: California Native Plant Society Rare Plant Rank

1B – Rare, threatened, or endangered in CA and elsewhere  
2B – Rare, threatened, or endangered in CA but common elsewhere  
4 – Limited distribution (Watch-list)  
CBR – Considered but Rejected

State:

SE – State listed Endangered  
ST – State listed Threatened  
SC – State Candidate Species SR – State Rare Species

CRPR Extensions

0.1 – Seriously endangered in California  
0.2 – Fairly endangered in California  
0.3 – Not very endangered in California

### 3.1 Special-Status Species Descriptions

#### 3.1.1 Burrowing Owl (*Athene cunicularia*)

The Migratory Bird Treaty Act of 1918 in the United States, Canada and Mexico federally protect the burrowing owl (*Athene cunicularia*). They are considered by the U.S. Fish and Wildlife Service (USFWS) to be a Bird of Conservation Concern (BCC), and State listed as a Species of Special Concern (SSC). These small owls are between 7.5 to 10 inches tall with a wingspan of 21 to 24 inches. They weigh between 4.5 to 9 ounces. Unlike most owls, burrowing owl males are slightly heavier than females and have a longer wingspan.

Burrowing owls typically breed from mid-March through August. If owls are nesting, the site must be avoided until the chicks have fledged or it has been determined the nest has failed. Chicks may appear at the burrow entrance when they are about 10 days old. Usually nesting in abandoned ground

squirrel burrows, the nest chamber might be lined with excrement, pellets, debris, grass, feathers; sometimes unlined. General habitat includes open dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation.

According to CNDDDB records, the closest and most recent occurrence of burrowing owl to the Project site is approximately 1.86 miles northwest in 2007. Two burrowing owls were observed with juveniles perched on the fence of a Caltrans yard, north of Interstate 80, west of East Levee Rd. The habitat surrounding the observation site consisted of annual grassland.

### 3.1.2 Purple Martin (*Progne subis*)

Purple martins are listed as a California Species of Special Concern (SSC) which means they do not meet the criteria of an endangered or threatened species but is particularly vulnerable, and could easily become, an endangered, threatened, or extirpated species due to restricted distribution, low or declining numbers, specialized habitat needs, limits, or other factors.

Purple martins are insectivores attracted to large populations of insects near wetlands, swamps, and wet meadows. They prefer open spaces situated close to water sources. Historically, this species inhabited montane forests, forest edges, and deserts, also known to nest in abandoned woodpecker cavities. However, due to colonization and human interactions, purple martins have adapted to urbanization. They tend to find shelter in urban settlements.

Purple martins are large swallows, measuring 8 inches long and weighing 2 ounces on average. Their wingspan is about 18 inches. Males are a bit larger, entirely shiny, and deep purple or almost black in coloration. Purple martin males have less shine on their blackish wings and tails compared to their heads and backs. Females are overall gray or gray blue with darker wings and crown feathers, and feature a white breast smudged with varying degrees of gray. Purple martins have a dark, black-brown bill and the average length is 8.2 mm for males and 8.5 mm for females. Their gape tends to be yellow in young birds and a dull orangey-brown color in adults. Their legs and feet have a black brown coloration, and their eyes are dark brown.

The closest known occurrence of purple martin is approximately 1.12 miles southeast of the Project site in 2003. A pair, and high number of second year males were observed nesting under the Marconi Ave. overpass of Auburn Blvd. The same year 15 nesting pair were observed near the El Camino overpass of the Union Pacific and light rail tracks of Sacramento.

### 3.1.3 Swainson's Hawk (*Buteo swainsoni*)

Swainson's hawk is listed as Threatened on the State level. Preferable habitat consists of open areas for foraging such as agricultural fields, pastures, and row crops. They nest in scattered stands of eucalyptus, willow, oak, cottonwood, and conifers. On occasion, Swainson's hawk will nest on a power pole or transmission tower. Nests are constructed with loose bundles of sticks and debris items. The incubation period is approximately 35 days and nesting period is 17-22 days. The breeding season for this species begins in March and ends in September.

Their most unique feature is the variation in color. The light color morph includes white patches on

the forehead, the throat and the belly. The rest of the body is dark brown. The dark color morph, which is the less common type, includes an entirely dark brown body with only a white patch under the tail. Other variations between these two distinct extremes have been observed. These hawks vary in length from 19 to 22 inches and have a wingspan of 47 to 57 inches. An average weight for a male is 1.8 pounds, while the average for the female is almost 2.5 pounds. This bird is commonly confused with a Red-tailed hawk, but the Swainson's hawk has a longer wingspan, more variation in color, and flies in a slight dihedral pattern.

During the site visit there were no observations of Swainson's hawk. The area within and proximate to the Project site is low suitability for raptor nesting habitat due to urban development. The nearest recent occurrence of Swainson's hawk was 1.71 miles southwest of the Project. In 2010 an active nest was monitored, 2 young were observed on the nest, fledging success unknown.

### 3.1.4 Valley Elderberry Longhorn Beetle (*Desmocerus californicus dimorphus*)

3.1.6 The valley elderberry longhorn beetle is listed as Threatened at the Federal level. This insect is found in the presence of red or blue elderberry in the San Joaquin Valley of California, often preferring larger (2-8 inch thick stem), stressed elderberry plants. Breeding typically occurs between March and June when adults are most active.

The habitat on the Project site is not suitable for valley elderberry longhorn beetle as there are no known host plants, red or blue valley elderberry in the vicinity of the Project site. Critical habitat for valley elderberry longhorn beetle is designated more than 2.0 miles south of the Project site along the American River riparian corridor. CNDDDB records indicate the closest and most recent observations of this species is 2.16 miles south of the Project site, in the riparian area of the American River.

### 3.1.5 Vernal Pool Fairy Shrimp (*Branchinecta lynchi*)

Vernal pool fairy shrimp is listed as Threatened on the Federal level and has no listing on the State level. Measuring 2.5 centimeters (one inch) long, translucent crustaceans with 11 pairs of appendages. They are limited to vernal pool habitats in Oregon and California and do not occur in riverine, marine, or other permanent bodies of water where fish are present. During the wet season, the females produce hardy resting eggs, called cysts, which survive the dry season and hatch when the rains come again.

A search of CNDDDB records indicate the nearest and most recent occurrence of this species is 1.39 miles northwest from the Project site in 1995, along the Natomas east main drainage canal. More than 50 adults were observed in a vernal pool (14 feet wide, 270 feet long, and depth 5.9 inches). Voucher specimens were collected and deposited in CAS January 14, 1995 (CASIZ #106792).

### 3.1.6 Sanford's Arrowhead (*Sagittaria sanfordii*)

Sanford's arrowhead is an aquatic perennial herb up to 130 cm (51 in) tall, growing from a spherical tuber. The leaves are very often submerged, variable in shape, usually long and strap shaped. Leaves may grow up to 9.8 inches long from the underwater stem. The plant is monoecious, with individuals bearing both male and female flowers. The inflorescence which rises above the surface of the water is a raceme made up of several whorls of flowers, the lowest node bearing female flowers and upper

nodes bearing male flowers. The flower is up to 1.4 inches wide with white petals. The male flowers have rings of stamens at the centers. Female flowers each have a spherical cluster of pistils which develops into a head of tiny fruits.

Sanford's Arrowhead has a California Native Plant Society Rare Plant Rank (CRPR) of 1B.2, fairly endangered in California and elsewhere. The nearest occurrence of this species was observed in 2011, approximately 0.80 miles west of the Project site, downstream in the Arcade Creek watershed under the Norwood Avenue bridge and nearby ditches.

#### 4. Habitat Assessment Results

During the Habitat Assessment conducted February 2, 2023, Soar Environmental did not observe presence or suitable habitat for any of the special-status plant or wildlife species referenced in this report. The Project site is already developed, with gas pumps, and a small single-story building, on a high traffic street corner of the city.

Arcade Creek is approximately 120 feet north of the Project site, which is otherwise surrounded by residential neighborhoods. The Project site is a small 0.5-acre parcel of land, mostly paved, with little vegetation to provide habitat for any plant or wildlife species. Groundcover is mostly concrete with some ruderal weeds and grasses aggregated in medians around the perimeter. Plant and wildlife species observed during the site visit on February 2, 2023, are listed in (Table 3).

Table 3— Species Observed on the Project Site

Wildlife Species Observed	Listing Status	Plant Species Observed	Listing Status
American Crow ( <i>Corvus brachyrhynchos</i> )	MBTA	Annual Bluegrass ( <i>Poa annua</i> )	None
American Kestrel ( <i>Falco sparverius</i> )	MBTA	Bermuda Grass ( <i>Cynodon dactylon</i> )	None
Canada Goose ( <i>Branta canadensis</i> )	MBTA	California Incense-cedar ( <i>Calocedrus decurrens</i> )	None
California Scrub-jay ( <i>Aphelocoma californica</i> )	MBTA	Common Chicory ( <i>Cichorium intybus</i> )	None
House Finch ( <i>Haemorhous mexicanus</i> )	MBTA	Italian Cypress ( <i>Cupressus sempervirens</i> )	None
Northern Flicker ( <i>Colaptes auratus</i> )	MBTA	Musky Stork's-bill ( <i>Erodium moschatum</i> )	None
Ring-billed Gull ( <i>Larus delawarensis</i> )	MBTA	Slender Wild Oat ( <i>Avena barbata</i> )	None
Rock Pigeon ( <i>Columba livia</i> )	MBTA	Valley Oak ( <i>Quercus lobata</i> )	None

Yellow-rumped Warbler ( <i>Setophaga coronata</i> )	MBTA	Western Sycamore ( <i>Platanus racemosa</i> )	None
		Yellow Star-thistle ( <i>Centaurea solstitialis</i> )	None

## 5. Findings

The Project site is a small 0.5-acre parcel in a highly disturbed urbanized area of Sacramento. Ground cover is mostly paved, with 2 existing structures on site, which will be rehabilitated as part of the Project. There are no trees or shrubs on the property. Small patches of ruderal weeds and grasses are sparsely scattered around the perimeter of the Project site. No special-status species, or habitat conditions that would be conducive for the special-status species identified in this report were observed. However, Arcade Creek runs northeast to southwest approximately 120 feet north of the Project site. It is a small urbanized watershed bounded by service roads on both sides. Although the creek habitat is highly degraded, there is some riparian woodland downstream to the west, located more than 500 feet from the Project site, which likely provides nesting habitat for local bird species.

## 6. Discussion

The project site is in a highly disturbed urbanized area with little to no suitable habitat for any of the special status species identified in this report. Based on analysis of habitat conditions in the vicinity of the Project site, all other special-status species identified in the data records search were found unlikely to occur in the Project area. There was no apparent sign of occupancy of bat, bird, or small mammal species in the structures on site, and habitat conditions were not conducive for any of the identified special-status plant species.

### Aquatic Habitats

Arcade Creek is a small urbanized watershed with severe water quality problems, and significantly compromised habitat conditions. The urbanized nature of the landscape causes high loadings of toxicants and the hot, dry summer climate create high ambient temperatures in the creek and tributaries. Related problems include high peak flows, excessive erosion, loss of riparian habitat, low dissolved oxygen levels, and low flows, resulting in negative environmental impacts. Invasive fish and plant species, and other environmental factors have virtually eliminated salmonids in the Arcade Creek watershed.

### Aquatic Species

Chinook salmon and steelhead trout have not been reported in Arcade Creek in over 20 years. Due to the lack of suitable spawning habitat and summer low flows, it is not likely that these species will return in the foreseeable future. Although critical habitat for Delta smelt is located approximately 4.18 miles southwest of the Project site, this species is not known to occur in Arcade Creek or its tributaries.

Water quality and conditions in Arcade Creek are not suitable for this species. However, all of these species are known to occur in the Sacramento River system to the south and could potentially be affected by the water quality of Arcade Creek. Native fish species that are likely to occur in Arcade Creek include tule perch, Sacramento sucker, and several minnow species.

Vernal pool fairy shrimp eggs (cysts) are capable of lying dormant in the soil over multiple dry seasons. The Project site is located approximately 9.5 miles northwest from vernal pool fairy shrimp critical habitat. The nearest occurrence of this species is 1.39 miles northwest from the Project site in 1995, along the Natomas east main drainage canal. Due to the highly disturbed nature of the watershed, small size of the Project site, and limited ground disturbing activities required for the Project, it is not likely Project activities would have any adverse effect on this and other aquatic species.

#### Priority Bird Species

Special status bird species known to occur in the vicinity of the Project area include burrowing owl, purple martin, and Swainson's hawk. There are no trees or shrubs that would provide suitable nesting habitat for nesting birds in the immediate vicinity of the project site. No small mammal burrows were observed within the Project footprint, and ground cover is mostly paved, eliminating any suitable habitat for burrowing owls, or any other species dependent on small mammal burrows for refugia.

#### Special Status Plant Species

Although 14 different special status plant species were identified from the data records search of CNDDDB and CNPS, the only known special-status plant species known to occur within 2 miles of the Project site is Sanford's arrowhead (*Sagittaria sanfordii*), located approximately 0.81 miles west from the project site, in the Arcade Creek watershed. However, there is no suitable habitat for this species in the vicinity of the project site. This species is threatened by grazing, development, and stream channel alteration. All other special-status plant species were ruled out due to proximity to the project site and or a lack of suitable habitat.

Elderberries (*Sambucus spp.*) are also periodically found within the riparian woodland areas of Arcade Creek, but more commonly found along the American River to the south. These shrubs provide habitat for the valley elderberry longhorn beetle. The habitat in the area is not suitable for valley elderberry longhorn beetle as there are no host plants, red or blue valley elderberry in the vicinity of the Project site. Elderberry shrubs are known to occur along the American River south of the Project site, and could potentially occur in the Arcade Creek watershed, however project activities would not likely impact valley elderberry longhorn beetle or its habitat, as project activities are expected to occur on the property which is already developed.

## 7. Recommendations

No listed species were observed during the Habitat Assessment of the Project site, and no suitable habitat features, or conditions were observed that would be conducive for any of the special-status species identified in this report. Soar Environmental Consulting, Inc. recommends that if any special status species are observed during Project activities, work be stopped immediately and CDFW is contacted.

## 8. Study Limitations

This Report has been prepared in accordance with generally accepted environmental methodologies and contains all the limitations inherent in these methodologies. The Report documents site conditions that were observed during field reconnaissance and do not apply to future conditions. No other warranties, expressed or implied, are made as to the professional services provided under the terms of our contract and included in this Report.



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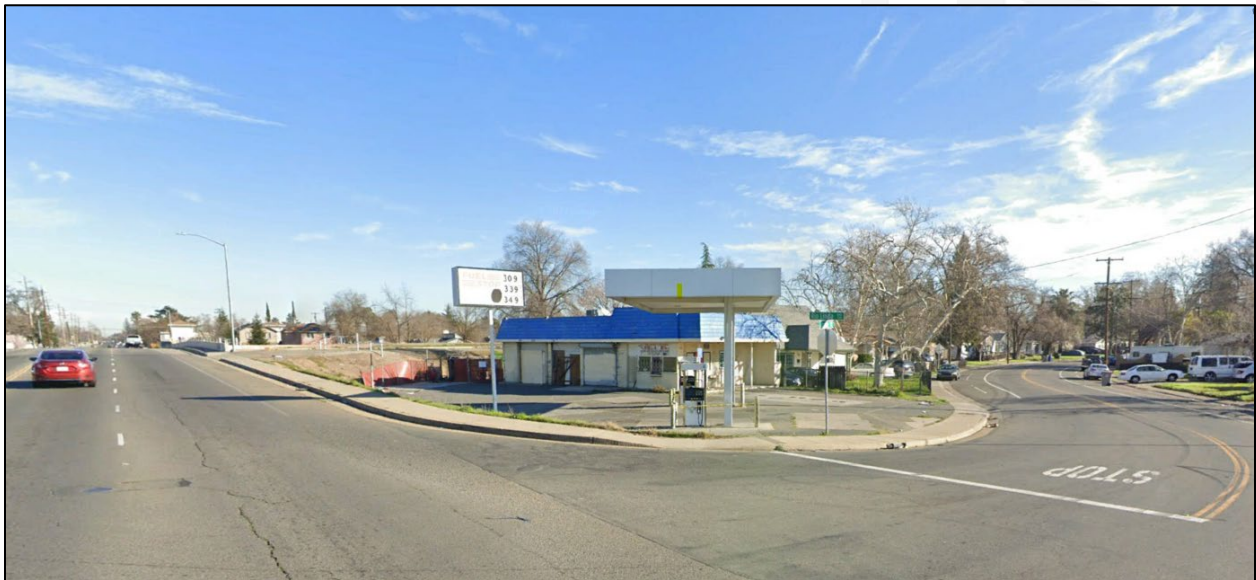
## APPENDIX A

### Site Visit Photos

**Project Site: Arial Image and Surrounding Area**



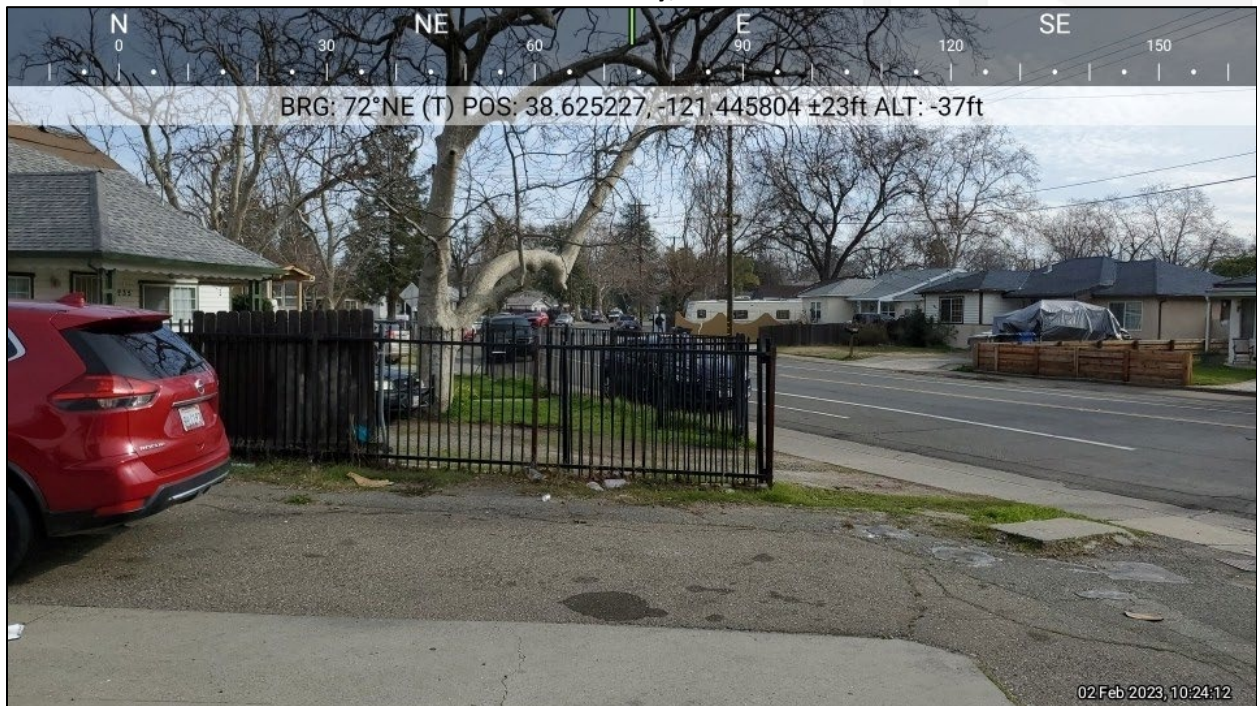
**Street View of Project Site**



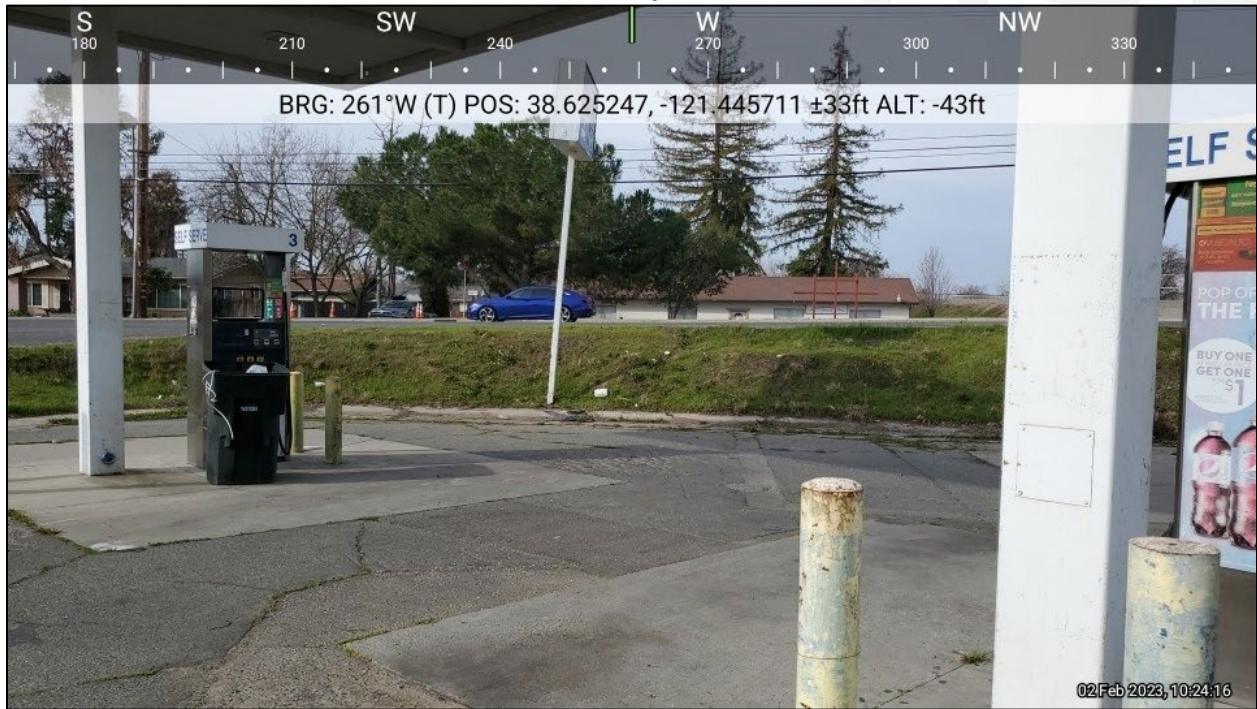
Northern Boundary, View North



Eastern Boundary, View East



Eastern Boundary, View West



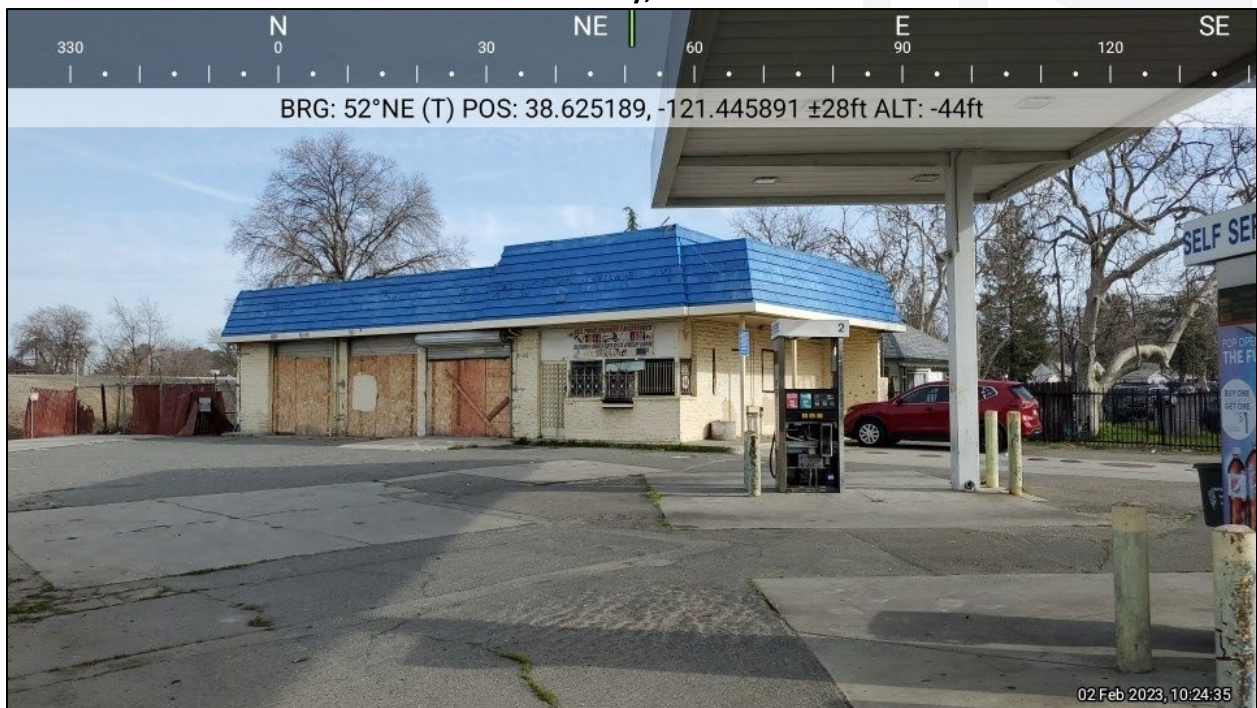
Northern Boundary, View South



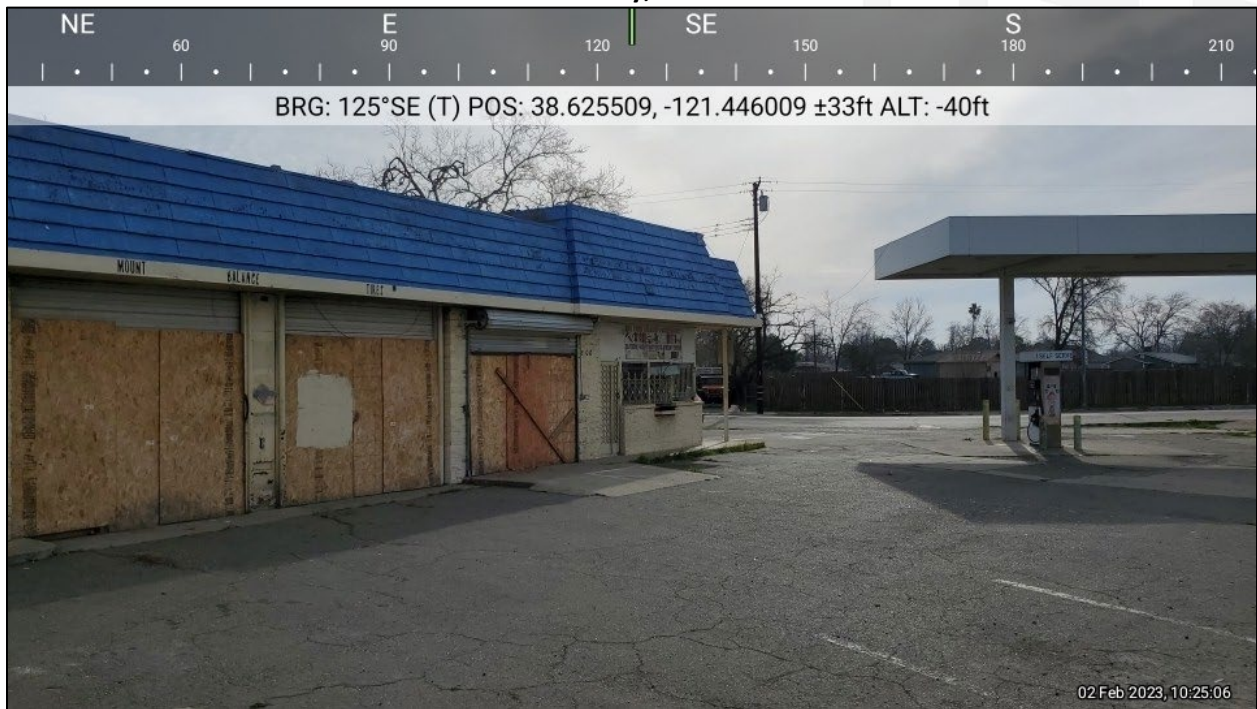
Eastern Boundary, View Southeast



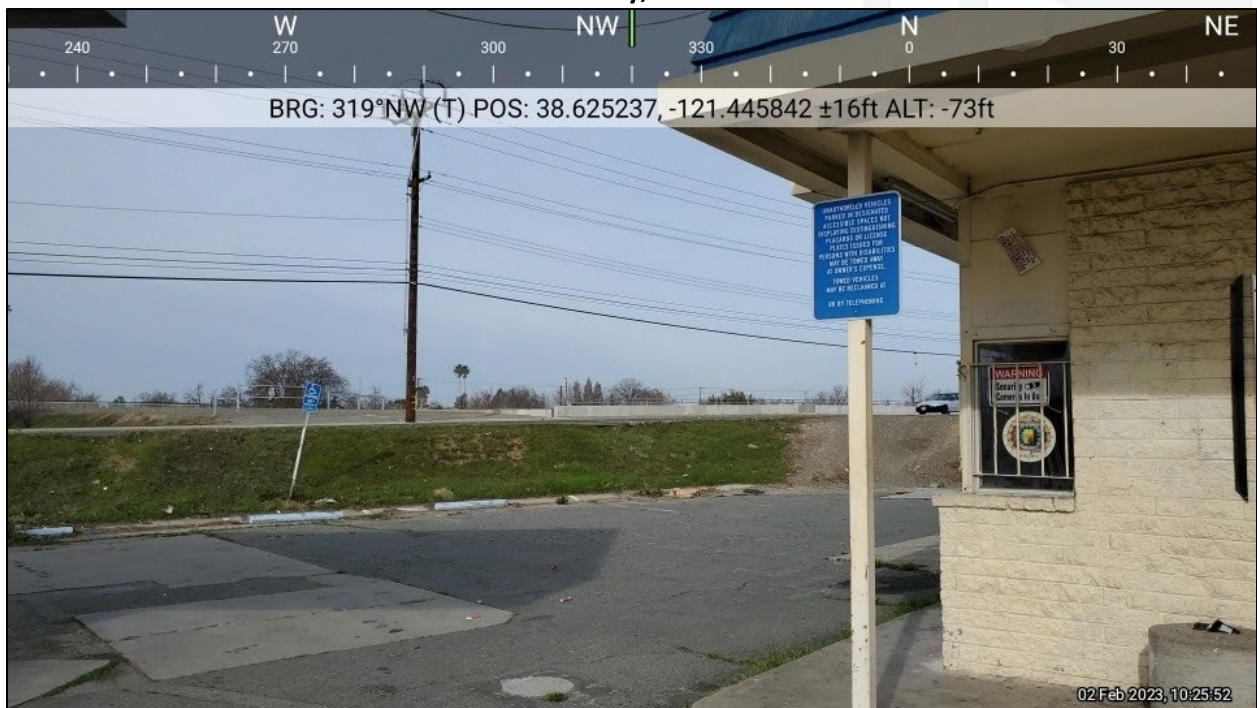
Southern Boundary, View Northeast



Northern Boundary, View Southeast



Northern Boundary, View Northwest



Northern Boundary, View Northeast



Signs of Cliff Swallow Activity, View Northwest (No individuals observed)







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APPENDIX B  
CDFW California Natural Diversity Database



# Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database



Query Criteria: Quad (Carmichael) OR Citrus Heights (3812163) OR Pleasant Grove (3812174) OR Rio Linda (3812164) OR Roseville (3812173) OR Sacramento East (3812154) OR Sacramento West (3812155) OR Taylor Monument (3812165) OR Verona (3812175)

Table with 7 columns: Species, Element Code, Federal Status, State Status, Global Rank, State Rank, Rare Plant Rank/CDFW SSC or FP. Rows include species like Accipiter cooperii, Acipenser medirostris, Agelaius tricolor, etc.



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



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<b><i>Chloropyron molle ssp. hispidum</i></b> hispid salty bird's-beak	PDSCR0J0D1	None	None	G2T1	S1	1B.1
<b><i>Cicindela hirticollis abrupta</i></b> Sacramento Valley tiger beetle	IICOL02106	None	None	G5TH	SH	
<b><i>Coccyzus americanus occidentalis</i></b> western yellow-billed cuckoo	ABNRB02022	Threatened	Endangered	G5T2T3	S1	
<b><i>Desmocerus californicus dimorphus</i></b> valley elderberry longhorn beetle	IICOL48011	Threatened	None	G3T2T3	S3	
<b><i>Downingia pusilla</i></b> dwarf downingia	PDCAM060C0	None	None	GU	S2	2B.2
<b><i>Dumontia oregonensis</i></b> hairy water flea	ICBRA23010	None	None	G1G3	S1	
<b><i>Egretta thula</i></b> snowy egret	ABNGA06030	None	None	G5	S4	
<b><i>Elanus leucurus</i></b> white-tailed kite	ABNKC06010	None	None	G5	S3S4	FP
<b><i>Elderberry Savanna</i></b> Elderberry Savanna	CTT63440CA	None	None	G2	S2.1	
<b><i>Emys marmorata</i></b> western pond turtle	ARAAD02030	None	None	G3G4	S3	SSC
<b><i>Fritillaria agrestis</i></b> stinkbells	PMLIL0V010	None	None	G3	S3	4.2
<b><i>Gonidea angulata</i></b> western ridged mussel	IMBIV19010	None	None	G3	S1S2	
<b><i>Gratiola heterosepala</i></b> Boggs Lake hedge-hyssop	PDSCR0R060	None	Endangered	G2	S2	1B.2
<b><i>Great Valley Cottonwood Riparian Forest</i></b> Great Valley Cottonwood Riparian Forest	CTT61410CA	None	None	G2	S2.1	
<b><i>Hibiscus lasiocarpus var. occidentalis</i></b> woolly rose-mallow	PDMAL0H0R3	None	None	G5T3	S3	1B.2
<b><i>Hydrochara rickseckeri</i></b> Ricksecker's water scavenger beetle	IICOL5V010	None	None	G2?	S2?	
<b><i>Juncus leiospermus var. ahartii</i></b> Ahart's dwarf rush	PMJUN011L1	None	None	G2T1	S1	1B.2
<b><i>Juncus leiospermus var. leiospermus</i></b> Red Bluff dwarf rush	PMJUN011L2	None	None	G2T2	S2	1B.1
<b><i>Lasiurus cinereus</i></b> hoary bat	AMACC05032	None	None	G3G4	S4	
<b><i>Laterallus jamaicensis coturniculus</i></b> California black rail	ABNME03041	None	Threatened	G3T1	S1	FP
<b><i>Legenere limosa</i></b> legenere	PDCAM0C010	None	None	G2	S2	1B.1



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



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<b><i>Lepidurus packardii</i></b> vernal pool tadpole shrimp	ICBRA10010	Endangered	None	G4	S3	
<b><i>Linderiella occidentalis</i></b> California linderiella	ICBRA06010	None	None	G2G3	S2S3	
<b><i>Melospiza melodia pop. 1</i></b> song sparrow ("Modesto" population)	ABPBXA3013	None	None	G5T3?Q	S3?	SSC
<b>Northern Claypan Vernal Pool</b> Northern Claypan Vernal Pool	CTT44120CA	None	None	G1	S1.1	
<b>Northern Hardpan Vernal Pool</b> Northern Hardpan Vernal Pool	CTT44110CA	None	None	G3	S3.1	
<b>Northern Volcanic Mud Flow Vernal Pool</b> Northern Volcanic Mud Flow Vernal Pool	CTT44132CA	None	None	G1	S1.1	
<b><i>Nycticorax nycticorax</i></b> black-crowned night heron	ABNGA11010	None	None	G5	S4	
<b><i>Oncorhynchus mykiss irideus pop. 11</i></b> steelhead - Central Valley DPS	AFCHA0209K	Threatened	None	G5T2Q	S2	
<b><i>Oncorhynchus tshawytscha pop. 11</i></b> chinook salmon - Central Valley spring-run ESU	AFCHA0205L	Threatened	Threatened	G5T2Q	S2	
<b><i>Oncorhynchus tshawytscha pop. 7</i></b> chinook salmon - Sacramento River winter-run ESU	AFCHA0205B	Endangered	Endangered	G5T1Q	S2	
<b><i>Orcuttia viscida</i></b> Sacramento Orcutt grass	PMPOA4G070	Endangered	Endangered	G1	S1	1B.1
<b><i>Pogonichthys macrolepidotus</i></b> Sacramento splittail	AFCJB34020	None	None	G3	S3	SSC
<b><i>Progne subis</i></b> purple martin	ABPAU01010	None	None	G5	S3	SSC
<b><i>Riparia riparia</i></b> bank swallow	ABPAU08010	None	Threatened	G5	S2	
<b><i>Sagittaria sanfordii</i></b> Sanford's arrowhead	PMALI040Q0	None	None	G3	S3	1B.2
<b><i>Spea hammondi</i></b> western spadefoot	AAABF02020	None	None	G2G3	S3S4	SSC
<b><i>Spirinchus thaleichthys</i></b> longfin smelt	AFCHB03010	Candidate	Threatened	G5	S1	
<b><i>Symphyotrichum lentum</i></b> Suisun Marsh aster	PDASTE8470	None	None	G2	S2	1B.2
<b><i>Taxidea taxus</i></b> American badger	AMAJF04010	None	None	G5	S3	SSC
<b><i>Thamnophis gigas</i></b> giant gartersnake	ARADB36150	Threatened	Threatened	G2	S2	
<b><i>Vireo bellii pusillus</i></b> least Bell's vireo	ABPBW01114	Endangered	Endangered	G5T2	S2	

**Record Count: 60**



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## APPENDIX C

### USFWS Information for Planning and Consultation

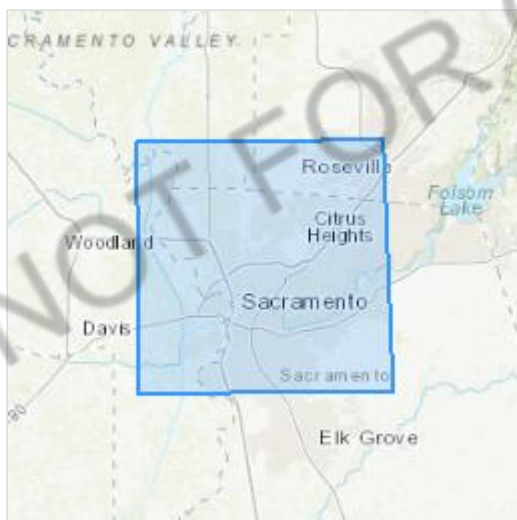
# IPaC resource list

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

California



## Local offices

San Francisco Bay-Delta Fish And Wildlife


☎ (916) 930-5603


📅 (916) 930-5654

650 Capitol Mall

Suite 8-300  
Sacramento, CA 95814

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
<p><b>Least Bell's Vireo</b> <i>Vireo bellii pusillus</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/5945">https://ecos.fws.gov/ecp/species/5945</a></p>	Endangered
<p><b>Western Snowy Plover</b> <i>Charadrius nivosus nivosus</i> 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/8035">https://ecos.fws.gov/ecp/species/8035</a></p>	Threatened
<p><b>Yellow-billed Cuckoo</b> <i>Coccyzus americanus</i> 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/3911">https://ecos.fws.gov/ecp/species/3911</a></p>	Threatened

## Reptiles

NAME	STATUS
<p><b>Giant Garter Snake</b> <i>Thamnophis gigas</i> Wherever found No critical habitat has been designated for this species. <a href="https://ecos.fws.gov/ecp/species/4482">https://ecos.fws.gov/ecp/species/4482</a></p>	Threatened

## Amphibians

NAME	STATUS
<p><b>California Tiger Salamander</b> <i>Ambystoma californiense</i> 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/2076">https://ecos.fws.gov/ecp/species/2076</a></p>	Threatened

## Fishes

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

## Insects

NAME	STATUS
------	--------

<p><b>Monarch Butterfly</b> <i>Danaus plexippus</i> <b>Candidate</b>            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></p>	
--	--

<p><b>Valley Elderberry Longhorn Beetle</b> <i>Desmocerus californicus dimorphus</i> <b>Threatened</b>            Wherever found            There is <b>final</b> critical habitat for this species. Your location overlaps the critical habitat.  <a href="https://ecos.fws.gov/ecp/species/7850">https://ecos.fws.gov/ecp/species/7850</a></p>	
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## Crustaceans

NAME	STATUS
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<p><b>Conservancy Fairy Shrimp</b> <i>Branchinecta conservatio</i> <b>Endangered</b>            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/8246">https://ecos.fws.gov/ecp/species/8246</a></p>	
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<p><b>Vernal Pool Fairy Shrimp</b> <i>Branchinecta lynchi</i> <b>Threatened</b>            Wherever found            There is <b>final</b> critical habitat for this species. Your location overlaps the critical habitat.  <a href="https://ecos.fws.gov/ecp/species/498">https://ecos.fws.gov/ecp/species/498</a></p>	
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<p><b>Vernal Pool Tadpole Shrimp</b> <i>Lepidurus packardii</i> <b>Endangered</b>            Wherever found            There is <b>final</b> critical habitat for this species. Your location overlaps the critical habitat.  <a href="https://ecos.fws.gov/ecp/species/2246">https://ecos.fws.gov/ecp/species/2246</a></p>	
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# Flowering Plants

NAME	STATUS
<p><b>Colusa Grass</b> <i>Neostapfia colusana</i></p> <p>Wherever found</p> <p>There is <b>final</b> critical habitat for this species. Your location does not overlap the critical habitat.</p> <p><a href="https://ecos.fws.gov/ecp/species/5690">https://ecos.fws.gov/ecp/species/5690</a></p>	Threatened
<p><b>Palmate-bracted Bird's Beak</b> <i>Cordylanthus palmatus</i></p> <p>Wherever found</p> <p>No critical habitat has been designated for this species.</p> <p><a href="https://ecos.fws.gov/ecp/species/1616">https://ecos.fws.gov/ecp/species/1616</a></p>	Endangered
<p><b>Sacramento Orcutt Grass</b> <i>Orcuttia viscida</i></p> <p>Wherever found</p> <p>There is <b>final</b> critical habitat for this species. Your location overlaps the critical habitat.</p> <p><a href="https://ecos.fws.gov/ecp/species/5507">https://ecos.fws.gov/ecp/species/5507</a></p>	Endangered
<p><b>Slender Orcutt Grass</b> <i>Orcuttia tenuis</i></p> <p>Wherever found</p> <p>There is <b>final</b> critical habitat for this species. Your location overlaps the critical habitat.</p> <p><a href="https://ecos.fws.gov/ecp/species/1063">https://ecos.fws.gov/ecp/species/1063</a></p>	Threatened
<p><b>Solano Grass</b> <i>Tuctoria mucronata</i></p> <p>Wherever found</p> <p>There is <b>final</b> critical habitat for this species. Your location does not overlap the critical habitat.</p> <p><a href="https://ecos.fws.gov/ecp/species/8302">https://ecos.fws.gov/ecp/species/8302</a></p>	Endangered

## Critical habitats

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

This location overlaps the critical habitat for the following species:

NAME	TYPE
<p><b>Delta Smelt</b> <i>Hypomesus transpacificus</i></p> <p><a href="https://ecos.fws.gov/ecp/species/321#crithab">https://ecos.fws.gov/ecp/species/321#crithab</a></p>	Final

Sacramento Orcutt Grass <i>Orcuttia viscida</i>	Final
<a href="https://ecos.fws.gov/ecp/species/5507#crithab">https://ecos.fws.gov/ecp/species/5507#crithab</a>	
Slender Orcutt Grass <i>Orcuttia tenuis</i>	Final
<a href="https://ecos.fws.gov/ecp/species/1063#crithab">https://ecos.fws.gov/ecp/species/1063#crithab</a>	
Valley Elderberry Longhorn Beetle <i>Desmocerus californicus dimorphus</i>	Final
<a href="https://ecos.fws.gov/ecp/species/7850#crithab">https://ecos.fws.gov/ecp/species/7850#crithab</a>	
Vernal Pool Fairy Shrimp <i>Branchinecta lynchi</i>	Final
<a href="https://ecos.fws.gov/ecp/species/498#crithab">https://ecos.fws.gov/ecp/species/498#crithab</a>	
Vernal Pool Tadpole Shrimp <i>Lepidurus packardii</i>	Final
<a href="https://ecos.fws.gov/ecp/species/2246#crithab">https://ecos.fws.gov/ecp/species/2246#crithab</a>	

## 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-incident-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
<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>Belding's Savannah Sparrow</b> <i>Passerculus sandwichensis beldingi</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA <a href="https://ecos.fws.gov/ecp/species/8">https://ecos.fws.gov/ecp/species/8</a>	Breeds Apr 1 to Aug 15
<b>Black Skimmer</b> <i>Rynchops niger</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <a href="https://ecos.fws.gov/ecp/species/5234">https://ecos.fws.gov/ecp/species/5234</a>	Breeds May 20 to Sep 15
<b>Black Swift</b> <i>Cypseloides niger</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <a href="https://ecos.fws.gov/ecp/species/8878">https://ecos.fws.gov/ecp/species/8878</a>	Breeds Jun 15 to Sep 10
<b>Black Tern</b> <i>Chlidonias niger</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <a href="https://ecos.fws.gov/ecp/species/3093">https://ecos.fws.gov/ecp/species/3093</a>	Breeds May 15 to Aug 20

<b>Black Turnstone</b> <i>Arenaria melanocephala</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
<b>Black-chinned Sparrow</b> <i>Spizella atrogularis</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <a href="https://ecos.fws.gov/ecp/species/9447">https://ecos.fws.gov/ecp/species/9447</a>	Breeds Apr 15 to Jul 31
<b>Bullock's Oriole</b> <i>Icterus bullockii</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds Mar 21 to Jul 25
<b>California Gull</b> <i>Larus californicus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 1 to Jul 31
<b>California Thrasher</b> <i>Toxostoma redivivum</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Jan 1 to Jul 31
<b>Cassin's Finch</b> <i>Carpodacus cassinii</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <a href="https://ecos.fws.gov/ecp/species/9462">https://ecos.fws.gov/ecp/species/9462</a>	Breeds May 15 to Jul 15
<b>Clark's Grebe</b> <i>Aechmophorus clarkii</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Jun 1 to Aug 31
<b>Common Yellowthroat</b> <i>Geothlypis trichas sinuosa</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA <a href="https://ecos.fws.gov/ecp/species/2084">https://ecos.fws.gov/ecp/species/2084</a>	Breeds May 20 to Jul 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

<b>Lawrence's Goldfinch</b> <i>Carduelis lawrencei</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <a href="https://ecos.fws.gov/ecp/species/9464">https://ecos.fws.gov/ecp/species/9464</a>	Breeds Mar 20 to Sep 20
<b>Long-eared Owl</b> <i>asio otus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <a href="https://ecos.fws.gov/ecp/species/3631">https://ecos.fws.gov/ecp/species/3631</a>	Breeds Mar 1 to Jul 15
<b>Marbled Godwit</b> <i>Limosa fedoa</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <a href="https://ecos.fws.gov/ecp/species/9481">https://ecos.fws.gov/ecp/species/9481</a>	Breeds elsewhere
<b>Mountain Plover</b> <i>Charadrius montanus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <a href="https://ecos.fws.gov/ecp/species/3638">https://ecos.fws.gov/ecp/species/3638</a>	Breeds elsewhere
<b>Nuttall's Woodpecker</b> <i>Picoides nuttallii</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA <a href="https://ecos.fws.gov/ecp/species/9410">https://ecos.fws.gov/ecp/species/9410</a>	Breeds Apr 1 to Jul 20
<b>Oak Titmouse</b> <i>Baeolophus inornatus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <a href="https://ecos.fws.gov/ecp/species/9656">https://ecos.fws.gov/ecp/species/9656</a>	Breeds Mar 15 to Jul 15
<b>Olive-sided Flycatcher</b> <i>Contopus cooperi</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <a href="https://ecos.fws.gov/ecp/species/3914">https://ecos.fws.gov/ecp/species/3914</a>	Breeds May 20 to Aug 31
<b>Short-billed Dowitcher</b> <i>Limnodromus griseus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <a href="https://ecos.fws.gov/ecp/species/9480">https://ecos.fws.gov/ecp/species/9480</a>	Breeds elsewhere

**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.

**Yellow-billed Magpie** *Pica nuttalli*

Breeds Apr 1 to Jul 31

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

<https://ecos.fws.gov/ecp/species/9726>

## Probability of Presence Summary

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

### Probability of Presence (■)

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

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

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted



Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.

- 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  $0.05/0.25 = 0.2$ .
- 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.

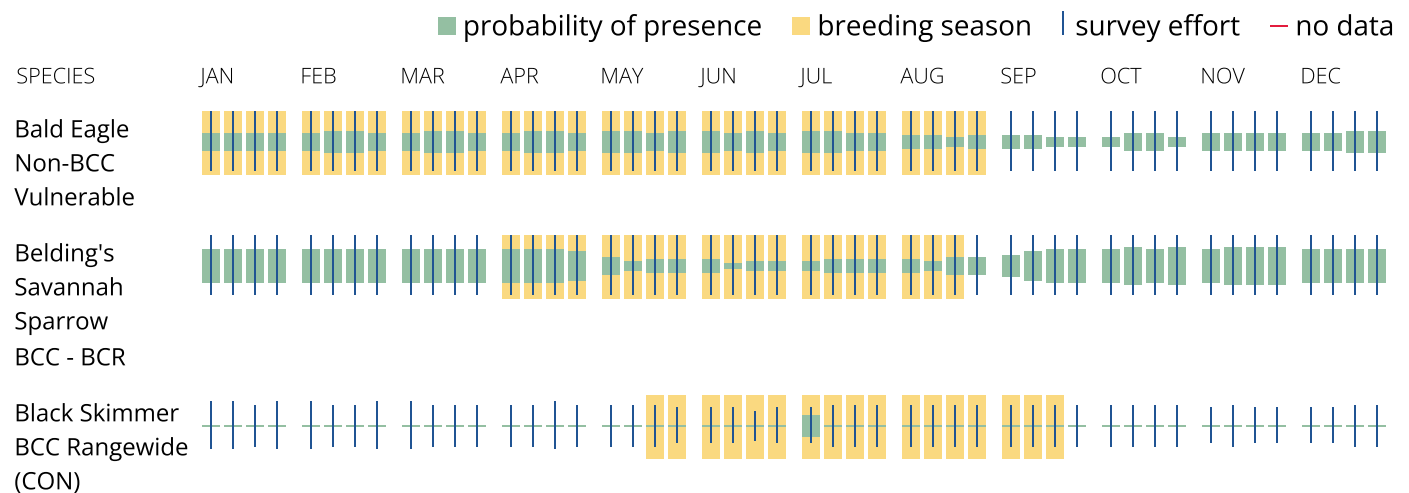
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

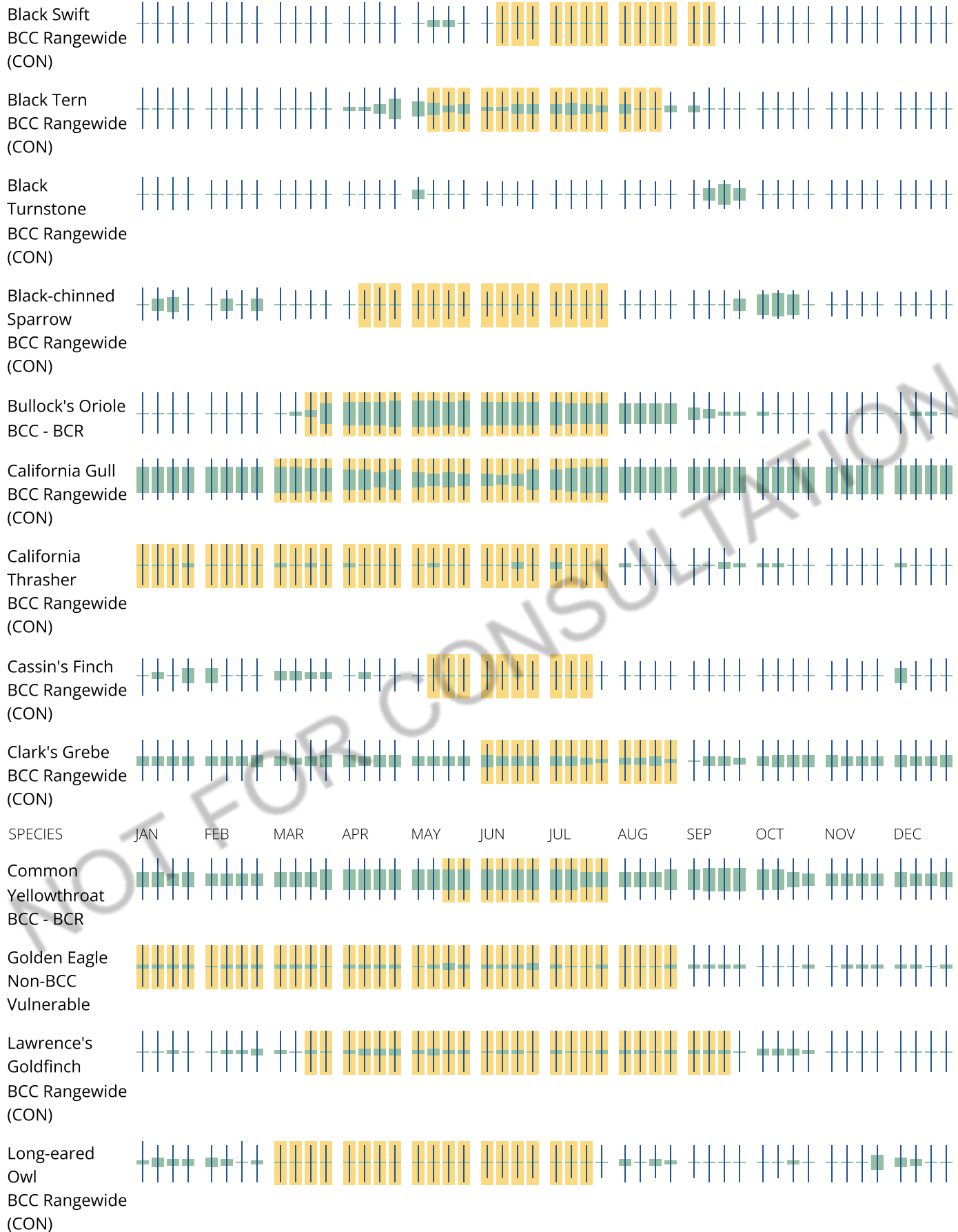
### No Data (-)

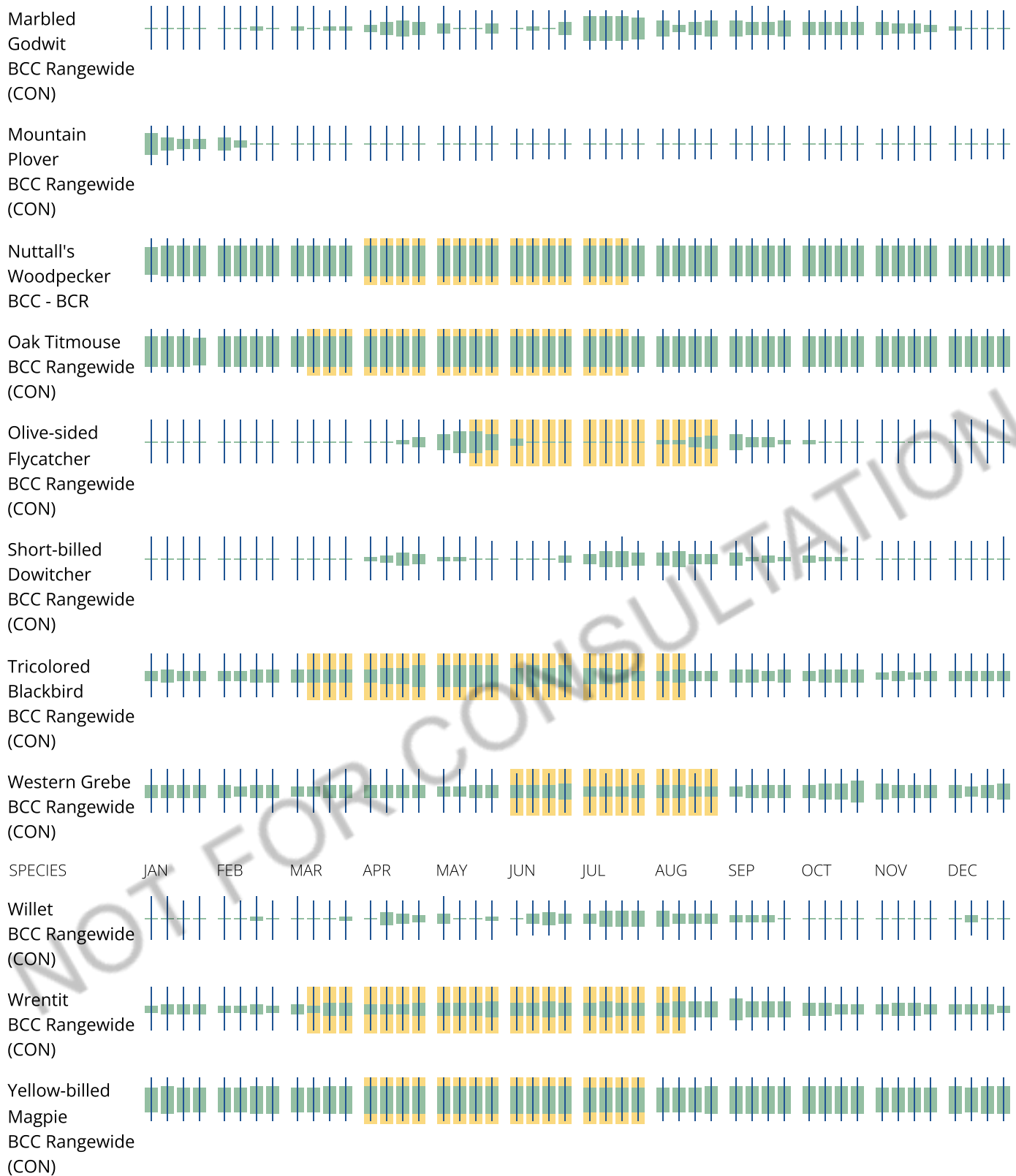
A week is marked as having no data if there were no survey events for that week.

### 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.

This location overlaps the following National Wildlife Refuge lands:

LAND	ACRES
FARM SERVICE AGENCY INTEREST OF CA	635.38 acres
STEVE THOMPSON NORTH CENTRAL VALLEY WILDLIFE MANAGEMENT AREA	14,895.98 acres

## 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.