COASTAL BIOLOGICAL RESOURCES REPORT

759 Correas Street,
Half Moon Bay, CA

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SOL ECOLOGY

TABLE OF CONTENTS

LIST OF TABLES

LIST OF APPENDICES

LIST OF ACRONYMS AND ABBREVIATIONS

CDFG/CDFW	California Department of Fish and Game/Wildlife
CESA	California Endangered Species Act
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CRLF	California Red-legged Frog
ESA	Federal Endangered Species Act
ESHA	Environmentally Sensitive Habitat Areas
LCP	Local Coastal Program
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
WBWG	Western Bat Working Group

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 APN 056-179-270, at 759 Correas Street, Half Moon Bay, California (Study Area) that may be present and/or subject to potential direct or indirect effects as a result of proposed improvements to the existing garage.

The Study Area is located at a parcel on Correas Street on the west side of the Arroyo Leon. It is at the edge of a residential street adjacent to Main Street and downtown Half Moon Bay. The parcel has two terraces, with a developed area at the level of Correas Street, and a lower terrace at the top of the streambank accessed by a driveway. The Study Area is almost entirely developed with some cultivated willows and other planted trees; the buffer around the site extending into the riparian corridor is dominated by eucalyptus, alder, and willow with an understory of mainly non-native vegetation. The parcel and those adjacent are zoned as "R-1-B-2 Single Family Residential (7,500 sq.' lot)."

2.0 METHODS

On June 21, 2023, Sol Ecology biologists conducted a biological resources study within 200 feet of the Project Site (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 Study Area and vicinity. Sol Ecology biologists reviewed the following:

- Half Moon Bay Local Coastal Program (LCP), Chapter 6: Natural Resources (Huffman-Broadway 2020)
- California Native Plant Society's (CNPS's) A Manual of California Vegetation Online Edition (CNPS 2023a)
- U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory, Wetlands Mapper (USFWS 2023a)
- 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 Half Moon Bay quadrangle and five adjacent quadrangles (CNPS 2023b)
- California Natural Diversity Database (CNDDB) search for USGS 7.5-minute Half Moon Bay quadrangle and five adjacent quadrangles (CDFW 2023)
- USFWS Information for Planning and Conservation Species Lists (USFWS 2023b)
- 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 reconnaissance-level surveys for Environmentally Sensitive Habitat Areas (ESHA) within the Study Area. The LCP 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 LCP) documented in the surrounding vicinity are present within the 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 Study Area was also evaluated to determine if any coastal wetland (one-parameter rule) is present, or if a riparian corridor is 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). Hydrophytic plants commonly found in wetlands in San Mateo County include cordgrass, pickleweed, jaumea, frankenia, marsh mint, tule, bulrush, narrow-leaf cattail, broadleaf cattail, pacific silverweed, salt rush, and bog rush. To qualify, a wetland must contain at least a 50 percent cover of some combination of these plants, unless it is a mudflat. Riparian corridors were identified as areas along streams that naturally support native vegetation and wetlands. These areas filter runoff, provide runoff protection, and facilitate groundwater recharge. The setback for wetlands is 100 feet. The setback for riparian on perennial watercourses is 50 feet from the edge of vegetation or, 100 feet from top of bank, whichever is larger.

<u>Coastal Wetland Criteria</u>

Soils

The Natural Resource Conservation Service (NRCS) defines a hydric soil as follows:

"A hydric soil is a soil that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part."

Federal Register July 13, 1994,
U.S. Department of Agriculture, NRCS

Soils formed over long periods of time under wetland (anaerobic) conditions often possess characteristics that indicate they meet the definition of hydric soils. Hydric soils can have a hydrogen sulfide (rotten egg) odor, low chroma matrix color, generally designated 0, 1, or 2, used to identify them as hydric, presence of redox concentrations, gleyed or depleted matrix, or high organic matter content.

Hydrology

Evidence of wetland hydrology can include primary indicators, such as visible inundation or saturation, drift deposits, oxidized root channels, and salt crusts, or secondary indicators such as the FAC-neutral test, presence of a shallow aquitard, or crayfish burrows. The Western Mountains, Valleys, and Coast Region Supplement (USACE 2010) contains 19 primary hydrology indicators and 9 secondary hydrology indicators. Only one primary indicator is required to meet the wetland hydrology criterion; however, if secondary indicators are used, at least two secondary indicators must be present to conclude that an area has wetland hydrology.

Vegetation

Plant species observed on the Study Area were identified using the CNPS Online Manual. Plants were assigned a wetland indicator status according to the National Wetland Plant List (NWPL) (USACE 2020) as described below. In order to meet the criteria for hydrophytic vegetation indicators, plant species with a wetland indicator status of obligate, facultative wetland, or facultative must contribute at least 50 percent of the total ground cover. Unless in present combination with an obligate species and clear indicators of hydrology, facultative species were not considered due to their common association with coastal upland habitats.

Wetland indicator statuses listed in the NWPL are based on the expected frequency of occurrence in wetlands as follows:

OBL	Obligate	Always found in wetlands	>99% frequency
FACW	Facultative Wetland	Usually found in wetlands	67-99%
FAC	Facultative	Equal in wetland or non-wetlands	34-66%
FACU	Facultative Upland	Usually found in non-wetlands	1-33%
UPL	Upland	Upland/Not listed (upland)	<1%

3.0 RESULTS

The Study Area is located in the City of Half Moon Bay in an area that has a combination of commercial and medium density housing developments, with the eastern side of the parcel bordered by the Arroyo Leon Creek corridor. Photographs of the Study Area are included in Appendix B, and lists of observed plant and wildlife species are included in Appendix C.

Soils

Soils present on the Study Area are comprised of Soquel loam, nearly level; Gullied land (alluvial soil material); and Botella clay loam, nearly level, cool. None of these soils are rated as hydric. Elevation of the site ranges from 17.4 to 25.6 meters (57 to 84 feet).

Hydrology

While wetland hydrology indicators were absent from the Study Area, Arroyo Leon, a stream that is a tributary to Pilarcitos Creek, runs through the Study Area.

Vegetation

Vegetation adjacent to the garage and residential structures is mainly composed of planted horticultural trees and shrubs, such as coast redwood (*Sequoia sempervirens*), yucca (*Yucca sp.*), maple (*Acer sp.*), and weeping willow (*Salix babylonica*). The Arroyo Leon creek corridor is dominated by native willows (*Salix sp.*), red alder (*Alnus rubra*), and invasive blue gum tree (*Eucalyptus globulus*). The understory is mainly composed of non-native vegetation, such as poison hemlock (*Conium maculatum*), wild radish (*Raphanus sativus*), cape ivy (*Delairea odorata*), English ivy (*Hedera helix*), French broom (*Genista monspessulana*), Harding grass (*Phalaris aquatica*), garden nasturtium (*Tropaeolum majus*), Himalayan blackberry (*Rubus armeniacus*), and Italian wild rye (*Festuca perennis*). Some native shrubs and herbs are present in the understory, such as red elderberry (*Sambucus racemosa*), poison oak (*Toxicodendron diversilobum*), and toyon (*Heteromeles arbutifolia*). Horsetail (*Equisetum sp.*), watercress (*Nasturtium officinale*), and stinging nettle (*Urtica dioica*) line the banks of the creek. Refer to Table 1 for a list of plant species observed at the site.

While there are a number of plants present in specific portions of the Study Area that have a wetland indicator status of FAC, FACW, or OBL, these areas are either non-native monocultures (i.e., Himalayan blackberry brambles), or exist as emergent vegetation along the shallower segments of the streambed below the ordinary high water mark of Arroyo Leon. As such, none of these wetland plant species constitute as indicators of hydrophytic vegetation, and therefore no wetlands are present.

Table 1. Observed Plant Species

Common name	Scientific name	Origin	Wetland Indicator Status*
Blue gum	*Eucalyptus globulus*	Invasive	UPL
Cape ivy	*Delairea odorata*	Invasive	FAC
Coast redwood	*Sequoia sempervirens*	Native	UPL
English ivy	*Hedera helix*	Invasive	FACU
French broom	*Genista monspessulana*	Invasive	UPL
Garden nasturtium	*Tropaeolum majus*	Non-native	UPL
Harding grass	*Phalaris aquatica*	Invasive	FACU
Himalayan blackberry	*Rubus armeniacus*	Invasive	FAC
Horsetail	*Equisetum sp.*	Native	FACW
Italian wild rye	*Festuca perennis*	Invasive	FAC
Maple	*Acer sp.*	Non-native	UPL
Poison hemlock	*Conium maculatum*	Invasive	FAC
Poison oak	*Toxicodendron diversilobum*	Native	FAC
Red alder	*Alnus rubra*	Native	FAC
Red elderberry	*Sambucus racemosa*	Native	FACU
Stinging nettle	*Urtica dioica*	Native	FAC
Toyon	*Heteromeles arbutifolia*	Native	UPL
Watercress	*Nasturtium officinale*	Native	OBL
Weeping willow	*Salix babylonica*	Non-native	FACW
Wild radish	*Raphanus sativus*	Invasive	UPL
Willow	*Salix sp.*	Native	FACW
Yucca	*Yucca sp.*	Non-native	UPL

* Plants not listed in the Western Mountains, Valleys, and Coast Region National Plant List were assumed to have an upland indicator status.

Special Status Species

Special-status species include those plants and wildlife 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 LCP.

Twelve special status plants and twelve special status wildlife species have been documented within approximately five miles of the Study Area (Appendix A, Figures 2 and 3 and Appendix D, Summary Table Report). Of these, five special status animal species, Monarch Butterfly (*Danaus plexippus*), Steelhead - Central California Coast DPS (*Oncorhynchus mykiss irideus*), California red-legged frog (CRLF; *Rana draytonii*), San Francisco garter snake (SFGS; *Thamnophis sirtalis tetrataenia*), and Allen's hummingbird (*Selasphorus sasin*), have potential to occur in the Study Area. No special status plants are likely to be present due to the habitat type and highly disturbed nature of the site. Special status species and their potential to occur are discussed below.

Other species identified in the database review or in the Half Moon Bay LCP are not likely to occur on the Study Area due to 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. No evidence of other special status bird species was observed within or adjacent to the Study Area, such as egret or heron rookies or wetland habitats. The Study Area does have the potential to support other nesting birds protected under the MBTA and CDFG Code.

Monarch Butterfly (*Danaus plexippus*). Federal Candidate, CDFW Special Status Invertebrate. Monarchs were petitioned to be listed under the federal Endangered Species Act in 2014 and is currently proposed to be listed in 2024. This large, showy butterfly is found throughout the United States, southern Canada, and Central America. It also occurs in parts of South America and other continents. In North America, this species spends spring and summer months breeding and foraging across much of its range. The monarch butterfly generally uses milkweed (*Asclepias spp*.) for both breeding and nectaring, although nectar may also be obtained from a variety of additional plant species. From August to October, monarchs will migrate thousands of miles to winter roost sites located along the California coast and central Mexico. At roost sites, monarchs will congregate in thousands or millions on a tree or group of trees (Opler et al. 2011). Western monarchs prefer overwintering habitat comprised of a relatively dense grove of trees with some understory, located near water and nectar sources and protected from the wind by topographic landforms or trees (Sakai and Calvert 1991). Winter roost sites are often on south, southwest, or west facing slopes which may provide more favorable temperature regimes and wind protection (Leong et al. 2004). Monarch butterflies typically arrive in mid-October to overwintering sites along the California coast and remain until late or March (Jepsen et al. 2015). Overwintering habitat requirements include sites protected from storms and heavy winds, temperatures above freezing, variable light conditions with a mix of sun and shade, high humidity, and water availability.

Two overwintering sites are documented approximately 0.85 miles southwest and 1.4 miles northwest of the Study Area, however the southwestern site has possibly not been used since the habitat was damaged in 1992. Arroyo Leon contains stands of Eucalyptus featuring mixed lighting conditions in that canopy and proximity to water, which could be suitable for monarch overwintering habitat.

Steelhead - Central California Coast DPS (*Oncorhynchus mykiss irideus*), Federal Threatened. The Central California Coast DPS includes all naturally spawned populations of steelhead (and their progeny) in California streams from the Russian River to Aptos Creek, and the drainages of San Francisco and San Pablo Bays eastward to the Napa River (inclusive), excluding the Sacramento-San Joaquin River Basin. Steelhead typically migrate to marine waters after spending two years in freshwater, though they may stay up to seven. They then reside in marine waters for 2 or 3 years prior to returning to their natal stream to spawn as 4-or 5-year-olds. Steelhead adults typically spawn between December and June. In California, females typically spawn two times before they die. Preferred spawning habitat for steelhead is in perennial streams with cool to cold water temperatures, high dissolved oxygen levels and fast flowing water. Abundant riffle areas (shallow areas with gravel or cobble substrate) for spawning and deeper pools with sufficient riparian cover for rearing are necessary for successful breeding.

Steelhead/rainbow trout are documented in the Arroyo Leon and it should be managed for natural production of anadromous fish. There is stream habitat present in the Study Area buffer with riffles and large woody debris appropriate for spawning habitat. Appropriate canopy cover and substrate to support fish is present. The high canopy cover over the riparian corridor likely supports suitable water temperatures for anadromous fish.

Allen's hummingbird (*Selasphorus sasin*). USFWS Bird of Conservation Concern. Allen's hummingbird, common in many portions of its range, is a summer resident along the majority of California's coast and a year-round resident in portions of coastal southern California and the Channel Islands. Breeding occurs in association with the coastal fog belt, and typical habitats used include coastal scrub, riparian, woodland and forest edges, and eucalyptus and cypress groves (Clark and Mitchell 2000). It feeds on nectar, as well as insects and spiders. This species may nest in adjacent riparian trees and shrubs and is common in urban landscapes throughout Half Moon Bay.

California Red-legged Frog (*Rana draytonii*), Federal Threatened Species, CDFW Species of Special Concern. CRLF is dependent on suitable aquatic, estivation, and upland habitat. During periods of wet weather, starting with the first rainfall in late fall, red-legged frogs disperse away from their estivation sites to seek suitable breeding habitat. Aquatic and breeding habitat is characterized by dense, shrubby, riparian vegetation and deep, still, or slow-moving water. Breeding occurs between late November and late April. Following breeding during the wet season, adult frogs may disperse into upland habitats which include areas up to 300 feet from aquatic and riparian habitat and are comprised of grasslands, woodlands, and/or vegetation that provide shelter, forage, and predator avoidance. At the end of the wet season, CRLF may disperse

up to one-mile overland from upland or breeding habitats (often via riparian corridors) to aquatic non-breeding habitats (Bulger 2003, Fellers and Kleeman 2007).

The nearest documented occurrences are about 0.5 miles south in the Arroyo Leon riparian corridor, and 0.75 miles west at the end of Myrtle Avenue. In the Arroyo Leon, the frogs are mapped in the general area of two small reservoirs on either side of Higgins Canyon Road. The occurrence on Myrtle Avenue is in coastal open space surrounded by highly urbanized residential areas. While the Study Area does not contain suitable ponded, slow moving aquatic habitat for breeding, it's possible they may be present during dispersal or migration. Downed woody debris and riprap lining the creek corridor provide suitable refuge sites immediately adjacent to the creek corridor, but there is a lack of animal burrows or other refugia suitable for estivation outside of the creek channel. The slope between the Study Area and the Arroyo Leon is steep, and most of it is covered with dense vegetation, which would make it difficult for CRLF to access the Study Area. The only feasible access point to the Study Area would be via the driveway, which is clear of vegetation and has a gentler slope towards the Arroyo Leon. The lack of available refugia on the driveway suggests such use is highly unlikely.

San Francisco Garter Snake (*Thamnophis sirtalis tetrataenia*), Federal Endangered, State Endangered and Fully Protected. SFGS are found in and adjacent to aquatic habitats requiring both shallow freshwater habitat and contiguous uplands, meadows, or riparian habitat (USFWS 2020). Aquatic habitat including sag ponds, stockponds with both emergent and floating vegetation, creeks, and marshes may be utilized; the species tends to avoid ponds with steeply sloped banks (USFWS 2020). Universally, dense cover around or within the aquatic site is essential. SFGS uses contiguous terrestrial habitat to regulate body temperature, estivate, forage, mate, and hibernate (USFWS 2020). Open grasslands with some shrub habitat are preferred. Recent studies at Año Nuevo State Reserve cite that SFGS utilize upland habitats within 300 and 650 feet of foraging (pond) habitats and upland sites, while other studies show SFGS may be present within 1.2 km of aquatic habitat, presumably where preferred contiguous habitat is present. If dispersal occurs in pursuit of prey, and during periods of heavy rain or shortly after, SFGS may make long-distance movements of up to 1.25 miles along drainages within the dense riparian cover; however, SFGS have not been documented to travel over open terrain similar to CRLF (McGinnis 2001).

The aquatic habitat in the Study Area is not connected to nearby ponds and has high canopy cover over large areas of the riparian corridor (versus low dense cover over the aquatic site), so it is not suitable for SFGS. Further the steep slopes adjacent to the site and lack of open grassland habitat for sunning, make the project site unsuitable. As such, while SFGS may be present in the Arroyo Leon, the project is not anticipated to impact SFGS or their habitats.

4.0 DISCUSSION AND RECOMMENDATIONS

Much of the site is dominated by invasive and ornamental plants typical of areas that have been disturbed. However, due to the proximity of documented occurrences and suitability of habitat for both CRLF and salmonids, these special status species may potentially occur within the Study Area buffer. Additionally, within the Study Area, the area below the top of bank of Arroyo Leon is designated as ESHA for CRLF upland, foraging, and dispersal habitat, despite the relatively low potential for these species to occur on the property. Despite the disturbed nature of the site, there is high potential for nesting birds protected under the MBTA and/or CDFG Code to occur in the Study Area buffer; nesting bird habitat is also considered ESHA. Due to the steepness of the adjacent bank slopes, it is neither possible nor necessary to install wildlife exclusion fencing and as such, is not recommended.

The following avoidance and minimization measures are prescribed to ensure avoidance of take of monarch butterfly, steelhead, and CRLF under ESA, and to avoid any potential adverse impact to ESHA.

MM BIO-1. Pre-construction surveys for overwintering monarch butterflies and/or nesting birds (including Allen's hummingbird) and raptors is necessary if construction-related activities are initiated during the period between November 1 to August 31, to avoid impacts to these species.

- If work is initiated between February 1 and August 31, nesting bird surveys should be performed in trees proposed for removal and suitable accessible nesting habitat within 250 feet of the project footprint. 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 but should generally be a minimum of 50 to 100 feet for songbirds and up to 250 feet for nesting raptors.

- If work is initiated between November 1 and February 1, a survey for overwintering monarch butterflies in the adjacent eucalyptus habitat is recommended. If monarch butterflies are observed, work must be postponed until the end of the overwintering season.

MM BIO-2. A pre-construction survey is recommended within 48 hours of ground disturbing activities if within 100 feet of any aquatic or riparian habitat, including any drainage area. Non-listed species if found, may be relocated to suitable habitat outside the Project Site. If CRLF is found, work should be halted and the USFWS contacted. If possible, the frog should be allowed to leave the area on its own. If the frog does not leave on its own, all work shall remain halted until the USFWS issues a biological opinion or provides authorization for work to resume.

Due to the steepness of the adjacent bank slopes, it is neither possible nor necessary to install wildlife exclusion fencing and as such, is not recommended. If CRLF are observed during pre-construction surveys or at any time during construction, a biological monitor shall be present

until work in the affected area is completed or until the biologist deems it is safe to resume without a monitor being present (e.g., indoor work).

MM BIO-3. Tightly woven fiber netting or similar material shall be used for erosion control or other purposes to ensure amphibian species do not get trapped. Plastic monofilament netting (erosion control matting), rolled erosion control products, or similar material should not be used. Acceptable substitutes include coconut coir matting or tackified hydroseeding compounds.

MM BIO-4. Environmental awareness training should be provided to all construction crew prior to the start of work. Training will include a description of all biological resources that may be found on or near the Study Area, the laws and regulations that protect those resources, the consequences of non-compliance with those laws and regulations, instructions for inspecting equipment each morning prior to activities, and a contact person if protected biological resources are discovered on the Study Area.

MM BIO-5. No work shall be performed during or within 24 hours of any rain event (greater than 0.5 inches) between February 1 and April 31 when frogs are most likely to utilize upland habitats. No work shall occur within 30 minutes of sunrise or sunset.

MM BIO-6: Impacts to any areas designated as ESHA, both within and adjacent to work areas, must be avoided.

MM BIO-7: Best management practices shall be employed to minimize the risk of fluids or other materials used during construction (e.g., oils, transmission and hydraulic fluids, cement, fuel) from entering streams or contaminating adjacent riparian/wetland habitat areas. Non-monofilament straw wattles are recommended to be installed around the perimeter of the work area.

MM BIO-8: Stockpiling of materials, including portable equipment, vehicles and supplies (e.g., chemicals), will be restricted to the designated construction staging areas, exclusive of any riparian setbacks; refueling of any vehicles or equipment should be done at least 100 feet away from the creek.

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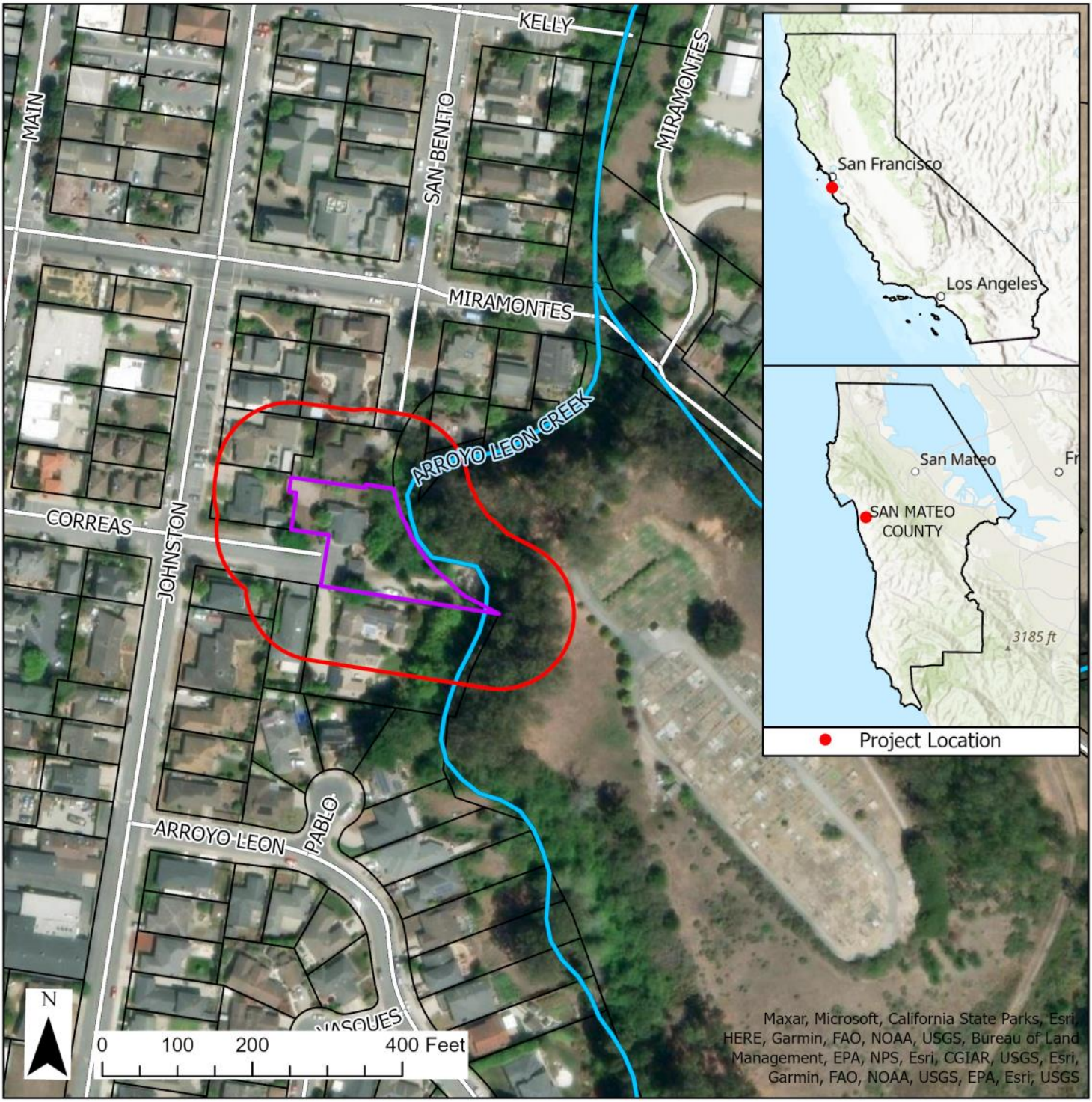
APPENDIX A

PROJECT FIGURES

Figure 1: Location of Project

759 Correas Street, Half Moon Bay, CA



Study Area
Project Parcel
Parcels
Streams
Streets

Date: 8-25-2023
Data: Sol Ecology Inc., San Mateo Co.
Base: ESRI
GIS: JC2321

SOL ECOLOGY
solecology.com

Figure 2: ESHA within the Study Area
759 Correas Street, Half Moon Bay, CA

Date: 9-20-2023
Data: Sol Ecology Inc., San Mateo Co.
Base: ESRI
GIS: JC2321

SOL ECOLOGY
solecology.com

Figure 3: Special-Status Plant Species within Five Miles of the Project Site
759 Correas Street, Half Moon Bay, CA

- Study Area
- 5 Miles
- Choris' popcornflower
- Franciscan onion
- Hillsborough chocolate lily
- Kellogg's horkelia
- Kings Mountain manzanita
- San Francisco campion
- San Francisco owl's-clover
- coastal marsh milk-vetch
- perennial goldfields
- rose leptosiphon
- western leatherwood
- white-rayed pentachaeta

Date: 8-25-2023
Data: Sol Ecology Inc., San Mateo Co., CDFW
Base: ESRI
GIS: JC2321

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Figure 3: Special-Status Wildlife Species within Five Miles of the Project Site

759 Correas Street, Half Moon Bay, CA

- Study Area
- 5 Miles
- American badger
- California giant salamander
- California red-legged frog
- San Francisco dusky-footed woodrat
- Steller sea lion
- marbled murrelet
- monarch - California overwintering population
- saltmarsh common yellowthroat
- steelhead - central California coast DPS
- western bumble bee
- western snowy plover

Date: 8-25-2023
Data: Sol Ecology Inc., San Mateo Co., CDFW

Base: ESRI
GIS: JC2321

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APPENDIX B

SITE PHOTOGRAPHS

Photo 1: Terrace below the Study Area adjacent to the riparian corridor. Looking east.

Photo 2: The riparian corridor to the east of the Study Area. Looking northwest.

Photo 3: Driveway connecting the riparian corridor to the Study Area. Looking west.

Photo 4: The Study Area facing towards the riparian corridor. Looking east.

Photo 5: The Study Area. Looking southwest.

APPENDIX C

DATABASE SEARCH RESULTS

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Half Moon Bay (3712244) OR Montara Mountain (3712254) OR San Mateo (3712253) OR Woodside (3712243) OR La Honda (3712233) OR San Gregorio (3712234))
 AND Taxonomic Group IS (Ferns OR Gymnosperms OR Monocots OR Dicots OR Lichens OR Bryophytes)

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.
Acanthomintha duttonii 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
Agrostis blasdalei 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
Allium peninsulare var. franciscanum 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
Amsinckia lunaris 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:4	0	2	1	0	0	1	1	3	4	0	0
Arctostaphylos andersonii 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	950 1,622	64 S:3	0	0	0	2	0	1	1	2	3	0	0
Arctostaphylos montaraensis 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	1,000 1,500	4 S:3	2	0	1	0	0	0	2	1	3	0	0
Arctostaphylos regismontana 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

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.
Astragalus pycnostachyus var. pycnostachyus 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	10 500	24 S:9	0	5	1	0	0	3	4	5	9	0	0
Centromadia parryi ssp. parryi 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
Chloropyron maritimum ssp. palustre 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
Chorizanthe cuspidata var. cuspidata San Francisco Bay spineflower	G2T1 S1	None None	Rare Plant Rank - 1B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden		17 S:1	0	0	0	0	0	1	1	0	1	0	0
Cirsium andrewsii Franciscan thistle	G3 S3	None None	Rare Plant Rank - 1B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	200 450	31 S:2	0	0	0	0	0	2	2	0	2	0	0
Cirsium fontinale var. fontinale 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
Collinsia multicolor San Francisco collinsia	G2 S2	None None	Rare Plant Rank - 1B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden SB_UCSC-UC Santa Cruz	100 700	36 S:11	0	5	0	0	0	6	3	8	11	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.
Dirca occidentalis western leatherwood	G2 S2	None None	Rare Plant Rank - 1B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	255 1,320	90 S:30	8	7	2	0	0	13	4	26	30	0	0
Eriophyllum latilobum 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:7	1	2	1	0	1	2	1	6	6	1	0
Fissidens pauperculus minute pocket moss	G3? S2	None None	Rare Plant Rank - 1B.2 USFS_S-Sensitive	250 250	22 S:1	0	0	0	0	0	1	0	1	1	0	0
Fritillaria biflora var. ineziana 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
Fritillaria liliacea 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:7	0	5	0	0	0	2	3	4	7	0	0
Grindelia hirsutula var. maritima San Francisco gumplant	G5T1Q S1	None None	Rare Plant Rank - 3.2 SB_UCSC-UC Santa Cruz	200 200	15 S:1	0	0	0	0	0	1	1	0	1	0	0
Hesperevax sparsiflora var. brevifolia short-leaved evax	G4T3 S3	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	400 400	72 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.
Hesperolinon congestum 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	4	5	7	2	0
Horkelia cuneata var. sericea 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	600 600	58 S:2	0	0	0	0	0	2	2	0	2	0	0
Horkelia marinensis Point Reyes horkelia	G2 S2	None None	Rare Plant Rank - 1B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden SB_UCSC-UC Santa Cruz	300 300	36 S:1	0	0	0	0	0	1	1	0	1	0	0
Hypogymnia schizidiata 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
Lasthenia californica ssp. macrantha 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:4	0	1	1	1	0	1	0	4	4	0	0
Leptosiphon croceus 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
Leptosiphon rosaceus 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

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.
Lessingia arachnoidea 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
Limnanthes douglasii ssp. ornduffii 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
Malacothamnus arcuatus arcuate bush-mallow	G2Q S2	None None	Rare Plant Rank - 1B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	10 851	34 S:13	0	1	1	1	1	9	5	8	12	0	1
Microseris paludosa marsh microseris	G2 S2	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive SB_SBBG-Santa Barbara Botanic Garden SB_UCSC-UC Santa Cruz	40 40	38 S:1	0	0	0	0	1	0	1	0	0	0	1
Monolopia gracilens woodland woollythreads	G3 S3	None None	Rare Plant Rank - 1B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden	640 1,248	67 S:6	0	1	0	0	0	5	3	3	6	0	0
Pentachaeta bellidiflora white-rayed pentachaeta	G1 S1	Endangered Endangered	Rare Plant Rank - 1B.1 SB_UCBG-UC Botanical Garden at Berkeley	500 520	14 S:3	1	0	0	0	1	1	2	1	2	0	1
Plagiobothrys chorisianus var. chorisianus Choris' popcornflower	G3T1Q S1	None None	Rare Plant Rank - 1B.2 BLM_S-Sensitive SB_UCSC-UC Santa Cruz	35 1,250	42 S:18	1	9	4	0	0	4	3	15	18	0	0
Polemonium carneum 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
Potentilla hickmanii 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

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.
Senecio aphanactis chaparral ragwort	G3 S2	None None	Rare Plant Rank - 2B.2 SB_CalBG/RSABG-California/Rancho Santa Ana Botanic Garden SB_CRES-San Diego Zoo CRES Native Gene Seed Bank	640 640	98 S:1	0	0	0	0	0	1	1	0	1	0	0
Silene scouleri ssp. scouleri Scouler's catchfly	G5T4T5 S2S3	None None	Rare Plant Rank - 2B.2	800 1,025	23 S:4	0	0	0	0	0	4	2	2	4	0	0
Silene verecunda ssp. verecunda 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	375 1,500	20 S:3	0	1	0	0	1	1	2	1	2	1	0
Trifolium hydrophilum 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
Triphysaria floribunda San Francisco owl's-clover	G2? S2?	None None	Rare Plant Rank - 1B.2	5 450	50 S:5	0	0	0	0	1	4	5	0	4	0	1
Triquetrella californica coastal triquetrella	G2 S2	None None	Rare Plant Rank - 1B.2 USFS_S-Sensitive	1,180 1,180	13 S:1	0	0	0	0	0	1	0	1	1	0	0
Usnea longissima Methuselah's beard lichen	G4 S4	None None	Rare Plant Rank - 4.2 BLM_S-Sensitive	590 590	206 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

Query Criteria: Quad IS (Half Moon Bay (3712244) OR Montara Mountain (3712254) OR San Mateo (3712253) OR Woodside (3712243) OR La Honda (3712233) OR San Gregorio (3712234))
 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.
Acipenser medirostris pop. 1 green sturgeon - southern DPS	G2T1 S1	Threatened None	AFS_VU-Vulnerable IUCN_EN-Endangered	0 0	14 S:1	0	1	0	0	0	0	0	1	1	0	0
Ambystoma californiense pop. 1 California tiger salamander - central California DPS	G2G3T3 S3	Threatened Threatened	CDFW_WL-Watch List IUCN_VU-Vulnerable	400 400	1273 S:1	0	0	0	0	1	0	1	0	0	1	0
Aneides niger Santa Cruz black salamander	G3 S3	None None	CDFW_SSC-Species of Special Concern	534 1,487	78 S:3	0	0	0	0	0	3	2	1	3	0	0
Antrozous pallidus pallid bat	G4 S3	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFS_S-Sensitive	40 420	420 S:4	0	0	0	0	0	4	4	0	4	0	0
Ardea herodias great blue heron	G5 S4	None None	CDF_S-Sensitive IUCN_LC-Least Concern	5 5	156 S:1	0	0	0	0	0	1	1	0	1	0	0
Athene cunicularia burrowing owl	G4 S2	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFWS_BCC-Birds of Conservation Concern	5 842	2011 S:3	0	1	0	0	0	2	0	3	3	0	0
Bombus caliginosus obscure bumble bee	G2G3 S1S2	None None	IUCN_VU-Vulnerable	40 500	181 S:6	0	0	0	0	0	6	6	0	6	0	0
Bombus occidentalis western bumble bee	G3 S1	None Candidate Endangered	IUCN_VU-Vulnerable USFS_S-Sensitive	40 100	306 S:5	0	0	0	0	0	5	5	0	5	0	0
Brachyramphus marmoratus marbled murrelet	G3 S2	Threatened Endangered	CDF_S-Sensitive IUCN_EN-Endangered	200 800	110 S:6	0	0	0	0	0	6	3	3	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.
Calicina minor Edgewood blind harvestman	G1 S1	None None		400 560	2 S:2	0	0	0	0	0	2	2	0	2	0	0
Callophrys mossii bayensis San Bruno elfin butterfly	G4T2 S2	Endangered None		600 1,882	6 S:4	2	0	0	0	0	2	0	4	4	0	0
Charadrius nivosus nivosus western snowy plover	G3T3 S3	Threatened None	CDFW_SSC-Species of Special Concern	10 17	138 S:3	1	0	0	0	0	2	2	1	3	0	0
Corynorhinus townsendii 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	190 2,170	635 S:7	0	0	0	1	0	6	2	5	7	0	0
Danaus plexippus plexippus pop. 1 monarch - California overwintering population	G4T1T2Q S2	Candidate None	IUCN_EN-Endangered USFS_S-Sensitive	40 150	396 S:5	0	1	1	0	2	1	5	0	3	2	0
Dicamptodon ensatus California giant salamander	G2G3 S2S3	None None	CDFW_SSC-Species of Special Concern IUCN_NT-Near Threatened	300 1,400	234 S:11	1	2	0	0	0	8	8	3	11	0	0
Dipodomys venustus venustus Santa Cruz kangaroo rat	G4T1 S1	None None		42 42	29 S:1	0	0	0	0	1	0	1	0	0	1	0
Emys marmorata western pond turtle	G3G4 S3	None None	BLM_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_VU-Vulnerable USFS_S-Sensitive	21 949	1477 S:12	1	10	1	0	0	0	0	12	12	0	0
Eucyclogobius newberryi tidewater goby	G3 S3	Endangered None	AFS_EN-Endangered IUCN_NT-Near Threatened	15 20	127 S:2	0	1	0	0	0	1	2	0	2	0	0
Eumetopias jubatus 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
Euphydryas editha bayensis Bay checkerspot butterfly	G5T1 S3	Threatened None		300 640	30 S:4	0	1	0	0	3	0	3	1	1	2	1
Falco columbarius merlin	G5 S3S4	None None	CDFW_WL-Watch List IUCN_LC-Least Concern	65 65	37 S:1	0	1	0	0	0	0	0	1	1	0	0

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Falco peregrinus anatum American peregrine falcon	G4T4 S3S4	Delisted Delisted	CDF_S-Sensitive	5 5	73 S:1	0	0	0	0	0	1	0	1	1	0	0
Geothlypis trichas sinuosa saltmarsh common yellowthroat	G5T3 S3	None None	CDFW_SSC-Species of Special Concern USFWS_BCC-Birds of Conservation Concern	10 480	112 S:12	1	2	2	0	0	7	12	0	12	0	0
Hydrochara rickseckeri 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
Icaricia icarioides missionensis Mission blue butterfly	G5T2 S2	Endangered None		500 700	14 S:2	0	0	0	0	0	2	2	0	2	0	0
Ischnura gemina San Francisco forktail damselfly	G2 S2	None None	IUCN_EN-Endangered	26 75	7 S:2	0	0	0	0	0	2	2	0	2	0	0
Lasiurus cinereus hoary bat	G3G4 S4	None None	IUCN_LC-Least Concern		238 S:6	0	0	0	0	0	6	6	0	6	0	0
Laterallus jamaicensis coturniculus California black rail	G3T1 S2	None Threatened	BLM_S-Sensitive CDFW_FP-Fully Protected IUCN_EN-Endangered	5 5	303 S:1	0	0	0	1	0	0	1	0	1	0	0
Lichnanthe ursina bumblebee scarab beetle	G2 S2	None None		15 15	8 S:1	0	0	0	0	0	1	1	0	1	0	0
Melospiza melodia pusillula Alameda song sparrow	G5T2T3 S2	None None	CDFW_SSC-Species of Special Concern USFWS_BCC-Birds of Conservation Concern	10 42	38 S:3	0	0	0	0	0	3	3	0	3	0	0
Microcina edgewoodensis 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
Myotis thysanodes 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
Nannopterum auritum double-crested cormorant	G5 S4	None None	CDFW_WL-Watch List IUCN_LC-Least Concern	30 30	39 S:1	0	0	0	0	0	1	1	0	1	0	0
Neotoma fuscipes annectens 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

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.
Nyctinomops macrotis 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
Oncorhynchus mykiss irideus pop. 8 steelhead - central California coast DPS	G5T3Q S3	Threatened None	AFS_TH-Threatened	100 550	44 S:6	0	2	0	0	0	4	6	0	6	0	0
Pomatiopsis californica Pacific walker	G1 S1	None None	IUCN_DD-Data Deficient	20 20	4 S:1	0	0	0	0	1	0	1	0	0	1	0
Rallus obsoletus obsoletus California Ridgway's rail	G3T1 S2	Endangered Endangered	CDFW_FP-Fully Protected	0 15	99 S:4	0	1	1	0	1	1	2	2	3	1	0
Rana boylii pop. 4 foothill yellow-legged frog - central coast DPS	G3T2 S2	Proposed Threatened Endangered	BLM_S-Sensitive USFS_S-Sensitive	192 878	178 S:8	0	1	0	0	2	5	8	0	6	0	2
Rana draytonii California red-legged frog	G2G3 S2S3	Threatened None	CDFW_SSC-Species of Special Concern IUCN_VU-Vulnerable	6 4,005	1686 S:112	16	36	20	13	1	26	18	94	111	1	0
Reithrodontomys raviventris salt-marsh harvest mouse	G1G2 S3	Endangered Endangered	CDFW_FP-Fully Protected IUCN_EN-Endangered	2 2	144 S:1	0	0	0	0	0	1	1	0	1	0	0
Riparia riparia bank swallow	G5 S3	None Threatened	BLM_S-Sensitive IUCN_LC-Least Concern		299 S:1	0	0	0	0	0	1	1	0	1	0	0
Speyeria zerene myrtleae Myrtle's silverspot butterfly	G5T1 S1	Endangered None		20 60	17 S:3	0	0	0	0	3	0	3	0	0	0	3
Spirinchus thaleichthys longfin smelt	G5 S1	Candidate Threatened	IUCN_LC-Least Concern	0 20	46 S:2	0	0	0	0	0	2	2	0	2	0	0
Taxidea taxus American badger	G5 S3	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	187 1,599	594 S:9	0	0	0	0	0	9	1	8	9	0	0
Thamnophis sirtalis tetrataenia San Francisco gartersnake	G5T2Q S2	Endangered Endangered	CDFW_FP-Fully Protected	5 1,355	66 S:37	5	11	4	0	1	16	21	16	36	0	1
Tryonia imitator mimic tryonia (=California brackishwater snail)	G2 S2	None None	IUCN_DD-Data Deficient	3 40	39 S:2	0	1	0	0	0	1	1	1	2	0	0

CNPS Rare Plant Inventory

California Native Plant Society

Search Results

67 matches found. Click on scientific name for details

Search Criteria: Quad is one of [**3712244:3712254:3712253:3712243:3712233:3712234**]

▲ SCIENTIFIC NAME	COMMON NAME	FAMILY	LIFEFORM	BLOOMING PERIOD	FED LIST	STATE LIST	GLOBAL RANK	STATE RANK	CA RARE PLANT RANK
Acanthomintha duttonii	San Mateo thorn-mint	Lamiaceae	annual herb	Apr-Jun	FE	CE	G1	S1	1B.1
Agrostis blasdalei	Blasdale's bent grass	Poaceae	perennial rhizomatous herb	May-Jul	None	None	G2G3	S2	1B.2
Allium peninsulare var. *franciscanum*	Franciscan onion	Alliaceae	perennial bulbiferous herb	(Apr)May-Jun	None	None	G4G5T2	S2	1B.2
Amsinckia lunaris	bent-flowered fiddleneck	Boraginaceae	annual herb	Mar-Jun	None	None	G3	S3	1B.2
Arabis blepharophylla	coast rockcress	Brassicaceae	perennial herb	Feb-May	None	None	G4	S4	4.3
Arctostaphylos andersonii	Anderson's manzanita	Ericaceae	perennial evergreen shrub	Nov-May	None	None	G2	S2	1B.2
Arctostaphylos montaraensis	Montara manzanita	Ericaceae	perennial evergreen shrub	Jan-Mar	None	None	G1	S1	1B.2
Arctostaphylos regismontana	Kings Mountain manzanita	Ericaceae	perennial evergreen shrub	Dec-Apr	None	None	G2	S2	1B.2
Astragalus nuttallii var. *nuttallii*	ocean bluff milk-vetch	Fabaceae	perennial herb	Jan-Nov	None	None	G4T4	S4	4.2
Astragalus pycnostachyus var. *pycnostachyus*	coastal marsh milk-vetch	Fabaceae	perennial herb	(Apr)Jun-Oct	None	None	G2T2	S2	1B.2
Calandrinia breweri	Brewer's calandrinia	Montiaceae	annual herb	(Jan)Mar-Jun	None	None	G4	S4	4.2
Calochortus umbellatus	Oakland star-tulip	Liliaceae	perennial bulbiferous herb	Mar-May	None	None	G3?	S3?	4.2
Calochortus uniflorus	pink star-tulip	Liliaceae	perennial bulbiferous herb	Apr-Jun	None	None	G4	S4	4.2
Castilleja ambigua var. *ambigua*	johnny-nip	Orobanchaceae	annual herb (hemiparasitic)	Mar-Aug	None	None	G4T4	S3S4	4.2
Centromadia parryi ssp. *parryi*	pappose tarplant	Asteraceae	annual herb	May-Nov	None	None	G3T2	S2	1B.2
Chloropyron maritimum ssp. *palustre*	Point Reyes salty bird's-beak	Orobanchaceae	annual herb (hemiparasitic)	Jun-Oct	None	None	G4?T2	S2	1B.2
Chorizanthe cuspidata var. *cuspidata*	San Francisco Bay spineflower	Polygonaceae	annual herb	Apr-Jul(Aug)	None	None	G2T1	S1	1B.2
Cirsium andrewsii	Franciscan thistle	Asteraceae	perennial herb	Mar-Jul	None	None	G3	S3	1B.2

Cirsium fontinale var. *fontinale*	fountain thistle	Asteraceae	perennial herb	(Apr)May-Oct	FE	CE	G2T1	S1	1B.1
Collinsia multicolor	San Francisco collinsia	Plantaginaceae	annual herb	(Feb)Mar-May	None	None	G2	S2	1B.2
Cypripedium fasciculatum	clustered lady's-slipper	Orchidaceae	perennial rhizomatous herb	Mar-Aug	None	None	G4	S4	4.2
Cypripedium montanum	mountain lady's-slipper	Orchidaceae	perennial rhizomatous herb	Mar-Aug	None	None	G4G5	S4	4.2
Dirca occidentalis	western leatherwood	Thymelaeaceae	perennial deciduous shrub	Jan-Mar(Apr)	None	None	G2	S2	1B.2
Elymus californicus	California bottle-brush grass	Poaceae	perennial herb	May-Aug(Nov)	None	None	G4	S4	4.3
Eriophyllum latilobum	San Mateo woolly sunflower	Asteraceae	perennial herb	May-Jun	FE	CE	G1	S1	1B.1
Eryngium jepsonii	Jepson's coyote-thistle	Apiaceae	perennial herb	Apr-Aug	None	None	G2	S2	1B.2
Erysimum franciscanum	San Francisco wallflower	Brassicaceae	perennial herb	Mar-Jun	None	None	G3	S3	4.2
Fissidens pauperculus	minute pocket moss	Fissidentaceae	moss		None	None	G3?	S2	1B.2
Fritillaria biflora var. *ineziana*	Hillsborough chocolate lily	Liliaceae	perennial bulbiferous herb	Mar-Apr	None	None	G3G4T1	S1	1B.1
Fritillaria lanceolata var. *tristulis*	Marin checker lily	Liliaceae	perennial bulbiferous herb	Feb-May	None	None	G5T2	S2	1B.1
Fritillaria liliacea	fragrant fritillary	Liliaceae	perennial bulbiferous herb	Feb-Apr	None	None	G2	S2	1B.2
Grindelia hirsutula var. *maritima*	San Francisco gumplant	Asteraceae	perennial herb	Jun-Sep	None	None	G5T1Q	S1	3.2
Hesperevax sparsiflora var. *brevifolia*	short-leaved evax	Asteraceae	annual herb	Mar-Jun	None	None	G4T3	S3	1B.2
Hesperolinon congestum	Marin western flax	Linaceae	annual herb	Apr-Jul	FT	CT	G1	S1	1B.1
Horkelia cuneata var. *sericea*	Kellogg's horkelia	Rosaceae	perennial herb	Apr-Sep	None	None	G4T1?	S1?	1B.1
Horkelia marinensis	Point Reyes horkelia	Rosaceae	perennial herb	May-Sep	None	None	G2	S2	1B.2
Hosackia gracilis	harlequin lotus	Fabaceae	perennial rhizomatous herb	Mar-Jul	None	None	G3G4	S3	4.2
Hypogymnia schizidiata	island tube lichen	Parmeliaceae	foliose lichen		None	None	G2G3	S2	1B.3
Iris longipetala	coast iris	Iridaceae	perennial rhizomatous herb	Mar-May(Jun)	None	None	G3	S3	4.2
Lasthenia californica ssp. *macrantha*	perennial goldfields	Asteraceae	perennial herb	Jan-Nov	None	None	G3T2	S2	1B.2
Leptosiphon ambiguus	serpentine leptosiphon	Polemoniaceae	annual herb	Mar-Jun	None	None	G4	S4	4.2
Leptosiphon aureus	bristly leptosiphon	Polemoniaceae	annual herb	Apr-Jul	None	None	G4?	S4?	4.2

Leptosiphon croceus	coast yellow leptosiphon	Polemoniaceae	annual herb	Apr-Jun	None	CE	G1	S1	1B.1
Leptosiphon grandiflorus	large-flowered leptosiphon	Polemoniaceae	annual herb	Apr-Aug	None	None	G3G4	S3S4	4.2
Leptosiphon latisectus	broad-lobed leptosiphon	Polemoniaceae	annual herb	Apr-Jun	None	None	G4	S4	4.3
Leptosiphon rosaceus	rose leptosiphon	Polemoniaceae	annual herb	Apr-Jul	None	None	G1	S1	1B.1
Lessingia arachnoidea	Crystal Springs lessingia	Asteraceae	annual herb	Jul-Oct	None	None	G2	S2	1B.2
Lessingia hololeuca	woolly-headed lessingia	Asteraceae	annual herb	Jun-Oct	None	None	G2G3	S2S3	3
Limnanthes douglasii ssp. *ornduffii*	Ornduff's meadowfoam	Limnanthaceae	annual herb	Nov-May	None	None	G4T1	S1	1B.1
Lupinus arboreus var. *eximius*	San Mateo tree lupine	Fabaceae	perennial evergreen shrub	Apr-Jul	None	None	G2Q	S2	3.2
Malacothamnus arcuatus	arcuate bush-mallow	Malvaceae	perennial deciduous shrub	Apr-Sep	None	None	G2Q	S2	1B.2
Microseris paludosa	marsh microseris	Asteraceae	perennial herb	Apr-Jun(Jul)	None	None	G2	S2	1B.2
Monolopia gracilens	woodland woollythreads	Asteraceae	annual herb	(Feb)Mar-Jul	None	None	G3	S3	1B.2
Pentachaeta bellidiflora	white-rayed pentachaeta	Asteraceae	annual herb	Mar-May	FE	CE	G1	S1	1B.1
Perideridia gairdneri ssp. *gairdneri*	Gairdner's yampah	Apiaceae	perennial herb	Jun-Oct	None	None	G5T3T4	S3S4	4.2
Plagiobothrys chorisianus var. *chorisianus*	Choris' popcornflower	Boraginaceae	annual herb	Mar-Jun	None	None	G3T1Q	S1	1B.2
Plagiobothrys chorisianus var. *hickmanii*	Hickman's popcornflower	Boraginaceae	annual herb	Apr-Jun	None	None	G3T3Q	S3	4.2
Polemonium carneum	Oregon polemonium	Polemoniaceae	perennial herb	Apr-Sep	None	None	G3G4	S2	2B.2
Potentilla hickmanii	Hickman's cinquefoil	Rosaceae	perennial herb	Apr-Aug	FE	CE	G1	S1	1B.1
Ranunculus lobbii	Lobb's aquatic buttercup	Ranunculaceae	annual herb (aquatic)	Feb-May	None	None	G4	S3	4.2
Senecio aphanactis	chaparral ragwort	Asteraceae	annual herb	Jan-Apr(May)	None	None	G3	S2	2B.2
Silene scouleri ssp. *scouleri*	Scouler's catchfly	Caryophyllaceae	perennial herb	(Mar-May)Jun-Aug(Sep)	None	None	G5T4T5	S2S3	2B.2
Silene verecunda ssp. *verecunda*	San Francisco campion	Caryophyllaceae	perennial herb	(Feb)Mar-Jul(Aug)	None	None	G5T1	S1	1B.2
Trifolium hydrophilum	saline clover	Fabaceae	annual herb	Apr-Jun	None	None	G2	S2	1B.2
Triphysaria floribunda	San Francisco owl's-clover	Orobanchaceae	annual herb	Apr-Jun	None	None	G2?	S2?	1B.2
Triquetrella californica	coastal triquetrella	Pottiaceae	moss		None	None	G2	S2	1B.2

Usnea longissima	Methuselah's beard lichen	Parmeliaceae	fruticose lichen (epiphytic)	None	None	G4	S4	4.2

Showing 1 to 67 of 67 entries

Suggested Citation:

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IPaC **U.S. Fish & Wildlife Service**

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

Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

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

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1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information. IPaC only shows species that are regulated by USFWS (see FAQ).

2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Birds

NAME	STATUS
California Least Tern Sterna antillarum browni Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/8104	Endangered
Marbled Murrelet Brachyramphus marmoratus 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 Charadrius nivosus nivosus 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 Chelonia mydas No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/6199	Threatened
San Francisco Garter Snake Thamnophis sirtalis tetrataenia Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/5956	Endangered

Amphibians

NAME	STATUS

California Red-legged Frog Rana draytonii 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 Rana boylii No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/5133	Proposed Threatened

Fishes

NAME	STATUS
Tidewater Goby Eucyclogobius newberryi 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 Danaus plexippus Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9743	Candidate

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

There are no documented cases of eagles being present at this location. However, if you believe eagles may be using your site, please reach out to the local Fish and Wildlife Service office.

Additional information can be found using the following links:

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

Bald and Golden Eagle information is not available at this time

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

The potential for eagle presence is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply). To see a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

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

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur. Please contact your local Fish and Wildlife Service Field Office if you have questions.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

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

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

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

Migratory bird information is not available at this time

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

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets.

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the RAIL Tool and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

There are no refuge lands at this location.

Fish hatcheries

There are no fish hatcheries at this location.

Wetlands in the National Wetlands Inventory (NWI)

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

This location overlaps the following wetlands:

FRESHWATER FORESTED/SHRUB WETLAND

PSSC

A full description for each wetland code can be found at the National Wetlands Inventory website

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 tuberficid 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.