



COASTAL BIOLOGICAL RESOURCES REPORT

**Aaron's Beach Inn
4150 N. Cabrillo Highway
Half Moon Bay, CA**

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TABLE OF CONTENTS

1.0 INTRODUCTION 1

2.0 METHODS..... 1

3.0 RESULTS 3

 3.1 Soils 3

 3.2 Hydrology 3

 3.3 Habitats and Land Cover Types 4

 3.4 Sensitive Habitat Areas..... 7

 3.5 Special Status Species..... 8

4.0 DISCUSSION AND RECOMMENDATIONS 10

 4.1 Discussion of Impacts 12

 4.2 Avoidance and Minimization Measures 13

5.0 REFERENCES 14

LIST OF APPENDICES

Appendix A – Project Figures

 Figure 1. Project Location

 Figure 2. Sensitive Habitats

 Figure 3. CNDDDB Plant Occurrences Within 5 Miles

 Figure 4. CNDDDB Wildlife Occurrences Within 5 Miles

Appendix B – Site Photographs

Appendix C – Database Search Results

Appendix D – Observed Species Tables

LIST OF ACRONYMS AND ABBREVIATIONS

CDFG/CDFW	California Department of Fish and Game/Wildlife
CESA	California Endangered Species Act
CNDDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CRLF	California Red-legged Frog
ESA	Federal Endangered Species Act
ESHA	Environmentally Sensitive Habitat Areas
LCLUP	Local Coastal Land Use Plan
MBTA	Migratory Bird Treaty Act
NRCS	Natural Resources Conservation Service
NWPL	National Wetland Plant List
SFGS	San Francisco Garter Snake
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey

1.0 INTRODUCTION

In accordance with the requirements of Half Moon Bay Municipal Zoning Code Chapter 18.38 and the California Coastal Act, the purpose of the assessment is to identify coastal biological resources, including riparian corridors and coastal wetlands on or within 200 feet of the property located at 4150 North Cabrillo Highway, Half Moon Bay (APNs 047-252-280 and 047-252-290 at) that may be present and/or subject potential direct or indirect effects of the proposed project. The proposed project includes the construction of a new 20 room hotel and associated appurtenances, including a swimming pool, landscaping, and a new walking path connecting the hotel to the existing Coastal Trail, and landscaping along the coastal bluff area.

Project Site: APNs 047-252-280 and 047-252-290 at 4150 North Cabrillo Highway, Half Moon Bay, California where the proposed project will occur

Project Study Area: includes a 200-foot buffer from the Project Site

The surrounding area consists primarily of commercial, residential, and coastal recreational land uses. The parcel is zoned as “Commercial, Visitor Serving (C-VS)”. Immediately adjacent parcels to the west, east, and south are zoned by the City of Half Moon Bay as “Open Space-Active (OS-A)”. To the north, parcels are zoned by the County of San Mateo as “Open Space, Open Space with Park Overlay”.

2.0 METHODS

On April 11, 2025, Sol Ecology biologists conducted a biological resources study of the Project Study Area (Appendix A, Figure 1). Prior to the site visit, a desktop analysis was performed to evaluate whether special status species or other sensitive biological resources (e.g., wetlands) could occur in the Project Study Area and vicinity. Sol Ecology biologists reviewed the following:

- Half Moon Bay Local Coastal Land Use Plan (LCLUP), Chapter 6: Natural Resources (Huffman-Broadway 2020)
- California Native Plant Society’s (CNPS’s) A Manual of California Vegetation Online Edition (CNPS 2025a)
- U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory, Wetlands Mapper (USFWS 2025a)
- U.S. Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS), Web Soil Survey for San Mateo County (USDA 2011)
- CNPS’s Rare Plant Inventory search for U.S. Geological Survey (USGS) 7.5-minute Montara Mountain quadrangle and five adjacent quadrangles (CNPS 2025b)
- California Natural Diversity Database (CNDDDB) search for USGS 7.5-minute Montara Mountain quadrangle and five adjacent quadrangles (CDFW 2025)
- USFWS Information for Planning and Conservation (IPaC) Species Lists (USFWS 2025b)
- California Department of Fish and Game (CDFG) publication “California’s Wildlife, Volumes I-III” (Zeiner et al. 1990)

- CDFG publication *California Bird Species of Special Concern* (Shuford and Gardali 2008)
- California Department of Fish and Wildlife (CDFW) and University of California Press publication *California Amphibian and Reptile Species of Special Concern* (Thomson et al. 2016)
- *A Field Guide to Western Reptiles and Amphibians* (Stebbins 2003)
- Western Bat Working Group Online Species Accounts (WBWG 2015)

Sol Ecology biologists performed a biological study and reconnaissance-level surveys for Environmentally Sensitive Habitat Areas (ESHA) within the Project Study Area. The LCLUP defines ESHA as any areas in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments (Huffman-Broadway 2020). In addition, the surveys focused on determining whether suitable habitat elements for special status species (including those listed in the LCLUP) documented in the surrounding vicinity are present within the Project Study Area or not and whether the project would have the potential to result in impacts to any of these species and/or their habitats either on- or off-site.

In cases where little information is known about species occurrences and habitat requirements, the species evaluation was based on the best professional judgment of Sol Ecology biologists with experience working with the species and habitats. If a special-status species is observed during the site visit, its presence is recorded and discussed. For some threatened and endangered species, a site survey at the level conducted for this report may not be sufficient to determine presence or absence of a species to the specifications of regulatory agencies.

The Project Study Area was surveyed to determine if any wetlands and waters are present. Coastal wetlands are defined as an area where the water table is at, near, or above the land surface long enough to bring about the formation of hydric soils or to support the growth of plants which normally are found to grow in water or wet ground (also known as hydrophytic) (Huffman-Broadway 2020; USFWS 1993). The preliminary assessment of wetland waters was based on the presence/absence of indicators of hydrophytic vegetation, hydric soil, and wetland hydrology. A preliminary waters assessment was based on the presence of unvegetated, ponded areas or flowing water, or evidence indicating their presence such as a high-water mark or a defined drainage course. The wetland/waters assessment was performed in accordance with the U.S. Army Corps of Engineers (USACE) 3-parameter approach based on the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region* (Version 2.0) (USACE 2010). A preliminary wetlands and waters assessment was performed in lieu of a formal wetlands delineation. All wetlands exhibiting at least one parameter were identified and mapped.

Location data was collected using a “Bad Elf – Flex” Global Positioning System (GPS) Receiver with sub-meter accuracy. However, due to the dense eucalyptus canopy interrupting GPS signal, collecting data with acceptable levels of accuracy was difficult. Where accurate data could not

be obtained, aerial imagery from multiple sources and publicly available data was analyzed and used for mapping biological resources.

3.0 RESULTS

The Project Study Area is in the City of Half Moon Bay in an area that has a combination of commercial and medium density housing developments, bordered on the north side of the property by Highway 1 and by Pillar Point Harbor Beach on the south side. Photographs of the Project Study Area are included in Appendix B.

3.1 Soils

One soil map unit is present within the Project Study Area:

- **Denison loam, gently sloping (DmB):** This soil map unit consists of soils that are very deep and moderately well drained. The soil is derived from moderately fine textured granitic alluvium. Denison soils tend to occur on low terraces and alluvial plains adjacent to the coast throughout central California. The natural vegetation that this soil historically supports consists predominantly of coastal grassland and coastal prairie. Where Denison soils occur, the majority of the land has been used for cultivation and agriculture, particularly used for growing artichokes, Brussels sprouts, cabbage, sugar beets, and ornamental flowers. Minor components include Farallone (5%), Elkhorn (5%) and Miramar (5%). Denison loam is not rated as hydric.

Elevation within the Project Study Area ranges from 5.5 to 6.0 meters (18 to 20 feet).

3.2 Hydrology

Coastal wetland indicators were not observed at the time of the assessment. Southwest of the Project Site, a small amount of the marine (bay) open water habitat is present.

A manmade roadside ditch (excavated in upland) parallel to Cabrillo Highway originates at the northeast corner of the Project Site and ends approximately 380 feet to the southeast, outside of the Project Study Area. The source of hydrology for this feature includes precipitation resulting in upland sheet flow (stormwater runoff) from Cabrillo Highway and surrounding development. This feature supports an ephemeral hydrologic regime and flows in a southeasterly direction along a grassy ditch that is approximately 3-4 feet wide and 1 foot deep and appears to enter an underground stormwater conveyance system located at the northeast corner of the Beach House Hotel (outside of the Project Study Area); thus, the outlet for this feature could not be determined from the field investigation. As described previously, the underlying soils for this feature is Denison loam, which is not rated as a hydric soil (USGS 2025). Vegetative composition within this feature is characterized by upland ruderal species, which is described in detail in the following section. The combination of hydrologic regime (ephemeral – conveying storm water) and vegetation composition indicates that the manmade roadside ditch within the Project Study

Area likely does not support sufficient hydrologic inundation during the growing period to support hydrophytic vegetation or the formation of hydric soil indicators. This feature is not mapped on Figure 6-2 of the LCLUP as an “ephemeral and man-made drainage ditches that is potentially ESHA and/or potentially jurisdictional”. In addition, this feature does not serve a rare or especially valuable role in an ecosystem since it does not have potential to support special status species (see discussion in Section 3.5); therefore, this is not a non-riparian watercourse ESHA as defined in the LCLUP (page 6-36).

3.3 Habitats and Land Cover Types

Prior to coastal development, there may have been intact coastal prairie and sand dune habitat present along the coastal margins, bluffs and headlands; however, these habitats are no longer present within the boundaries of the Project Study Area. The long-term indications of regular anthropic disturbance over time can be observed by the nature of the plant species that have come to dominate the site. Nearly all of the species observed within the Project Study Area are non-native, early successional species that are ubiquitous in disturbed conditions where there is no competition with native plant assemblages and/or in-tact habitat that would hinder opportunities for rapid and widespread recruitment.

Developed/Ruderal

The majority of the Project Study Area consists of developed (hardscaped) and ruderal habitat (anthropically disturbed ruderal habitat characterized by nonnative forbs); the Project Site is entirely ruderal habitat.

Developed areas within the Project Study Area consist of Cabrillo Highway to the north, paved parking lots and buildings to the east and west, and a paved trail to the south; these areas are inclusive of ornamental plants associated with the buildings. Ruderal habitat is located to the north of the Cabrillo Highway.

Currently, the northern portion of the Project Site consists of is largely devoid of vegetation and is used as a parking lot; this current use began sometime between July 2020 and September 2020 based on review of aerial imagery (Google Earth 2025). Previous field examination of this site in July 2018 by Sol Ecology¹ and June 2020 by SWCA (prior to use as a parking lot) documented lollypop tree (*Myoporum laetum*)[†], pride of madeira (*Echium candicans*)[†], Monterey cypress (*Hesperocyparis macrocarpa*)[†], New Zealand Christmas tree (*Metrosideros excelsa*)[†], with understory species consisting of nonnative grasses and forbs. This includes slim oat (*Avena barbata*)[†], riggut brome (*Bromus diandrus*)[†], wild radish (*Raphanus sativus*)[†], field bindweed (*Convolvulus arvensis*)^{‡§}, pampas grass (*Cortaderia jubata*)^{‡§}, bristly ox-tongue (*Helminthotheca echioides*)[§], soft chess (*Bromus hordeaceus*)[§], curly dock (*Rumex crispus*)[§], and Italian rye grass

¹ This effort was part of a due diligence study for a prospective buyer who ultimately did not purchase this property. No report was prepared; documentation includes field notes (photos, plant list, and other observations).

[§] Sol Ecology plant observations

[†] SWCA plant observations

(*Festuca perennis*)⁵. Following land use shift to parking lot, recent (April 2025) field observations of plant species include small patches of early successional forbs are present along the margins of the lot, including pineapple weed (*Matricaria discoidea*), ribwort (*Plantago lanceolata*), wild geranium (*Geranium dissectum*) and bur clover (*Medicago polymorpha*). Along the northern boundary, against the existing chain-link fence, there is a narrow band of non-native grasses (such as slim oat, soft chess and foxtail barley) and a lone, relatively stunted individual of coffee berry (*Frangula californica*), a native shrub. Field observations from all three years (2018, 2020, and 2025) provide a consistent characterization of the vegetation assemblage for this area – that it is dominated by ruderal vegetation in the herbaceous stratum and ornamental species in the shrub/tree strata. See Appendix B for photos from 2018 and 2025.

The southern extent is dominated by an assemblage of non-native grasses and forbs including pampas grass, slim oat, upright veldt grass (*Ehrharta erecta*), foxtail barley (*Hordeum murinum*), rigput brome, soft chess, smooth cat's ear (*Hypochaeris glabra*), common groundsel (*Senecio vulgaris*), crown daisy (*Glebionis coronaria*), black mustard (*Brassica rapa*), jointed charlock (*Raphanus sativus*), coastal heron's bill (*Erodium cicutarium*), dwarf mallow (*Malva neglecta*), scarlet pimpernel (*Lysimachia arvensis*) and Bermuda buttercup (*Oxalis pes-caprae*). A row of the ornamental shrub ngaio (*Myoporum laetum*) is planted along the southwestern margins of the parcel boundary, below the bluff. The vegetation community present within the Project Site is best characterized as ruderal habitat, which does not have any global or state rankings, and is not listed as sensitive by CDFW.

A bluff is located within the southern portion of the Project Site where ruderal habitat is located; bluff, cliff, and sea-cliff features are defined in the Half Moon Bay Municipal Code Section 18.38.020(C)(1)² as: "A bluff or cliff is a scarp or a steep face of rock, decomposed rock, sediment or soil resulting from erosion, faulting, or folding of the land mass with a vertical relief of ten feet or more." The extent of this feature is further identified in 18.38.020(C)(3): "Bluff-edge or cliff-edge is defined as the upper termination of a bluff, cliff, or sea-cliff. [...] Where the top edge of the cliff is a step-like feature, the landward edge of the topmost riser shall be considered the cliff edge." This feature as shown on **Figure 2** is mapped according to the definition in 18.38.020(C)(3).

Although the Project Study Area contains bluffs as defined by the municipal code, it does not fit the definitions of "sea cliff" and "coastal terrace prairie" as described in the LCLUP since it does not "... support species found in Central Coast Scrub..." or have "...at least 10 percent cover of native grasses and less than 25 percent cover of shrub," in addition to not being mapped as this feature type in Figure 6-1 or 6-2 of the LCLUP. However, developed/ruderal areas within the Project Study Area are consistent with the definitions of "non-native grassland," "ruderal," "landscaped," and "developed/urban" as described in the LCLUP. The referenced LCLUP habitat definitions are as follows:

² <https://www.codepublishing.com/CA/HalfMoonBay/html/HalfMoonBay18/HalfMoonBay1838.html#18.38.020>

Sea cliff. Where present, sea cliffs were mapped as areas of steep slope in the interface between the marine environment and land-based habitats. Sea cliffs are exposed to wind and waves and are largely devoid of vegetation in steep areas due to erosion but may support species found in Central Coast Scrub. These areas may provide refuge or nesting habitat for migratory and resident water-associated birds.

Coastal terrace prairie. Coastal Terrace Prairie is a rare, species-rich habitat type occurring along the California Coast comprised of a combination of grasslands, wetlands and scrub habitat. Within the Planning Area, Coastal Terrace Prairie occurs on blufftops in the vacant fields west of Railroad Avenue and within Wavecrest and contains a highly variable mixture of native perennial grasses and forbs, native and non-native annual forbs, and non-native grasses. This habitat type is also supportive of raptor foraging. Native species found in this habitat type include maritime brome (*Bromus maritimus*), California oat grass (*Danthonia californica*), meadow barley (*Hordeum brachyantherum*), and perennial goldfields (*Lasthenia californica* ssp. *macrantha*), a special status species (CRPR 1B.2). The areas mapped as coastal terrace prairie in Figures 6-1 and 6-2 are well-developed with a presence of distinctive coastal terrace prairie flora and composition of at least 75 percent native species. It is likely that there are additional areas that could be delineated as coastal terrace prairie, based on the Coastal Commission's guidance to define coastal terrace prairie as areas with at least 10 percent cover of native grasses and less than 25 percent cover of shrubs.

Non-native grassland. Non-native grasslands are composed of annual grasses with annual and perennial forbs, especially in years of favorable rainfall. This community provides foraging habitat for a variety of wildlife species, including raptors and small mammals, and provides nesting sites for birds. Grassland may provide upland habitat for California red-legged frog.

Ruderal. Ruderal habitats are characterized by a lack of vegetation or are dominated by non-native and invasive weedy plant species. Ruderal habitats often occur along roadsides and fence lines, near developments, and in other areas experiencing severe surface disturbance. The wildlife habitat values provided by this community generally include species adapted to urban environments.

Landscaped. Landscaped habitats occur in association with developed land uses and are planted vegetative communities primarily consisting of ornamental plantings and lawns. Mapped landscaped habitats include parks, cemeteries, and golf courses. Wildlife species adapted for life urban environments can be found in these habitats.

Developed/urban. Developed/urban habitat is found in regularly and highly disturbed areas, including areas that have been developed. These areas are not likely to support special status species due to the high level of disturbance and human activity; however, they may support nesting birds.

3.4 Sensitive Habitat Areas

Sand Dunes and Central Dune Scrub

Degraded sand dune/central dune scrub habitat is in the southern portion of the Project Study Area, positioned between the paved walking path and the Pillar Point Harbor Beach. The sand dune habitat located south of the Project Study Area consists largely of foredune habitat and is sparsely vegetated due to factors such as recreational foot traffic, erosion and substrate mobility, high wind and salt spray. This habitat is degraded due to the proximity to high-trafficked, developed areas and the presence and abundance of non-native, invasive species such as ice plant (*Carpobrotus edulis*), pig's-root (*Conicosia pugioniformis*), Perez's sea lavender (*Limonium perezii*), European sea rocket (*Cakile maritima*), and New Zealand spinach (*Tetragonia tetragonoides*). Patches of native species like yellow sand verbena (*Abronia latifolia*), willow leaved dock (*Rumex salicifolius*), silver beachweed (*Ambrosia chamissonis*), and seaside daisy (*Erigeron glaucus*) are present in areas that receive less foot traffic. This area is mapped as Central Dune Scrub in Figure 6-1 and Dune Habitat in Figure 6-2 of the LCLUP, and is defined as follows:

Central dune scrub. Central Dune Scrub occurs in areas of sand accumulation, generally forming a dense coastal scrub community of shrubs, subshrubs, and herbs. Typical species in this habitat include Coastal sagewort (*Artemisia pycnocephala*), Yellow Bush lupine (*Lupinus arboreus*), lizard tail (*Eriophyllum staechadifolium*), coyote brush (*Baccharis pilularis* ssp. *pilularis*), and California goldenbrush (*Ericameria ericoides*). Dune habitat, including degraded dunes, are mapped in Figure 6-1 to include the Central Dune Scrub vegetative community and foredunes free of vegetation to the base of the slope based on topographic information. This dune system in Half Moon Bay supports the federally listed Western Snowy Plover.

Generally, sand dunes are dynamic systems that are heavily influenced by surrounding geographic and hydrologic settings. Due to large scale coastal development over the past century, remaining in-tact, extensive dune systems are increasingly rare throughout California. Contiguous area running perpendicular to the coastline is required for the formation of foredune, aft dune, and backdune habitat to become established as substrate (sand) is moved across the landscape due to wind, wave and tidal action. Vegetation assemblage in sand dune systems is largely driven by tolerance to localized abiotic factors such as wind and salt spray. Many of the plant species that are endemic to coastal dune habitat in California require conditions found in the more extensive, topographically dynamic and protected backdune microhabitat. Backdunes form where sand is able to migrate to the relative interior of the immediate coast and are formed in the protected aft side of the dunes immediately facing the ocean. Coastal development, road building and other anthropic recreation and activity have heavily impacted coastal dune systems across virtually all of California. Coastal dunes, if present around recreational beaches, are generally highly disturbed (anthropically), consisting of only the immediate foredune habitat, and lacking the spatial opportunity for sand to migrate and develop more complex backdune systems over time. Vegetation in foredune areas, if present, generally consist of opportunistic, non-native species such as European sea rocket, ice plant, and New Zealand spinach. Where there are

relatively stable areas less subject to recreational impact, some disturbance-tolerant native species can be found, including beach suncup (*Camissoniopsis cheiranthifolia*), silver beachweed, yellow sand verbena and beach strawberry (*Fragaria chiloensis*). Native species such as coyote brush (*Baccharis pilularis*) and coastal bush lupine (*Lupinus arboreus*) can become established in relatively disturbed dune habitat where there is less direct exposure to wind and salt spray, and ample vegetation (native or non-native) to stabilize the substrate in localized patches. The native American lyme grass (*Leymus mollis*), an ecologically important species that facilitates stabilization along the crest of foredune habitat in central and northern California, has been largely replaced by European marram grass (*Calamagrostis arenaria*) throughout much of the dune habitat that it formerly inhabited.

Marine Environment

Marine habitat is located within the southwestern portion of the Project Study Area – open water associated with the Pillar Point Harbor/Pacific Ocean and the intertidal zone (sandy beach) known as the Pillar Point Harbor Beach. Marine habitat is designated as a sensitive habitat area based on Half Moon Bay Municipal Code Section 18.38.020(A). This area is mapped as Marine Environment in Figure 6-1 and 6-2 of the LCLUP, and is defined as follows:

Marine environment. The marine environment was mapped as defined by the USFWS Classification of Wetlands and Deepwater Habitats of the United States (Cowardin et al 1979) as follows: “The marine system consists of the open ocean overlying the continental shelf and its associated high energy coastline.” Thus, the marine environment was mapped to include areas of ocean, sandy beach, and small estuaries at the mouths of major creeks. Wildlife found in the marine environment includes shorebirds, seabirds, and marine mammals such as harbor seals, sea otters, whales, and dolphins. Sandy beaches in the Planning Area have the potential to support foraging, nesting, and wintering activities of the Western Snowy Plover (*Charadrius alexandrinus nivosus*).

3.5 Special Status Species

Special Status Plants

Special-status species include those plant species that have been formally listed, are proposed as endangered or threatened, or are candidates for such listing under the Federal Endangered Species Act (ESA) or California Endangered Species Act (CESA). These acts afford protection to both listed species and those that are formal candidates for listing. Plant species on the California Native Plant Society (CNPS) Rare and Endangered Plant Inventory with California Rare Plant Ranks (Rank) of 1 and 2 are also considered special-status plant species. CDFW Species of Special Concern, CDFW California Fully Protected species, USFWS Birds of Conservation Concern, and CDFW Special-status Invertebrates are all considered special-status species. Furthermore, CDFG Fish and Game Code and the Migratory Bird Treaty Act (MBTA) prohibits the take of actively nesting birds as well as common bats and their roosts (CDFG Code only). Lastly, special status species in this report include all rare or unique species listed in the LCLUP.

Twenty-four (24) special status plant species have been documented within five miles of the Project Study Area (Appendix A, Figure 3 and Appendix C, Summary Table Report). Of these, no special status plant species have potential to occur in the Project Study Area. Plant species identified in the database review or in the Half Moon Bay LCLUP are not likely to occur on the Project Study Area due to the disturbance regime present within the Project Study Area or the absence of suitable habitat elements or vegetation communities including forest or woodland, valley and foothill grassland, chaparral, coastal scrub, meadows and seeps, and marshes and swamps.

Evidence of a persistent native seed bank was not observed, given the lack of native annual plants that can emerge, even under high levels of competition from invasive plant species.

While there is sand dune habitat within the Project Study Area, the current disturbance regime precludes special status plant species typically found in this habitat. For example, Blasdale's bent grass (*Agrostis blasdalei*) is a perennial grass typically found in more in-tact, stable and minimally disturbed backdune and scrub portions of coastal bluff type habitat, where there is ample vegetation to locally stabilize the sand – this allows for greater moisture retention, soil accumulation, and erosion control. The sand dune habitat located in Project Study Area is low-quality dune habitat, as it is subject to heavy recreational foot traffic, is sparsely vegetated, and lacks a more dynamic dune vegetation assemblage (ex: foredunes, backdunes, aft dunes, etc.), which would hinder the establishment of many species associated with coastal sand dune habitat. The dunes are primarily foredunes, which are heavily impacted and shaped by factors such as direct wind, waves, salt spray, substrate mobility, competition from non-native plant species, and tidal action.

Special Status Wildlife

Eleven (11) special status wildlife species have been documented within five miles of the Project Study Area (Appendix A, Figure 4 and Appendix C, Database Summary Table Report). Of these, no special status wildlife species have potential to occur within the Project Study Area. Generally, the Project Study Area's overall disturbed quality and high pedestrian traffic precludes most special status species that have potential to occur within the sand dune and marine environment habitats.

One federal and one federal and state listed species, California red-legged frog and San Francisco gartersnake, are known to occur in the vicinity of Half Moon Bay and are known to travel large distances overland. However, these species are unlikely to occur in the Project Study due to a lack of suitable aquatic habitat within the Project Study Area and due to a lack of connectivity with suitable aquatic habitats within dispersal distance. Federal listed butterfly species which may potentially occur in coastal grassland habitats, such as San Bruno elfin butterfly and mission blue butterfly, are not likely to occur within the Project Study Area due to a lack of the species' required host plants and lack of their preferred nectar plants. The sandy beach and coastal dune habitat within the Project Study Area potentially provides overwintering and possibly breeding

habitat for western snowy plovers. However, there is low potential for this species to occur since this species is highly sensitive to human disturbance and the existing foot traffic within the coastal dune and sandy beach habitat within the Project Study Area would likely preclude this species from nesting at this location, in addition to habitat fragmentation resulting from coastal development.

The Project Study Area has the potential to support nesting birds protected under the MBTA and CDFG Code.

No evidence of other special status species was observed within or adjacent to the Project Study Area, such as egret or heron rookies, osprey or seabird nest habitat, or smelt spawning areas. Sandy beaches (Marine Environment) in Half Moon Bay have the potential to serve as haul-out areas for marine mammals. However, due to the high volume of pedestrian traffic and recreation activity, beaches within the Project Study Area are not likely to serve as haul-out sites.

4.0 DISCUSSION AND RECOMMENDATIONS

This section describes the existing environmental conditions in and near the Project Study Area and evaluates environmental impacts associated with the proposed project. The environmental checklist, as recommended in the CEQA Guidelines Appendix G, was used to identify environmental impacts that could occur if the proposed project is implemented.

Each of the environmental categories was fully evaluated, and one of the following four determinations was made for each checklist question:

“No Impact” means that no impact to the resource would occur as a result of implementing the project.

“Less than Significant Impact” means that implementation of the project would not result in a substantial and/or adverse change to the resource, and no mitigation measures are required.

“Less than Significant with Mitigation Incorporated” means that the incorporation of one or more mitigation measures is necessary to reduce the impact from potentially significant to less than significant.

“Potentially Significant Impact” means that there is either substantial evidence that a project-related effect may be significant, or, due to a lack of existing information, could have the potential to be significant.

IV. BIOLOGICAL RESOURCES — Would the project:	<i>Potentially Significant Impact</i>	<i>Less than Significant with Mitigation Incorporated</i>	<i>Less than Significant Impact</i>	<i>No Impact</i>
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

4.1 Effects Analysis

a) Special Status Species - **Less than Significant.**

The Study Area is dominated by invasive and ornamental plants typical of areas that have been disturbed. The highly disturbed, ruderal nature of the Study Area does not provide appropriate habitat to support any special status plant species – see detailed discussion in Section 3.5. As such, no impacts to special status plant species are anticipated due to proposed project activities. Due to the highly disturbed nature of the Project Study Area and the lack of connectivity to adjacent, suitable habitats, no special status wildlife species are likely to occur within the Project Study Area.

The project is not likely to have a substantial adverse direct or indirect effect on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service. Although there is no tree removal proposed, construction activities within the Project Area during nesting season may have potential to disturb migratory nesting birds within the Project Study Area. Given that no special status species are likely to be present, effects to nesting bird habitat is expected to be less than significant.

MM-BIO-1 preconstruction nesting bird surveys will ensure Project conformance with MBTA and CDFC.

b) Sensitive Natural Community - **No Impact**

The Project Site does not contain any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service.

As described in **Section 3.3**, the “bluff” feature located along the southwestern edge of the Project Site would not qualify as an ESHA since it does not conform with the LCLUP definitions.

Construction activities (including landscaping) are limited to the boundaries of the Project Site where there are no ESHAs. The concrete pathway would separate the construction activities from the ESHAs (sand dune habitat and marine environment) to the south. The sand dune and marine environment habitats identified as LCLUP ESHAs within the Project Study Area would not be directly affected since no project actions are proposed within these habitats. Therefore, there would be less than significant effects to ESHAs identified and defined in the LCLUP.

c) Wetlands - **No Impact**

There were no coastal wetland or three-parameter wetland features observed at the time of the surveys. Therefore, the project would not have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited

to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

d) Wildlife Corridor - No Impact

The proposed project will not create any dispersal barriers (permanent or temporary) that would interfere substantially with the movement of native resident or migratory fish or wildlife corridors, or nursery sites, due to proximity to dense development to the south and west.

e) Local Policies - No Impact

The project will not require the removal of the trees located in the northeast corner of the Project Site. There would be no impact to local policies or ordinances protecting biological resources such as a tree preservation policy or ordinance.

f) HCP, NCCP, LCLUP - No Impact

With the exception of the LCLUP, there are no adopted Habitat Conservation Plans or other local, regional, or state habitat conservation plans in the area. There would be no impacts to the provisions of the LCLUP with regard to ESHAs. See discussion (b) for additional information regarding LCLUP ESHAs.

4.2 Avoidance and Minimization Measures

The following avoidance and minimization measures are prescribed to ensure conformance with relevant laws and regulations regarding biological resources, including MBTA and CDFC.

MM BIO-1. Pre-Construction Nesting Bird Surveys

Grubbing/grading activities should be initiated during the non-nesting season from September 1 to January 31 to the extent feasible.

- If work cannot be initiated during this period, then pre-construction nesting bird surveys should be performed in all areas of the site and surrounding areas up to 500 feet away.
- If nests are found, a no-disturbance buffer should be placed around the nest until young have fledged or the nest is determined to be no longer active by the biologist. The size of the buffer may be determined by the biologist based on species and proximity to activities.

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APPENDIX A

PROJECT FIGURES

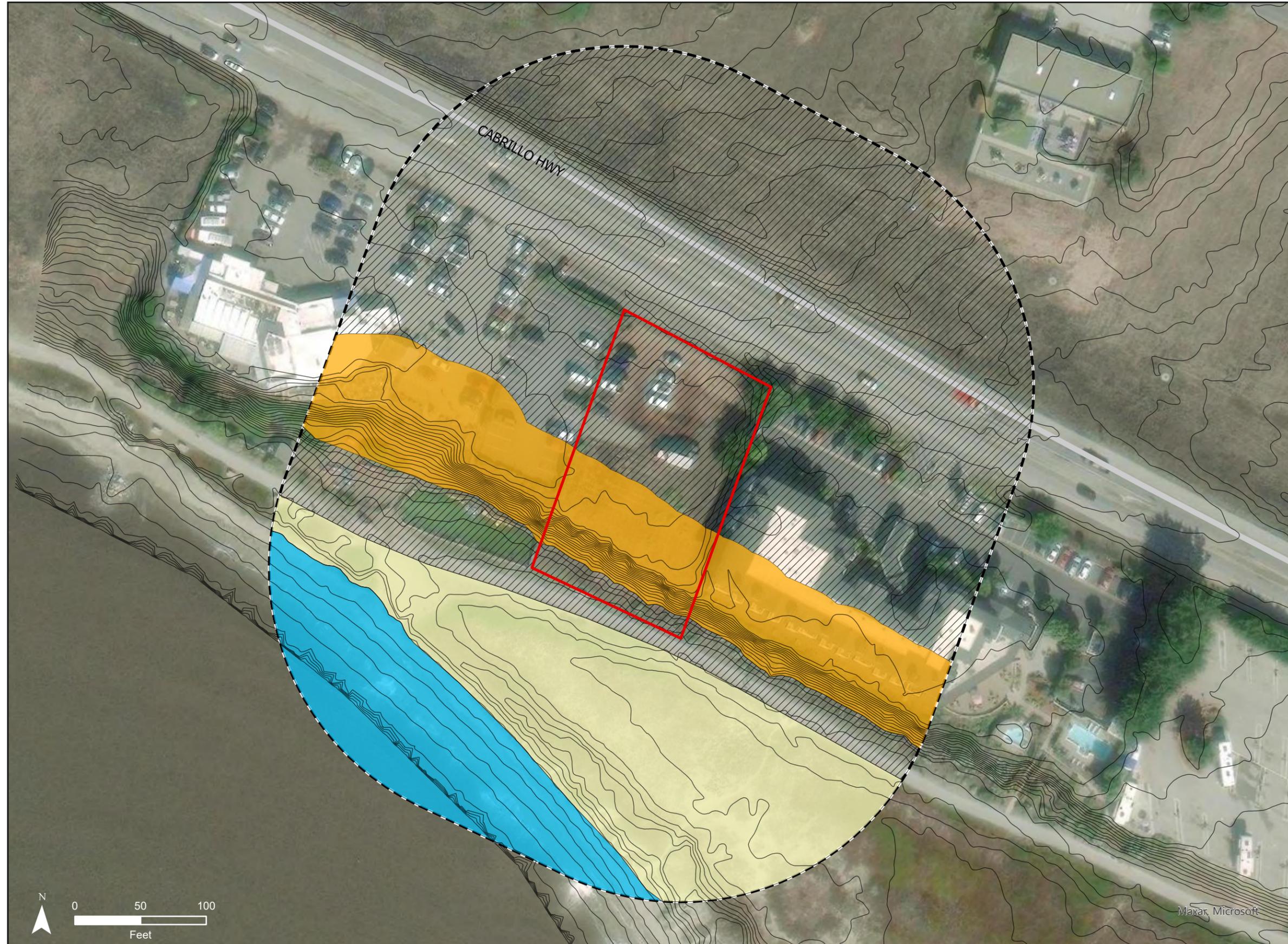
Figure 1: Location of Project Area
 4150 N. Cabrillo Highway, Half Moon Bay, San Mateo County, CA



-  Project Area
-  Study Area
-  Parcels
-  Streets

Figure 2. Environmentally Sensitive Habitat Areas (ESHA)

4150 N. Cabrillo Highway, Half Moon Bay, CA



**Environmentally Sensitive
Habitat Areas (ESHA)**

**Sensitive Areas
(Under the LCP and Zoning Code)**

-  Sand Dune Habitat
-  Marine Environment

**Sensitive Areas
(Under Zoning Code)**

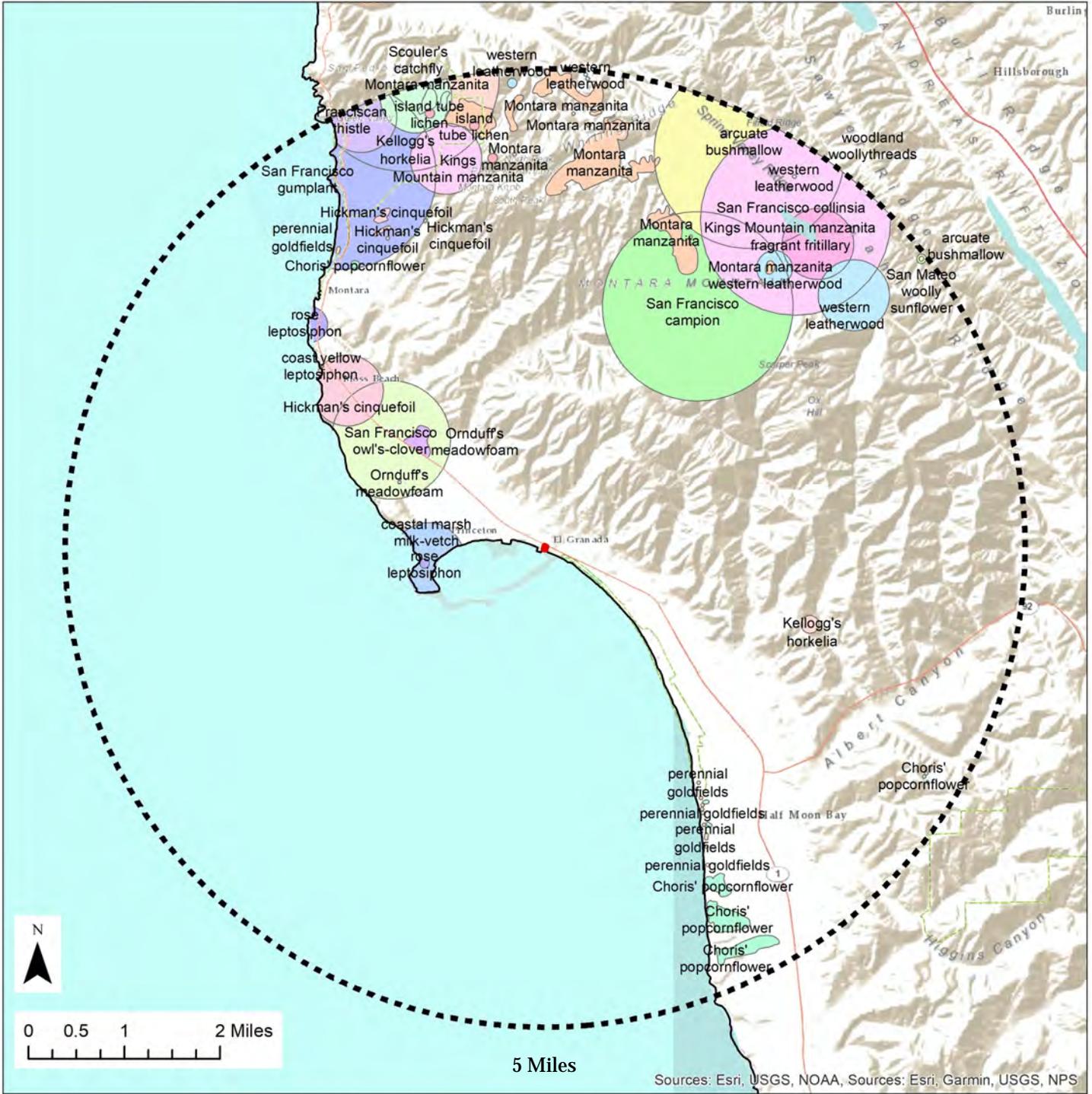
-  Coastal Bluff and Terrace

-  Project Site
-  Project Study Area (including 200-foot buffer from Site)
-  Developed/Ruderal Area
-  Streets
-  Elevation Countour (1' Increment)

Projected Coordinate System: NAD 1983 (2011)
StatePlane California III FIPS 0402 (US Feet)
Projection: Universal Transverse Mercator
Datum: North American 1983
Base: ESRI
Data: San Mateo Co., Sol Ecology Inc.
Date: 6-6-2025
GIS: AG2449.2 aarons beach coms 1



Figure 3: Special Status Plant Species within 5 Miles of the Project Site
 4150 N. Cabrillo Highway, Half Moon Bay, San Mateo County, CA



- Project Study Area
- 5-Mile Buffer
- Blasdale's bent grass (1)
- Choris' popcornflower (4)
- Franciscan thistle (1)
- Hickman's cinquefoil (2)
- Kellogg's horkelia (2)
- Kings Mountain manzanita (2)
- Montara manzanita (3)
- Oregon polemonium (1)
- Ornduff's meadowfoam (2)
- San Francisco campion (1)
- San Francisco collinsia (1)
- San Francisco gumplant (1)
- San Francisco owl's-clover (1)
- San Mateo woolly sunflower (1)
- Scouler's catchfly (1)
- arcuate bushmallow (2)
- coast yellow leptosiphon (1)
- coastal marsh milk-vetch (1)
- fragrant fritillary (1)
- island tube lichen (3)
- perennial goldfields (2)
- rose leptosiphon (2)
- western leatherwood (5)
- woodland woollythreads (1)

APPENDIX B

SITE PHOTOGRAPHS



Photo 1. Northern portion of the Project Area that is currently being used as a parking structure, which is devoid of vegetation with the exception of the perimeter. Facing northeast, on April 11, 2025.



Photo 2. Southern portion of the Project Area consisting of ruderal vegetation. Facing southwest, on April 11, 2025.



Photo 3. Ruderal vegetation habitat continues along the bluff feature. Sand dune and marine environment shown in the background, on the right of the photo. Facing southwest, on April 11, 2025.



Photo 4. Manmade roadside ditch originating to the northeast of the Project Area, with upland ruderal vegetation. Photo facing east-southeast, on April 11, 2025.



Photo 5. Site conditions at the northern portion of the Project Area prior to the conversion into a parking lot. Ruderal vegetation, with pampas grass. Photo facing northeast, on July 20, 2018.



Photo 6. Site conditions at the northern portion of the Project Area prior to the conversion into a parking lot. Ruderal vegetation. Photo facing northwest, on July 20, 2018.



Photo 7. Site conditions at the southern portion of the Project Area. Ruderal vegetation. Photo facing southwest, on July 20, 2018.



Photo 8. Bluff feature with ruderal vegetation, California Coastal trail, with sand dune habitat, beach, and Pillar Point Harbor in the background. Photo facing southwest, on July 20, 2018.

APPENDIX C

DATABASE SEARCH RESULTS



Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database



Query Criteria: Quad (Montara Mountain (3712254) OR San Francisco South (3712264) OR Hunters Point (3712263) OR San Mateo (3712253) OR Woodside (3712243) OR Half Moon Bay (3712244)) AND Taxonomic Group IS (Fish OR Amphibians OR Reptiles OR Birds OR Mammals OR Mollusks OR Arachnids OR Crustaceans OR Insects)

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
<i>Acipenser medirostris</i> pop. 1 green sturgeon - southern DPS	G2T1 S1	Threatened None	AFS_VU-Vulnerable CDFW_SSC-Species of Special Concern IUCN_EN-Endangered	0 0	14 S:1	0	1	0	0	0	0	0	1	1	0	0
<i>Actinemys marmorata</i> northwestern pond turtle	G2 SNR	Proposed Threatened None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_VU-Vulnerable USFS_S-Sensitive	17 525	1160 S:13	1	9	3	0	0	0	3	10	13	0	0
<i>Adela oplerella</i> Opler's longhorn moth	G2 S2	None None		100 100	14 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Ambystoma californiense</i> pop. 1 California tiger salamander - central California DPS	G2G3T3 S3	Threatened Threatened	CDFW_WL-Watch List IUCN_VU-Vulnerable	400 400	1329 S:1	0	0	0	0	1	0	1	0	0	1	0
<i>Aneides niger</i> Santa Cruz black salamander	G3 S3	None None	CDFW_SSC-Species of Special Concern	1,300 1,300	78 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Antrozous pallidus</i> pallid bat	G4 S3	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFS_S-Sensitive	40 420	425 S:3	0	0	0	0	0	3	3	0	3	0	0
<i>Athene cunicularia</i> burrowing owl	G4 S2	None Candidate Endangered	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFWS_BCC-Birds of Conservation Concern	5 842	2127 S:2	0	1	0	0	0	1	0	2	2	0	0
<i>Banksula incredula</i> incredible harvestman	G1 S1	None None		1,110 1,110	1 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Bombus caliginosus</i> obscure bumble bee	G2G3 S1S2	None None	IUCN_VU-Vulnerable	30 400	181 S:6	0	0	0	0	0	6	6	0	6	0	0



Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database



Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
<i>Bombus occidentalis</i> western bumble bee	G3 S1	None Candidate Endangered	IUCN_VU-Vulnerable USFS_S-Sensitive	40 800	306 S:10	0	0	0	0	0	10	10	0	10	0	0
<i>Brachyramphus marmoratus</i> marbled murrelet	G3 S2	Threatened Endangered	CDFW_S-Sensitive IUCN_EN-Endangered	800 800	110 S:2	0	0	0	0	0	2	0	2	2	0	0
<i>Caecidotea tomalensis</i> Tomales isopod	G2 S2S3	None None		50 2,100	6 S:2	0	0	1	1	0	0	2	0	2	0	0
<i>Calicina minor</i> Edgewood blind harvestman	G1 S1	None None		400 560	2 S:2	0	0	0	0	0	2	2	0	2	0	0
<i>Callophrys mossii bayensis</i> San Bruno elfin butterfly	G4T2 S2	Endangered None		600 1,882	6 S:6	2	1	0	0	0	3	1	5	6	0	0
<i>Charadrius nivosus nivosus</i> western snowy plover	G3T3 S3	Threatened None	CDFW_SSC-Species of Special Concern	5 17	140 S:3	1	0	0	0	0	2	2	1	3	0	0
<i>Cicindela hirticollis gravida</i> sandy beach tiger beetle	G5T2 S2	None None		10 10	34 S:1	0	0	0	0	1	0	1	0	0	0	1
<i>Corynorhinus townsendii</i> Townsend's big-eared bat	G4 S2	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFS_S-Sensitive	320 2,170	635 S:4	0	0	0	1	0	3	1	3	4	0	0
<i>Danaus plexippus plexippus pop. 1</i> monarch - California overwintering population	G4T1T2Q S2	Proposed Threatened None	IUCN_EN-Endangered USFS_S-Sensitive	40 150	405 S:5	0	1	1	0	2	1	4	1	3	2	0
<i>Dicamptodon ensatus</i> California giant salamander	G2G3 S2S3	None None	CDFW_SSC-Species of Special Concern IUCN_NT-Near Threatened	300 1,400	254 S:9	1	2	0	0	0	6	6	3	9	0	0
<i>Dipodomys venustus venustus</i> Santa Cruz kangaroo rat	G4T1 S1	None None		42 42	29 S:1	0	0	0	0	1	0	1	0	0	1	0
<i>Dufourea stagei</i> Stage's dufourine bee	G1G2 S1	None None		700 700	1 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Erethizon dorsatum</i> North American porcupine	G5 S3	None None	IUCN_LC-Least Concern	509 509	523 S:1	0	0	0	0	0	1	1	0	1	0	0



Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database



Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
<i>Eucyclogobius newberryi</i> tidewater goby	G3 S3	Endangered None	AFS_EN-Endangered CDFW_SSC-Species of Special Concern IUCN_NT-Near Threatened	20 20	127 S:1	0	0	0	0	1	0	1	0	0	0	1
<i>Eumetopias jubatus</i> Steller sea lion	G3 S2	Delisted None	IUCN_NT-Near Threatened MMC_SSC-Species of Special Concern	15 15	38 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Euphydryas editha bayensis</i> Bay checkerspot butterfly	G4G5T1 S3	Threatened None		100 1,000	30 S:7	0	1	0	0	6	0	6	1	1	2	4
<i>Falco columbarius</i> merlin	G5 S3S4	None None	CDFW_WL-Watch List IUCN_LC-Least Concern	65 65	38 S:1	0	1	0	0	0	0	0	1	1	0	0
<i>Falco peregrinus anatum</i> American peregrine falcon	G4T4 S3S4	Delisted Delisted	CDF_S-Sensitive	5 10	76 S:2	0	1	0	0	0	1	0	2	2	0	0
<i>Geothlypis trichas sinuosa</i> saltmarsh common yellowthroat	G5T3 S3	None None	CDFW_SSC-Species of Special Concern USFWS_BCC-Birds of Conservation Concern	10 480	114 S:10	0	2	2	0	0	6	10	0	10	0	0
<i>Hydrochara rickseckeri</i> Ricksecker's water scavenger beetle	G2? S2?	None None		35 280	13 S:2	0	0	0	0	0	2	2	0	2	0	0
<i>Hydroporus leechi</i> Leech's skyline diving beetle	G3 S2S3	None None		680 680	13 S:1	0	0	0	0	0	1	1	0	0	1	0
<i>Icaricia icarioides missionensis</i> Mission blue butterfly	G5T2 S2	Endangered None		200 750	14 S:13	0	2	2	0	0	9	12	1	13	0	0
<i>Icaricia icarioides pheres</i> Pheres blue butterfly	G5TX SX	None None		190 190	1 S:1	0	0	0	0	1	0	1	0	0	0	1
<i>Ischnura gemina</i> San Francisco forktail damselfly	G2 S2	None None	IUCN_EN-Endangered	25 540	7 S:4	0	0	0	0	1	3	4	0	3	1	0
<i>Lasiurus cinereus</i> hoary bat	G3G4 S4	None None	IUCN_LC-Least Concern	20 20	238 S:7	0	0	0	0	0	7	7	0	7	0	0
<i>Laterallus jamaicensis coturniculus</i> California black rail	G3T1 S2	None Threatened	BLM_S-Sensitive CDFW_FP-Fully Protected IUCN_EN-Endangered	5 25	304 S:2	0	0	0	1	0	1	2	0	2	0	0



Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database



Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
<i>Lichnanthe ursina</i> bumblebee scarab beetle	G2 S2	None None		15 20	8 S:2	0	0	0	0	0	2	2	0	2	0	0
<i>Melospiza melodia pusillula</i> Alameda song sparrow	G5T2T3 S2	None None	CDFW_SSC-Species of Special Concern USFWS_BCC-Birds of Conservation Concern	10 42	38 S:5	0	0	0	0	0	5	5	0	5	0	0
<i>Microcina edgewoodensis</i> Edgewood Park micro-blind harvestman	G1 S1	None None		600 600	1 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Mylopharodon conocephalus</i> hardhead	G3 S3	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFS_S-Sensitive	20 20	33 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Myotis thysanodes</i> fringed myotis	G4 S3	None None	BLM_S-Sensitive IUCN_LC-Least Concern USFS_S-Sensitive	500 500	86 S:1	0	1	0	0	0	0	0	1	1	0	0
<i>Nannopterum auritum</i> double-crested cormorant	G5 S4	None None	CDFW_WL-Watch List IUCN_LC-Least Concern	30 75	39 S:3	0	0	2	0	0	1	3	0	3	0	0
<i>Neotoma fuscipes annectens</i> San Francisco dusky-footed woodrat	G5T2T3 S2S3	None None	CDFW_SSC-Species of Special Concern	270 522	42 S:7	0	2	0	0	0	5	1	6	7	0	0
<i>Nyctinomops macrotis</i> big free-tailed bat	G5 S3	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	150 150	32 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Oncorhynchus mykiss irideus pop. 8</i> steelhead - central California coast DPS	G5T3Q S3	Threatened None	AFS_TH-Threatened CDFW_SSC-Species of Special Concern	100 550	55 S:4	0	2	0	0	0	2	4	0	4	0	0
<i>Pomatiopsis californica</i> Pacific walker	G1 S1	None None	IUCN_DD-Data Deficient	20 228	4 S:3	0	0	0	0	3	0	3	0	0	1	2
<i>Rallus obsoletus obsoletus</i> California Ridgway's rail	G3T1 S2	Endangered Endangered	CDFW_FP-Fully Protected	0 15	99 S:8	0	1	4	0	1	2	3	5	7	1	0
<i>Rana boylei pop. 4</i> foothill yellow-legged frog - central coast DPS	G3T2 S2	Threatened Endangered	BLM_S-Sensitive USFS_S-Sensitive	333 878	181 S:2	0	0	0	0	2	0	2	0	0	0	2
<i>Rana draytonii</i> California red-legged frog	G2G3 S2S3	Threatened None	CDFW_SSC-Species of Special Concern IUCN_VU-Vulnerable	6 4,005	1796 S:87	16	29	17	3	1	21	14	73	86	1	0



Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database



Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
<i>Reithrodontomys raviventris</i> salt-marsh harvest mouse	G1G2 S3	Endangered Endangered	CDFW_FP-Fully Protected IUCN_EN-Endangered	2 2	151 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Riparia riparia</i> bank swallow	G5 S3	None Threatened	BLM_S-Sensitive IUCN_LC-Least Concern	10 40	299 S:3	0	1	0	0	0	2	2	1	3	0	0
<i>Sorex vagrans paludivagus</i> Monterey vagrant shrew	G5T1 S2	None None		25 1,000	17 S:8	0	1	1	0	2	4	8	0	6	2	0
<i>Speyeria callippe callippe</i> callippe silverspot butterfly	G5T1 S1	Endangered None		250 900	12 S:6	0	1	1	0	0	4	4	2	6	0	0
<i>Speyeria zerene myrtleae</i> Myrtle's silverspot butterfly	G5T1 S1	Endangered None		20 60	17 S:2	0	0	0	0	2	0	2	0	0	0	2
<i>Spirinchus thaleichthys pop. 2</i> longfin smelt - San Francisco Bay-Delta DPS	G5TNRQ S1	Endangered Threatened	IUCN_LC-Least Concern	0 0	35 S:2	0	0	0	0	0	2	1	1	2	0	0
<i>Taxidea taxus</i> American badger	G5 S3	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	187 1,500	648 S:3	0	0	0	0	0	3	1	2	3	0	0
<i>Thamnophis sirtalis tetrataenia</i> San Francisco gartersnake	G5T2Q S2	Endangered Endangered	CDFW_FP-Fully Protected	10 1,000	66 S:26	3	8	3	0	4	8	11	15	22	0	4
<i>Trachusa gummifera</i> San Francisco Bay Area leaf-cutter bee	G1 S1	None None		93 93	3 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Tryonia imitator</i> mimic tryonia (=California brackishwater snail)	G2 S2	None None	IUCN_DD-Data Deficient	0 0	39 S:1	0	0	0	0	1	0	1	0	0	0	1



Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database



Query Criteria: Quad (Montara Mountain (3712254) OR San Francisco South (3712264) OR Hunters Point (3712263) OR San Mateo (3712253) OR Woodside (3712243) OR Half Moon Bay (3712244)) AND Taxonomic Group (Ferns OR Gymnosperms OR Monocots OR Dicots OR Lichens OR Bryophytes OR Fungi)

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
<i>Acanthomintha duttonii</i> San Mateo thorn-mint	G1 S1	Endangered Endangered	Rare Plant Rank - 1B.1 SB_UCBG-UC Botanical Garden at Berkeley	170 600	5 S:5	0	1	0	1	2	1	4	1	3	1	1
<i>Agrostis blasdalei</i> Blasdale's bent grass	G2G3 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive SB_UCSC-UC Santa Cruz	50 50	62 S:1	0	0	0	1	0	0	0	1	1	0	0
<i>Allium peninsulare var. franciscanum</i> Franciscan onion	G4G5T2 S2	None None	Rare Plant Rank - 1B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	20 1,025	25 S:15	2	6	1	0	0	6	4	11	15	0	0
<i>Amsinckia lunaris</i> bent-flowered fiddleneck	G3 S3	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive SB_UCBG-UC Botanical Garden at Berkeley SB_UCSC-UC Santa Cruz	220 475	93 S:5	0	2	1	0	0	2	2	3	5	0	0
<i>Aphyllon robbinsii</i> Robbins' broomrape	G1 S1	None None	Rare Plant Rank - 1B.1	0 35	13 S:3	0	0	0	0	1	2	2	1	2	1	0
<i>Arctostaphylos andersonii</i> Anderson's manzanita	G2 S2	None None	Rare Plant Rank - 1B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden SB_UCSC-UC Santa Cruz		64 S:1	0	0	0	1	0	0	1	0	1	0	0
<i>Arctostaphylos franciscana</i> Franciscan manzanita	GHC S1	Endangered None	Rare Plant Rank - 1B.1 SB_UCBG-UC Botanical Garden at Berkeley	700 700	4 S:1	0	0	0	0	1	0	1	0	0	0	1
<i>Arctostaphylos imbricata</i> San Bruno Mountain manzanita	G1 S1	None Endangered	Rare Plant Rank - 1B.1	900 1,000	2 S:2	1	0	0	0	0	1	1	1	2	0	0



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



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						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
<i>Arctostaphylos montana ssp. ravenii</i> Presidio manzanita	G3T1 S1	Endangered Endangered	Rare Plant Rank - 1B.1	700 700	7 S:1	0	0	0	0	1	0	1	0	0	0	1
<i>Arctostaphylos montaraensis</i> Montara manzanita	G1 S1	None None	Rare Plant Rank - 1B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden SB_USDA-US Dept of Agriculture	900 1,500	4 S:4	2	0	1	1	0	0	2	2	4	0	0
<i>Arctostaphylos pacifica</i> Pacific manzanita	G1 S1	None Endangered	Rare Plant Rank - 1B.1 SB_UCSC-UC Santa Cruz	1,045 1,045	1 S:1	0	0	1	0	0	0	0	1	1	0	0
<i>Arctostaphylos regismontana</i> Kings Mountain manzanita	G2 S2	None None	Rare Plant Rank - 1B.2 SB_UCSC-UC Santa Cruz	586 2,100	17 S:15	1	3	3	3	0	5	7	8	15	0	0
<i>Astragalus pycnostachyus var. pycnostachyus</i> coastal marsh milk-vetch	G2T2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden SB_SBBG-Santa Barbara Botanic Garden SB_UCBG-UC Botanical Garden at Berkeley		24 S:2	0	0	0	0	0	2	2	0	2	0	0
<i>Astragalus tener var. tener</i> alkali milk-vetch	G2T1 S1	None None	Rare Plant Rank - 1B.2 SB_UCSC-UC Santa Cruz	50 50	65 S:1	0	0	0	0	1	0	1	0	0	1	0
<i>Carex comosa</i> bristly sedge	G5 S2	None None	Rare Plant Rank - 2B.1 IUCN_LC-Least Concern	0 0	31 S:1	0	0	0	0	1	0	1	0	0	0	1
<i>Centromadia parryi ssp. parryi</i> pappose tarplant	G3T2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive	10 23	39 S:2	0	0	0	1	0	1	1	1	2	0	0
<i>Chloropyron maritimum ssp. palustre</i> Point Reyes salty bird's-beak	G4?T2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	5 5	80 S:1	0	0	0	0	1	0	1	0	0	1	0



Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database



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						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
<i>Chorizanthe cuspidata</i> var. <i>cuspidata</i> San Francisco Bay spineflower	G2T1 S1	None None	Rare Plant Rank - 1B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	50 650	17 S:8	0	0	2	0	0	6	7	1	8	0	0
<i>Chorizanthe robusta</i> var. <i>robusta</i> robust spineflower	G2T1 S1	Endangered None	Rare Plant Rank - 1B.1	150 150	20 S:2	0	0	0	0	2	0	2	0	0	2	0
<i>Cirsium andrewsii</i> Franciscan thistle	G3 S3	None None	Rare Plant Rank - 1B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	100 450	31 S:3	0	0	0	0	1	2	3	0	2	1	0
<i>Cirsium fontinale</i> var. <i>fontinale</i> fountain thistle	G2T1 S1	Endangered Endangered	Rare Plant Rank - 1B.1 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	400 600	5 S:3	0	1	1	0	1	0	2	1	2	1	0
<i>Cirsium occidentale</i> var. <i>compactum</i> compact cobwebby thistle	G3G4T2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive	100 100	30 S:1	0	0	0	0	1	0	1	0	0	1	0
<i>Collinsia corymbosa</i> round-headed collinsia	G1 S1	None None	Rare Plant Rank - 1B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	25 25	13 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Collinsia multicolor</i> San Francisco collinsia	G2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden SB_UCSC-UC Santa Cruz	100 700	36 S:18	0	6	0	0	0	12	9	9	18	0	0
<i>Dirca occidentalis</i> western leatherwood	G2 S2	None None	Rare Plant Rank - 1B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	255 1,265	90 S:24	6	5	2	0	0	11	4	20	24	0	0
<i>Eriophyllum latilobum</i> San Mateo woolly sunflower	G1 S1	Endangered Endangered	Rare Plant Rank - 1B.1 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	100 900	8 S:6	1	2	1	0	0	2	0	6	6	0	0



Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database



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						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
<i>Fritillaria biflora</i> var. <i>ineziana</i> Hillsborough chocolate lily	G3G4T1 S1	None None	Rare Plant Rank - 1B.1 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden SB_UCBG-UC Botanical Garden at Berkeley SB_USDA-US Dept of Agriculture	550 550	2 S:2	0	1	0	0	0	1	1	1	2	0	0
<i>Fritillaria liliacea</i> fragrant fritillary	G2 S2	None None	Rare Plant Rank - 1B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden USFS_S-Sensitive	295 800	82 S:9	0	5	0	0	1	3	5	4	8	0	1
<i>Gilia capitata</i> ssp. <i>chamissonis</i> blue coast gilia	G5T2 S2	None None	Rare Plant Rank - 1B.1 SB_UCBG-UC Botanical Garden at Berkeley	10 650	37 S:4	0	1	0	0	0	3	3	1	4	0	0
<i>Gilia millefoliata</i> dark-eyed gilia	G2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden		54 S:3	0	0	0	0	2	1	3	0	1	0	2
<i>Grindelia hirsutula</i> var. <i>maritima</i> San Francisco gumplant	G5T1Q S1	None None	Rare Plant Rank - 3.2 SB_UCSC-UC Santa Cruz	50 1,000	15 S:9	0	0	1	1	1	6	9	0	8	0	1
<i>Helianthella castanea</i> Diablo helianthella	G2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	700 700	107 S:2	0	1	0	0	1	0	1	1	1	1	0
<i>Hemizonia congesta</i> ssp. <i>congesta</i> congested-headed hayfield tarplant	G5T2 S2	None None	Rare Plant Rank - 1B.2 SB_UCBG-UC Botanical Garden at Berkeley		52 S:2	0	0	0	0	1	1	2	0	1	1	0
<i>Hesperevax sparsiflora</i> var. <i>brevifolia</i> short-leaved evax	G4T3 S3	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	400 500	72 S:2	0	0	0	0	1	1	2	0	1	1	0



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



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						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
<i>Hesperolinon congestum</i> Marin western flax	G1 S1	Threatened Threatened	Rare Plant Rank - 1B.1 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden SB_UCBG-UC Botanical Garden at Berkeley	200 700	27 S:9	0	5	2	0	2	0	5	4	7	2	0
<i>Heteranthera dubia</i> water star-grass	G5 S2	None None	Rare Plant Rank - 2B.2 IUCN_LC-Least Concern		9 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Horkelia cuneata var. sericea</i> Kellogg's horkelia	G4T1? S1?	None None	Rare Plant Rank - 1B.1 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden SB_UCSC-UC Santa Cruz USFS_S-Sensitive	150 600	58 S:5	0	0	0	0	1	4	5	0	4	1	0
<i>Horkelia marinensis</i> Point Reyes horkelia	G2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden SB_UCSC-UC Santa Cruz	300 300	36 S:2	0	0	0	0	0	2	2	0	2	0	0
<i>Hypogymnia schizidiata</i> island tube lichen	G2G3 S2	None None	Rare Plant Rank - 1B.3	1,290 1,780	10 S:3	2	0	0	0	0	1	0	3	3	0	0
<i>Lasthenia californica ssp. macrantha</i> perennial goldfields	G3T2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	40 350	59 S:3	0	1	1	0	0	1	0	3	3	0	0
<i>Layia carnosa</i> beach layia	G2 S2	Threatened Endangered	Rare Plant Rank - 1B.1 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden SB_SBBG-Santa Barbara Botanic Garden	40 40	25 S:1	0	0	0	0	1	0	1	0	0	0	1



Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database



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<i>Leptosiphon croceus</i> coast yellow leptosiphon	G1 S1	None Endangered	Rare Plant Rank - 1B.1 SB_UCBG-UC Botanical Garden at Berkeley	50 50	1 S:1	0	0	0	1	0	0	0	1	1	0	0
<i>Leptosiphon rosaceus</i> rose leptosiphon	G1 S1	None None	Rare Plant Rank - 1B.1 SB_CalBG/RSABG- California/Rancho Santa Ana Botanic Garden	70 70	31 S:4	0	1	0	0	2	1	2	2	2	2	0
<i>Lessingia arachnoidea</i> Crystal Springs lessingia	G2 S2	None None	Rare Plant Rank - 1B.2 SB_CalBG/RSABG- California/Rancho Santa Ana Botanic Garden	300 550	11 S:8	2	2	1	0	0	3	3	5	8	0	0
<i>Lessingia germanorum</i> San Francisco lessingia	G1 S1	Endangered Endangered	Rare Plant Rank - 1B.1	150 500	5 S:2	0	0	1	0	1	0	2	0	1	1	0
<i>Limnanthes douglasii ssp. ornduffii</i> Ornduff's meadowfoam	G4T1 S1	None None	Rare Plant Rank - 1B.1 SB_UCSC-UC Santa Cruz	30 50	2 S:2	0	0	0	0	1	1	0	2	1	1	0
<i>Malacothamnus arcuatus var. arcuatus</i> arcuate bushmallow	G2Q S2	None None	Rare Plant Rank - 1B.2 SB_CalBG/RSABG- California/Rancho Santa Ana Botanic Garden	10 851	34 S:12	0	1	1	1	1	8	6	6	11	0	1
<i>Monardella sinuata ssp. nigrescens</i> northern curly-leaved monardella	G3T2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive SB_SBBG-Santa Barbara Botanic Garden		25 S:1	0	0	0	0	1	0	1	0	0	1	0
<i>Monolopia gracilens</i> woodland woollythreads	G3 S3	None None	Rare Plant Rank - 1B.2 SB_CalBG/RSABG- California/Rancho Santa Ana Botanic Garden	575 675	94 S:5	0	1	0	0	0	4	2	3	5	0	0
<i>Pentachaeta bellidiflora</i> white-rayed pentachaeta	G1 S1	Endangered Endangered	Rare Plant Rank - 1B.1 SB_UCBG-UC Botanical Garden at Berkeley	500 520	14 S:4	1	0	0	0	2	1	4	0	2	1	1
<i>Plagiobothrys chorisianus var. chorisianus</i> Choris' popcornflower	G3T1Q S1	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive SB_UCSC-UC Santa Cruz	50 1,250	42 S:11	1	4	2	0	0	4	4	7	11	0	0



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



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<i>Polemonium carneum</i> Oregon polemonium	G3G4 S2	None None	Rare Plant Rank - 2B.2		16 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Polygonum marinense</i> Marin knotweed	G2Q S2	None None	Rare Plant Rank - 3.1		32 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Potentilla hickmanii</i> Hickman's cinquefoil	G1 S1	Endangered Endangered	Rare Plant Rank - 1B.1 SB_UCBG-UC Botanical Garden at Berkeley	25 240	4 S:2	0	1	0	0	1	0	1	1	1	0	1
<i>Sanicula maritima</i> adobe sanicle	G2 S2	None Rare	Rare Plant Rank - 1B.1 SB_SBBG-Santa Barbara Botanic Garden USFS_S-Sensitive	250 250	17 S:1	0	0	0	0	1	0	1	0	0	0	1
<i>Senecio aphanactis</i> chaparral ragwort	G3 S2	None None	Rare Plant Rank - 1B.2 SB_CalBG/RSABG- California/Rancho Santa Ana Botanic Garden SB_CRES-San Diego Zoo CRES Native Gene Seed Bank	640 640	98 S:2	0	0	0	0	0	2	2	0	2	0	0
<i>Silene scouleri ssp. scouleri</i> Scouler's catchfly	G5T4T5 S2S3	None None	Rare Plant Rank - 2B.2	780 1,025	23 S:11	0	0	0	0	0	11	8	3	11	0	0
<i>Silene verecunda ssp. verecunda</i> San Francisco campion	G5T1 S1	None None	Rare Plant Rank - 1B.2 SB_CalBG/RSABG- California/Rancho Santa Ana Botanic Garden SB_UCSC-UC Santa Cruz	25 1,500	20 S:8	0	1	0	0	3	4	5	3	5	3	0
<i>Suaeda californica</i> California seablite	G1 S1	Endangered None	Rare Plant Rank - 1B.1 SB_CalBG/RSABG- California/Rancho Santa Ana Botanic Garden	5 5	18 S:3	0	0	1	0	0	2	0	3	3	0	0



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



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						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
<i>Trifolium amoenum</i> two-fork clover	G1 S1	Endangered None	Rare Plant Rank - 1B.1 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden SB_UCBG-UC Botanical Garden at Berkeley SB_USDA-US Dept of Agriculture		26 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Trifolium hydrophilum</i> saline clover	G2 S2	None None	Rare Plant Rank - 1B.2		56 S:1	0	0	0	0	0	1	1	0	1	0	0
<i>Triphysaria floribunda</i> San Francisco owl's-clover	G2? S2?	None None	Rare Plant Rank - 1B.2	5 450	50 S:14	0	0	0	0	5	9	14	0	9	3	2
<i>Triquetrella californica</i> coastal triquetrella	G2 S2	None None	Rare Plant Rank - 1B.2 USFS_S-Sensitive	400 1,200	13 S:3	0	0	0	0	0	3	0	3	3	0	0
<i>Usnea longissima</i> Methuselah's beard lichen	G5 S4	None None	Rare Plant Rank - 4.2	590 590	206 S:1	0	0	0	0	1	0	1	0	0	1	0



CNPS Rare Plant Inventory

Search Results

85 matches found. Click on scientific name for details

Search Criteria: , 9-Quad include [3712263:3712264:3712244:3712253:3712243:3712254]

▲ SCIENTIFIC NAME	COMMON NAME	FAMILY	LIFEFORM	BLOOMING PERIOD	FED LIST	STATE LIST	GLOBAL RANK	STATE RANK	CA RARE PLANT RANK	CA ENDEMIC	DATE ADDED
<i>Acanthomintha duttonii</i>	San Mateo thorn-mint	Lamiaceae	annual herb	Apr-Jun	FE	CE	G1	S1	1B.1	Yes	1974-01-01
<i>Agrostis blasdalei</i>	Blasdale's bent grass	Poaceae	perennial rhizomatous herb	May-Jul	None	None	G2G3	S2	1B.2	Yes	1974-01-01
<i>Allium peninsulare</i> var. <i>franciscanum</i>	Franciscan onion	Alliaceae	perennial bulbiferous herb	(Apr)May-Jun	None	None	G4G5T2	S2	1B.2	Yes	2001-01-01
<i>Amsinckia lunaris</i>	bent-flowered fiddleneck	Boraginaceae	annual herb	Mar-Jun	None	None	G3	S3	1B.2	Yes	1974-01-01
<i>Aphyllon robbinsii</i>	Robbins' broomrape	Orobanchaceae	annual herb (achlorophyllous)	Apr-Jul	None	None	G1	S1	1B.1	Yes	2023-03-28
<i>Arabis blepharophylla</i>	coast rockcress	Brassicaceae	perennial herb	Feb-May	None	None	G4	S4	4.3	Yes	1974-01-01
<i>Arctostaphylos andersonii</i>	Anderson's manzanita	Ericaceae	perennial evergreen shrub	Nov-May	None	None	G2	S2	1B.2	Yes	1974-01-01
<i>Arctostaphylos franciscana</i>	Franciscan manzanita	Ericaceae	perennial evergreen shrub	Feb-Apr	FE	None	GHC	S1	1B.1	Yes	1974-01-01
<i>Arctostaphylos imbricata</i>	San Bruno Mountain manzanita	Ericaceae	perennial evergreen shrub	Feb-May	None	CE	G1	S1	1B.1	Yes	1974-01-01
<i>Arctostaphylos montana</i> ssp. <i>ravenii</i>	Presidio manzanita	Ericaceae	perennial evergreen shrub	Feb-Mar	FE	CE	G3T1	S1	1B.1	Yes	1980-01-01

<i>Arctostaphylos montaraensis</i>	Montara manzanita	Ericaceae	perennial evergreen shrub	Jan-Mar	None	None	G1	S1	1B.2	Yes	1974-01-01
<i>Arctostaphylos pacifica</i>	Pacific manzanita	Ericaceae	evergreen shrub	Feb-Apr	None	CE	G1	S1	1B.1	Yes	1974-01-01
<i>Arctostaphylos regismontana</i>	Kings Mountain manzanita	Ericaceae	perennial evergreen shrub	Dec-Apr	None	None	G2	S2	1B.2	Yes	1994-01-01
<i>Astragalus nuttallii</i> var. <i>nuttallii</i>	ocean bluff milk-vetch	Fabaceae	perennial herb	Jan-Nov	None	None	G4T4	S4	4.3	Yes	2001-01-01
<i>Astragalus pycnostachyus</i> var. <i>pycnostachyus</i>	coastal marsh milk-vetch	Fabaceae	perennial herb	(Apr-May)Jun-Oct	None	None	G2T2	S2	1B.2	Yes	2001-01-01
<i>Astragalus tener</i> var. <i>tener</i>	alkali milk-vetch	Fabaceae	annual herb	Mar-Jun	None	None	G2T1	S1	1B.2	Yes	1994-01-01
<i>Calandrinia breweri</i>	Brewer's calandrinia	Montiaceae	annual herb	(Jan)Mar-Jun	None	None	G4	S4	4.2		1994-01-01
<i>Calochortus umbellatus</i>	Oakland star-tulip	Liliaceae	perennial bulbiferous herb	Mar-May	None	None	G3?	S3?	4.2	Yes	1980-01-01
<i>Calochortus uniflorus</i>	pink star-tulip	Liliaceae	perennial bulbiferous herb	Apr-Jun	None	None	G4	S4	4.2		2010-03-04
<i>Carex comosa</i>	bristly sedge	Cyperaceae	perennial rhizomatous herb	May-Sep	None	None	G5	S2	2B.1		1994-01-01
<i>Castilleja ambigua</i> var. <i>ambigua</i>	johnny-nip	Orobanchaceae	annual herb (hemiparasitic)	Mar-Aug	None	None	G5T4	S3S4	4.2		2009-02-04
<i>Centromadia parryi</i> ssp. <i>parryi</i>	pappose tarplant	Asteraceae	annual herb	May-Nov	None	None	G3T2	S2	1B.2	Yes	2004-01-01
<i>Chloropyron maritimum</i> ssp. <i>palustre</i>	Point Reyes salty bird's-beak	Orobanchaceae	annual herb (hemiparasitic)	Jun-Oct	None	None	G4?T2	S2	1B.2		1974-01-01
<i>Chorizanthe cuspidata</i> var. <i>cuspidata</i>	San Francisco Bay spineflower	Polygonaceae	annual herb	Apr-Jul(Aug)	None	None	G2T1	S1	1B.2	Yes	1994-01-01
<i>Chorizanthe robusta</i> var. <i>robusta</i>	robust spineflower	Polygonaceae	annual herb	Apr-Sep	FE	None	G2T1	S1	1B.1	Yes	1980-01-01

<i>Cirsium andrewsii</i>	Franciscan thistle	Asteraceae	perennial herb	Mar-Jul	None	None	G3	S3	1B.2	Yes	1974-01-01
<i>Cirsium fontinale</i> var. <i>fontinale</i>	fountain thistle	Asteraceae	perennial herb	(Apr)May-Oct	FE	CE	G2T1	S1	1B.1	Yes	1974-01-01
<i>Cirsium occidentale</i> var. <i>compactum</i>	compact cobwebby thistle	Asteraceae	perennial herb	Apr-Jun	None	None	G3G4T2	S2	1B.2	Yes	1974-01-01
<i>Clarkia breweri</i>	Brewer's clarkia	Onagraceae	annual herb	Apr-Jun	None	None	G4	S4	4.2	Yes	1974-01-01
<i>Collinsia corymbosa</i>	round-headed collinsia	Plantaginaceae	annual herb	Apr-Jun	None	None	G1	S1	1B.2	Yes	1994-01-01
<i>Collinsia multicolor</i>	San Francisco collinsia	Plantaginaceae	annual herb	(Feb)Mar-May	None	None	G2	S2	1B.2	Yes	1974-01-01
<i>Cypripedium fasciculatum</i>	clustered lady's-slipper	Orchidaceae	perennial rhizomatous herb	Mar-Aug	None	None	G4	S4	4.2		1980-01-01
<i>Deinandra paniculata</i>	paniculate tarplant	Asteraceae	annual herb	(Mar)Apr-Nov	None	None	G4	S4	4.2		2001-01-01
<i>Dirca occidentalis</i>	western leatherwood	Thymelaeaceae	perennial deciduous shrub	Jan-Mar(Apr)	None	None	G2	S2	1B.2	Yes	1974-01-01
<i>Elymus californicus</i>	California bottle-brush grass	Poaceae	perennial herb	May-Aug(Nov)	None	None	G4	S4	4.3	Yes	1974-01-01
<i>Eriophyllum latilobum</i>	San Mateo woolly sunflower	Asteraceae	perennial herb	May-Jun	FE	CE	G1	S1	1B.1	Yes	1974-01-01
<i>Erysimum franciscanum</i>	San Francisco wallflower	Brassicaceae	perennial herb	Mar-Jun	None	None	G3	S3	4.2	Yes	1974-01-01
<i>Fritillaria biflora</i> var. <i>ineziana</i>	Hillsborough chocolate lily	Liliaceae	perennial bulbiferous herb	Mar-Apr	None	None	G3G4T1	S1	1B.1	Yes	1994-01-01
<i>Fritillaria liliacea</i>	fragrant fritillary	Liliaceae	perennial bulbiferous herb	Feb-Apr	None	None	G2	S2	1B.2	Yes	1974-01-01
<i>Gilia capitata</i> ssp. <i>chamissonis</i>	blue coast gilia	Polemoniaceae	annual herb	Apr-Jul	None	None	G5T2	S2	1B.1	Yes	2001-01-01
<i>Gilia millefoliata</i>	dark-eyed gilia	Polemoniaceae	annual herb	Apr-Jul	None	None	G2	S2	1B.2		2001-01-01

<i>Grindelia hirsutula</i> var. <i>maritima</i>	San Francisco gumplant	Asteraceae	perennial herb	Jun-Sep	None	None	G5T1Q	S1	3.2	Yes	1974-01-01
<i>Helianthella castanea</i>	Diablo helianthella	Asteraceae	perennial herb	Mar-Jun	None	None	G2	S2	1B.2	Yes	1974-01-01
<i>Hemizonia congesta</i> ssp. <i>congesta</i>	congested-headed hayfield tarplant	Asteraceae	annual herb	Apr-Nov	None	None	G5T2	S2	1B.2	Yes	1988-01-01
<i>Hesperevax sparsiflora</i> var. <i>brevifolia</i>	short-leaved evax	Asteraceae	annual herb	Mar-Jun	None	None	G4T3	S3	1B.2		1994-01-01
<i>Hesperolinon congestum</i>	Marin western flax	Linaceae	annual herb	Apr-Jul	FT	CT	G1	S1	1B.1	Yes	1974-01-01
<i>Heteranthera dubia</i>	water star-grass	Pontederiaceae	perennial herb (aquatic)	Jul-Oct	None	None	G5	S2	2B.2		2013-10-10
<i>Horkelia cuneata</i> var. <i>sericea</i>	Kellogg's horkelia	Rosaceae	perennial herb	Apr-Sep	None	None	G4T1?	S1?	1B.1	Yes	1988-01-01
<i>Horkelia marinensis</i>	Point Reyes horkelia	Rosaceae	perennial herb	May-Sep	None	None	G2	S2	1B.2	Yes	1974-01-01
<i>Hosackia gracilis</i>	harlequin lotus	Fabaceae	perennial rhizomatous herb	Mar-Jul	None	None	G3G4	S3	4.2		2004-01-01
<i>Hypogymnia schizidiata</i>	island tube lichen	Parmeliaceae	foliose lichen		None	None	G2G3	S2	1B.3		2014-03-01
<i>Iris longipetala</i>	coast iris	Iridaceae	perennial rhizomatous herb	Mar-May(Jun)	None	None	G3	S3	4.2	Yes	2006-10-12
<i>Lasthenia californica</i> ssp. <i>macrantha</i>	perennial goldfields	Asteraceae	perennial herb	Jan-Nov	None	None	G3T2	S2	1B.2	Yes	2001-01-01
<i>Layia carnosa</i>	beach layia	Asteraceae	annual herb	Mar-Jul	FT	CE	G2	S2	1B.1		1988-01-01
<i>Leptosiphon ambiguus</i>	serpentine leptosiphon	Polemoniaceae	annual herb	Mar-Jun	None	None	G4	S4	4.2	Yes	1994-01-01
<i>Leptosiphon aureus</i>	bristly leptosiphon	Polemoniaceae	annual herb	Apr-Jul	None	None	G4?	S4?	4.2	Yes	1994-01-01
<i>Leptosiphon croceus</i>	coast yellow leptosiphon	Polemoniaceae	annual herb	Apr-Jun	None	CE	G1	S1	1B.1	Yes	2001-01-01

<i>Leptosiphon grandiflorus</i>	large-flowered leptosiphon	Polemoniaceae	annual herb	Apr-Aug	None	None	G3G4	S3S4	4.2	Yes	1994-01-01
<i>Leptosiphon latisectus</i>	broad-lobed leptosiphon	Polemoniaceae	annual herb	Apr-Jun	None	None	G4	S4	4.3	Yes	2001-01-01
<i>Leptosiphon rosaceus</i>	rose leptosiphon	Polemoniaceae	annual herb	Apr-Jul	None	None	G1	S1	1B.1	Yes	2001-01-01
<i>Lessingia arachnoidea</i>	Crystal Springs lessingia	Asteraceae	annual herb	Jul-Oct	None	None	G2	S2	1B.2	Yes	1994-01-01
<i>Lessingia germanorum</i>	San Francisco lessingia	Asteraceae	annual herb	(Jun)Jul-Nov	FE	CE	G1	S1	1B.1	Yes	1980-01-01
<i>Lessingia hololeuca</i>	woolly-headed lessingia	Asteraceae	annual herb	Jun-Oct	None	None	G2G3	S2S3	3	Yes	1994-01-01
<i>Limnanthes douglasii</i> ssp. <i>ornduffii</i>	Ornduff's meadowfoam	Limnanthaceae	annual herb	Nov-May	None	None	G4T1	S1	1B.1	Yes	2014-03-18
<i>Lupinus arboreus</i> var. <i>eximius</i>	San Mateo tree lupine	Fabaceae	perennial evergreen shrub	Apr-Jul	None	None	G2Q	S2	3.2	Yes	1980-01-01
<i>Malacothamnus arcuatus</i> var. <i>arcuatus</i>	arcuate bushmallow	Malvaceae	perennial deciduous shrub	Apr-Sep	None	None	G2Q	S2	1B.2	Yes	1974-01-01
<i>Monardella sinuata</i> ssp. <i>nigrescens</i>	northern curly-leaved monardella	Lamiaceae	annual herb	(Apr)May-Jul(Aug-Sep)	None	None	G3T2	S2	1B.2	Yes	2013-12-31
<i>Monolopia gracilens</i>	woodland woollythreads	Asteraceae	annual herb	(Feb)Mar-Jul	None	None	G3	S3	1B.2	Yes	2010-04-06
<i>Pentachaeta bellidiflora</i>	white-rayed pentachaeta	Asteraceae	annual herb	Mar-May	FE	CE	G1	S1	1B.1	Yes	1974-01-01
<i>Plagiobothrys chorisianus</i> var. <i>chorisianus</i>	Choris' popcornflower	Boraginaceae	annual herb	Mar-Jun	None	None	G3T1Q	S1	1B.2	Yes	1984-01-01
<i>Plagiobothrys chorisianus</i> var. <i>hickmanii</i>	Hickman's popcornflower	Boraginaceae	annual herb	Apr-Jun	None	None	G3T3Q	S3	4.2	Yes	2001-01-01
<i>Polemonium carneum</i>	Oregon polemonium	Polemoniaceae	perennial herb	Apr-Sep	None	None	G3G4	S2	2B.2		2008-11-03
<i>Polygonum marinense</i>	Marin knotweed	Polygonaceae	annual herb	(Apr)May-Aug(Oct)	None	None	G2Q	S2	3.1	Yes	1974-01-01

<i>Potentilla hickmanii</i>	Hickman's cinquefoil	Rosaceae	perennial herb	Apr-Aug	FE	CE	G1	S1	1B.1	Yes	1974-01-01
<i>Ranunculus lobbii</i>	Lobb's aquatic buttercup	Ranunculaceae	annual herb (aquatic)	Feb-May	None	None	G4	S3	4.2		1974-01-01
<i>Sanicula maritima</i>	adobe sanicle	Apiaceae	perennial herb	Feb-May	None	CR	G2	S2	1B.1	Yes	1974-01-01
<i>Senecio aphanactis</i>	chaparral ragwort	Asteraceae	annual herb	Jan-Apr(May)	None	None	G3	S2	1B.2		1994-01-01
<i>Silene scouleri</i> ssp. <i>scouleri</i>	Scouler's catchfly	Caryophyllaceae	perennial herb	(Mar-May)Jun-Aug(Sep)	None	None	G5T4T5	S2S3	2B.2		2017-12-13
<i>Silene verecunda</i> ssp. <i>verecunda</i>	San Francisco champion	Caryophyllaceae	perennial herb	(Feb)Mar-Jul(Aug)	None	None	G5T1	S1	1B.2	Yes	1980-01-01
<i>Suaeda californica</i>	California seablite	Chenopodiaceae	perennial evergreen shrub	Jul-Oct	FE	None	G1	S1	1B.1	Yes	1988-01-01
<i>Trifolium amoenum</i>	two-fork clover	Fabaceae	annual herb	Apr-Jun	FE	None	G1	S1	1B.1	Yes	1974-01-01
<i>Trifolium hydrophilum</i>	saline clover	Fabaceae	annual herb	Apr-Jun	None	None	G2	S2	1B.2	Yes	2001-01-01
<i>Triphysaria floribunda</i>	San Francisco owl's-clover	Orobanchaceae	annual herb	Apr-Jun	None	None	G2?	S2?	1B.2	Yes	1974-01-01
<i>Triquetrella californica</i>	coastal triquetrella	Pottiaceae	moss		None	None	G2	S2	1B.2		2001-01-01
<i>Usnea longissima</i>	Methuselah's beard lichen	Parmeliaceae	fruticose lichen (epiphytic)		None	None	G5	S4	4.2		2014-03-01

Showing 1 to 85 of 85 entries

[Go to top](#)

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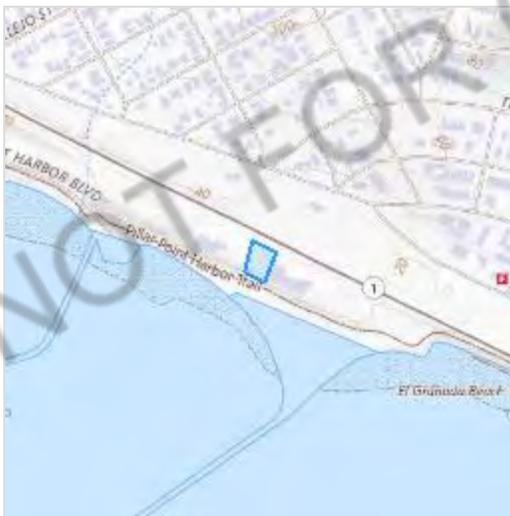
IPaC resource list

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

San Mateo 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](#).

-
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:

Mammals

NAME	STATUS
Salt Marsh Harvest Mouse <i>Reithrodontomys raviventris</i> Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/613	Endangered

Birds

NAME	STATUS
California Least Tern <i>Sternula antillarum browni</i> Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/8104	Endangered
California Ridgway's Rail <i>Rallus obsoletus obsoletus</i> Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/4240	Endangered
Marbled Murrelet <i>Brachyramphus marmoratus</i> There is final critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/4467	Threatened
Western Snowy Plover <i>Charadrius nivosus nivosus</i> There is final critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/8035	Threatened

Reptiles

NAME	STATUS
Green Sea Turtle <i>Chelonia mydas</i> No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/6199	Threatened

Northwestern Pond Turtle *Actinemys marmorata* Proposed Threatened
Wherever found
No critical habitat has been designated for this species.
<https://ecos.fws.gov/ecp/species/1111>

San Francisco Garter Snake *Thamnophis sirtalis tetrataenia* Endangered
Wherever found
No critical habitat has been designated for this species.
<https://ecos.fws.gov/ecp/species/5956>

Amphibians

NAME	STATUS
California Red-legged Frog <i>Rana draytonii</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/2891	Threatened
Foothill Yellow-legged Frog <i>Rana boylei</i> There is proposed critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/5133	Threatened

Fishes

NAME	STATUS
Tidewater Goby <i>Eucyclogobius newberryi</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/57	Endangered

Insects

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> Wherever found There is proposed critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/9743	Proposed Threatened

Flowering Plants

NAME	STATUS
Hickman's Potentilla <i>Potentilla hickmanii</i> Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/6343	Endangered
San Mateo Woolly Sunflower <i>Eriophyllum latilobum</i> Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/7791	Endangered
White-rayed Pentachaeta <i>Pentachaeta bellidiflora</i> Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/7782	Endangered

Critical habitats

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

There are no critical habitats at this location.

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

Bald & Golden Eagles

Bald and Golden Eagles are protected under the Bald and Golden Eagle Protection Act ² and the Migratory Bird Treaty Act (MBTA) ¹. Any person or organization who plans or conducts activities that may result in impacts to Bald or Golden Eagles, or their habitats, should follow appropriate regulations and consider implementing appropriate avoidance and minimization measures, as described in the various links on this page.

Additional information can be found using the following links:

- Eagle Management <https://www.fws.gov/program/eagle-management>

- Measures for avoiding and minimizing impacts to birds
<https://www.fws.gov/library/collections/avoiding-and-minimizing-incident-take-migratory-birds>
- Nationwide avoidance and minimization measures for birds
<https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf>
- Supplemental Information for Migratory Birds and Eagles in IPaC
<https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action>

There are Bald Eagles and/or Golden Eagles in your [project](#) area.

Measures for Proactively Minimizing Eagle Impacts

For information on how to best avoid and minimize disturbance to nesting bald eagles, please review the [National Bald Eagle Management Guidelines](#). You may employ the timing and activity-specific distance recommendations in this document when designing your project/activity to avoid and minimize eagle impacts. For bald eagle information specific to Alaska, please refer to [Bald Eagle Nesting and Sensitivity to Human Activity](#).

The FWS does not currently have guidelines for avoiding and minimizing disturbance to nesting Golden Eagles. For site-specific recommendations regarding nesting Golden Eagles, please consult with the appropriate Regional [Migratory Bird Office](#) or [Ecological Services Field Office](#).

If disturbance or take of eagles cannot be avoided, an [incidental take permit](#) may be available to authorize any take that results from, but is not the purpose of, an otherwise lawful activity. For assistance making this determination for Bald Eagles, visit the [Do I Need A Permit Tool](#). For assistance making this determination for golden eagles, please consult with the appropriate Regional [Migratory Bird Office](#) or [Ecological Services Field Office](#).

Ensure Your Eagle List is Accurate and Complete

If your project area is in a poorly surveyed area in IPaC, your list may not be complete and you may need to rely on other resources to determine what species may be present (e.g. your local FWS field office, state surveys, your own surveys). Please review the [Supplemental Information on Migratory Birds and Eagles](#), to help you properly interpret the report for your specified location, including determining if there is sufficient data to ensure your list is accurate.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to bald or golden eagles on your list, see the "Probability of Presence Summary" below to see when these bald or golden eagles are most likely to be present and breeding in your project area.

Review the FAQs

The FAQs below provide important additional information and resources.

NAME

BREEDING SEASON

Bald Eagle *Haliaeetus leucocephalus*

Breeds Jan 1 to Aug 31

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

Golden Eagle *Aquila chrysaetos*

Breeds Jan 1 to Aug 31

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

<https://ecos.fws.gov/ecp/species/1680>

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 "[Supplemental Information on Migratory Birds and Eagles](#)", specifically the FAQ section titled "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.

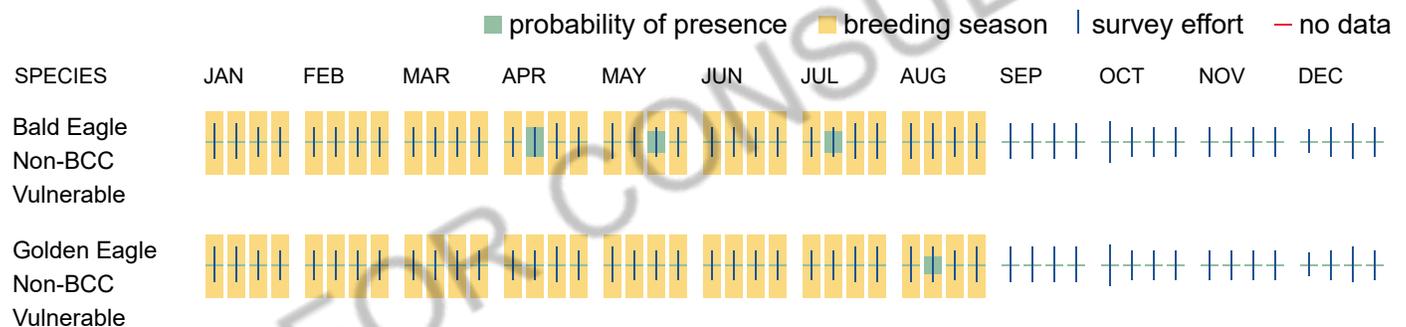
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

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.



Bald & Golden Eagles FAQs

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

The potential for eagle presence is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are an eagle ([Bald and Golden Eagle Protection Act](#) requirements may apply).

Proper interpretation and use of your eagle report

On the graphs provided, please look carefully at the survey effort (indicated by the black vertical line) and for the existence of the "no data" indicator (a red horizontal line). 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 line or no data line (red horizontal) 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 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 and associated information help you know what to look for to confirm presence and helps guide you in knowing when to implement avoidance and minimization measures to eliminate or reduce potential impacts from your project activities or get the appropriate permits should presence be confirmed.

How do I know if eagles are 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 resident), you may query your location using the [RAIL Tool](#) and view the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If an eagle on your IPaC migratory bird species list has a breeding season associated with it (indicated by yellow vertical bars on the phenology graph in your "IPaC PROBABILITY OF PRESENCE SUMMARY" at the top of your results list), 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.

Interpreting the Probability of Presence Graphs

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 taller bar indicates a higher probability of species presence. The survey effort can be used to establish a level of confidence in the presence score.

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

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.

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.

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.

Migratory birds

The Migratory Bird Treaty Act (MBTA) ¹ prohibits the take (including killing, capturing, selling, trading, and transport) of protected migratory bird species without prior authorization by the Department of Interior U.S. Fish and Wildlife Service (Service). The incidental take of migratory birds is the injury or death of birds that results from, but is not the purpose, of an activity. The Service interprets the MBTA to prohibit incidental take.

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:

- Eagle Management <https://www.fws.gov/program/eagle-management>
- Measures for avoiding and minimizing impacts to birds <https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds>
- Nationwide avoidance and minimization measures for birds
- Supplemental Information for Migratory Birds and Eagles in IPaC <https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action>

Measures for Proactively Minimizing Migratory Bird Impacts

Your IPaC Migratory Bird list showcases [birds of concern](#), including [Birds of Conservation Concern \(BCC\)](#), in your project location. This is not a comprehensive list of all birds found in your project area. However, you can help proactively minimize significant impacts to all birds at your project location by implementing the measures in the [Nationwide avoidance and minimization measures for birds](#) document, and any other project-specific avoidance and minimization measures suggested at the link [Measures for avoiding and minimizing impacts to birds](#) for the birds of concern on your list below.

Ensure Your Migratory Bird List is Accurate and Complete

If your project area is in a poorly surveyed area, your list may not be complete and you may need to rely on other resources to determine what species may be present (e.g. your local FWS field office, state surveys, your own surveys). Please review the [Supplemental Information on Migratory Birds and Eagles document](#), to help you properly interpret the report for your specified location, including determining if there is sufficient data to ensure your list is accurate.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the "Probability of Presence Summary" below to see when these birds are most likely to be present and breeding in your project area.

Review the FAQs

The FAQs below provide important additional information and resources.

NAME	BREEDING SEASON
<p>Allen's Hummingbird <i>Selasphorus sasin</i></p> <p>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p> <p>https://ecos.fws.gov/ecp/species/9637</p>	Breeds Feb 1 to Jul 15
<p>Ashy Storm-petrel <i>Hydrobates homochroa</i></p> <p>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p> <p>https://ecos.fws.gov/ecp/species/7237</p>	Breeds May 1 to Jan 15
<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</p> <p>https://ecos.fws.gov/ecp/species/8</p>	Breeds Apr 1 to Aug 15
<p>Black Oystercatcher <i>Haematopus bachmani</i></p> <p>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p> <p>https://ecos.fws.gov/ecp/species/9591</p>	Breeds Apr 15 to Oct 31
<p>Black Skimmer <i>Rynchops niger</i></p> <p>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p> <p>https://ecos.fws.gov/ecp/species/5234</p>	Breeds May 20 to Sep 15
<p>Black Swift <i>Cypseloides niger</i></p> <p>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p> <p>https://ecos.fws.gov/ecp/species/8878</p>	Breeds Jun 15 to Sep 10
<p>Black Turnstone <i>Arenaria melanocephala</i></p> <p>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p>	Breeds elsewhere

Brandt's Cormorant <i>Urile penicillatus</i>	Breeds Apr 15 to Sep 15
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	
Bullock's Oriole <i>Icterus bullockii</i>	Breeds Mar 21 to Jul 25
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	
California Gull <i>Larus californicus</i>	Breeds Mar 1 to Jul 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	
California Thrasher <i>Toxostoma redivivum</i>	Breeds Jan 1 to Jul 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	
Clark's Grebe <i>Aechmophorus clarkii</i>	Breeds Jun 1 to Aug 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	
Common Yellowthroat <i>Geothlypis trichas sinuosa</i>	Breeds May 20 to Jul 31
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/2084	
Elegant Tern <i>Thalasseus elegans</i>	Breeds Apr 5 to Aug 5
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/8561	
Golden Eagle <i>Aquila chrysaetos</i>	Breeds Jan 1 to Aug 31
This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1680	
Heermann's Gull <i>Larus heermanni</i>	Breeds Mar 15 to Aug 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	

Lawrence's Goldfinch <i>Spinus lawrencei</i>	Breeds Mar 20 to Sep 20
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	
https://ecos.fws.gov/ecp/species/9464	
Marbled Godwit <i>Limosa fedoa</i>	Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	
https://ecos.fws.gov/ecp/species/9481	
Northern Harrier <i>Circus hudsonius</i>	Breeds Apr 1 to Sep 15
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	
https://ecos.fws.gov/ecp/species/8350	
Nuttall's Woodpecker <i>Dryobates nuttallii</i>	Breeds Apr 1 to Jul 20
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	
https://ecos.fws.gov/ecp/species/9410	
Oak Titmouse <i>Baeolophus inornatus</i>	Breeds Mar 15 to Jul 15
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	
https://ecos.fws.gov/ecp/species/9656	
Olive-sided Flycatcher <i>Contopus cooperi</i>	Breeds May 20 to Aug 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	
https://ecos.fws.gov/ecp/species/3914	
Red Knot <i>Calidris canutus roselaari</i>	Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	
https://ecos.fws.gov/ecp/species/8880	
Santa Barbara Song Sparrow <i>Melospiza melodia graminea</i>	Breeds Mar 1 to Sep 5
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/5513	

Scripps's Murrelet <i>Synthliboramphus scrippsi</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Feb 20 to Jul 31
Short-billed Dowitcher <i>Limnodromus griseus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9480	Breeds elsewhere
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	Breeds Mar 15 to Aug 10
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	Breeds Jun 1 to Aug 31
Western Gull <i>Larus occidentalis</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 21 to Aug 25
Western Screech-owl <i>Megascops kennicottii cardonensis</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds Mar 1 to Jun 30
Willet <i>Tringa semipalmata</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
Wrentit <i>Chamaea fasciata</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 15 to Aug 10

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 "[Supplemental Information on Migratory Birds and Eagles](#)", specifically the FAQ section titled "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.

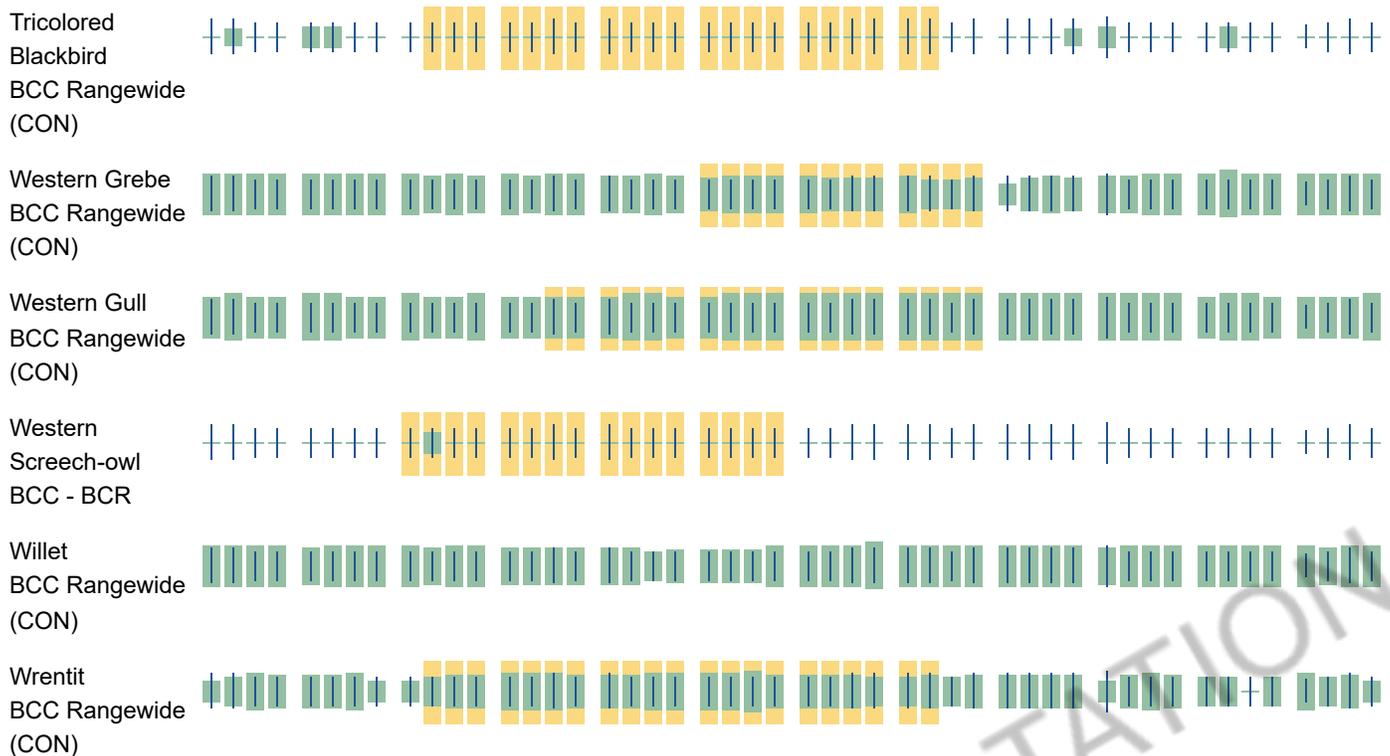
Survey Timeframe

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.

■ probability of presence ■ breeding season | survey effort - no data

SPECIES JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC





Migratory Bird FAQs

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

[Nationwide Avoidance & Minimization Measures for Birds](#) describes measures that can help avoid and minimize impacts to all birds at any location year-round. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is one of the most effective ways to minimize impacts. To see when birds are most likely to occur and breed 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 [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location, such as those listed under the Endangered Species Act or the [Bald and Golden Eagle Protection Act](#) and those species marked as “Vulnerable”. See the FAQ “What are the levels of concern for migratory birds?” for more information on the levels of concern covered in the IPaC migratory bird species list.

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) with which your project intersects. These species have been identified as warranting special attention because they are BCC species in that area, an eagle ([Bald and Golden Eagle Protection 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, and to verify survey effort when no results present, please visit the [Rapid Avian Information Locator \(RAIL\) Tool](#).

Why are subspecies showing up on my list?

Subspecies profiles are included on the list of species present in your project area because observations in the AKN for **the species** are being detected. If the species are present, that means that the subspecies may also be present. If a subspecies shows up on your list, you may need to rely on other resources to determine if that subspecies may be present (e.g. your local FWS field office, state surveys, your own surveys).

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 resident), you may query your location using the [RAIL Tool](#) and view 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 IPaC migratory bird species list has a breeding season associated with it (indicated by yellow vertical bars on the phenology graph in your "IPaC PROBABILITY OF PRESENCE SUMMARY" at the top of your results list), 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 [Bald and Golden Eagle Protection 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 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 BCC species. For more information on avoidance and minimization measures you can implement to help avoid and minimize migratory bird impacts, please see the FAQ "Tell me more about avoidance and minimization measures I can implement to avoid or minimize impacts to migratory birds".

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.

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 look carefully at the survey effort (indicated by the black vertical line) and for the existence of the "no data" indicator (a red horizontal line). 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 does not represent all birds present in your project area. 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 and associated information help you know what to look for to confirm presence and helps guide implementation of avoidance and minimization measures to eliminate or reduce potential impacts from your project activities, should presence be confirmed. To learn more about avoidance and minimization measures, visit the FAQ "Tell me about avoidance and minimization measures I can implement to avoid or minimize impacts to migratory birds".

Interpreting the Probability of Presence Graphs

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 taller bar indicates a higher probability of species presence. The survey effort can be used to establish a level of confidence in the presence score.

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

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.

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.

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.

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](#).

This location did not intersect any wetlands mapped by NWI.

NOTE: This initial screening does **not** replace an on-site delineation to determine whether wetlands occur. Additional information on the NWI data is provided below.

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.

APPENDIX D

OBSERVED SPECIES LIST

Table 1. Observed Plant Species on April 11, 2025

Scientific Name	Common Name	Native / Non-Native
Apiaceae		
<i>Foeniculum vulgare</i>	Fennel	Non-Native
Araliaceae		
<i>Hedera helix</i>	English ivy	Non-Native
Asteraceae		
<i>Baccharis pilularis</i>	Coyote brush	Native
<i>Calendula arvensis</i>	Field marigold	Non-Native
<i>Carduus tenuiflorus</i>	Slender flowered thistle	Non-Native
<i>Glebionis coronaria</i>	Crown daisy	Non-Native
<i>Helminthotheca echioides</i>	Bristly ox-tongue	Non-Native
<i>Hypochaeris glabra</i>	Smooth cats ear	Non-Native
<i>Matricaria discoidea</i>	Pineapple weed	Native
<i>Senecio vulgaris</i>	Common groundsel	Non-Native
<i>Symphyotrichum chilense</i>	Pacific aster	Native
Boraginaceae		
<i>Echium candicans</i>	Pride of Madeira	Non-Native
Brassicaceae		
<i>Brassica nigra</i>	Black mustard	Non-Native
<i>Raphanus sativus</i>	Jointed charlock	Non-Native
Euphorbiaceae		
<i>Euphorbia peplus</i>	Petty spurge	Non-Native
Fabaceae		
<i>Medicago polymorpha</i>	Bur clover	Non-Native
<i>Vicia sativa</i>	Spring vetch	Non-Native
Geraniaceae		
<i>Erodium cicutarium</i>	Coastal heron's bill	Non-Native
<i>Geranium dissectum</i>	Wild geranium	Non-Native
Malvaceae		
<i>Malva neglecta</i>	Dwarf mallow	Non-Native
Myrsinaceae		
<i>Lysimachia arvensis</i>	Scarlet pimpernel	Non-Native
Oxalidaceae		
<i>Oxalis pes-caprae</i>	Bermuda buttercup	Non-Native
Plantaginaceae		
<i>Plantago lanceolata</i>	Ribwort	Non-Native
<i>Veronica persica</i>	Bird's eye speedwell	Non-Native
Poaceae		
<i>Avena barbata</i>	Slim oat	Non-Native
<i>Bromus diandrus</i>	Ripgut brome	Non-Native
<i>Bromus hordeaceus</i>	Soft chess	Non-Native
<i>Cortaderia jubata</i>	Pampas grass	Non-Native
<i>Ehrharta erecta</i>	Upright veldt grass	Non-Native
<i>Festuca myuros</i>	Rattail sixweeks grass	Non-Native
<i>Festuca perennis</i>	Italian rye grass	Non-Native

<i>Hordeum murinum</i>	Foxtail barley	Non-Native
<i>Poa annua</i>	Annual blue grass	Non-Native
Rhamnaceae		
<i>Frangula californica</i>	Coffeeberry	Native
Scrophulariaceae		
<i>Myoporum laetum</i>	Ngaio	Non-Native

Table 2. Observed Plant Species on July 20, 2018

Scientific Name	Common Name	Native / Non-Native
<i>Convolvulus arvensis</i>	Field bindweed	Non-Native
<i>Cortaderia jubata</i>	pampas grass	Non-Native
<i>Helminthotheca echioides</i>	bristly ox-tongue	Non-Native
<i>Bromus hordeaceus</i>	soft chess	Non-Native
<i>Rumex crispus</i>	curly dock	Non-Native
<i>Festuca perennis</i>	Italian rye grass	Non-Native

Table 3. Observed Wildlife List on April 11, 2025

Reptiles	
<i>Thamnophis atratus atratus</i>	Santa Cruz gartersnake
Birds	
<i>Calypte anna</i>	Anna's hummingbird
<i>Numenius phaeopus</i>	Whimbrel
<i>Larus occidentalis</i>	Western gull
<i>Pelecanus occidentalis</i>	Brown pelican
<i>Passer domesticus</i>	House sparrow
<i>Haemorhous mexicanus</i>	House finch
<i>Melospiza fusca</i>	California towhee
<i>Zonotrichia leucophrys</i>	White-crowned sparrow
<i>Euphagus cyanocephalus</i>	Brewer's blackbird
<i>Molothrus ater</i>	Brown-headed cowbird
Mammals	
<i>Phoca vitulina</i>	Harbor seal