

Appendix C

Biological Compendium and Potential to Occur Tables

APPENDIX C
 BIOLOGICAL COMPENDIUM AND POTENTIAL TO OCCUR TABLES

| Scientific Name | Common Name | Status (Federal/State/CRPR) | Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet) | Potential to Occur |
|---|---------------------------------|-----------------------------|--|--------------------------|
| <i>Atriplex cordulata</i> var. <i>cordulata</i> | heartscale | None/None/1B.2 | Chenopod scrub, Meadows and seeps, Valley and foothill grassland; Alkaline (sometimes)/annual herb/Apr-Oct/0-1,835 | XXXX potential to occur. |
| <i>Atriplex subtilis</i> | subtle orache | None/None/1B.2 | Valley and foothill grassland; Alkaline/annual herb/(Apr)June-Sep(Oct)/130-330 | XXXX potential to occur. |
| <i>Clarkia rostrata</i> | beaked clarkia | None/None/1B.3 | Cismontane woodland, Valley and foothill grassland/annual herb/Apr-May/195-1,640 | XXXX potential to occur. |
| <i>Legenere limosa</i> | legenere | None/None/1B.1 | Vernal pools/annual herb/Apr-June/5-2,885 | XXXX potential to occur. |
| <i>Neostapfia colusana</i> | Colusa grass | FT/SE/1B.1 | Vernal pools/annual herb/May-Aug/15-655 | XXXX potential to occur. |
| <i>Orcuttia inaequalis</i> | San Joaquin Valley Orcutt grass | FT/SE/1B.1 | Vernal pools/annual herb/Apr-Sep/35-2,475 | XXXX potential to occur. |
| <i>Sphenopholis obtusata</i> | prairie wedge grass | None/None/2B.2 | Cismontane woodland, Meadows and seeps; Mesic/perennial herb/Apr-July/985-6,560 | XXXX potential to occur. |
| <i>Tuctoria greenei</i> | Greene's tuctoria | FE/SR/1B.1 | Vernal pools/annual herb/May-July(Sep)/100-3,510 | XXXX potential to occur. |

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| Row Labels | Common Name | Status (Federal/ State) | Habitat | Potential to Occur | Notes |
|---|--|-------------------------|---|--|-------|
| Amphibians | | | | | |
| <i>Ambystoma californiense</i> pop. 1 | California tiger salamander - central California DPS | FT/ST, WL | Annual grassland, valley-foothill hardwood, and valley-foothill riparian habitats; vernal pools, other ephemeral pools, and (uncommonly) along stream courses and man-made pools if predatory fishes are absent | Not expected to occur. No suitable wetland or upland habitat present on the project site and historic CNDDDB occurrences within 5 miles have been extirpated. | — |
| Birds | | | | | |
| <i>Agelaius tricolor</i> (nesting colony) | tricolored blackbird | BCC/SSC, ST | Nests near freshwater, emergent wetland with cattails or tules, but also in Himalayan blackberry; forages in grasslands, woodland, and agriculture | Not expected to nest or forage. No suitable habitat present and no CNDDDB occurrences within 5 miles. | — |
| <i>Athene cunicularia</i> (burrow sites & some wintering sites) | burrowing owl | BCC/SSC | Nests and forages in grassland, open scrub, and agriculture, particularly with ground squirrel burrows | Low potential to nest or forage. Suitable agricultural habitat exists in the vicinity but the project area is graded and does not offer optimal habitat for burrows. The closest CNDDDB occurrence is from 1994. | — |
| <i>Buteo swainsoni</i> (nesting) | Swainson's hawk | None/ST | Nests in open woodland and savanna, riparian, and in isolated large trees; forages in nearby grasslands and agricultural areas such as wheat and alfalfa fields and pasture | Not expected to nest; moderate potential to forage. There is suitable nesting habitat within the vicinity but not on the project site. There is one recent CNDDDB occurrence within 5 miles (Occ. No. 1669). | — |
| <i>Icteria virens</i> (nesting) | yellow-breasted chat | None/SSC | Nests and forages in dense, relatively wide riparian woodlands and thickets of willows, vine tangles, and dense brush | Not expected to nest or forage. The project site is outside of the species' known range. | — |
| Fishes | | | | | |
| <i>Acipenser medirostris</i> pop. 1 | green sturgeon - southern DPS | FT/None | Spawns in deep pools in large, turbulent, freshwater rivers; adults live in oceanic waters, bays, and estuaries | Not expected to occur. No suitable habitat present on the project site. | — |

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| Row Labels | Common Name | Status (Federal/ State) | Habitat | Potential to Occur | Notes |
|--|-----------------------------------|-------------------------|---|---|---|
| <i>Hypomesus transpaciêcus</i> | Delta smelt | FT/SE | Sacramento–San Joaquin Delta; seasonally in Suisun Bay, Carquinez Strait, and San Pablo Bay | Not expected to occur. No suitable habitat present on the project site. | — |
| <i>Mylopharodon conocephalus</i> | hardhead | None/SSC | Low- to mid-elevation streams in the Sacramento–San Joaquin drainage; also present in the Russian River | Not expected to occur. No suitable habitat present on the project site. | — |
| <i>Oncorhynchus mykiss irideus</i> pop. 11 | steelhead - Central Valley DPS | FT/None | Coastal basins from Redwood Creek south to the Gualala River, inclusive; does not include summer-run steelhead | Not expected to occur. No suitable habitat present on the project site. | — |
| Invertebrates | | | | | |
| <i>Branchinecta lynchi</i> | vernal pool fairy shrimp | FT/None | Vernal pools, seasonally ponded areas within vernal swales, and ephemeral freshwater habitats | Not expected to occur. Old aerial photography shows signatures of ponding, however the project site is heavily disturbed and has been graded repeatedly. There is a recent CNDDDB occurrence within 5 miles (Occ. No. 390). | Not expected if feature isn't suitable. |
| <i>Danaus plexippus</i> | monarch butterfly | FC | Closed-cone coniferous forest. Roosts located in wind-protected tree groves (eucalyptus, Monterey pine, cypress), with nectar and water sources nearby. | Not expected to occur. No suitable habitat present on the project site. | — |
| <i>Desmocerus californicus dimorphus</i> | valley elderberry longhorn beetle | FT/None | Occurs only in the Central Valley of California, in association with blue elderberry (<i>Sambucus nigra</i> ssp. <i>caerulea</i>) | Not expected to occur. No suitable habitat present on the project site. | — |
| <i>Lepidurus packardi</i> | vernal pool tadpole shrimp | FE/None | Ephemeral freshwater habitats including alkaline pools, clay flats, vernal lakes, vernal pools, and vernal swales | Not expected to occur. Old aerial photography shows signatures of ponding, however the project site is heavily disturbed and has been graded repeatedly. There is a recent CNDDDB occurrence within 5 miles (Occ. No. 156). | — |

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|------------------------------------|------------------------------------|-------------------------|--|---|-------|
| Mammals | | | | | |
| <i>Corynorhinus townsendii</i> | Townsend's big-eared bat | None/SSC | Mesic habitats characterized by coniferous and deciduous forests and riparian habitat, but also xeric areas; roosts in limestone caves and lava tubes, man-made structures, and tunnels | Not expected to occur. No suitable habitat present on the project site. | — |
| <i>Eumops perotis californicus</i> | western mastiff bat | None/SSC | Chaparral, coastal and desert scrub, coniferous and deciduous forest and woodland; roosts in crevices in rocky canyons and cliffs where the canyon or cliff is vertical or nearly vertical, trees, and tunnels | Not expected to occur. No suitable habitat present on the project site. | — |
| <i>Lasiurus blossevillii</i> | western red bat | None/SSC | Forest, woodland, riparian, mesquite bosque, and orchards, including fig, apricot, peach, pear, almond, walnut, and orange; roosts in tree canopy | Low potential to occur. Suitable trees and buildings for roosting are present in the adjacent orchards but not on the project site. | — |
| Reptiles | | | | | |
| <i>Anniella pulchra</i> | northern California legless lizard | None/SSC | Coastal dunes, stabilized dunes, beaches, dry washes, valley-foothill, chaparral, and scrubs; pine, oak, and riparian woodlands; associated with sparse vegetation and sandy or loose, loamy soils | Not expected to occur. The project site is heavily disturbed and has been graded recently. There is one recent CNDDDB occurrence within 5 miles (Occ. No. 126). | — |
| <i>Emys marmorata</i> | western pond turtle | None/SSC | Slow-moving permanent or intermittent streams, ponds, small lakes, and reservoirs with emergent basking sites; adjacent uplands used for nesting and during winter | Not expected to occur. No suitable habitat present on the project site. | — |

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Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database



Query Criteria: Quad

| Species | Element Code | Federal Status | State Status | Global Rank | State Rank | Rare Plant Rank/CDFW SSC or FP |
|---|--------------|----------------|--------------|-------------|------------|--------------------------------|
| <i>Acipenser medirostris pop. 1</i> green sturgeon - southern DPS | AFCAA01031 | Threatened | None | G2T1 | S1 | |
| <i>Agelaius tricolor</i> tricolored blackbird | ABPBXB0020 | None | Threatened | G1G2 | S1S2 | SSC |
| <i>Ambystoma californiense pop. 1</i> California tiger salamander - central California DPS | AAAAA01181 | Threatened | Threatened | G2G3T3 | S3 | WL |
| <i>Anniella pulchra</i> Northern California legless lizard | ARACC01020 | None | None | G3 | S3 | SSC |
| <i>Ardea herodias</i> great blue heron | ABNGA04010 | None | None | G5 | S4 | |
| <i>Athene cunicularia</i> burrowing owl | ABNSB10010 | None | None | G4 | S3 | SSC |
| <i>Atriplex cordulata var. cordulata</i> heartscale | PDCHE040B0 | None | None | G3T2 | S2 | 1B.2 |
| <i>Atriplex subtilis</i> subtle orache | PDCHE042T0 | None | None | G1 | S1 | 1B.2 |
| <i>Bombus caliginosus</i> obscure bumble bee | IIHYM24380 | None | None | G2G3 | S1S2 | |
| <i>Bombus crotchii</i> Crotch bumble bee | IIHYM24480 | None | None | G2 | S1S2 | |
| <i>Bombus occidentalis</i> western bumble bee | IIHYM24250 | None | None | G2G3 | S1 | |
| <i>Branchinecta lynchi</i> vernal pool fairy shrimp | ICBRA03030 | Threatened | None | G3 | S3 | |
| <i>Branta hutchinsii leucopareia</i> cackling (=Aleutian Canada) goose | ABNJB05035 | Delisted | None | G5T3 | S3 | WL |
| <i>Buteo swainsoni</i> Swainson's hawk | ABNKC19070 | None | Threatened | G5 | S3 | |
| <i>Clarkia rostrata</i> beaked clarkia | PDONA050Y0 | None | None | G2G3 | S2S3 | 1B.3 |
| <i>Corynorhinus townsendii</i> Townsend's big-eared bat | AMACC08010 | None | None | G4 | S2 | SSC |
| <i>Desmocerus californicus dimorphus</i> valley elderberry longhorn beetle | IICOL48011 | Threatened | None | G3T2T3 | S3 | |



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 |
|---|---------------------|-----------------------|---------------------|--------------------|-------------------|---------------------------------------|
| <i>Egretta thula</i> snowy egret | ABNGA06030 | None | None | G5 | S4 | |
| <i>Emys marmorata</i> western pond turtle | ARAAD02030 | None | None | G3G4 | S3 | SSC |
| <i>Eumops perotis californicus</i> western mastiff bat | AMACD02011 | None | None | G4G5T4 | S3S4 | SSC |
| <i>Gonidea angulata</i> western ridged mussel | IMBIV19010 | None | None | G3 | S1S2 | |
| <i>Icteria virens</i> yellow-breasted chat | ABPBX24010 | None | None | G5 | S3 | SSC |
| <i>Lasiurus blossevillii</i> western red bat | AMACC05060 | None | None | G4 | S3 | SSC |
| <i>Lasiurus cinereus</i> hoary bat | AMACC05030 | None | None | G3G4 | S4 | |
| <i>Legenere limosa</i> legenere | PDCAM0C010 | None | None | G2 | S2 | 1B.1 |
| <i>Lepidurus packardii</i> vernal pool tadpole shrimp | ICBRA10010 | Endangered | None | G4 | S3S4 | |
| <i>Lytta moesta</i> moestan blister beetle | IICOL4C020 | None | None | G2 | S2 | |
| <i>Mylopharodon conocephalus</i> hardhead | AFCJB25010 | None | None | G3 | S3 | SSC |
| <i>Myotis yumanensis</i> Yuma myotis | AMACC01020 | None | None | G5 | S4 | |
| <i>Neostaphia colusana</i> Colusa grass | PMPOA4C010 | Threatened | Endangered | G1 | S1 | 1B.1 |
| <i>Oncorhynchus mykiss irideus pop. 11</i> steelhead - Central Valley DPS | AFCHA0209K | Threatened | None | G5T2Q | S2 | |
| <i>Orcuttia inaequalis</i> San Joaquin Valley Orcutt grass | PMPOA4G060 | Threatened | Endangered | G1 | S1 | 1B.1 |
| <i>Rhaphiomidas trochilus</i> San Joaquin Valley giant flower-loving fly | IIDIP05010 | None | None | G1 | S1 | |
| <i>Sphenopholis obtusata</i> prairie wedge grass | PMPOA5T030 | None | None | G5 | S2 | 2B.2 |
| <i>Tuctoria greenei</i> Greene's tuctoria | PMPOA6N010 | Endangered | Rare | G1 | S1 | 1B.1 |

Record Count: 35

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

Stanislaus 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 species¹ and their critical habitats are managed by the [Ecological Services Program](#) of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries²).

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

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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:

Amphibians

| NAME | STATUS |
|--|------------|
| California Tiger Salamander <i>Ambystoma californiense</i> There is final critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/2076 | Threatened |

Fishes

| NAME | STATUS |
|---|------------|
| Delta Smelt <i>Hypomesus transpacificus</i> Wherever found There is final critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/321 | Threatened |

Insects

| NAME | STATUS |
|--|------------|
| Monarch Butterfly <i>Danaus plexippus</i> Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9743 | Candidate |
| Valley Elderberry Longhorn Beetle <i>Desmocerus californicus dimorphus</i> Wherever found There is final critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/7850 | Threatened |

Crustaceans

| NAME | STATUS |
|------|--------|
|------|--------|

Vernal Pool Fairy Shrimp *Branchinecta lynchi* Threatened

Wherever found

There is **final** critical habitat for this species. Your location does not overlap the critical habitat.

<https://ecos.fws.gov/ecp/species/498>

Vernal Pool Tadpole Shrimp *Lepidurus packardii* Endangered

Wherever found

There is **final** critical habitat for this species. Your location does not overlap the critical habitat.

<https://ecos.fws.gov/ecp/species/2246>

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.

Migratory birds

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

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

1. The [Migratory Birds Treaty Act](#) of 1918.
2. The [Bald and Golden Eagle Protection Act](#) of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern <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 |
|--|-------------------------|
| <p>Bald Eagle <i>Haliaeetus leucocephalus</i></p> <p>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.</p> | Breeds Jan 1 to Aug 31 |
| <p>Belding's Savannah Sparrow <i>Passerculus sandwichensis beldingi</i></p> <p>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</p> | Breeds Apr 1 to Aug 15 |
| <p>Bullock's Oriole <i>Icterus bullockii</i></p> <p>This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA</p> | Breeds Mar 21 to Jul 25 |
| <p>Lawrence's Goldfinch <i>Carduelis lawrencei</i></p> <p>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9464</p> | Breeds Mar 20 to Sep 20 |

| | |
|---|--------------------------------|
| <p>Nuttall's Woodpecker <i>Picoides nuttallii</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9410</p> | <p>Breeds Apr 1 to Jul 20</p> |
| <p>Oak Titmouse <i>Baeolophus inornatus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9656</p> | <p>Breeds Mar 15 to Jul 15</p> |
| <p>Olive-sided Flycatcher <i>Contopus cooperi</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3914</p> | <p>Breeds May 20 to Aug 31</p> |
| <p>Tricolored Blackbird <i>Agelaius tricolor</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3910</p> | <p>Breeds Mar 15 to Aug 10</p> |
| <p>Western Grebe <i>Aechmophorus occidentalis</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/6743</p> | <p>Breeds Jun 1 to Aug 31</p> |
| <p>Wrentit <i>Chamaea fasciata</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p> | <p>Breeds Mar 15 to Aug 10</p> |
| <p>Yellow-billed Magpie <i>Pica nuttalli</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9726</p> | <p>Breeds Apr 1 to Jul 31</p> |

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.

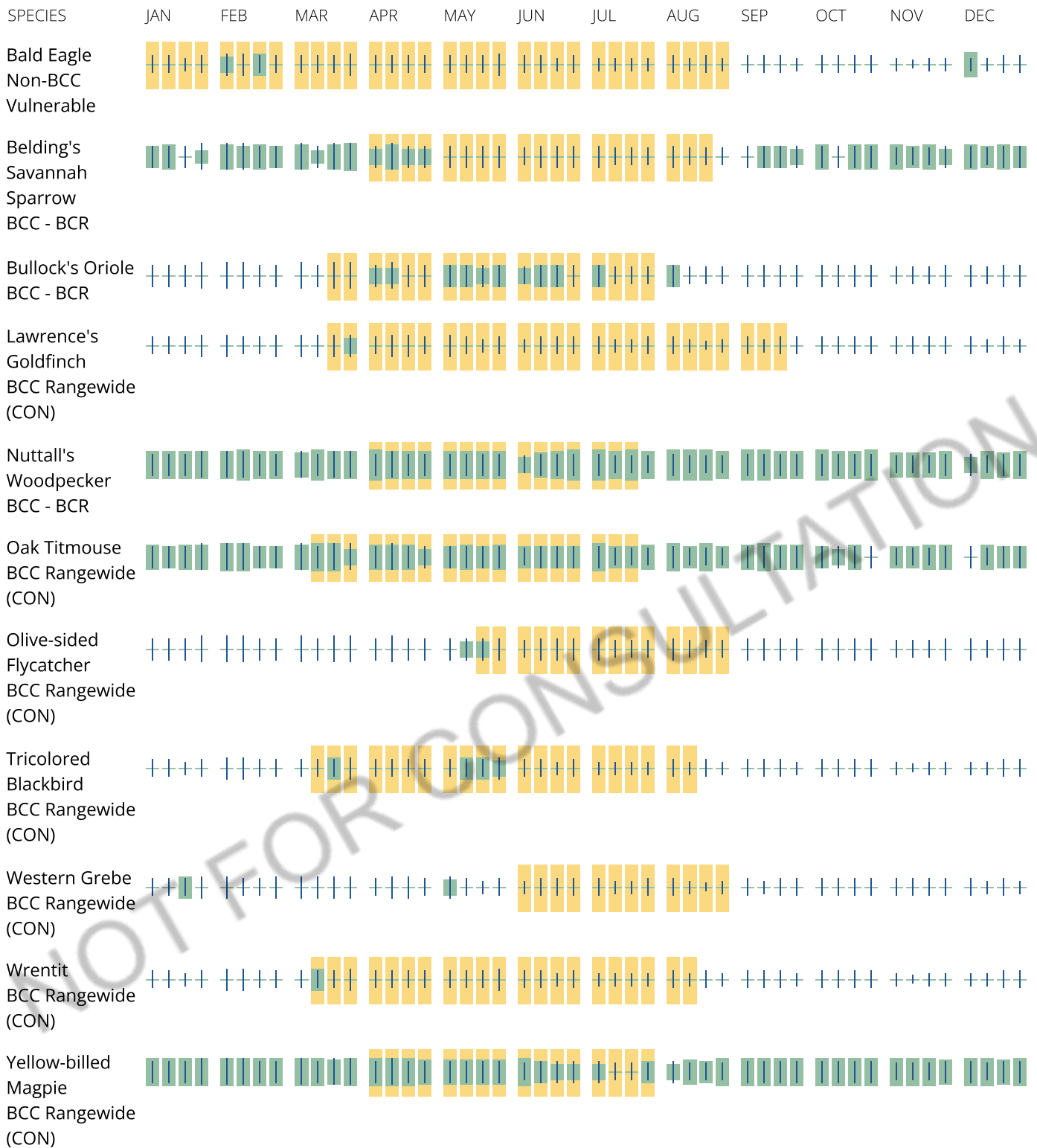
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

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 to 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.

Coastal Barrier Resources System

Projects within the [John H. Chafee Coastal Barrier Resources System](#) (CBRS) may be subject to the restrictions on federal expenditures and financial assistance and the consultation requirements of the Coastal Barrier Resources Act (CBRA) (16 U.S.C. 3501 et seq.). For more information, please contact the local [Ecological Services Field Office](#) or visit the [CBRA Consultations website](#). The CBRA website provides tools such as a flow chart to help determine whether consultation is required and a template to facilitate the consultation process.

There are no known coastal barriers at this location.

Data limitations

The CBRS boundaries used in IPaC are representations of the controlling boundaries, which are depicted on the [official CBRS maps](#). The boundaries depicted in this layer are not to be considered authoritative for in/out determinations close to a CBRS boundary (i.e., within the "CBRS Buffer Zone" that appears as a hatched area on either side of the boundary). For projects that are very close to a CBRS boundary but do not clearly intersect a unit, you may contact the Service for an official determination by following the instructions here: <https://www.fws.gov/service/coastal-barrier-resources-system-property-documentation>

Data exclusions

CBRS units extend seaward out to either the 20- or 30-foot bathymetric contour (depending on the location of the unit). The true seaward extent of the units is not shown in the CBRS data, therefore projects in the offshore areas of units (e.g., dredging, breakwaters, offshore wind energy or oil and gas projects) may be subject to CBRA even if they do not intersect the CBRS data. For additional information, please contact CBRA@fws.gov.

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