

California State University, Monterey Bay
East Campus Housing Area
Gas Distribution System Capacity and
Reliability Project
Biological Resources Report

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Prepared for

Facilities Management
Campus Planning and Development
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EXECUTIVE SUMMARY

The evaluation area is mostly developed with paved roads; however, several natural communities, including ruderal/disturbed, central maritime chaparral, coast live oak woodland, and coastal scrub, occur within the evaluation area. Central maritime chaparral and coast live oak woodland are considered sensitive habitats. Two special-status plant species, Monterey spineflower and Monterey gilia, are known to occur within the evaluation area. Several other special-status plant and wildlife species have the potential to occur within the area. Finally, large trees adjacent to the evaluation area may also provide suitable nesting habitat for protected avian species.

The project lies within the boundaries of the CSUMB Master Plan and the PG&E Multiple Region Operation and Maintenance Habitat Conservation Plan. Implementation of the avoidance and minimization measures from these plans that are applicable to the proposed project would avoid and minimize potential project impacts to these sensitive biological resources to a less than significant level under CEQA. An incidental take permit from the California Department of Fish and Wildlife (CDFW) would be required for potential project impacts to Monterey gilia and/or seaside bird's-beak if these species are identified within the construction footprint and could not be avoided. No other regulatory permits for biological resources are anticipated for the project.

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1. INTRODUCTION

Denise Duffy & Associates, Inc. (DD&A) was contracted by California State University, Monterey Bay (CSUMB) to conduct a biological assessment of the East Campus Housing Area Gas Distribution System Capacity and Reliability Project (project or proposed project), located on the CSUMB campus within unincorporated Monterey County (County), California. Pacific Gas and Electric (PG&E) proposes to upgrade the natural gas distribution system within the East Campus Housing Area to reduce threats to the distribution system's integrity and improve public safety and system reliability. A defined project impact area has not been established at this time, and therefore, this report describes the biological resources within a larger evaluation area, which includes all areas that could potentially be impacted by the proposed project.

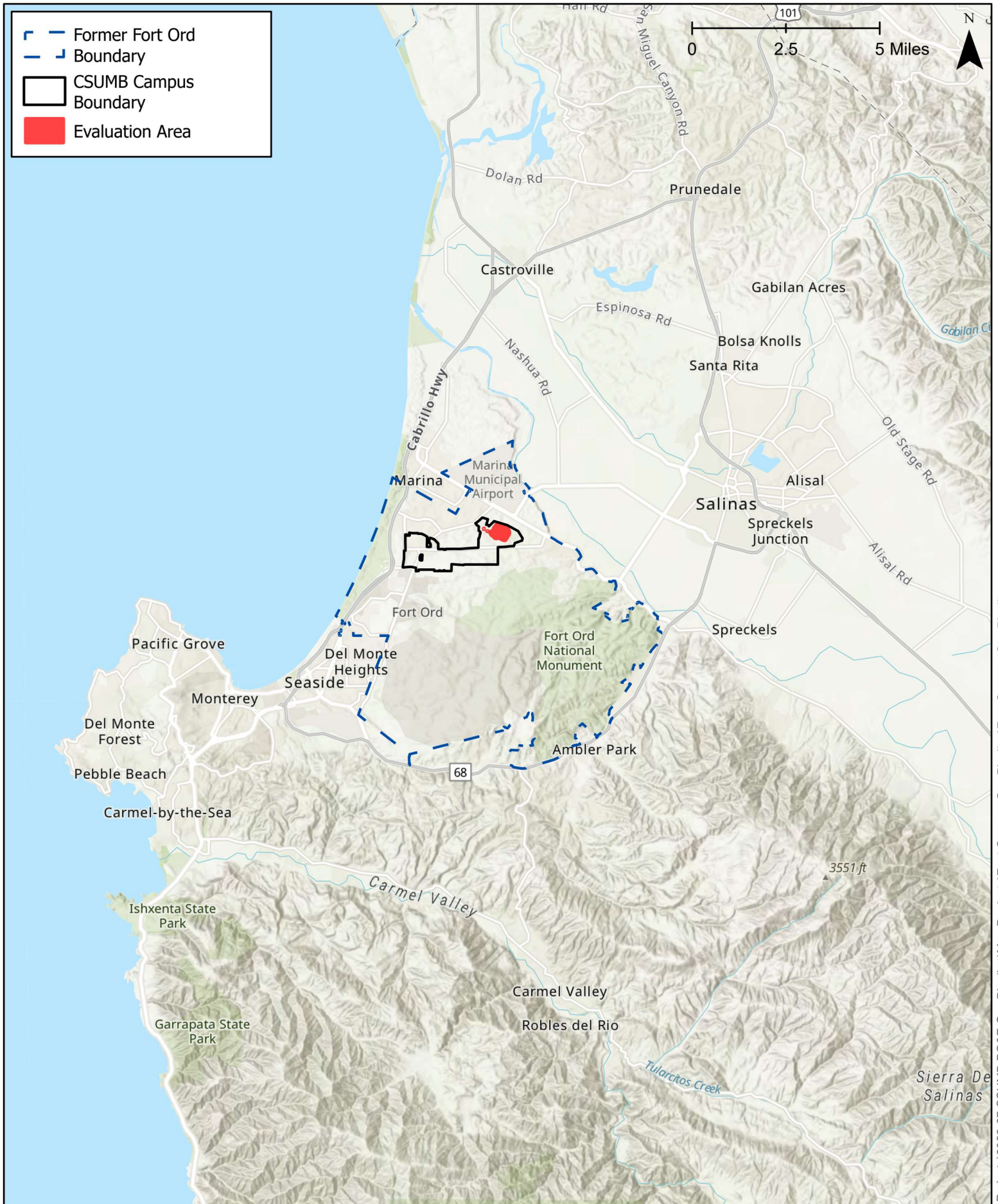
This Biological Resources Report describes the existing biological resources within and adjacent to the project site, including any special-status species or sensitive habitats which occur or have the potential to occur within and adjacent to the site. This report also assesses the potential impacts to biological resources that may result from implementation of the proposed project and recommends appropriate avoidance and minimization measures necessary to reduce those impacts to a less-than-significant level in accordance with the California Environmental Quality Act (CEQA).

1.1 Project Description

The proposed project consists of the replacement of a natural gas pipeline within CSUMB's East Campus Housing Area in County Parcel 031-101-032-000 (**Figures 1 and 2**). The project involves using trenchless horizontal directional drilling (HDD) and open trenching methods to access, cut, purge, seal, and replace the gas line. The project proposes 27 service installations, including seven at Edde Ct., five at Jackson Ct., four at Henson Ct., three at White Ct., and two each at Combs Ct., Sherman Ct., Holovits Ct., and Scott Ct. HDD and open trench construction would result in approximately 1,196 square feet (sf) (0.027 acre) and 1,024 sf (0.024 acre) of ground disturbance, respectively, totaling approximately 2,220 sf (0.051 acre) of ground disturbance. Work activities would occur within the 10-foot public utility easement (PUE) around the existing gas lines.

The proposed project would cut, purge, and seal 2,000-foot sections of gas line main at every intersection and at the end of cul-de-sacs at the streets described above. Existing services would be cut at the existing main and at the end, purged, and sealed. All old rises would be cut below-grade and sealed. Any spoils from the excavation activities would be hauled to an off-site PG&E spoils facility. A back-hoe/excavator, vacuum truck, directional drill rig, small loader, dump truck, on-site inspector's truck, two to three crew trucks, occasional miscellaneous vehicles (construction manager, contractor superior intendent, engineers, project manager, etc.), and hand digging equipment would be used.

Construction is expected to occur between July 2023 and December 2023. Activities would occur after the senescence (aging) of annual plants to minimize impacts on plants and preserve seeds. The work activities would typically occur Monday through Friday from 8 am to 4 pm, and potentially between 7 am and 6 pm to allow possible overtime and setup/removal of traffic control in the project area. Access to the area would be via Abrams Drive and Schoonover Road. The proposed project does not anticipate any gas service outages, and all gas service is anticipated to be maintained throughout construction. Crew parking would be accommodated using the traffic-controlled work area.



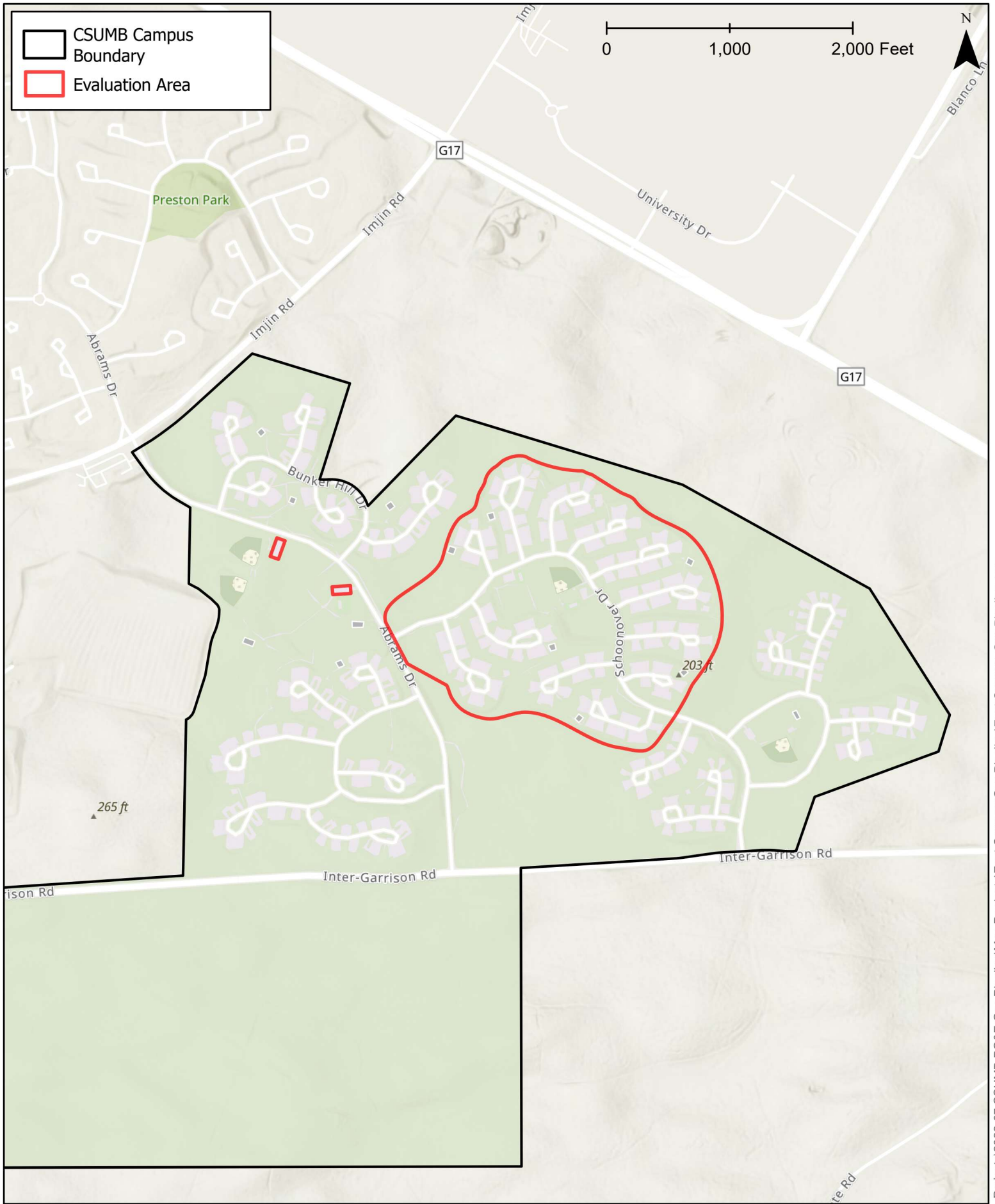
Project Vicinity

Date
11/22/2022
Scale
1 in = 3 mi



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Figure
1



Project Location

Date
11/22/2022

Scale
1 in = 0 mi



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Figure
2

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2. METHODS

2.1 Personnel and Survey Methods

In support of the CSUMB Master Plan and Near-Term Developments Project (CSUMB Master Plan) and the Oak Woodlands Conservation Area Project (Oak Woodlands Project), DD&A biologists conducted multiple biological surveys of the evaluation area between 2016 and 2017. The dates for each of these surveys are outlined in **Table 1** below. Data collected during these surveys were used to assess the environmental conditions of the evaluation area and its surroundings, evaluate environmental constraints in the area and within the local vicinity, and provide a basis for recommendations to minimize and avoid impacts.

Table 1. Biological Surveys within the Evaluation area

Date	Survey	Project	Surveyor
April 2016	Focused spring-flowering plant species	CSUMB Master Plan	DD&A
July 2016	Focused summer-flowering plant species	CSUMB Master Plan	DD&A
December 2016	Reconnaissance-level wildlife and general habitat	Oak Woodlands Project	DD&A
Spring 2017	Focused Monterey gilia	N/A	F. Watson Lab
August 2017	Reconnaissance-level wildlife and general habitat	CSUMB Master Plan	DD&A

In surveys conducted by DD&A, the evaluation area was surveyed for botanical resources following the applicable guidelines outlined in the U.S. Fish and Wildlife Service (Service) *Guidelines for Conducting and Reporting Botanical Inventories for Federally listed, Proposed and Candidate Plants* (Service, 2000), the California Department of Fish and Wildlife (CDFW) *Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities* (CDFW, 2018), and California Native Plant Society (CNPS) *Botanical Survey Guidelines* (CNPS, 2001). Populations of five or fewer special-status plants were mapped as a point and the number of individual plants was documented, while populations of plants with more than five individuals were mapped as a polygon and the density of the population was documented. Populations included all individuals within approximately three feet of another individual; individual plants further away than three feet were mapped as a separate polygon or point.

The Service's protocol for special-status plant surveys requires that surveys are conducted approximately every three years (Service, 2000), while CDFW's protocol requires that surveys are conducted every one to five years depending on the natural communities present (CDFW, 2018). Given these protocols, the results of 2016 and 2017 surveys may not reflect current conditions. Therefore, this report assumes that special-status plants that were identified within the evaluation area during previous surveys are likely still present within the area but does not exclude the potential for other special-status plants to occur within the area if suitable habitat is present and there are known occurrences in the vicinity.

2.2 Data Sources

DD&A conducted a desktop literature review to determine the presence or potential presence of special-status species and other sensitive biological resources within the evaluation area. Primary data sources include:

- Current agency status information from the Service and CDFW for species listed, proposed for listing, or candidates for listing as threatened or endangered under the federal Endangered Species

Act (ESA) or the California Endangered Species Act (CESA), and those considered CDFW “species of special concern”, including:

- California Natural Diversity Database (CNDDDB) occurrences reports from the U.S. Geological Survey (USGS) Marina, Monterey, Moss Landing, Prunedale, Salinas, Seaside, and Spreckels quadrangles (**Appendix A**; CDFW, 2022b), and
- The Service’s Information for Planning and Consultation (IPaC) Resource List for the project site (**Appendix B**; Service, 2022a);
- The California Native Plant Society (CNPS) Inventory of Rare and Endangered Vascular Plants of California (CNPS, 2022);
- The National Wetlands Inventory Wetlands Mapper (Service, 2022b);
- The National Hydrographic Dataset (USGS, 2022);
- *Flora and Fauna Baseline Study of Fort Ord* (U.S. Army Corps of Engineers [ACOE], 1992);
- *Installation-Wide Multispecies Habitat Management Plan for Former Fort Ord* (HMP) (ACOE, 1997);
- *Draft Biological Resources Report for the Proposed CSUMB Master Plan and Near-Term Development Components* (DD&A, 2022).

From these resources, a list of special-status plant and wildlife species known or with the potential to occur in the vicinity of the project site was created (**Appendix C**). This list presents these species along with their legal status, habitat requirements, and a brief statement of the likelihood to occur within the project site

2.2.1 Botany

The classification and characterization of the vegetation of the evaluation area is based on 2016 and 2017 field observations and the *Manual of California Vegetation* (Sawyer et.al., 2009). Vegetation types identified in the *Manual of California Vegetation* were utilized to determine if communities identified as sensitive on CDFW’s *California Natural Communities List* (CDFW, 2022a) are present within the evaluation area. Information regarding the distribution and habitats of local and state vascular plants was also reviewed (Howitt and Howell, 1964 and 1973; Munz and Keck, 1973; Baldwin et al., 2012; Matthews and Mitchell, 2015; Jepson Flora Project, 2022). All plants observed within the evaluation area during the field observations were identified to species or intraspecific taxon necessary to eliminate them as being special-status species using keys and descriptions in *The Jepson Manual: Vascular Plants of California, Edition 2* (Baldwin et al., 2012) and *The Plants of Monterey County an Illustrated Field Key* (Matthews and Mitchell, 2015). Scientific nomenclature for plant species identified within this document follows Baldwin, et. al, (2012); common names follow Matthews and Mitchell (2015). A full botanical inventory was not recorded for the evaluation area but the dominant species within each habitat were noted. Dominant plant species are those which are more numerous than their competitors in an ecological community or makes up more of the biomass; generally, the species that are most abundant. Most ecological communities are defined by their dominant species.

The California Invasive Plant Council (Cal-IPC) Inventory (Cal-IPC, 2022) was reviewed to determine if invasive plant species are present within the evaluation area.

2.2.2 Wildlife

The presence or potential presence of special-status wildlife within the evaluation area were determined using field observations of habitat and local occurrence data. The following literature and data sources were reviewed: CDFW reports on special-status wildlife (Remsen, 1978; Williams, 1986; Jennings and Hayes, 1994; Thelander, 1994); *Monterey Birds* (Roberson 2002); California Wildlife Habitat Relationships Program species-habitat models (CDFW, 2008; Zeiner et al., 1988 and 1990); *Flora and Fauna Baseline Study of Fort Ord* (ACOE, 1992); and the HMP (ACOE, 1997); and general wildlife references (Stebbins, 1985).

2.3 **Definitions**

2.3.1 Sensitive Habitats

Sensitive habitats include riparian corridors, wetlands, habitats for legally protected species, areas of high biological diversity, areas supporting rare or special-status wildlife habitat, and unusual or regionally restricted vegetation types. Vegetation types considered sensitive include those listed on CDFW's *California Natural Communities List* (i.e., those habitats that are rare or endangered within the borders of California) (CDFW, 2021), those that are occupied by species listed under the ESA or are critical habitat in accordance with the ESA, and those that are defined as Environmentally Sensitive Habitat Areas under the California Coastal Act. Specific habitats may also be identified as sensitive in city or county general plans or ordinances. Sensitive habitats are regulated under federal regulations (such as the Clean Water Act and Executive Order 11990 – Protection of Wetlands), state regulations (such as CEQA and the CDFW Streambed Alteration Program), or local ordinances or policies (such as city or county tree ordinances and general plan policies).

2.3.2 Special-Status Species

Special-status species are those plants and animals that have been formally listed or proposed for listing as endangered or threatened or are candidates for such listing under ESA or CESA. Listed species are afforded legal protection under the ESA and CESA. Species that meet the definition of rare or endangered under the CEQA Guidelines Section 15380 are also considered special-status species. Animals on the CDFW's list of "species of special concern" (most of which are species whose breeding populations in California may face extirpation if current population trends continue) meet this definition and are typically provided management consideration through the CEQA process, although they are not legally protected under the ESA or CESA. CDFW also includes some animal species that are not assigned any of the other status designations in the CNDDDB "Special Animals" list; however, these species have no legal or protection status and are not analyzed in this document.

Plants listed as rare under the California Native Plant Protection Act (CNPPA) or included in CNPS California Rare Plant Ranks (CRPR; formerly known as CNPS Lists) 1A, 1B, 2A, and 2B are also treated as special-status species as they meet the definitions of Sections 2062 and 2067 of the CESA and in accordance with CEQA Guidelines Section 15380.¹ In general, the CDFW requires that plant species on CRPR 1A (plants presumed extirpated in California and either rare or extinct elsewhere), CRPR 1B (plants rare, threatened, or endangered in California and elsewhere), CRPR 2A (plants presumed extirpated in California, but more common elsewhere); and CRPR 2B (plants rare, threatened, or endangered in California, but more common elsewhere) of the CNPS Inventory of Rare and Endangered Vascular Plants

¹ CNPS initially created five CRPR to categorize degrees of concern; however, to better define and categorize rarity in California's flora, the CNPS Rare Plant Program and Rare Plant Program Committee have developed the new CRPR 2A and CRPR 2B.

of California (CNPS, 2021) be fully considered during the preparation of environmental documents relating to CEQA. CNPS CRPR 4 species (plants of limited distribution) may, but generally do not, meet the definitions of Sections 2062 and 2067 of CESA, and are not typically considered in environmental documents relating to CEQA. While other species (i.e., CRPR 3 or 4 species) are sometimes found in database searches or within the literature, these do not meet the definitions of Section 2062 and 2067 of CESA and are not analyzed in this document.

Raptors (e.g., eagles, hawks, and owls) and their nests are protected under California Fish and Game Code Section 3503.5. Section 3503.5 states that it is “unlawful to take, possess, or destroy the nest or eggs of any such bird except otherwise provided by this code or any regulation adopted pursuant thereto.” In addition, protected species under Fish and Game Code Section 3511 (birds), Section 4700 (mammals), Section 5515 (fish), and Section 5050 (reptiles and amphibians) are also considered special-status animal species. Species with no formal special-status designation but thought by experts to be rare or in serious decline may also be considered special-status animal species in some cases, depending on project-specific analysis and relevant, localized conservation needs or precedence.

2.4 Regulatory Setting

The following discussion describes the major federal, state, and local laws regulating biological resources that may be applicable to the project.

2.4.1 Federal Regulations

Federal Endangered Species Act

Provisions of the ESA of 1973 (16 USC 1532 et seq., as amended) protect federally listed threatened or endangered species and their habitats from unlawful take. Listed species include those for which proposed and final rules have been published in the Federal Register. The ESA is administered by the Service or National Oceanic and Atmospheric Administration (NOAA) National Marine Fisheries Service (NMFS). In general, NMFS is responsible for the protection of ESA-listed marine species and anadromous fish, whereas other listed species are under Service jurisdiction.

Section 9 of ESA prohibits the take of any fish or wildlife species listed under ESA as endangered or threatened. Take, as defined by ESA, is “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct.” Harm is defined as “any act that kills or injures the fish or wildlife...including significant habitat modification or degradation that significantly impairs essential behavioral patterns of fish or wildlife.” In addition, Section 9 prohibits removing, digging up, and maliciously damaging or destroying federally listed plants on sites under federal jurisdiction. Section 9 does not prohibit take of federally listed plants on sites not under federal jurisdiction. If there is the potential for incidental take of a federally listed fish or wildlife species, take of listed species can be authorized through either the Section 7 consultation process for federal actions or a Section 10 incidental take permit process for non-federal actions. Federal agency actions include activities that are on federal land, conducted by a federal agency, funded by a federal agency, or authorized by a federal agency (including issuance of federal permits).

Fort Ord Installation-Wide Multispecies Habitat Management Plan

The U.S. Army’s decision to close and dispose of the Fort Ord military base was considered a major federal action that could affect listed species under the ESA. In 1993, the Service issued a Biological Opinion (BO) in accordance with Section 7 of the ESA on the disposal and reuse of former Fort Ord requiring that an

HMP be developed and implemented to reduce the incidental take of listed species and loss of habitat that supports these species (Service, 1993, Service, 2017b). The *Fort Ord Installation-Wide Multispecies Habitat Management Plan* (Fort Ord HMP or HMP) was prepared to assess impacts on vegetation and wildlife resources and provide mitigation for their loss associated with the disposal and reuse of former Fort Ord (ACOE, 1997).

The HMP establishes guidelines for the conservation and management of species and habitats on former Fort Ord lands by identifying lands that are available for development, lands that have some restrictions with development, and habitat reserve areas. The intent of the plan is to establish large, contiguous habitat conservation areas and corridors to compensate for future development in other areas of the former base. The HMP identifies what type of activities can occur on each parcel at former Fort Ord; parcels are designated as “development with no restrictions,” “habitat reserves with management requirements,” or “habitat reserves with development restrictions.” The HMP sets the standards to assure the long-term viability of former Fort Ord's biological resources in the context of base reuse so that no further mitigation should be necessary for impacts to species and habitats considered in the HMP. This plan has been approved by the Service; the HMP, deed restrictions, and Memoranda of Agreement between the Army and various land recipients provide the legal mechanism to assure HMP implementation. It is a legally binding document, and all recipients of former Fort Ord lands are required to abide by its management requirements and procedures.

The HMP anticipates some losses to special-status species and sensitive habitats as a result of redevelopment of the former Fort Ord. With the designated reserves and corridors and habitat management requirements in place, the losses of individuals of species and sensitive habitats considered in the HMP are not expected to jeopardize the long-term viability of those species, their populations, or sensitive habitats on former Fort Ord. Recipients of disposed land with restrictions or management guidelines designated by the HMP are obligated to implement those specific measures through the HMP and through deed covenants. However, the HMP does not provide specific authorization for incidental take of federal or state listed species to existing or future non-federal land recipients under the ESA or CESA. As such, impacts to applicable federal and state listed species require incidental take authorization under Section 7 or Section 10 from the Service and/or a Section 2081 incidental take permit (ITP) from the CDFW.

The evaluation area is located within designated “development” parcels under the HMP. Parcels designated as “development” do not have management requirements relative to HMP species. However, the 2017 Programmatic BO and HMP require the identification of sensitive botanical resources within the development parcels that may be salvaged for use in restoration activities in reserve areas (Service, 2017b and ACOE, 1997).

2.4.2 State Regulations

California Endangered Species Act

The CESA was enacted in 1984. The California Code of Regulations (Title 14, §670.5) lists animal species considered endangered or threatened by the state. Section 2090 of CESA requires state agencies to comply with endangered species protection and recovery and to promote conservation of these species. Section 2080 of the Fish and Game Code prohibits "take" of any species that the commission determines to be an endangered species or a threatened species. “Take” is defined in Section 86 of the Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." A Section 2081 Incidental Take Permit from the CDFW may be obtained to authorize “take” of any state listed species.

California Native Plant Protection Act

The CNPPA of 1977 directed CDFW to carry out the legislature’s intent to “preserve, protect and enhance rare and Endangered plants in the State.” The CNPPA prohibits importing rare and Endangered plants into California, taking rare and Endangered plants, and selling rare and Endangered plants. The CESA and CNPPA authorized the Fish and Game Commission to designate endangered, threatened, and rare species and to regulate the taking of these species (§2050-2098, Fish and Game Code). Plants listed as rare under the CNPPA are not protected under CESA; however, these plants may not be taken or possessed at any time and no licenses or permits may be issued for their take except for collecting these species for necessary scientific research.

California Fish and Game Code

Birds. Section 3503 of the Fish and Game Code states that it is “unlawful to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto.” Section 3503.5 prohibits the killing, possession, or destruction of any birds in the orders Falconiformes or Strigiformes (birds-of-prey). Section 3511 prohibits take or possession of fully protected birds. Section 3513 prohibits the take or possession of any migratory nongame birds designated under the federal Migratory Bird Treaty Act (MBTA). Section 3800 prohibits take of nongame birds.

Fully Protected Species. The classification of fully protected was the state's initial effort in the 1960's to identify and provide additional protection to those animals that were rare or faced possible extinction. Lists were created for fish (§5515), mammals (§4700), amphibians and reptiles (§5050), and birds (§3511). Most fully protected species have also been listed as threatened or endangered species under the more recent endangered species laws and regulations. Fully protected species may not be taken or possessed at any time and no licenses or permits may be issued for their take except for collecting these species for necessary scientific research and relocation of the bird species for the protection of livestock.

Species of Special Concern. As noted above, the CDFW also maintains a list of wildlife “species of special concern.” Although these species have no legal status, the CDFW recommends considering these species during analysis of project impacts to protect declining populations and avoid the need to list them as endangered in the future.

CSUMB Master Plan

In accordance with CEQA requirements, CSUMB prepared and adopted an Environmental Impact Report (EIR) for the CSUMB Master Plan in 2022 (State Clearinghouse No. 2017051042). The Master Plan EIR included a programmatic analysis of the potential impacts to sensitive resources that could result from projects at the campus, and mitigation measures were identified to reduce potentially significant impacts to a less-than-significant level. The mitigation measures were adopted in the Mitigation Monitoring and Reporting Program (MMRP) for the Master Plan EIR, and implementation of the adopted mitigation measures are required for any projects on the campus. The measures required by the MMRP that apply to the proposed project include Mitigation Measures BIO-1a, BIO-1b, and BIO-1c, which require that project-specific biological assessments are prepared prior to development of any specific site. Specific requirements of these measures as they related to the proposed project are detailed in *Section 4, Impacts and Mitigation*.

PG&E Habitat Conservation Plan

In 2020, PG&E prepared and adopted the *Multiple Region Operation and Maintenance Habitat Conservation Plan* (MRHCP), a multiple species Habitat Conservation Plan (HCP) for routine operation and maintenance activities in 34 California counties, including the County of Monterey. The MRHCP

provides a method for PG&E to comply with Section 10 of ESA by analyzing potential impacts of its routine operation and maintenance activities to federally listed species and providing field protocols and measures for avoiding, minimizing, and mitigating those impacts. The measures required by the MRHCP that apply to the proposed project are detailed in *Section 4, Impacts and Mitigation*.

2.4.3 Local Regulations

As a state entity, CSUMB is not subject to local government planning or ordinances, such as the general plans and ordinances for the cities of Marina and Seaside and the County of Monterey. Accordingly, because neither local general plans nor any other local land use plans or ordinances are applicable to CSUMB, such local plans and ordinances are not summarized here or further analyzed in this report.

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3. RESULTS

3.1 Natural Communities

Most of the evaluation area is developed with paved roads and structures; however, several natural communities, including ruderal/disturbed, maritime chaparral, coast live oak woodland, and coastal scrub, occur within the evaluation area (**Figure 3**). At one location, coast live oak woodland and coastal scrub intergrade with each other and have been mapped as a "mix" of both communities. The dominant plant species and the common wildlife found in these mixed natural communities are generally the same as those described below for the individual natural communities. The following discussion provides an overview of these communities and their distribution within the site.

3.1.1 Developed

- *A Manual of California Vegetation* classification: None
- *California Natural Communities List*: Not listed

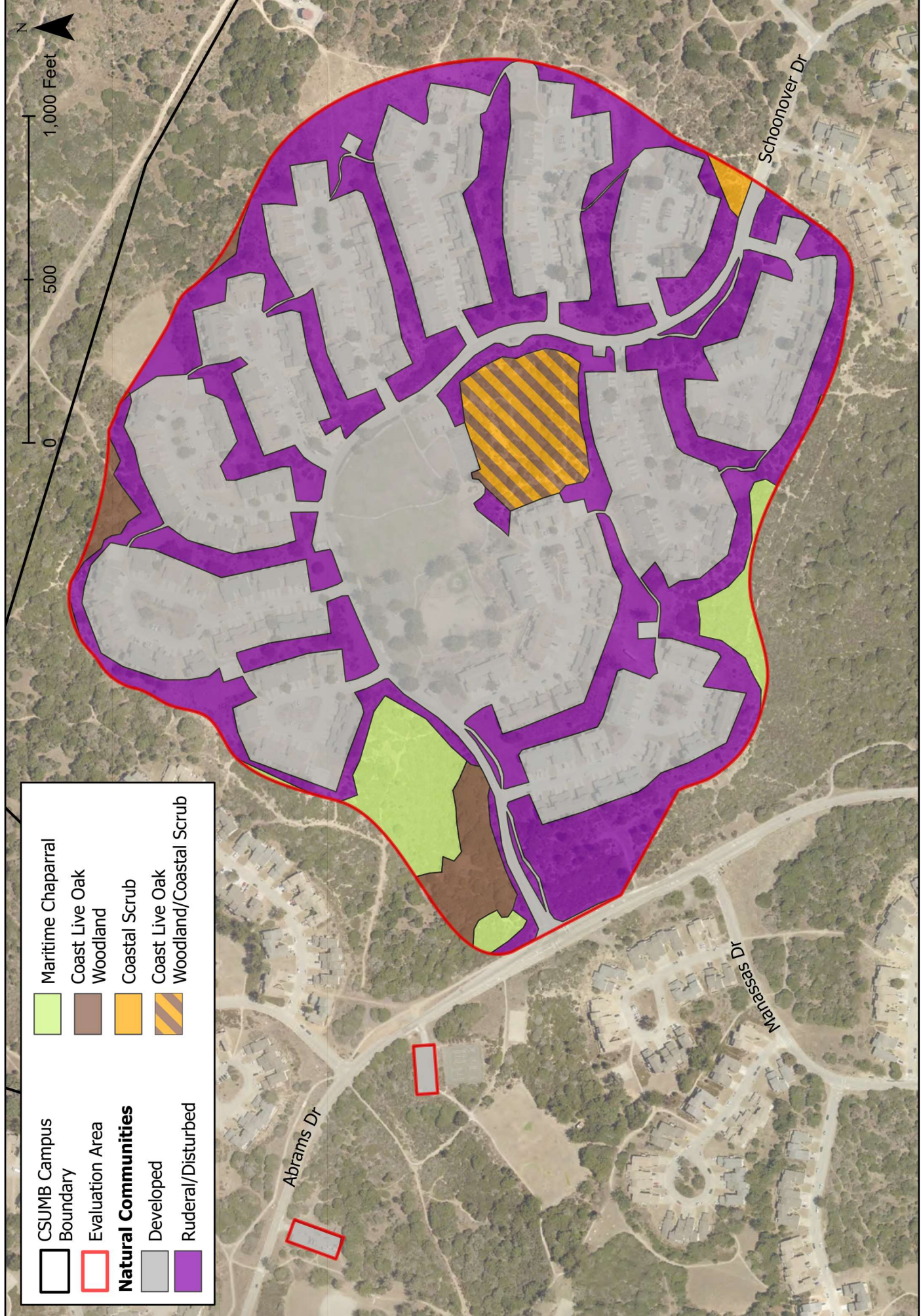
Most of the evaluation area (approximately 59.9 acres) is developed with paved roads and structures (**Figure 3**). Very little natural vegetation is present within these areas, and they are considered to have little biological value. However, some common wildlife species that do well in urbanized areas, including American crow (*Corvus brachyrhynchos*), California ground squirrel (*Otospermophilus beecheyi*), raccoon (*Procyon lotor*), striped skunk (*Mephitis mephitis*), western scrub jay (*Aphelocoma californica*), European starling (*Sturnus vulgaris*), western fence lizard (*Sceloporus occidentalis*), and rock pigeon (*Columba livia*), may be found foraging within developed areas.









3.1.2 Ruderal/Disturbed

- *A Manual of California Vegetation* classification: None
- *California Natural Communities List*: Not listed

Ruderal areas are those areas which have been developed or have been subject to historic and ongoing disturbance by human activities and are devoid of vegetation or dominated by non-native and/or invasive weed species. Ruderal areas within the evaluation area includes areas surrounding development that are regularly disturbed and other areas of historic disturbance. They are dominated by ice plant (*Carpobrotus edulis*), ripgut brome (*Bromus diandrus*), slender wild oat (*Avena barbata*), cut-leaved plantain (*Plantago coronopus*), English plantain (*P. lanceolata*), sand mat (*Cardionema ramosissimum*), long-beaked filaree (*Erodium botrys*), and telegraphweed (*Heterotheca grandiflora*). Approximately 29.7 acres of ruderal habitat occur within the evaluation area (**Figure 3**).

Ruderal areas are considered to have low biological value as they are generally dominated by non-native plant species and consist of relatively low-quality habitat from a wildlife perspective. However, common wildlife species which do well in urbanized and disturbed areas (see the *Developed* discussion above) may forage in ruderal areas.



	CSUMB Campus Boundary		Maritime Chaparral
	Evaluation Area		Coast Live Oak Woodland
Natural Communities			Coastal Scrub
	Developed		Coast Live Oak Woodland/Coastal Scrub
	Ruderal/Disturbed		

Natural Communities

Date
11/22/2022

Scale
1 in = 0 mi



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Figure
3

3.1.3 Central Maritime Chaparral

- *A Manual of California Vegetation* classification: brittle leaf–wooly leaf manzanita chaparral (*Arctostaphylos* [crustacea, tomentosa] shrubland alliance)
- *California Natural Communities List*: Sensitive

Central maritime chaparral is the dominant natural community within the former Fort Ord, where it is characterized by a wide variety of sclerophyllous shrubs occurring in moderate to high density. Within the evaluation area, central maritime chaparral is dominated by shaggy-barked manzanita (*Arctostaphylos tomentosa*), dwarf ceanothus (*Ceanothus dentatus*), coyote brush (*Baccharis pilularis*), chamise (*Adenostoma fasciculatum*), and sticky monkeyflower (*Diplacus aurantiacus*). Additional species observed within this natural community include California coffeeberry (*Frangula californica*), fuchsia-flowered gooseberry (*Ribes speciosum*), chaparral currant (*Ribes malvaceum*), poison oak (*Toxicodendron diversilobum*), black sage (*Salvia mellifera*), sticky cinquefoil (*Drymocallis glandulosa*), and creeping snowberry (*Symphoricarpos mollis*). Approximately 4.3 acres of central maritime chaparral occur within the evaluation area.

Common wildlife species that may occur within central maritime chaparral habitat include California quail (*Callipepla californica*), California towhee (*Melospiza crissalis*), California thrasher (*Toxostoma redivivum*), common poorwill (*Phalaenoptilus nuttallii*), Anna’s hummingbird (*Calypte anna*), wrentit (*Chamaea fasciata*), western scrub jay, northern pacific rattlesnake (*Crotalus oreganus* ssp. *oreganus*), coast range fence lizard (*Sceloporus occidentalis bocourti*), gopher snake (*Pituophis catenifer catenifer*), coast garter snake (*Thamnophis elegans terrestris*), and brush rabbit (*Sylvilagus bachmani*).

3.1.4 Coast Live Oak Woodland

- *A Manual of California Vegetation* classification: Coast live oak woodland (*Quercus agrifolia*/*Toxicodendron diversilobum*/grass association)
- *California Natural Communities List*: Not sensitive

The coast live oak (*Quercus agrifolia*) is the dominant tree of woodlands and savannas at the former Fort Ord, usually occurring in pure stands. Coast live oak woodland is an open-canopied to nearly closed-canopied community with a grass or sparsely scattered shrub understory. Three coast live oak communities, each with different growth characteristics, understory associates, and canopy cover, have been recognized on the former Fort Ord: coastal coast live oak woodland, inland coast live oak woodland, and coast live oak savanna (ACOE, 1992). Only “coastal” coast live oak woodland occurs within the evaluation area. The distinction of “coastal” is given based on the proximity of the coast live oak woodland to the coast. In coastal coast live oak woodland, coast live oaks grow in unprotected sites and are exposed to the combined stresses of strong winds, salt spray, and sterile, sandy soils, which are often referred to as “sand hills.” These environmental factors create an oak woodland characterized by short, wind-pruned trees that intergrades with the surrounding coastal scrub and maritime chaparral communities.

Oak woodlands within the evaluation area are largely homogeneous in species composition. The coast live oak canopy is quite dense in many areas with an understory dominated by poison oak or, in some areas, invasive ice plant. Other plant species observed within the coast live oak woodland include hedge-nettle (*Stachys* sp.), slender wild oat, sheep sorrel (*Rumex acetosella*), fiesta flower (*Pholistoma auritum*), and scattered shrubs such as fuchsia-flowered gooseberry, California coffeeberry, and sticky monkeyflower. At one location within the evaluation area, coast live oak woodland intergrades with coastal scrub; this area

has been mapped as a mix of coast live oak woodland and coast scrub (**Figure 3**). The dominant plant species and the common wildlife found in this mixed natural community are generally the same as those described for the individual natural communities (see the *Coastal Scrub* discussion below). Approximately 2.4 acres of coast live oak woodland occur within the evaluation area, and an additional 3.4 acres of this natural community intergrade with coast scrub within the evaluation area (**Figure 3**).

Coast live oak woodland is important habitat to many wildlife species. Oaks provide nesting sites for many avian species and cover for a variety of mammals, including mourning dove (*Zenaidura macroura*), American kestrel (*Falco sparverius*), California ground squirrel, and California pocket mouse (*Chaetodipus californicus*). Acorns provide an important food source for acorn woodpecker (*Melanerpes formicivorus*), western scrub jay, and black-tailed deer (*Odocoileus hemionus columbianus*). Other common wildlife species found in the coast live oak woodland are raccoon, Nuttall's woodpecker (*Picoides nuttallii*), northern flicker (*Colaptes auratus*), bobcat (*Lynx rufus*), and coyote (*Canis latrans*). Generally, red-tailed hawks (*Buteo jamaicensis*) and great-horned owls (*Bubo virginianus*) nest and roost in coast live oaks.

3.1.5 Coastal Scrub

- *A Manual of California Vegetation* classification: coyote brush scrub (*Baccharis pilularis* shrubland alliance) and black sage scrub (*Salvia mellifera* shrubland alliance)
- *California Natural Communities List*: Not sensitive

Coastal scrub habitat is characterized by sparse to dense soft-leaved, low-stature shrubs, approximately one to two meters tall, that lack grassy openings and are often integrated with other natural communities. Dominant shrub species in the central coastal scrub habitat within the evaluation area include black sage, coyote brush, poison oak, sticky monkey flower, and coast sagebrush (*Artemisia californica*). Approximately 0.3 acre of coastal scrub occurs within the evaluation area, and an additional 3.4 acres of this natural community intergrade with coast live oak woodland within the evaluation area (**Figure 3**).

Central coastal scrub habitats provide cover and food for a number of wildlife species, including songbirds, snakes, lizards, rodents, and other small mammals. Common species that may occur within the central coastal scrub habitat include California quail, blue-gray gnatcatcher (*Polioptila caerulea*), Anna's hummingbird, coast range fence lizard, northern pacific rattlesnake, gopher snake, brush rabbit, and California ground squirrel.

3.2 **Sensitive Habitats**

3.2.1 Central Maritime Chaparral

Due to its limited distribution and pressures from development and urbanization, military operations, and fire suppression, central maritime chaparral is listed as a sensitive habitat on the CDFW's *Natural Communities List* (CDFW, 2022a). It is also identified as a sensitive habitat in the HMP (ACOE, 1997). As described above, approximately 4.3 acres of central maritime chaparral occur within the evaluation area (**Figure 3**).

3.2.2 Coast Live Oak Woodland

Oak woodlands are considered important natural communities because they provide a variety of ecological, aesthetic, and economical values. The extent of oak woodland in California has declined due to agricultural conversion, urban development, fuelwood harvesting, and grazing activities. Coast live oak woodland is not considered a sensitive habitat by CDFW or the HMP (CDFW, 2022a; ACOE, 1997); however, as a

native tree and habitat, impacts to coast live oak trees and woodland are typically addressed and mitigated under CEQA and per the CSUMB Tree Restoration Program. As described above, approximately 2.4 acres of coast live oak woodland occur within the evaluation area, and an additional 3.4 acres of this natural community intergrade with coast scrub (**Figure 3**).

3.3 Special-Status Species

Published occurrence data within the evaluation area and surrounding quadrangles were evaluated to compile a table of special-status species known to occur in the vicinity of the evaluation area (see *Section 2, Methods*). Each of these species was evaluated for their likelihood to occur within and immediately adjacent to the evaluation area. The special-status species that are known to occur within the evaluation area or that were determined to have a moderate or high potential to occur within the site are discussed below. All other species are assumed unlikely to occur or have a low potential to occur based on the species-specific reasons presented in **Appendix C**, are therefore unlikely to be impacted by the project, and are not discussed further.

3.3.1 Special-Status Wildlife

Townsend's Big-Eared Bat

The Townsend's big-eared bat (*Corynorhinus townsendii*) is a CDFW species of special concern. The Townsend's big-eared bat is a year round resident in California occurring from low desert to mid-elevation montane habitats. It is found primarily in rural settings from inland deserts to coastal redwoods, oak woodland of the inner Coast Ranges and Sierra foothills, and low to mid-elevation mixed coniferous-deciduous forests. Townsend's big-eared bats typically roost during the day in caves and mines, but can roost in buildings that offer suitable conditions. Night roosts are in more open settings and include bridges, rock crevices, and trees. It hibernates in mixed sex aggregations of a few to several hundred individuals. Hibernation is more prolonged in colder areas. This species arouses periodically and moves to alternative roosts and actively forages and drinks throughout the winter. A single young is born per year between May and July. Females form maternity colonies of 35 to 200 individuals, while males roost individually. Townsend's big-eared bats feed primarily on small moths that are gleaned from vegetation.

The CNDDDB reports one occurrence of Townsend's big-eared bat within the quadrangles reviewed, located approximately 1.6 miles east of the evaluation area. This species may utilize some of the coast live oak trees within the evaluation area for night roosts and may forage over all undeveloped areas of the evaluation area.

Monterey Dusky-Footed Woodrat

The Monterey dusky-footed woodrat (*Neotoma macrotis luciana*, MDFW) is a CDFW species of special concern. This is a subspecies of the dusky-footed woodrat (*Neotoma macrotis*), which is common to oak woodlands and other forest types throughout California. Dusky-footed woodrats are frequently found in forest habitats with moderate canopy cover and a moderate to dense understory, including riparian forests; however, they may also be found in chaparral communities. Relatively large nests are constructed of grass, leaves, sticks, and feathers and are built in protected spots, such as rocky outcrops or dense brambles of blackberry and/or poison oak. Typical food sources for this species include leaves, flowers, nuts, berries, and truffles. Dusky-footed woodrats may be a significant food source for small- to medium-sized predators. Populations of this species may be limited by the availability of nest material. Within suitable habitat, nests are often found in close proximity to each other.

Suitable habitat for MDFW is present within the evaluation area in coast live oak woodland, maritime chaparral, and coastal scrub communities. The CNDDDB reports only one occurrence of this species within the quadrangles reviewed, located approximately 5.1 miles east of the evaluation area. However, this species is known to occur throughout the former Fort Ord, and nests of this species were observed within the East Campus area during biological surveys in 2016 and 2017. Therefore, MDFW has a high potential to occur within the evaluation area.

Monterey Ornate Shrew

The Monterey ornate shrew (*Sorex ornatus salarius*), also known as the Salinas ornate shrew, is a CDFW species of special concern and HMP species. In general, this shrew is common in the southern two-thirds of California west of the Sierra Nevada, from Mendocino to Butte counties, south to the Mexican border. It occupies a variety of mostly moist or riparian woodland habitats and also occurs within chaparral, grassland, and emergent wetland habitats where there is thick duff or downed logs. The breeding season is long; while most pregnancies occur in March and April, they may occur from February through October. The litter size is about six and females may have more than one litter per year. Most individuals do not live to breed a second year. Foraging occurs under logs rocks and leaf litter, and prey items are mostly insects and some other invertebrates.

The CNDDDB reports six occurrences of the Monterey ornate shrew within the quadrangles reviewed, the nearest located approximately 4.8 miles from the evaluation area. In addition, Figure B-18 in the HMP identifies the evaluation area as containing potential habitat for this species (ACOE, 1997). As with most shrews, little is known about their ecology since they are hard to locate and do not survive well in traps due to very high metabolic rates. However, field surveys on the UC Fort Ord Natural Reserve found that habitats within the evaluation area (e.g., coast live oak woodland, coastal scrub, central maritime chaparral, and mixes of these habitats) are likely considered suitable habitat for the shrew. Therefore, there is a high potential for the Monterey ornate shrew to occur within these habitats in the evaluation area.

California Tiger Salamander

The California tiger salamander (*Ambystoma californiense*, CTS) is a federally and state threatened species, as well as an HMP species. CTS is a large, stocky salamander most commonly found in annual grassland habitat, but also occurring in the grassy understory of valley-foothill hardwood and chaparral habitats, and uncommonly along stream courses in valley-foothill riparian habitats (Service, 2004). Adults spend most of their lives underground, typically in burrows of ground squirrels and other animals (Service, 2004). The CTS has been eliminated from an estimated 55 percent of its documented historic breeding sites. Currently, about 150 known populations of CTS remain. The CTS persists in disjunct remnant vernal pool complexes in Sonoma County and Santa Barbara County, in vernal pool complexes and isolated stockponds scattered along a narrow strip of rangeland on the fringes of the Central Valley from southern Colusa County south to northern Kern County, and in sag ponds and human-maintained stockponds in the coast ranges from the San Francisco Bay Area south to the Tumbler Range.

Above-ground migratory and breeding activity may occur under suitable environmental conditions from mid-October through May. Adults may travel long distances between upland and breeding sites; adults have been found more than two kilometers (1.24 miles) from breeding sites (Service, 2004). Breeding occurs from November to February, following relatively warm rains (Stebbins, 2003). The CTS breeds and lays eggs primarily in vernal pools and other temporary rainwater ponds. Permanent human-made ponds are sometimes utilized if predatory fishes are absent; streams are rarely used for reproduction. Eggs are laid singly or in clumps on both submerged and emergent vegetation and on submerged debris in shallow water

(Stebbins, 1972; Jennings and Hayes, 1994). Males typically spend six to eight weeks at breeding ponds, while females typically spend only one to two weeks (Loredo et al., 1996). Eggs hatch within 10-14 days (Service, 2004) and a minimum of 10 weeks is required to complete development through metamorphosis (Jennings and Hayes, 1994), although the larval stage may last up to six months and some larvae in Contra Costa and Alameda Counties may remain in their breeding sites over the summer (Service, 2004).

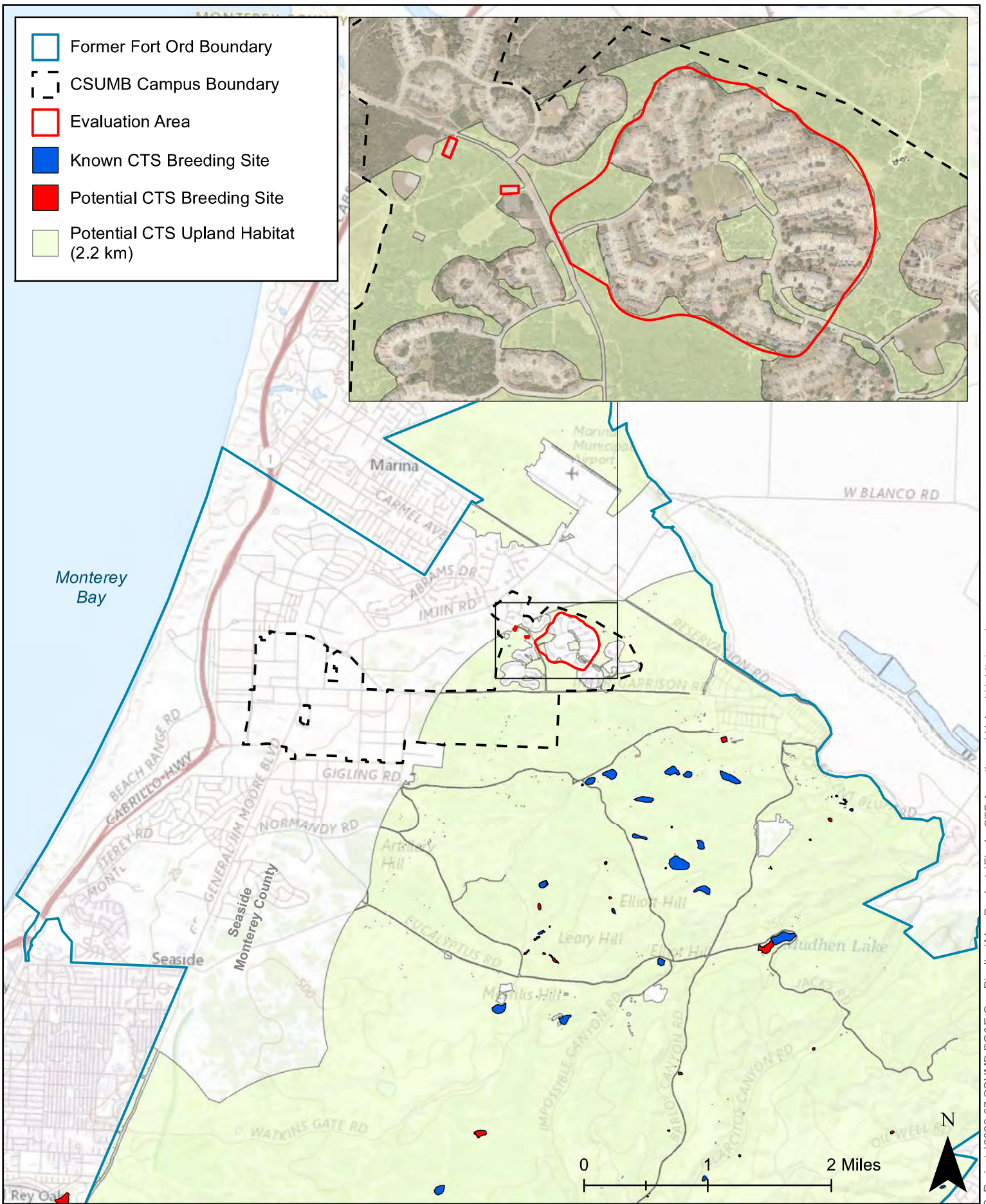
Extensive surveys have been conducted within the former Fort Ord to determine the aquatic resources that are known or have the potential to be occupied by CTS (**Figure 4**). No potential or known CTS breeding (aquatic) habitat is present within the evaluation area. The nearest known CTS-occupied pond is 0.8 mile (1.3 km) from the evaluation area (Pond 101 East). The Service considers suitable upland aestivation habitat within two kilometers of known or potential breeding locations for CTS as occupied habitat unless protocol-level surveys are conducted with negative results pursuant to the *Interim Guidance on Site Assessment and Field Surveys for Determining Presence or a Negative Finding of the California Tiger Salamander* (Service and CDFW, 2003). The evaluation area is within two kilometers of several aquatic resources known or with the potential to be occupied by CTS (**Figure 4**). In addition, suitable habitat for CTS, including small mammal burrows, is present within the evaluation area. In the absence of protocol-level surveys, it is assumed that CTS are present within the evaluation area.

Northern California Legless Lizard

The northern California legless lizard (*Anniella pulchra*) is a CDFW species of special concern, as well as an HMP species.² This fossorial (burrowing) species typically inhabits sandy or loose (friable) soils. Habitats known to support northern California legless lizard include (but are not limited to) coastal dunes, valley and foothill grasslands, chaparral, and coastal scrub at elevations from near sea level to approximately 1,800 meters (6,000 feet). The northern California legless lizard forages on invertebrates beneath the leaf litter or duff layer at the base of bushes and trees or under wood, rocks, and slash in appropriate habitats. The diet of this species likely overlaps to some extent with that of juvenile alligator lizards and perhaps some other salamanders. This species may be preyed upon by alligator lizards, snakes, birds, and small mammals. Little is known about the specific habitat requirements for courtship and breeding; however, the mating season for this species is believed to begin late spring or early summer, with one to four live young born between September and November.

Suitable habitat and soils for northern California legless lizard is present throughout the evaluation area where appropriate cover conditions occur. The CNDDDB reports an occurrence of this species along Schoonover Road approximately 420 feet from the evaluation area. Therefore, the northern California legless lizard has the potential to occur within the evaluation area.

² The HMP identifies this species as black-legless lizard (*Anniella pulchra* ssp. *nigra*) to differentiate it from the previously identified silvery-legless lizard (*A. p.* ssp. *pulchra*). These subspecies are based primarily on phenotypic differences (black-legless lizard being much darker, having fewer scales on the back, and a relatively shorter tail) and very limited genetic work. Further, the range of the black-legless lizard has historically been classified as “restricted to coastal and interior dune sand other areas of sandy soils in the vicinity of Monterey Bay and the Monterey Peninsula” (Service, 1998), while the range of silvery-legless lizard has been classified as widespread throughout central California (Parham and Papenfuss, 2008). However, recent genetic studies have revealed five lineages of this species that correspond with different geographic areas of California (Parham and Papenfuss, 2008). These studies do not, however, identify the legless lizards occurring on the coast of Monterey Bay (i.e., the currently designated black-legless lizard) as a separate lineage. Currently, CDFW identifies both subspecies as the Northern California legless lizard and this document, therefore, follows the current regulatory identification.



Potential CTS Aquatic and Upland Habitat within the Former Fort Ord

Date
11/22/2022
Scale
1 in = 5,000 ft



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Figure
4

Coast Horned Lizard

The coast horned lizard (*Phrynosoma blainvillii*) is a CDFW species of special concern. Horned lizards occur in valley-foothill hardwood, conifer, and riparian habitats, as well as in pine-cypress, juniper, chaparral, and annual grass habitats. This species generally inhabits open country, especially sandy areas, washes, flood plains, and wind-blown deposits in a wide variety of habitats. Coast horned lizards rely on camouflage for protection and will often lay motionless when approached. Horned lizards often bask in the early morning on the ground or on elevated objects such as low boulders or rocks. Predators and extreme heat are avoided by burrowing into loose soil. Periods of inactivity and winter hibernation are spent burrowed into the soil or under surface objects. Little is known about the habitat requirements for breeding and egg-laying of this species. Prey species include ants, beetles, wasps, grasshoppers, flies, and caterpillars.

Suitable habitat for coast horned lizard is present throughout undeveloped areas of the evaluation area. The CNDDDB reports five occurrences of this species within the quadrangles reviewed, including two occurrences less than 100 feet from the evaluation area. In addition, DD&A biologists have observed this species throughout the former Fort Ord. Therefore, coast horned lizard has the potential to occur within the evaluation area.

Smith's Blue Butterfly

The Smith's blue butterfly (*Euphilotes enoptes smithi*, SBB) was listed as a federally Endangered species on June 1, 1976 (41 FR 22041-22044). This species historically ranged along the California coast from Monterey Bay south through Big Sur to near Point Gorda, occurring in scattered populations in association with coastal dune, coastal scrub, chaparral, and grassland vegetation types. The primary limiting factor for SBB populations is the occurrence of their host plants, dune buckwheat (*Eriogonum parvifolium*) and coast buckwheat (*E. latifolium*), in which they are associated with for their entire life span. The presence of the host plant, however, is not always an indication of the occurrence of the butterfly, as the host plant distribution is much more extensive than that of the butterfly.

Individual adult males and females live approximately one week. Adult emergence and seasonal activity are synchronized with the blooming period of the particular buckwheat used at a given site. Dispersal data from capture-recapture studies (Arnold, 1983) indicate that most adults are quite sedentary, with home ranges no more than a few acres. The SBB has only one generation per year. Females lay single eggs into buckwheat flower heads, which hatch in approximately one week. Caterpillars mature over a span of approximately three to four weeks, feeding on petals and seeds of the buckwheat plant. Chrysalis formation then takes place in the buckwheat flower head and the chrysalis eventually falls into the leaf litter and topsoil beneath the plant where it remains for approximately 47 weeks until the cycle begins again (Dixon, 1999).

The CNDDDB reports 14 occurrences of SBB within the evaluation area, the nearest located approximately 2.4 miles west of the evaluation area within Fort Ord Dunes State Park. Suitable habitat for this species is present within coastal scrub areas of the evaluation area. The obligate host plants were not identified within the evaluation area during previous botanical surveys; however, surveys were conducted more than three years ago and may not reflect current site conditions. Therefore, this species has the potential to occur within the evaluation area.

Nesting Raptors and Other Protected Avian Species

Raptors, their nests, and other nesting birds are protected under California Fish and Game Code. While the life histories of these species vary, overlapping nesting and foraging similarities allow for their concurrent discussion. Most raptors are breeding residents throughout most of the wooded portions of the state. Stands of live oak, riparian deciduous, or other forest habitats, as well as open grasslands, are used most frequently for nesting. Breeding generally occurs February through September, with peak activity May through July. Prey for these species include small birds, small mammals, and some reptiles and amphibians. Many raptor species hunt in open woodland and habitat edges.

Various species of raptors and other nesting birds, such as red-tailed hawk (*Buteo jamaicensis*), red-shouldered hawk (*Buteo lineatus*), American kestrel (*Falco sparverius*), great horned owl (*Bubo virginianus*), and turkey vulture (*Cathartes aura*), have a potential to nest within any of the large trees present adjacent to the evaluation area.

Avian species identified as CDFW species of special concern or Fully Protected Species, including burrowing owl (*Athene cunicularia*) and white-tailed kite (*Elanus leucurus*), have known occurrences in the vicinity of the project and have the potential to occur within the evaluation area. Marginally suitable nesting and foraging habitat for the western burrowing owl is present within ruderal areas of the evaluation area. In addition, suitable nesting habitat for the white-tailed kite is present within the coast live oak woodland communities. This species may also forage over any undeveloped areas within the evaluation area.

3.3.2 Special-Status Plants

The following discussion identifies the special-status plant species that are known to occur or that have the potential to occur within the evaluation area (**Appendix C**). Focused botanical surveys were conducted within the evaluation area in 2016. As described in *Section 2, Methods*, the Service's protocol for special-status plant surveys requires that surveys are conducted approximately every three years, while CDFW's protocol requires that surveys are conducted every one to five years depending on the natural communities present. Given these protocols, the results of 2016 surveys may not reflect current conditions. Therefore, this report assumes that special-status plants that were identified within the evaluation area during previous surveys are likely still present within the area but does not exclude the potential for other special-status plants to occur within the area if suitable habitat is present and they have known occurrences in the vicinity of the project.

Monterey Spineflower

Monterey spineflower (*Chorizanthe pungens* var. *pungens*) is a federally threatened, CNPS CRPR 1B, and HMP species. It is a small, prostrate annual herb in the Polygonaceae family that blooms from April to June. The white to rose floral tube of Monterey spineflower distinguishes it from the more common, but closely related, diffuse spineflower (*Chorizanthe diffusa*), which has a lemon-yellow floral tube. Monterey spineflower is likely self-pollinated in addition to being insect pollinated. It produces small seeds that are dropped or shaken by wind from their capsule and may then be dispersed with blowing sand or by fur-bearing animals to which the spiny fruits may attach and be carried. It typically occurs on open sandy or gravelly soils on relic dunes in coastal dune, coastal scrub, and maritime chaparral habitats, though it can also be associated with cismontane woodlands and valley and foothill grasslands, at elevations of three to 450 meters. This species colonizes recently disturbed sandy soils. In chaparral, scrub, and oak woodland habitats, Monterey spineflower occurs in sandy openings between shrubs. In grasslands, it occurs along

roadsides, in firebreaks, and other disturbance patches; it is crowded out of mature grassland vegetation. In older stands that have avoided fire long enough to have dense, closed shrub or tree canopies, it is restricted to roadsides and firebreaks. In dune habitats at the former Fort Ord, Monterey spineflower prefers disturbed sites within otherwise stabilized dunes (Army, 1992).

Monterey spineflower occurs along the coast of southern Santa Cruz and northern Monterey Counties and inland to the coastal plain of the Salinas Valley. It is abundant within undeveloped areas of the former Fort Ord, which likely supports the largest known populations of the species. It has been identified on 12,978 acres of the former Fort Ord, located primarily within undeveloped areas of the western half of the base (Army, 1992). The highest densities are in the central portion of the firing range, where disturbance has historically been the most frequent. Although studies were not conducted on factors that determine the pattern of distribution and the densities of the plant in the former Fort Ord, a correlation exists between open conditions resulting from activities that disturb habitat and high densities of the plant (54 FR 5499). The introduction, and later invasion, of ice plant and European beach grass (*Ammophila arenaria*) for dune stabilization has greatly reduced spineflower populations and suitable habitat for this species within the former Fort Ord. In addition, urban development in coastal cities, and to a lesser extent within the former Fort Ord, have resulted in loss of large portions of its range. Historic occurrences in the Salinas Valley have been extirpated, primarily due to conversion of natural habitat to agricultural land use (Army, 1992).

Monterey spineflower was observed within the evaluation area during 2016 focused botanical surveys (**Figure 5**). Because focused botanical surveys were conducted more than five years ago, the results of 2016 surveys may not reflect the current distribution of Monterey spineflower within the evaluation area. Therefore, for the purposes of this analysis, this species may occur anywhere within the evaluation area where suitable habitat is present.

Monterey Gilia

Monterey gilia is a federally endangered, state threatened, CNPS CRPR 1B, and HMP species endemic to the Monterey Bay area. This small, erect annual herb in the Polemoniaceae family typically germinates from December to February and blooms from April through June. It can self-pollinate as well as outcross, and fruit is set from the end of April to the end of May (ICF, 2019). It produces small seeds that are dropped or shaken from their capsules and are then dispersed, likely by gravity or wind. Monterey gilia is found in sandy openings of maritime chaparral, cismontane woodland, coastal dune, and coastal scrub habitats at elevations of zero to 45 meters. It occurs at scattered locations throughout most of the former Fort Ord, which constitutes a substantial portion (at least half) of its range (Army, 1992). Most populations are small and localized, occurring on roadsides, on the cut banks of sandy ephemeral drainages, in recently burned chaparral, and in other disturbed patches; however, large populations are known from the southern portion of Marina Municipal Airport. Although it often co-occurs with Monterey spineflower, it is much more restricted and differs in microhabitat requirements. It is also found with virgate eriastrum, a species that appears to have similar ecological requirements.

Many of the populations of Monterey gilia found at Fort Ord support individuals with characteristics intermediate with the related subspecies slender-flowered gilia (*G. tenuiflora* ssp. *tenuiflora*), which is an inland species known to occur near Fort Ord in sandy washes of woodlands in the Salinas Valley (Army, 1992). It is possible that Fort Ord is a zone of intergradation between these two subspecies.

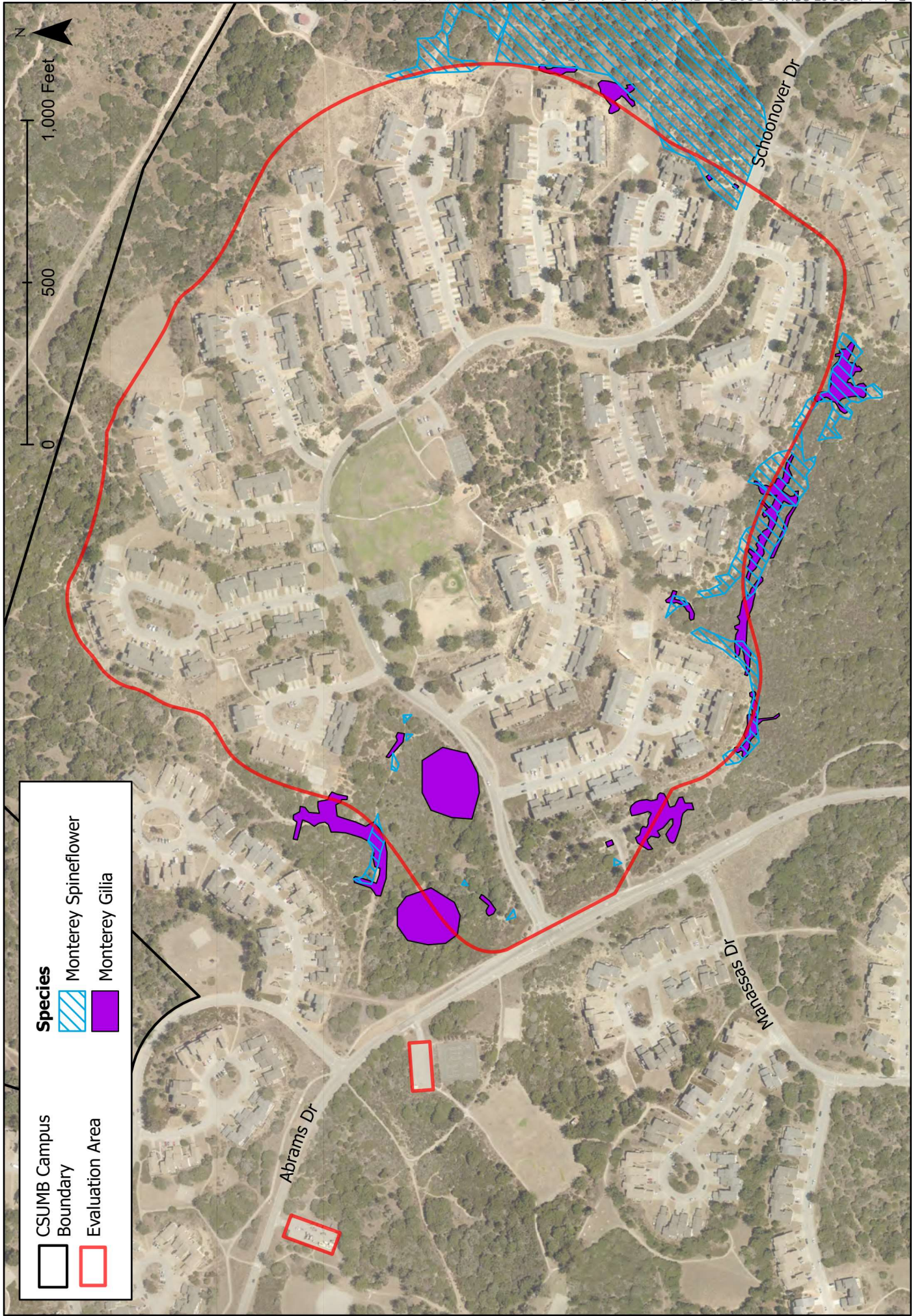


Figure 5

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Date: 11/22/2022
 Scale: 1 in = 0 mi

Special-Status Plant Occurrences within the Evaluation Area

Current research from the CSUMB Department of Applied Environmental Science suggests that *G. tenuiflora* ssp. *arenaria* plants within the former Fort Ord comprise two distinct, equally endangered sub-species of *G. tenuiflora*, with characteristics of *G. tenuiflora* ssp. *arenaria* found in more coastal populations and those of *G. tenuiflora* ssp. *tenuiflora* found in more inland populations (pers. comm. Dr. Fred Watson, CSUMB).

Extremely limited in its range, Monterey gilia is critically endangered due to removal of its habitat for human development, degradation of its habitat from invasive, non-native plants, and trampling by recreational users (Service, 2020). Loss of populations and habitat have resulted from coastal urban development, sand mining operations, and golf course construction. Recreational users, such as off-road vehicle users, hikers, and equestrians, threaten populations and habitat. The introduction of the aggressive ice plant and European beach grass for dune stabilization has altered habitats to unsuitable conditions for sand gilia. Commercial and residential development in and near Marina, Seaside, Sand City, and the Monterey Peninsula threaten remaining sand gilia populations.

Monterey gilia was observed within the evaluation area during 2016 focused botanical surveys (**Figure 5**). Because focused botanical surveys were conducted more than five years ago, the results of 2016 surveys may not reflect the current distribution of Monterey gilia within the evaluation area. Therefore, for the purposes of this analysis, this species may occur anywhere within the evaluation area where suitable habitat is present.

Manzanitas

Several special-status manzanita species, including Hooker's manzanita (*Arctostaphylos hookeri* ssp. *hookeri*), Toro manzanita (*A. montereyensis*), Pajaro manzanita (*A. pajaroensis*), and sandmat manzanita (*A. pumila*), have the potential to occur within the evaluation area. These species generally occur in maritime chaparral, coastal scrub, cismontane woodlands, and sometimes closed-cone coniferous forests at elevations ranging from three to 760 meters. Over twenty years of weed abatement have resulted in improved habitat quality for these species within the former Fort Ord; however, continued expansion of exotic species is also an on-going threat to these species.

Suitable habitat for special-status manzanita species is present within the evaluation area in maritime chaparral, coastal scrub, and oak woodland communities. These species were not identified within the evaluation area during 2016 focused botanical surveys; however, surveys were conducted more than five years ago and may not reflect current site conditions. The CNDDDB reports occurrences of all these species in the vicinity of the evaluation; therefore, they have the potential to occur within the area where suitable habitat is present.

Monterey Ceanothus

Monterey ceanothus (*Ceanothus rigidus*) is a CNPS CRPR List 4 and HMP species in the Rhamnaceae family. This evergreen shrub blooms from February through April (sometimes through June) and is associated with closed-cone coniferous forests, chaparral, and coastal scrub on sandy soils at elevations of three to 550 meters. It is endemic to the central California coast in Monterey, San Luis Obispo, and Santa Cruz Counties; however, it is presumed extirpated from the latter (Elkhorn Slough CTP, 2007). The most abundant and probably the most vigorous population of Monterey ceanothus is found on the former Fort Ord (Army, 1992).

Suitable habitat for Monterey ceanothus is present within the evaluation area in maritime chaparral and coastal scrub communities. The CNDDDB does not report any occurrences of this species within the quadrangles reviewed; however, this species is known to occur throughout the Former Fort Ord. Monterey ceanothus was not identified within the evaluation area during 2016 botanical surveys; however, surveys were conducted more than three years ago and may not reflect current site conditions. Therefore, this species has the potential to occur within the evaluation area where suitable habitat is present.

Fort Ord Spineflower

Fort Ord spineflower (*Chorizanthe minutiflora*) is a CNPS CRPR 1B species in the Polygonaceae family. This annual herb blooms from April through July and is associated with sandy openings of maritime chaparral and coastal scrub at elevations of 55 to 150 meters. Fort Ord spineflower is endemic to the Monterey Bay region, where it is known only from Fort Ord National Monument. It sometimes co-occurs with Monterey spineflower, though the latter is much more prevalent.

Suitable habitat for Fort Ord spineflower is present within the evaluation area in maritime chaparral and coastal scrub communities. The CNDDDB reports five occurrences of this species within the quadrangles reviewed, the nearest located approximately 1.2 miles from the evaluation area. Fort Ord spineflower was not identified within the evaluation area during 2016 botanical surveys; however, surveys were conducted more than three years ago and may not reflect current site conditions. Therefore, this species has the potential to occur within the evaluation area where suitable habitat is present.

Seaside Bird's-Beak

Seaside bird's-beak (*Cordylanthus rigidus* ssp. *littoralis*) is a state endangered, CNPS CRPR 1B, and HMP species. It is a tall, diffuse annual herb in the Scrophulariaceae family that blooms from June through August. The species is hemiparasitic, acting as a parasite by attaching its roots to a host plant but also producing some of its own chlorophyll. It is insect pollinated to produce small seeds that are dropped or shaken by wind from their capsule. This species grows in sandy soils of stabilized dunes covered by closed-cone pine forest, cismontane woodland, maritime chaparral, coastal shrub, and grasslands. Plants thrive in areas of recent surface soil disturbance or in areas with reduced levels of competition from shrubs and herbaceous plants. Populations are usually small and scattered in recently disturbed openings in these communities. Its known range is restricted to the area between Carmel and Elkhorn Slough in northern Monterey County and at Burton Mesa and Vandenberg Air Force Base in Santa Barbara County; however, Santa Barbara's populations of seaside bird's-beak may be introductions and appear to be hybrids (Army, 1992).

The former Fort Ord constitutes a substantial portion of seaside bird's-beak's range, where it occurs as scattered, localized populations in maritime chaparral and coastal oak woodlands (Army, 1992). The CNDDDB reports that seaside bird's beak is known from 40 occurrences in California (CDFW, 2022). The distribution of the species is restricted to northern Monterey County and Santa Barbara County. In Monterey County the species is generally found between Carmel and Elkhorn Slough, in the former Fort Ord, and at the Monterey Airport. Occurrences of the species have declined as a result of coastal development and the destruction and fragmentation of its habitat. Additional losses of populations can be expected to occur as these development pressures continue to result in loss and fragmentation of habitat. High fire frequency and out-of-season burning may also be adversely affecting the species. Fires, ground-disturbing activities and recreational use contribute to the spread of invasive species like pampas grass, ice plant, and veldt grass, which are capable of overtaking bird's-beak habitat. A recent study concludes that management will

require managing competition with invasive plant species, small mammals herbivory, and moth larvae herbivory on seeds, and availability of host plants (ICF, 2019).

Suitable habitat for seaside bird's-beak is present within the evaluation area in maritime chaparral, coast live oak woodland, and coastal scrub communities. The CNDDDB reports 14 occurrences of this species within the quadrangles reviewed, the nearest located approximately 0.3 miles from the evaluation area. Seaside bird's-beak was not identified within the evaluation area during 2016 botanical surveys; however, surveys were conducted more than three years ago and may not reflect current site conditions. Therefore, this species has the potential to occur within the evaluation area where suitable habitat is present.

Eastwood's Goldenbush

Eastwood's goldenbush (*Ericameria fasciculata*, also often referred to as Eastwood's goldenfleece) is a CNPS CRPR 1B and HMP species in the Asteraceae family. This evergreen shrub blooms from July through October and is associated with openings in closed-cone coniferous forest, maritime chaparral, coastal dunes, and coastal scrub on sandy soils at elevations of 30 to 275 meters. The former Fort Ord supports most of the remaining individuals of Eastwood's goldenbush (Army, 1992).

Suitable habitat for Eastwood's goldenbush is present within the evaluation area in maritime chaparral and coastal scrub communities. The CNDDDB reports 23 occurrences of this species within the quadrangles reviewed, including an occurrence which overlaps the evaluation area. Eastwood's goldenbush was not identified within the evaluation area during 2016 botanical surveys; however, surveys were conducted more than three years ago and may not reflect current site conditions. Therefore, this species has the potential to occur within the evaluation area where suitable habitat is present.

Coast Wallflower

Coast wallflower (*Erysimum ammophilum*) is a CNPS CRPR 1B and HMP species in the Brassicaceae family. This perennial herb blooms February through June and is associated with openings in maritime chaparral, coastal dunes, and coastal scrub on sandy soils at elevations of zero to 60 meters. It is endemic to California, where it is known from dunes and bluffs near Monterey Bay, the coastline of San Diego County, and parts of the Channel Islands (Calscape, 2022). The former Fort Ord provides a moderate amount of suitable habitat for coast wallflower and may constitute an important portion of its range because of the limited extent of and high degree of disturbance to its habitat in California (Army, 1992).

Suitable habitat for coast wallflower is present within the evaluation area in maritime chaparral and coastal scrub communities. The CNDDDB reports 21 occurrences of this species within the quadrangles reviewed, including an occurrence which overlaps the evaluation area. Coast wallflower was not identified within the evaluation area during 2016 botanical surveys; however, surveys were conducted more than three years ago and may not reflect current site conditions. Therefore, this species has the potential to occur within the evaluation area where suitable habitat is present.

Kellogg's Horkelia

Kellogg's horkelia (*Horkelia cuneata* ssp. *sericea*) is a CNPS CRPR 1B species in the Rosaceae family. This perennial herb blooms from April through June and is typically associated with openings in closed cone coniferous forest, maritime chaparral, and coastal scrub (in sandy or gravelly soils on relic dunes) at elevations of 10 to 200 meters. It is endemic to California, where it is known along the coast from Marin County to Santa Barbara County. Kellogg's horkelia is widely distributed; the former Fort Ord likely comprises only a small part of its current range (Army, 1992).

Suitable habitat for Kellogg's horkelia is present within the evaluation area in maritime chaparral and coastal scrub communities. The CNDDDB reports 17 occurrences of this species within the quadrangles reviewed, the nearest located approximately 300 feet from the evaluation area. Kellogg's horkelia was not identified within the evaluation area during 2016 botanical surveys; however, surveys were conducted more than three years ago and may not reflect current site conditions. Therefore, this species has the potential to occur within the evaluation area where suitable habitat is present.

Marsh Microseris

Marsh microseris (*Microseris paludosa*) is a CNPS CRPR 1B species in the Asteraceae family. This rhizomatous, perennial herb is found in mesic areas of closed-cone coniferous forest, cismontane woodland, coastal scrub, and valley and foothill grassland habitats at elevations from 5-300 meters. The blooming period is from April through July.

Marginally suitable habitat for marsh microseris is present within the evaluation area in oak woodland, maritime chaparral, coastal scrub, and ruderal communities. The CNDDDB reports 10 occurrences of this species within the quadrangles reviewed, the nearest located approximately 1.3 miles from the evaluation area. Marsh microseris was not identified within the evaluation area during 2016 botanical surveys; however, surveys were conducted more than three years ago and may not reflect current site conditions. Therefore, this species has the potential to occur within the evaluation area where suitable habitat is present.

Northern Curly-Leaved Monardella

Northern curly-leaved monardella (*Monardella sinuata* ssp. *nigrescens*) is a CNPS CRPR 1B species in the Lamiaceae family. This annual herb is found in chaparral, coastal dunes, and coastal scrub at elevations of 0-300 meters. This species may also be found in ponderosa pine sandhills in Santa Cruz County and valley and foothill grassland habitats at elevations from 5-300 meters. The blooming period is from April through September.

Suitable habitat for northern curly-leaved monardella is present within the evaluation area in maritime chaparral and coastal scrub communities. The CNDDDB reports 10 occurrences of this species within the quadrangles reviewed, the nearest located approximately 580 feet from the evaluation area. Northern curly-leaved monardella was not identified within the evaluation area during 2016 botanical surveys; however, surveys were conducted more than three years ago and may not reflect current site conditions. Therefore, this species has the potential to occur within the evaluation area where suitable habitat is present.

Yadon's Piperia

Yadon's rein orchid or Yadon's piperia (*Piperia yadonii*) is a federally endangered and CNPS CRPR 1B species in the Orchidaceae family. It grows from an underground caudex/corm from the early spring through summer and recedes into dormancy during the late summer through winter. Plants may produce only vegetative growth for several years before first producing flowers (ICF, 2019). The blooming season is fairly short, with the first flowers opening mid- to late-June and blooming generally completed by early August. Recent data suggest that only a small percentage (typically 2–5%) of individuals in a population may flower in any year (ICF, 2019). Yadon's rein orchid is easily mistaken for more common relatives and biologists have confirmed it impossible to identify Yadon's rein orchid based on morphology without mature flowers (ICF, 2019). As in some other plant taxa, individual orchids that flower in one year may not have the necessary energy reserves to flower in the following year. As a result, an unknown proportion of a population may be dormant in any given year, thus making it difficult to track population dynamics through monitoring of population size. However, it would be expected that some percentage of a resident

population would flower in any given year. As a result, while it may be difficult to track population dynamics in any given year, determining presence or absence for a specific area is not.

Yadon's rein orchid is endemic to Monterey County and has been found in two primary habitat types, Monterey pine forest and chaparral, but is also found in coastal scrub and in grasslands mixed with planted Monterey pines. In Monterey pine forest habitat, the species appears to favor a predominantly herbaceous understory typically under the perimeter canopy of evergreen huckleberry (*Vaccinium ovatum*) and shaggy-barked manzanita. In chaparral, the species is typically found on rocky outcroppings, in sandy areas or eroded ridgetops where the soil is shallow, growing beneath dwarfed Hooker's manzanita shrubs (ICF, 2019). Overall, this species favors a well-drained sandy soil substrate that retains moisture during the rainy season but is not subject to inundation (ICF, 2019).

Suitable habitat for northern Yadon's piperia is present within the evaluation area in maritime chaparral and coastal scrub communities. The CNDDDB reports 24 occurrences of this species within the quadrangles reviewed, the nearest located approximately two miles from the evaluation area. Yadon's piperia was not identified within the evaluation area during 2016 botanical surveys; however, surveys were conducted more than three years ago and may not reflect current site conditions. Therefore, this species has the potential to occur within the evaluation area where suitable habitat is present.

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4. IMPACTS AND MITIGATION

4.1 Approach to Analysis

The following section describes potential impacts that may result from the project. The entire evaluation area is located within a parcel designated by the HMP as “development” and no uses beyond what is permissible by the HMP are proposed with the project. Through implementation of the HMP, impacts to HMP species and habitats occurring within designated development parcels were anticipated and mitigated through the establishment of habitat reserves and corridors and the implementation of habitat management requirements within habitat reserve parcels on former Fort Ord. As described above, parcels designated as “development” have no management restrictions. However, the 2017 Programmatic BO and HMP require the identification of sensitive botanical resources within these parcels that may be salvaged for use in restoration activities in reserve areas (Service, 2017b and ACOE, 1997).

Two HMP species, Monterey spineflower and Monterey gilia, are known to occur in the evaluation area. Additional HMP species which have the potential to occur within the evaluation area include Monterey ornate shrew, CTS, northern California legless lizard, SBB, Hooker’s manzanita, Toro manzanita, sandmat manzanita, Monterey ceanothus, seaside bird’s-beak, Eastwood’s goldenbush, coast wallflower, and Yadon’s piperia. With the designated off-campus habitat reserves and corridors and habitat management requirements of the HMP in place, the loss of these species associated with development in the Fort Ord area is not expected to jeopardize the long-term viability of these species and their populations on the former Fort Ord (Service, 1993). This is such because the recipients of disposed land with habitat management requirements and development restrictions designated by the HMP will be obligated to implement those specific measures through the HMP and deed covenants. In addition to the HMP species identified, impacts to sensitive central maritime chaparral habitat are also addressed in the HMP and, therefore, impacts to this habitat are also considered mitigated through the implementation of the HMP based on the same conclusions.

However, the 2017 Programmatic BO and HMP require the identification of sensitive botanical resources within the development parcels that may be salvaged for use in restoration activities in reserve areas. CSUMB is required to implement HMP requirements in accordance with the deed covenants, which apply to all parcels within the campus boundaries. Therefore, this analysis assumes that salvage of HMP species will be conducted in accordance with this requirement for the proposed project.

As described earlier in this report, the HMP does not exempt existing or future land recipients from the federal and state requirements of ESA and CESA. Several HMP species known or with the potential to occur within the evaluation area, including CTS, SBB, seaside bird’s-beak, and Monterey gilia, are federal and/or state listed species that may require take authorization from the Service and/or CDFW. PG&E’s MRHCP provides a mechanism for the incidental take of federally listed species, including CTS and SBB. Implementation of the measures required by the MRHCP that are applicable to the proposed project would ensure that the project remains in compliance with ESA. However, development resulting in take of state listed species, including CTS, seaside bird’s-beak, and/or Monterey gilia, would need to be authorized by CDFW through the issuance of incidental take permits to avoid violation of CESA.

4.2 Thresholds of Significance

For the purposes of this analysis, an impact is significant and requires mitigation if it would result in any of the following:

- 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 CDFW or the Service;
- 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 CDFW or the Service;
- c. Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling hydrological interruption, or other means;
- 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 nursery sites;
- e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
- 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.

4.3 Areas of No Impact

Criterion “c” is not evaluated for impacts to wetlands or other waters as none are present within or directly adjacent to the evaluation area.

4.4 Impacts and Mitigation Measures

Impact BIO-1: 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 CDFW or the Service.

Impacts to Special-Status Plants

Two HMP plant species, Monterey spineflower and Monterey gilia, occur within the evaluation area. DD&A mapped populations of these species within the area in 2016; however, because these populations were mapped more than five years ago, 2016 survey results may not reflect the current distribution of these species within the evaluation area. In addition, eight other HMP plant species, including Hooker’s manzanita, Toro manzanita, sandmat manzanita, Pajaro manzanita, Monterey ceanothus, seaside bird’s-beak, Eastwood’s goldenbush, coast wallflower, and Yadon’s piperia, have the potential to occur within the evaluation area. Five non-HMP special-status plant species, including Pajaro manzanita, Fort Ord spineflower, Kellogg’s horkelia, marsh microseris, and northern curly-leave monardella, also have the potential to occur within the evaluation area. If present within or adjacent to the work area, construction activities could result in adverse impacts to these species, including loss of individuals, soil compaction, dust, loss of habitat, erosion, and introduction and spread of non-native, invasive species. Impacts to Monterey spineflower, seaside bird’s-beak, Monterey gilia, and/or Yadon’s piperia would be considered take of federally and/or state listed species.

The HMP and BO and the Master Plan EIR and MMRP require implementation of the following measures to avoid, minimize, or mitigate CSUMB project impacts to special-status species:

MMRP Mitigation Measure BIO-1a: *The CSUMB CPD [Campus Planning and Development] Department shall require that a biological survey of development sites be conducted by a qualified biologist to determine if the development could potentially impact HMP species or potential habitat (HMP Species include: California tiger salamander, Smith's blue butterfly, Northern California legless lizard, Monterey ornate shrew, Monterey spineflower, sand gilia, sandmat manzanita, Hooker's manzanita, Toro manzanita, Monterey ceanothus, seaside bird's-beak, coast wallflower, Eastwood's goldenbush and Yadon's piperia). A report describing the results of the surveys shall be provided to the CSUMB CPD Department prior to any ground disturbing activities. The report shall include, but not be limited to 1) a description of the biological conditions at the area; 2) identification of the potential for HMP species to occur or HMP species observed, if any; and 3) maps of the locations of HMP species or potential habitat, if observed.*

If HMP species that do not require take authorization from the Service or CDFW are identified within the development site, salvage efforts for these species shall be evaluated by a qualified biologist in coordination with CSUMB CPD Department to further reduce impacts per the requirements of the HMP and BO. Where salvage is determined feasible and proposed, seed collection should occur from plants within the development site and/or topsoil should be salvaged within occupied areas to be disturbed. Seeds shall be collected during the appropriate time of year for each species by qualified biologists. The collected seeds and topsoil shall be used to revegetate temporarily disturbed construction areas and reseeded and restoration efforts on- or off-site, as determined appropriate by the qualified biologist and CSUMB CPD Department. For impacts to the HMP species within the development site that do require take authorization from the Service and/or CDFW, the CSUMB CPD Department shall comply with ESA and CESA and obtain necessary permits prior to construction. If non-HMP special-status species are identified during the implementation of this measure, MM-BIO-1b shall also be implemented.

MMRP Mitigation Measure BIO-1b: *The CSUMB CPD Department shall require that a biological survey of development sites be conducted by a qualified biologist to determine if the development could potentially impact a special-status species or their habitat. A report describing the results of the surveys shall be provided to the CSUMB CPD Department prior to any ground disturbing activities. The report shall include, but not be limited to: 1) a description of the biological conditions at the area; 2) identification of the potential for special-status species to occur or special-status species observed, if any; 3) maps of the locations of special-status species or potential habitat, if observed; and 4) recommended mitigation measures, if applicable. If special-status species are determined not to occur at the development site, no additional mitigation is necessary.*

If special-status species are observed or determined to have the potential to occur, the project biologist shall recommend measures necessary to avoid, minimize, and/or compensate for identified impacts. Measures shall include, but are not limited to, revisions to the project design and project modifications, pre-construction surveys, construction buffers, construction best management practices, monitoring, non-native species control, restoration and preservation, and salvage and relocation.

In addition, PG&E's MRHCP requires implementation of the following measures to avoid, minimize, or mitigate potential impacts from PG&E operation and maintenance activities to federally listed plant species:

MRHCP AMM Plant-01: No herbicides will be used for vegetation management, pole clearing, or any other purpose within 100 feet of a Map Book zone (except vegetation management's direct application to cut stumps when greater than 25 feet from a Map Book zone and in conformance with applicable pesticide regulations).

MRHCP AMM Plant-02: Heavy equipment shall remain on access roads or other previously disturbed areas unless otherwise prescribed by a land planner, biologist, or HCP administrator.

MRHCP AMM Plant-03: Stockpile separately the upper 4 inches of topsoil during excavations associated with covered activities. Stockpiles of topsoil will be used to restore the disturbed ROW.

This report has been prepared to satisfy MMRP Mitigation Measure BIO-1a's and BIO-1b's requirements for a project-specific biological assessment. In addition, and in support of the East Campus Fuel Management Plan Project (East Campus FMP), CSUMB is currently conducting focused botanical surveys for special-status plants in the East Campus Housing Area, including the evaluation area, to update the results of 2016 surveys. These surveys, which are expected to be completed in July 2023, would satisfy the requirements of MMRP Mitigation Measures BIO-1a and BIO-1b for pre-construction plant surveys prior to ground-disturbing activities.

As described in *Section 1.1 Project Description*, the project has been designed to avoid or minimize impacts to special-status species by confining work to existing developed areas, where feasible, and using HDD rather than open cut construction to greatest extent feasible. In accordance with MRHCP AMMs Plant-01 and Plant-02, no herbicides would be used during or after construction and heavy equipment would remain on roads and previously disturbed areas. Furthermore, in accordance with MRHCP AMM Plant-03 and MMRP Mitigation Measure BIO-1a, CSUMB and/or PG&E would conduct seed salvage by preserving topsoil, if any, that is removed during initial vegetation removal and ground-disturbing activities and replacing the topsoil on-site following ground-disturbing activities.

Take authorization from CDFW would be required for potential project impacts to the state-listed threatened Monterey gilia. In accordance with MMRP Mitigation Measure BIO-1a, if this species are identified within the work area during focused botanical surveys and cannot be avoided, CSUMB and PG&E would comply with CESA and obtain an incidental take permit (ITP) for Monterey gilia from CDFW prior to any vegetation removal or ground-disturbing activities and implement any additional mitigation measures identified in the ITP.

Implementation of seed salvage and any measures required by the ITP would ensure that the project remains in compliance with the HMP, BO, Master Plan EIR and MMRP, and MRHCP and that potentially significant impacts to special-status plant species are reduced to a less than significant level.

Impacts to Special-Status Wildlife Species

Several HMP wildlife species, including Monterey ornate shrew, CTS, California legless lizard, and SBB, have the potential to occur within the evaluation area. In addition, several non-HMP special-status wildlife species, including Townsend's big-eared bat, MDFW, and coast horned lizard, have the potential to occur within the evaluation area. Finally, raptors and other protected avian species, including burrowing owl and white-tailed kite, have the potential to nest adjacent to the evaluation area. If present within or near the work area, construction activities could result in injury, nest abandonment, or mortality of individuals. Impacts to CTS or SBB would be considered take of ESA- and/or CESA-listed species.

As described above, the HMP and BO and the Master Plan EIR and MMRP require that Mitigation Measure BIO-1a be implemented to avoid potential project impacts to HMP species and that Mitigation Measure BIO-1b be implemented to avoid potential project impacts to non-HMP special-status species. The Master Plan EIR and MMRP also identify the following mitigation to avoid or minimize potential CSUMB project impacts to raptors and other nesting birds:

MMRP Mitigation Measure BIO-1c: Construction activities that may directly (e.g., vegetation removal) or indirectly (e.g., noise/ground disturbance) affect protected nesting avian species shall be timed to avoid the breeding and nesting season. Specifically, vegetation and/or tree removal can be scheduled after September 16 and before January 31. Alternatively, a qualified biologist shall be retained by the CSUMB CPD Department to conduct pre-construction surveys for nesting raptors and other protected avian species within 500 feet of proposed construction activities if construction occurs between February 1 and September 15. Pre-construction surveys shall be conducted no more than 14 days prior to the start of construction activities during the early part of the breeding season (February through April) and no more than 30 days prior to the initiation of these activities during the late part of the breeding season (May through August). Because some bird species nest early in spring and others nest later in summer, surveys for nesting birds may be required to continue during construction to address new arrivals, and because some species breed multiple times in a season. The necessity and timing of these continued surveys shall be determined by the qualified biologist based on review of the final construction plans and in coordination with the USFWS and CDFW, as needed for protected avian species nests.

If raptors or other protected avian species nests are identified during the pre-construction surveys, the qualified biologist shall notify the CSUMB CPD Department and an appropriate no-disturbance buffer shall be imposed within which no construction activities or disturbance shall take place (generally 500 feet in all directions for raptors; other avian species may have species-specific requirements) until the young of the year have fledged and are no longer reliant upon the nest or parental care for survival, as determined by a qualified biologist.

In addition, PG&E's MRHCP requires implementation of the following field protocols and measures to avoid, minimize, or mitigate potential impacts from PG&E operation and maintenance activities to federally listed wildlife species and nesting birds:

MRHCP FP-02: Park vehicles and equipment on pavement, existing roads, or other disturbed or designated areas (barren, gravel, compacted dirt).

MRHCP FP-03: Use existing access and ROW roads. Minimize the development of new access and ROW roads, including clearing and blading for temporary vehicle access in areas of natural vegetation.

MRHCP FP-04: Route off-road access paths and site work sites to minimize impacts on plants, shrubs, and trees, small mammal burrows, and unique natural features (e.g., rock outcrops).

MRHCP FP-06: Minimize potential for covered species to become trapped, injured, or killed in pipes, culverts, or under materials or equipment. Inspect pipes and culverts wide enough to be entered by a covered species that could inhabit the area where pipes are stored for wildlife species

prior to moving pipes and culverts. Contact a biologist if a covered species or other federally listed species is suspected or discovered.

MRHCP FP-07: *Vehicle speeds on unpaved roads will not exceed 15 miles per hour.*

MRHCP FP-08: *Prohibit trash dumping, firearms, open fires (such as barbecues), hunting, and pets (except for safety in remote locations) at work sites.*

MRHCP FP-10: *Minimize the covered activity footprint and minimize the amount of time spent at a work site to reduce the potential for take of species.*

MRHCP FP-12: *Stockpile soil within established work site boundaries and locate stockpiles so as not to enter water bodies, stormwater inlets, other standing bodies of water. Cover stockpiled soil prior to precipitation events.*

MRHCP FP-13: *Fit open trenches or steep-walled holes with escape ramps of plywood boards or sloped earthen ramps at each end if left open overnight. Field crews will search open trenches or steep-walled holes every morning prior to initiating daily activities to ensure wildlife is not trapped. Field crews will not handle covered species. If any covered wildlife species is found, work will stop and a biologist will be notified. A biologist with appropriate take permits will relocate the species to adjacent habitat or the species will be allowed to naturally disperse, as determined by a biologist.*

MRHCP FP-19: *Inspect and maintain exclusion fencing installed to exclude species from work areas.*

MRHCP FP-18: *Nests with eggs and/or chicks will be avoided: contact a biologist or the Avian Protection Program Manager for further guidance. Work will be stopped until the crew can obtain clarification from a biologist or the Avian Protection Program Manager on how to proceed.*

This report has been prepared to satisfy MMRP Mitigation Measure BIO-1a's and BIO-1b's requirements for a project-specific biological assessment. As described above, CSUMB is currently conducting focused botanical surveys for special-status plants, including the SBB host plants coast and seacliff buckwheat, within the evaluation area. These surveys would satisfy the MRHCP SBB-1 requirement for surveys for the SBB host plants prior to ground-disturbing activities.

As described in *Section 1.1 Project Description*, the project has been designed to avoid or minimize impacts to special-status species by confining work to existing developed areas, where feasible, and using HDD rather than open cut construction to greatest extent feasible. Implementation of MMRP Mitigation Measure BIO-1c and the MRHCP field protocols identified above would further minimize impacts to special-status wildlife species (including species not covered by the MRHCP) by requiring surveys for nesting birds if construction occurs within the nesting season; limiting construction access and staging to developed or disturbed areas; minimizing new construction in undisturbed areas and potential habitat for wildlife; inspecting pipes and culverts for wildlife; limiting vehicle speed on unpaved roads; prohibiting trash dumping, firearms, fires, hunting, and pets within the construction site; covering open trenches overnight to prevent inadvertent entrapment of wildlife; and maintaining exclusionary fencing around work areas.

Implementation of these measures would ensure that the project remains in compliance with the HMP, BO, Master Plan EIR and MMRP, and MRHCP and that potentially significant impacts to special-status wildlife species are reduced to a less than significant level.

In addition to implementing the measures above, the following standard construction best management practices are recommended to further reduce potential impacts to special-status species:

1. A qualified biologist will conduct an Employee Education Program for the construction crew prior to any construction activities. The qualified biologist will meet with the construction crew at the onset of construction at the project site to educate the construction crew on the following: 1) the appropriate access route(s) in and out of the construction area and review project boundaries; 2) how a biological monitor will examine the area and agree upon a method which will ensure the safety of the monitor during such activities, 3) the special-status species and sensitive habitats that are known or may be present; 4) the specific mitigation measures that will be incorporated into the construction effort; 5) the general provisions and protections afforded by the Service and CDFW; and 6) the proper procedures if a special-status species is encountered within the project site.
2. A qualified biologist will survey the proposed project area and immediately adjacent areas 48 hours before and the morning of the onset of work activities for the presence of CTS. If any life stage of CTS is observed, project activities will not commence until the Service and CDFW are consulted and appropriate actions are taken to allow project activities to begin.
3. A qualified biologist shall survey appropriate areas of the site daily before the onset of work activities for the presence of CTS. The qualified biologist shall remain on site until all ground disturbing activities are completed. If any life stage of CTS is found and these individuals are likely to be killed or injured by work activities, work shall stop and the Service and CDFW shall be contacted. Activities will not resume until the Service and CDFW are consulted and appropriate actions are taken to allow project activities to continue.
4. Only tightly woven fiber netting or similar material may be used for erosion control at the project site. Coconut coir matting is an acceptable erosion control material. No plastic mono-filament matting will be used for erosion control, as this material may ensnare wildlife, including CTS.
5. Because dusk and dawn are often the times when CTS are most actively foraging and dispersing, all project activities should cease one half hour before sunset and should not begin prior to one half hour after sunrise.
6. A qualified biologist approved by CSUMB will monitor all ground disturbing construction activities (i.e., vegetation removal, grading, excavation, or similar activities) to protect any special-status species encountered. Any handling and relocation protocols of special-status wildlife species will be conducted by a qualified biologist with an appropriate scientific collection permit. The qualified biologist will conduct regular scheduled and unscheduled visits to ensure the applicant is satisfactorily implementing all appropriate mitigation protocols. The qualified biologist shall complete a daily log summarizing activities and environmental compliance throughout the duration of the project. The log will also include any special-status wildlife species observed and relocated.
7. Trees and vegetation not planned for removal or trimming will be protected prior to and during construction to the maximum possible with exclusionary fencing, such as hay bales for herbaceous and shrubby vegetation or protective wood barriers for trees. Only certified weed-free straw will

be used to avoid the introduction of non-native, invasive species. A biological monitor will supervise the installation of protective fencing and monitor at least once per week until construction is complete to ensure that the protective fencing remains intact.

8. Following construction, disturbed areas will be restored to pre-project contours to the maximum extent possible and will be revegetated using locally occurring native species and native erosion control seed mix, per the recommendations of a qualified biologist.
9. Grading, excavating, and other activities that involve substantial soil disturbance will be planned and implemented in consultation with a qualified hydrologist, engineer, or erosion control specialist, and will utilize standard erosion control techniques to minimize erosion and sedimentation to native vegetation (pre-, during, and post-construction).
10. No firearms will be allowed on the project site at any time.
11. All food-related and other trash will be disposed of in closed containers and removed from the project site at least once a week during the construction period, or more often if trash is attracting avian or mammalian predators. Construction personnel will not feed or otherwise attract wildlife to the area.
12. Impacts to special-status plants and adjacent sensitive habitat shall be avoided. Special-status plants and sensitive habitat shall be protected prior to and during construction to the maximum possible through the use of exclusionary fencing or flagging, such as construction fencing or hay bales. Only certified weed-free straw will be used to avoid the introduction of non-native, invasive species. A biological monitor will supervise the installation of protective fencing and monitor at least once per week until construction is complete to ensure that the protective fencing remains intact.
13. Any landscaping or replanting required for the project will not use species listed as noxious by the California Department of Food and Agriculture (CDFA) or invasive by the California Invasive Plant Council (Cal-IPC).
14. Bare and disturbed soil will be landscaped with CDFA recommended seed mix or plantings from locally adopted species to preclude the invasion on noxious weeds in the project site.
15. Construction equipment will be cleaned of mud or other debris that may contain invasive plants and/or seeds and inspected to reduce the potential of spreading noxious weeds, before mobilizing to arrive at the construction site and before leaving the construction site.

Impact BIO-2: 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 CDFW or the Service.

Vegetation types occurring within the project site that are listed as sensitive on the CDFW's *Natural Communities List* (CDFW, 2021a) include central maritime chaparral. Approximately 4.3 acres of central maritime chaparral are present within the evaluation area; however, most of this acreage is more than 50 feet from the pipeline alignment and would likely not be impacted by the project. In addition, approximately 2.4 acres of coast live oak woodland occur within the evaluation area, and an additional 3.4 acres of this

natural community intergrade with coast scrub. However, the proposed project consists of the replacement of an existing natural gas pipeline and would not include new development within the evaluation area. In addition, the proposed project has been designed to avoid or minimize impacts to sensitive habitat by confining work to existing developed areas, where feasible, and using HDD rather than open cut construction to greatest extent feasible. The proposed project would not involve any tree removal. Therefore, this impact would be less than significant, and no mitigation is required.

Impact BIO-3: 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 nursery sites.

Wildlife movement corridors are pathways or habitat linkages that connect discrete areas of natural open space otherwise separated or fragmented by topography, changes in vegetation, and other natural or man-made factors, such as urbanization. The fragmentation of natural habitat creates isolated “islands” of vegetation that may not provide sufficient area or resources to accommodate sustainable populations for a number of species and, therefore, adversely affect both genetic and species diversity. Corridors often partially or largely mitigate the adverse effects of fragmentation by: 1) allowing animals to move between remaining habitats to replenish depleted populations and increase the gene pool available; 2) providing escape routes from fire, predators, and human disturbances, thus, reducing the risk that catastrophic events (e.g., fire and disease) will result in population or species extinction; and 3) serving as travel paths for individual animals moving throughout their home range in search of food, water, mates, and other needs, or for dispersing juveniles in search of new home ranges.

The proposed project consists of the replacement of an existing pipeline within a mostly developed area and would not include new development. The project would not fragment natural habitat beyond existing conditions or create a barrier to wildlife movement. Therefore, this impact would be less than significant, and no mitigation is required.

Impact BIO-4: Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

Implementation of the proposed project may result in impacts to trees within the campus boundaries. However, CSUMB has established a tree restoration program for impacts to coast live oak and other trees resulting from projects that take place on campus. This program requires that for every tree greater than 4” dbh removed, a minimum of two coast live oak trees would be replanted in the identified restoration area on campus. The implementation of this program is required for all development that would result in impacts to trees at least 4” dbh. The project would comply with the CSUMB tree restoration program by avoiding removal of trees or tree branches greater than 4" dbh unless they are determined to be a safety and/or fire hazard; inventorying and tracking removal or significant pruning of trees greater than 4" dbh; and identifying tree pruning standards. Because the project does not propose any tree removal, the implementation of the project would not conflict with the CSUMB tree restoration program. This impact would be less than significant, and no mitigation is required.

Impact BIO-5: Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

As described in *Section 2.4, Regulatory Setting*, the evaluation area is located within PG&E's approved MRHCP area. In addition, the evaluation area is located within the former Fort Ord and the plan area of the HMP. As described in *Section 4.1, Approach to Analysis*, the proposed project activities are consistent with the approved HMP as it is located within parcels designated for "development" and the parcels do not have any restrictions for use. In addition, the proposed project will comply with the requirements of the HMP and MRHCP, as applicable. Therefore, implementation of the proposed project would not conflict with the approved HMP or MRHCP. This impact would be less than significant, and no mitigation is required.

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APPENDIX A

California Natural Diversity Database Report

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Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database



Query Criteria: Quad

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Agelaius tricolor</i> tricolored blackbird	ABPBXB0020	None	Threatened	G1G2	S1S2	SSC
<i>Agrostis lacuna-vernalis</i> vernal pool bent grass	PMPOA041N0	None	None	G1	S1	1B.1
<i>Allium hickmanii</i> Hickman's onion	PMLIL02140	None	None	G2	S2	1B.2
<i>Ambystoma californiense pop. 1</i> California tiger salamander - central California DPS	AAAAA01181	Threatened	Threatened	G2G3T3	S3	WL
<i>Ambystoma macrodactylum croceum</i> Santa Cruz long-toed salamander	AAAAA01082	Endangered	Endangered	G5T1T2	S1S2	FP
<i>Anniella pulchra</i> Northern California legless lizard	ARACC01020	None	None	G3	S3	SSC
<i>Arctostaphylos hookeri ssp. hookeri</i> Hooker's manzanita	PDERI040J1	None	None	G3T2	S2	1B.2
<i>Arctostaphylos montereyensis</i> Toro manzanita	PDERI040R0	None	None	G2?	S2?	1B.2
<i>Arctostaphylos pajaroensis</i> Pajaro manzanita	PDERI04100	None	None	G1	S1	1B.1
<i>Arctostaphylos pumila</i> sandmat manzanita	PDERI04180	None	None	G1	S1	1B.2
<i>Asio flammeus</i> short-eared owl	ABNSB13040	None	None	G5	S3	SSC
<i>Astragalus tener var. tener</i> alkali milk-vetch	PDFAB0F8R1	None	None	G2T1	S1	1B.2
<i>Astragalus tener var. titi</i> coastal dunes milk-vetch	PDFAB0F8R2	Endangered	Endangered	G2T1	S1	1B.1
<i>Athene cunicularia</i> burrowing owl	ABNSB10010	None	None	G4	S3	SSC
<i>Bombus caliginosus</i> obscure bumble bee	IIHYM24380	None	None	G2G3	S1S2	
<i>Bombus crotchii</i> Crotch bumble bee	IIHYM24480	None	Candidate Endangered	G2	S1S2	
<i>Bombus occidentalis</i> western bumble bee	IIHYM24250	None	Candidate Endangered	G2G3	S1	



Selected Elements by Scientific Name
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Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Buteo regalis</i> ferruginous hawk	ABNKC19120	None	None	G4	S3S4	WL
<i>Castilleja ambigua</i> var. <i>insalutata</i> pink Johnny-nip	PDSCR0D403	None	None	G4T2	S2	1B.1
<i>Centromadia parryi</i> ssp. <i>congdonii</i> Congdon's tarplant	PDAST4R0P1	None	None	G3T2	S2	1B.1
<i>Charadrius nivosus nivosus</i> western snowy plover	ABNNB03031	Threatened	None	G3T3	S3	SSC
<i>Chorizanthe minutiflora</i> Fort Ord spineflower	PDPGN04100	None	None	G1	S1	1B.2
<i>Chorizanthe pungens</i> var. <i>pungens</i> Monterey spineflower	PDPGN040M2	Threatened	None	G2T2	S2	1B.2
<i>Chorizanthe robusta</i> var. <i>robusta</i> robust spineflower	PDPGN040Q2	Endangered	None	G2T1	S1	1B.1
<i>Clarkia jolonensis</i> Jolon clarkia	PDONA050L0	None	None	G2	S2	1B.2
<i>Coelus globosus</i> globose dune beetle	IICOL4A010	None	None	G1G2	S1S2	
<i>Collinsia multicolor</i> San Francisco collinsia	PDSCR0H0B0	None	None	G2	S2	1B.2
<i>Cordylanthus rigidus</i> ssp. <i>littoralis</i> seaside bird's-beak	PDSCR0J0P2	None	Endangered	G5T2	S2	1B.1
<i>Corynorhinus townsendii</i> Townsend's big-eared bat	AMACC08010	None	None	G4	S2	SSC
<i>Coturnicops noveboracensis</i> yellow rail	ABNME01010	None	None	G4	S1S2	SSC
<i>Cypseloides niger</i> black swift	ABNUA01010	None	None	G4	S2	SSC
<i>Danaus plexippus plexippus</i> pop. 1 monarch - California overwintering population	IILEPP2012	Candidate	None	G4T1T2	S2	
<i>Delphinium californicum</i> ssp. <i>interius</i> Hospital Canyon larkspur	PDRAN0B0A2	None	None	G3T3	S3	1B.2
<i>Delphinium hutchinsoniae</i> Hutchinson's larkspur	PDRAN0B0V0	None	None	G2	S2	1B.2
<i>Delphinium umbraculorum</i> umbrella larkspur	PDRAN0B1W0	None	None	G3	S3	1B.3
<i>Elanus leucurus</i> white-tailed kite	ABNKC06010	None	None	G5	S3S4	FP
<i>Emys marmorata</i> western pond turtle	ARAAD02030	None	None	G3G4	S3	SSC
<i>Eremophila alpestris actia</i> California horned lark	ABPAT02011	None	None	G5T4Q	S4	WL



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



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Ericameria fasciculata</i> Eastwood's goldenbush	PDAST3L080	None	None	G2	S2	1B.1
<i>Eriogonum nortonii</i> Pinnacles buckwheat	PDPGN08470	None	None	G2	S2	1B.3
<i>Erysimum ammophilum</i> sand-loving wallflower	PDBRA16010	None	None	G2	S2	1B.2
<i>Erysimum menziesii</i> Menzies' wallflower	PDBRA160R0	Endangered	Endangered	G1	S1	1B.1
<i>Eucyclogobius newberryi</i> tidewater goby	AFCQN04010	Endangered	None	G3	S3	
<i>Eumetopias jubatus</i> Steller sea lion	AMAJC03010	Delisted	None	G3	S2	
<i>Euphilotes enoptes smithi</i> Smith's blue butterfly	IILEPG2026	Endangered	None	G5T1T2	S2	
<i>Falco mexicanus</i> prairie falcon	ABNKD06090	None	None	G5	S4	WL
<i>Falco peregrinus anatum</i> American peregrine falcon	ABNKD06071	Delisted	Delisted	G4T4	S3S4	FP
<i>Fritillaria liliacea</i> fragrant fritillary	PMLIL0V0C0	None	None	G2	S2	1B.2
<i>Gilia tenuiflora ssp. arenaria</i> Monterey gilia	PDPLM041P2	Endangered	Threatened	G3G4T2	S2	1B.2
<i>Hesperocyparis goveniana</i> Gowen cypress	PGCUP04031	Threatened	None	G1	S1	1B.2
<i>Hesperocyparis macrocarpa</i> Monterey cypress	PGCUP04060	None	None	G1	S1	1B.2
<i>Holocarpha macradenia</i> Santa Cruz tarplant	PDAST4X020	Threatened	Endangered	G1	S1	1B.1
<i>Horkelia cuneata var. sericea</i> Kellogg's horkelia	PDROS0W043	None	None	G4T1?	S1?	1B.1
<i>Horkelia marinensis</i> Point Reyes horkelia	PDROS0W0B0	None	None	G2	S2	1B.2
<i>Lasiurus cinereus</i> hoary bat	AMACC05030	None	None	G3G4	S4	
<i>Lasthenia conjugens</i> Contra Costa goldfields	PDAST5L040	Endangered	None	G1	S1	1B.1
<i>Laterallus jamaicensis coturniculus</i> California black rail	ABNME03041	None	Threatened	G3T1	S1	FP
<i>Lavinia exilicauda harengus</i> Monterey hitch	AFCJB19013	None	None	G4T3	S3	SSC
<i>Layia carnosa</i> beach layia	PDAST5N010	Threatened	Endangered	G2	S2	1B.1



Selected Elements by Scientific Name
California Department of Fish and Wildlife
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Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Legenere limosa</i> legenere	PDCAM0C010	None	None	G2	S2	1B.1
<i>Linderiella occidentalis</i> California linderiella	ICBRA06010	None	None	G2G3	S2S3	
<i>Lupinus tidestromii</i> Tidestrom's lupine	PDFAB2B3Y0	Endangered	Endangered	G1	S1	1B.1
<i>Malacothamnus palmeri var. involucratus</i> Carmel Valley bush-mallow	PDMAL0Q0B1	None	None	G3T2Q	S2	1B.2
<i>Malacothrix saxatilis var. arachnoidea</i> Carmel Valley malacothrix	PDAST660C2	None	None	G5T2	S2	1B.2
<i>Meconella oregana</i> Oregon meconella	PDPAP0G030	None	None	G2G3	S2	1B.1
<i>Microseris paludosa</i> marsh microseris	PDAST6E0D0	None	None	G2	S2	1B.2
<i>Monardella sinuata ssp. nigrescens</i> northern curly-leaved monardella	PDLAM18162	None	None	G3T2	S2	1B.2
<i>Monolopia gracilens</i> woodland woollythreads	PDAST6G010	None	None	G3	S3	1B.2
<i>Neotoma macrotis luciana</i> Monterey dusky-footed woodrat	AMAFF08083	None	None	G5T3	S3	SSC
<i>Oncorhynchus mykiss irideus pop. 9</i> steelhead - south-central California coast DPS	AFCHA0209H	Threatened	None	G5T2Q	S2	
<i>Pelecanus occidentalis californicus</i> California brown pelican	ABNFC01021	Delisted	Delisted	G4T3T4	S3	FP
<i>Phrynosoma blainvillii</i> coast horned lizard	ARACF12100	None	None	G3G4	S4	SSC
<i>Pinus radiata</i> Monterey pine	PGPIN040V0	None	None	G1	S1	1B.1
<i>Piperia yadonii</i> Yadon's rein orchid	PMORC1X070	Endangered	None	G1	S1	1B.1
<i>Plagiobothrys chorisianus var. chorisianus</i> Choris' popcornflower	PDBOR0V061	None	None	G3T1Q	S1	1B.2
<i>Potentilla hickmanii</i> Hickman's cinquefoil	PDROS1B370	Endangered	Endangered	G1	S1	1B.1
<i>Rallus obsoletus obsoletus</i> California Ridgway's rail	ABNME05011	Endangered	Endangered	G3T1	S1	FP
<i>Ramalina thrausta</i> angel's hair lichen	NLLEC3S340	None	None	G5?	S2S3	2B.1
<i>Rana boylei pop. 6</i> foothill yellow-legged frog - south coast DPS	AAABH01056	Proposed Endangered	Endangered	G3T1	S1	
<i>Rana draytonii</i> California red-legged frog	AAABH01022	Threatened	None	G2G3	S2S3	SSC



Selected Elements by Scientific Name
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Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Reithrodontomys megalotis distichlis</i> Salinas harvest mouse	AMAFF02032	None	None	G5T1	S1	
<i>Riparia riparia</i> bank swallow	ABPAU08010	None	Threatened	G5	S2	
<i>Rosa pinetorum</i> pine rose	PDROS1J0W0	None	None	G2	S2	1B.2
<i>Sidalcea malachroides</i> maple-leaved checkerbloom	PDMAL110E0	None	None	G3	S3	4.2
<i>Sorex ornatus salarius</i> Monterey shrew	AMABA01105	None	None	G5T1T2	S1S2	SSC
<i>Spea hammondi</i> western spadefoot	AAABF02020	None	None	G2G3	S3	SSC
<i>Spirinchus thaleichthys</i> longfin smelt	AFCHB03010	Candidate	Threatened	G5	S1	
<i>Stebbinsoseris decipiens</i> Santa Cruz microseris	PDAST6E050	None	None	G2	S2	1B.2
<i>Sulcaria spiralis</i> twisted horsehair lichen	NLT0042560	None	None	G3G4	S2	1B.2
<i>Taricha torosa</i> Coast Range newt	AAAAF02032	None	None	G4	S4	SSC
<i>Taxidea taxus</i> American badger	AMAJF04010	None	None	G5	S3	SSC
<i>Thamnophis hammondi</i> two-striped gartersnake	ARADB36160	None	None	G4	S3S4	SSC
<i>Trifolium buckwestiorum</i> Santa Cruz clover	PDFAB402W0	None	None	G2	S2	1B.1
<i>Trifolium hydrophilum</i> saline clover	PDFAB400R5	None	None	G2	S2	1B.2
<i>Trifolium polyodon</i> Pacific Grove clover	PDFAB402H0	None	Rare	G1	S1	1B.1
<i>Trifolium trichocalyx</i> Monterey clover	PDFAB402J0	Endangered	Endangered	G1	S1	1B.1
<i>Tryonia imitator</i> mimic tryonia (=California brackishwater snail)	IMGASJ7040	None	None	G2	S2	

Record Count: 97

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APPENDIX B

IPaC Resource List

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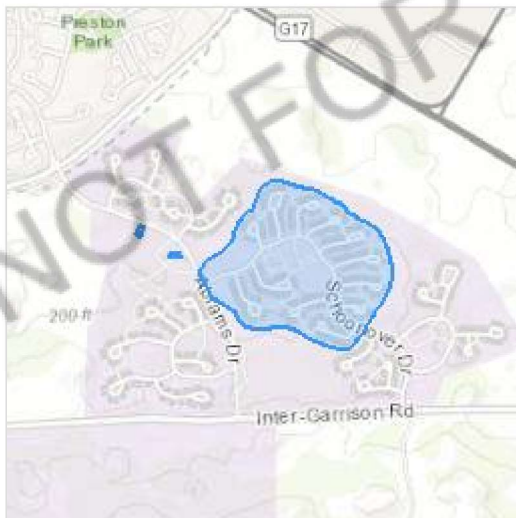
IPaC resource list

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

Monterey County, California



Local office

Ventura Fish And Wildlife Office

☎ (805) 644-1766

📠 (805) 644-3958

✉ FW8VenturaSection7@FWS.Gov

2493 Portola Road, Suite B
Ventura, CA 93003-7726

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:

Birds

NAME	STATUS
<p>California Condor <i>Gymnogyps californianus</i></p> <p>There is final critical habitat for this species. Your location does not overlap the critical habitat.</p> <p>https://ecos.fws.gov/ecp/species/8193</p>	Endangered
<p>California Least Tern <i>Sterna antillarum browni</i></p> <p>Wherever found</p> <p>No critical habitat has been designated for this species.</p> <p>https://ecos.fws.gov/ecp/species/8104</p>	Endangered
<p>Least Bell's Vireo <i>Vireo bellii pusillus</i></p> <p>Wherever found</p> <p>There is final critical habitat for this species. Your location does not overlap the critical habitat.</p> <p>https://ecos.fws.gov/ecp/species/5945</p>	Endangered
<p>Marbled Murrelet <i>Brachyramphus marmoratus</i></p> <p>There is final critical habitat for this species. Your location does not overlap the critical habitat.</p> <p>https://ecos.fws.gov/ecp/species/4467</p>	Threatened
<p>Southwestern Willow Flycatcher <i>Empidonax traillii extimus</i></p> <p>Wherever found</p> <p>There is final critical habitat for this species. Your location does not overlap the critical habitat.</p> <p>https://ecos.fws.gov/ecp/species/6749</p>	Endangered
<p>Western Snowy Plover <i>Charadrius nivosus nivosus</i></p> <p>There is final critical habitat for this species. Your location does not overlap the critical habitat.</p> <p>https://ecos.fws.gov/ecp/species/8035</p>	Threatened

Yellow-billed Cuckoo *Coccyzus americanus* **Threatened**
 There is **final** critical habitat for this species. Your location does not overlap the critical habitat.
<https://ecos.fws.gov/ecp/species/3911>

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

Fishes

NAME	STATUS
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 No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9743	Candidate

Crustaceans

NAME	STATUS
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Vernal Pool Fairy Shrimp *Branchinecta lynchi* Threatened

Wherever found

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

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

Flowering Plants

NAME

STATUS

Contra Costa Goldfields *Lasthenia conjugens* Endangered

Wherever found

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

<https://ecos.fws.gov/ecp/species/7058>

Marsh Sandwort *Arenaria paludicola* Endangered

Wherever found

No critical habitat has been designated for this species.

<https://ecos.fws.gov/ecp/species/2229>

Monterey Gilia *Gilia tenuiflora* ssp. *arenaria* Endangered

Wherever found

No critical habitat has been designated for this species.

<https://ecos.fws.gov/ecp/species/856>

Monterey Spineflower *Chorizanthe pungens* var. *pungens* Threatened

Wherever found

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

<https://ecos.fws.gov/ecp/species/396>

Yadon's Piperia *Piperia yadonii* Endangered

Wherever found

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

<https://ecos.fws.gov/ecp/species/4205>

Critical habitats

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

There are no critical habitats at this location.

Migratory birds

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

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

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

Additional information can be found using the following links:

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

The birds listed below are birds of particular concern either because they occur on the [USFWS Birds of Conservation Concern](#) (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ [below](#). This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the [E-bird data mapping tool](#) (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found [below](#).

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME

BREEDING SEASON

<p>Allen's Hummingbird <i>Selasphorus sasin</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9637</p>	Breeds Feb 1 to Jul 15
<p>Bald Eagle <i>Haliaeetus leucocephalus</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.</p>	Breeds Jan 1 to Aug 31
<p>Belding's Savannah Sparrow <i>Passerculus sandwichensis beldingi</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/8</p>	Breeds Apr 1 to Aug 15
<p>Black Oystercatcher <i>Haematopus bachmani</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9591</p>	Breeds Apr 15 to Oct 31
<p>Black Swift <i>Cypseloides niger</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8878</p>	Breeds Jun 15 to Sep 10
<p>Black Tern <i>Chlidonias niger</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3093</p>	Breeds May 15 to Aug 20
<p>Black Turnstone <i>Arenaria melanocephala</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p>	Breeds elsewhere
<p>Bullock's Oriole <i>Icterus bullockii</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA</p>	Breeds Mar 21 to Jul 25

California Gull <i>Larus californicus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 1 to Jul 31
California Thrasher <i>Toxostoma redivivum</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Jan 1 to Jul 31
Clark's Grebe <i>Aechmophorus clarkii</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Jun 1 to Aug 31
Common Yellowthroat <i>Geothlypis trichas sinuosa</i> This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/2084	Breeds May 20 to Jul 31
Golden Eagle <i>Aquila chrysaetos</i> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1680	Breeds Jan 1 to Aug 31
Lawrence's Goldfinch <i>Carduelis lawrencei</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9464	Breeds Mar 20 to Sep 20
Marbled Godwit <i>Limosa fedoa</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9481	Breeds elsewhere
Mountain Plover <i>Charadrius montanus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3638	Breeds elsewhere

- Nuttall's Woodpecker** *Picoides nuttallii* Breeds Apr 1 to Jul 20
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
<https://ecos.fws.gov/ecp/species/9410>
- Oak Titmouse** *Baeolophus inornatus* Breeds Mar 15 to Jul 15
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
<https://ecos.fws.gov/ecp/species/9656>
- Olive-sided Flycatcher** *Contopus cooperi* Breeds May 20 to Aug 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
<https://ecos.fws.gov/ecp/species/3914>
- Scripps's Murrelet** *Synthliboramphus scrippsi* Breeds Feb 20 to Jul 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
- Short-billed Dowitcher** *Limnodromus griseus* Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
<https://ecos.fws.gov/ecp/species/9480>
- Tricolored Blackbird** *Agelaius tricolor* Breeds Mar 15 to Aug 10
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
<https://ecos.fws.gov/ecp/species/3910>
- Western Grebe** *aechmophorus occidentalis* Breeds Jun 1 to Aug 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
<https://ecos.fws.gov/ecp/species/6743>
- Willet** *Tringa semipalmata* Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
- Wrentit** *Chamaea fasciata* Breeds Mar 15 to Aug 10
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Yellow-billed Magpie *Pica nuttalli*

Breeds Apr 1 to Jul 31

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

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

Probability of Presence Summary

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

Probability of Presence (■)

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

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

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
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 (I)

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

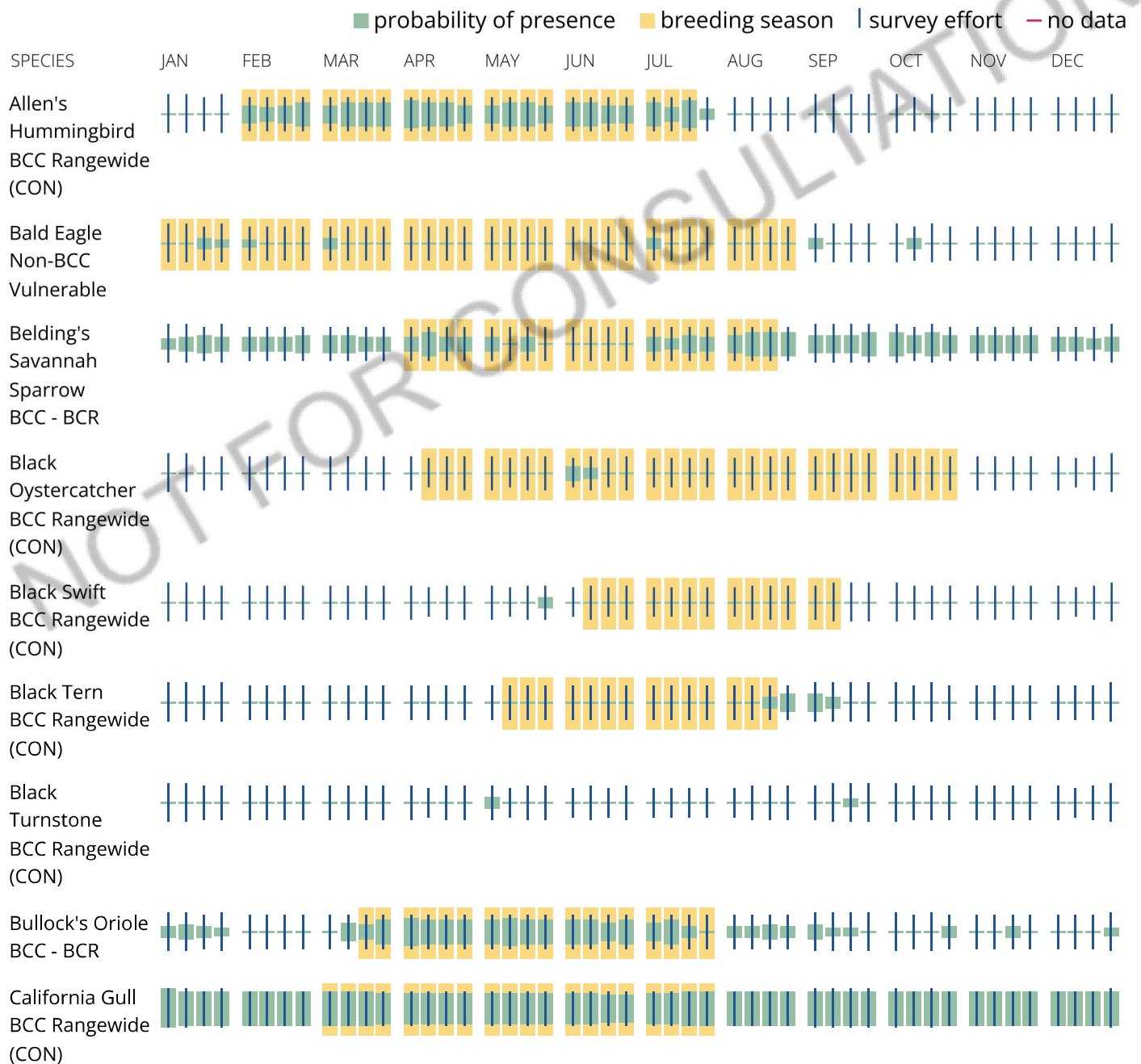
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

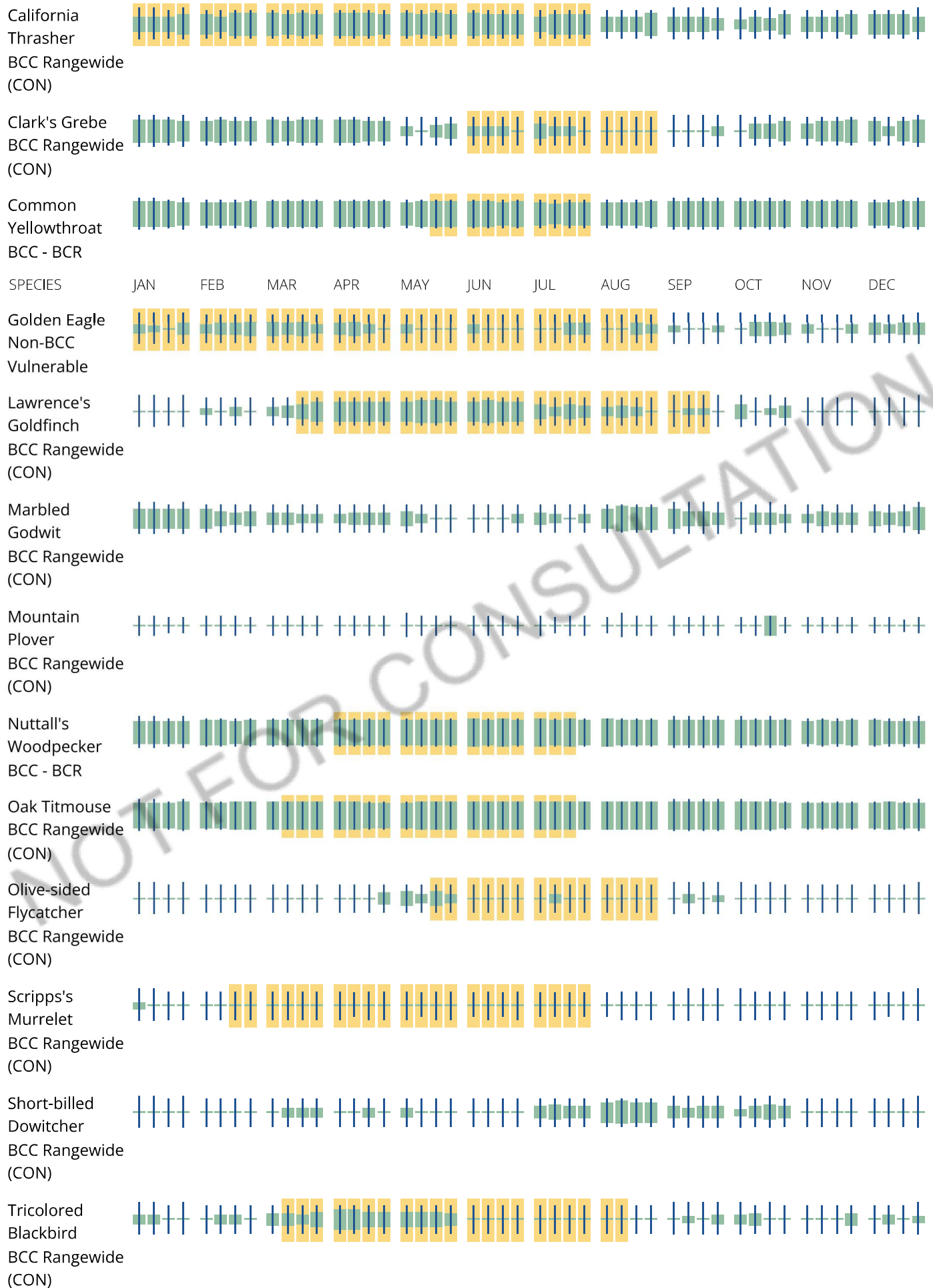
No Data (-)

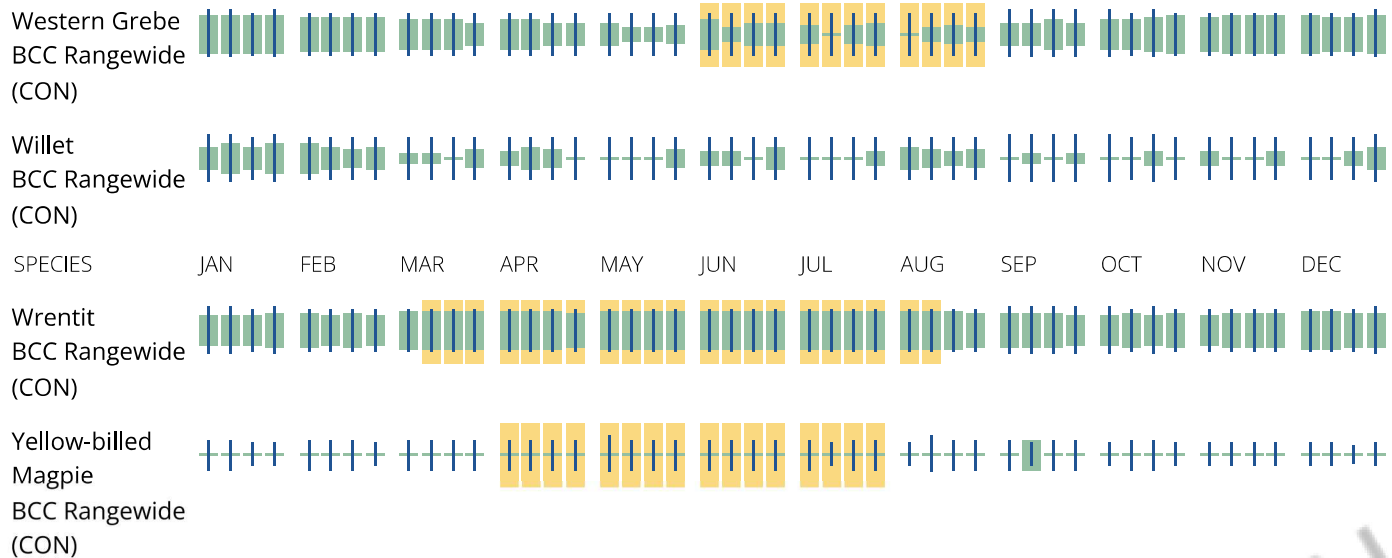
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.







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

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

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

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

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

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

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

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

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

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

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

What are the levels of concern for migratory birds?

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

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

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

Details about birds that are potentially affected by offshore projects

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

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

What if I have eagles on my list?

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

Proper Interpretation and Use of Your Migratory Bird Report

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

Coastal Barrier Resources System

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

There are no known coastal barriers at this location.

Data limitations

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

Data exclusions

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

Facilities

National Wildlife Refuge lands

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

There are no refuge lands at this location.

Fish hatcheries

There are no fish hatcheries at this location.

Wetlands in the National Wetlands Inventory (NWI)

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

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

Wetland information is not available at this time

This can happen when the National Wetlands Inventory (NWI) map service is unavailable, or for very large projects that intersect many wetland areas. Try again, or visit the [NWI map](#) to view wetlands at this location.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tubercid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate Federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

APPENDIX C

Special-Status Species Table

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Special-Status Species Table

Marina, Monterey, Moss Landing, Prunedale, Salinas, Seaside, and Spreckels Quadrangles

Species	Status (Service/CDFW/CNPS)	General Habitat	Potential Occurrence
MAMMALS			
<i>Corynorhinus townsendii</i> Townsend's big-eared bat	— / CSC / —	Found primarily in rural settings from inland deserts to coastal redwoods, oak woodland of the inner Coast Ranges and Sierra foothills, and low to mid-elevation mixed coniferous-deciduous forests. Typically roost during the day in limestone caves, lava tubes, and mines, but can roost in buildings that offer suitable conditions. Night roosts are in more open settings and include bridges, rock crevices, and trees.	Moderate Suitable habitat is present within the evaluation area. The CNDDDB reports one occurrence of this species within the quadrangles reviewed, located approximately 1.6 miles east of the evaluation area.
<i>Neotoma macrotis luciana</i> Monterey dusky-footed woodrat	— / CSC / —	Forest and oak woodland habitats of moderate canopy with moderate to dense understory. Also occurs in chaparral habitats.	High Suitable habitat is present within the evaluation area. The CNDDDB reports one occurrence of this species within the quadrangles reviewed, located approximately 5.1 miles east of the evaluation area. However, this species is known to occur throughout the former Fort Ord. Nests of this species were observed within the East Campus area during biological surveys in 2016 and 2017. Therefore, this species has a high potential to occur within the evaluation area.
Sorex ornatus salarius Monterey ornate shrew	— / CSC / —	Mostly moist or riparian woodland habitats and within chaparral, grassland, and emergent wetland habitats where there is a thick duff or downed logs.	High Suitable habitat is present within evaluation area. The CNDDDB reports six occurrences of this species within the quadrangles reviewed, the nearest located approximately 4.8 miles from the evaluation area. The HMP identifies the evaluation area as containing potential habitat for this species.
<i>Taxidea taxus</i> American badger	— / CSC / —	Dry, open grasslands, fields, pastures savannas, and mountain meadows near timberline are preferred. The principal requirements seem to be sufficient food, friable soils, and relatively open, uncultivated grounds.	Unlikely No suitable habitat within the evaluation area.
BIRDS			
<i>Agelaius tricolor</i> Tricolored blackbird (nesting colony)	— / SC+CSC / —	Nest in colonies in dense riparian vegetation, along rivers, lagoons, lakes, and ponds. Forages over grassland or aquatic habitats.	Unlikely No suitable habitat is present within evaluation area.

Species	Status (Service/CDFW/CNPS)	General Habitat	Potential Occurrence
<i>Asio flammeus</i> Short-eared owl (nesting)	— / CSC / —	Usually found in open areas with few trees, such as annual and perennial grasslands, prairies, meadows, dunes, irrigated lands, and saline and freshwater emergent marshes. Dense vegetation is required for roosting and nesting cover. This includes tall grasses, brush, ditches, and wetlands. Open, treeless areas containing elevated sites for perching, such as fence posts or small mounds, are also needed. Some individuals breed in northern California.	Unlikely No suitable habitat is present within evaluation area.
<i>Athene cunicularia</i> Burrowing owl (burrow sites and some wintering sites)	— / CSC / —	Year-round resident of open, dry grassland and desert habitats, and in grass, forb and open shrub stages of pinyon-juniper and ponderosa pine habitats. Frequent open grasslands and shrublands with perches and burrows. Use rodent burrows (often California ground squirrel) for roosting and nesting cover. Pipes, culverts, and nest boxes may be substituted for burrows in areas where burrows are not available.	Moderate Suitable habitat is present within evaluation area. The CNDDDB reports nine occurrences of this species within the quadrangles reviewed, the nearest located less than one mile from the evaluation area.
<i>Brachyramphus marmoratus</i> Marbled murrelet	FT / SE / —	Occur year-round in marine subtidal and pelagic habitats from the Oregon border to Point Sal. Partial to coastlines with stands of mature redwood and Douglas-fir. Requires dense mature forests of redwood and/or Douglas-fir for breeding and nesting.	Unlikely No suitable habitat is present within evaluation area.
<i>Charadrius alexandrinus nivosus</i> Western snowy plover	FT / CSC / —	Sandy beaches on marine and estuarine shores, also salt pond levees and the shores of large alkali lakes. Requires sandy, gravelly or friable soil substrate for nesting.	Unlikely No suitable habitat within the evaluation area.
<i>Coturnicops noveboracensis</i> Yellow rail	— / CSC / —	Wet meadows and coastal tidal marshes. Occurs year round in California, but in two primary seasonal roles: as a very local breeder in the northeastern interior and as a winter visitor (early Oct to mid-Apr) on the coast and in the Suisun Marsh region	Unlikely No suitable habitat is present within evaluation area.
<i>Cypseloides niger</i> Black swift	— / CSC / —	Regularly nests in moist crevice or cave on sea cliffs above the surf, or on cliffs behind, or adjacent to, waterfalls in deep canyons. Forages widely over many habitats.	Unlikely No suitable habitat is present within evaluation area.
<i>Elanus leucurus</i> White-tailed kite (nesting)	— / CFP / —	Open groves, river valleys, marshes, and grasslands. Prefer such area with low roosts (fences etc.). Nest in shrubs and trees adjacent to grasslands.	Moderate Suitable habitat is present within the evaluation area. The CNDDDB reports one occurrence of this species within the quadrangles reviewed, located approximately 10.6 miles north of the evaluation area.

Species	Status (Service/CDFW/CNPS)	General Habitat	Potential Occurrence
<i>Empidonax traillii eximius</i> Southwestern willow flycatcher	FE / SE / —	Breeds in riparian habitat in areas ranging in elevation from sea level to over 2,600 meters. Builds nest in trees in densely vegetated areas. This species establishes nesting territories and builds, and forages in mosaics of relatively dense and expansive areas of trees and shrubs, near or adjacent to surface water or underlain by saturated soils. Not typically found nesting in areas without willows (<i>Salix sp.</i>), tamarisk (<i>Tamarix ramosissima</i>), or both.	Unlikely No suitable habitat is present within evaluation area.
<i>Falco peregrinus anatum</i> American peregrine falcon (nesting)	— / CFP / —	Forages for other birds over a variety of habitats. Breeds primarily on rocky cliffs.	Unlikely No suitable habitat is present within evaluation area.
<i>Gymnogyps californianus</i> California condor	FE / SE / —	Roosting sites in isolated rocky cliffs, rugged chaparral, and pine covered mountains 2000-6000 feet above sea level. Foraging area removed from nesting/roosting site (includes rangeland and coastal area - up to 19 mile commute one way). Nest sites in cliffs, crevices, potholes.	Unlikely No suitable habitat is present within evaluation area.
<i>Laterallus jamaicensis coturniculus</i> California black rail	— / ST+CFP / —	Inhabits freshwater marshes, wet meadows and shallow margins of saltwater marshes bordering larger bays. Needs water depths of about 1 inch that does not fluctuate during the year and dense vegetation for nesting habitat.	Unlikely No suitable habitat is present within evaluation area.
<i>Pelecanus occidentalis californicus</i> California brown pelican	— / CFP / —	Found in estuarine, marine subtidal, and marine pelagic waters along the California coast. Usually rests on water or inaccessible rocks, but also uses mudflats, sandy beaches, wharfs, and jetties.	Unlikely No suitable habitat is present within evaluation area.
<i>Rallus obsoletus obsoletus</i> California Ridgway's rail	FE / SE+CFP / —	Salt and brackish marshes.	Unlikely No suitable habitat is present within evaluation area.
<i>Riparia riparia</i> Bank swallow (nesting)	— / ST / —	Nest colonially in sand banks. Found near water; fields, marshes, streams, and lakes.	Unlikely No suitable habitat is present within evaluation area.
<i>Sterna antillarum browni</i> California least tern	FE / SE / —	Prefers undisturbed nest sites on open, sandy/gravelly shores near shallow-water feeding areas in estuaries. Sea beaches, bays, large rivers, bars.	Unlikely No suitable habitat is present within evaluation area.
<i>Vireo bellii pusillus</i> Least Bell's Vireo	FE / SE / —	Riparian areas and drainages. Breed in willow riparian forest supporting a dense, shrubby understory. Oak woodland with a willow riparian understory is also used in some areas, and individuals sometimes enter adjacent chaparral, coastal sage scrub, or desert scrub habitats to forage.	Unlikely No suitable habitat is present within evaluation area.

Species	Status (Service/CDFW/CNPS)	General Habitat	Potential Occurrence
REPTILES AND AMPHIBIANS			
<i>Ambystoma californiense</i> California tiger salamander	FT / ST / —	Annual grassland and grassy understory of valley-foothill hardwood habitats in central and northern California. Need underground refuges and vernal pools or other seasonal water sources.	High No suitable breeding habitat is present within the evaluation area; however, suitable upland and dispersal habitat is present. The CNDDB reports 55 occurrences of this species within the quadrangles reviewed, including a 2005 occurrence approximately 565 feet from the evaluation area. In addition, the evaluation area is within the dispersal range of several known or potential breeding ponds.
<i>Ambystoma macrodactylum</i> <i>croceum</i> Santa Cruz long-toed salamander	FE / SE+CFP / —	Preferred habitats include ponderosa pine, montane hardwood-conifer, mixed conifer, montane riparian, red fir and wet meadows. Occurs in a small number of localities in Santa Cruz and Monterey Counties. Adults spend the majority of the time in underground burrows and beneath objects. Larvae prefer shallow water with clumps of vegetation.	Unlikely No suitable habitat is present within evaluation area. The evaluation area is outside the currently known range of this species.
<i>Anniella pulchra</i> Northern California legless lizard	— / CSC / —	Requires moist, warm habitats with loose soil for burrowing and prostrate plant cover, often forages in leaf litter at plant bases; may be found on beaches, sandy washes, and in woodland, chaparral, and riparian areas.	High Suitable habitat is present within the evaluation area. The CNDDB reports 56 occurrences of this species within the quadrangles reviewed, including a 2014 occurrence approximately 420 feet from the evaluation area.
<i>Emys marmorata</i> Western pond turtle	— / CSC / —	Associated with permanent or nearly permanent water in a wide variety of habitats including streams, lakes, ponds, irrigation ditches, etc. Require basking sites such as partially submerged logs, rocks, mats of vegetation, or open banks.	Unlikely No suitable habitat is present within evaluation area.
<i>Phrynosoma blainvillii</i> Coast horned lizard	— / CSC / —	Associated with open patches of sandy soils in washes, chaparral, scrub, and grasslands.	High Suitable habitat is present within the evaluation area. The CNDDB reports five occurrences of this species within the quadrangles reviewed, including two occurrences less than 100 feet from the evaluation area.
<i>Rana boylei</i> Foothill yellow-legged frog	— / SC+CSC / —	Partly-shaded, shallow streams and riffles with a rocky substrate in a variety of habitats, including hardwood, pine, and riparian forests, scrub, chaparral, and wet meadows. Rarely encountered far from permanent water.	Unlikely No suitable habitat is present within evaluation area.
<i>Rana draytonii</i> California red-legged frog	FT / CSC / —	Lowlands and foothills in or near permanent or late-season sources of deep water with dense, shrubby, or emergent riparian vegetation. During late summer or fall adults are known to utilize a variety of upland habitats with leaf litter or mammal burrows.	Unlikely Suitable upland and dispersal habitat is present within the evaluation area; however, the evaluation area is outside of the known dispersal range of any known breeding resources.

Species	Status (Service/CDFW/CNPS)	General Habitat	Potential Occurrence
<i>Taricha torosa</i> Coast Range newt	— / CSC / —	Occurs mainly in valley-foothill hardwood, valley-foothill hardwood-conifer, coastal scrub, and mixed chaparral but is known to occur in grasslands and mixed conifer types. Seek cover under rocks and logs, in mammal burrows, rock fissures, or man-made structures such as wells. Breed in intermittent ponds, streams, lakes, and reservoirs.	Unlikely Suitable upland and dispersal habitat is present within the evaluation area; however, the evaluation area is outside of the known dispersal range of any known breeding resources.
<i>Thamnophis hammondi</i> Two-striped garter snake	— / CSC / —	Associated with permanent or semi-permanent bodies of water bordered by dense vegetation in a variety of habitats from sea level to 2400m elevation.	Unlikely No suitable habitat is present within evaluation area.
FISH			
<i>Eucyclogobius newberryi</i> Tidewater goby	FE / CSC / —	Brackish water habitats, found in shallow lagoons and lower stream reaches. Tidewater gobies appear to be naturally absent (now and historically) from three large stretches of coastline where lagoons or estuaries are absent and steep topography or swift currents may prevent tidewater gobies from dispersing between adjacent localities. The southernmost large, natural gap occurs between the Salinas River in Monterey County and Arroyo del Oso in San Luis Obispo County.	Not Present No suitable obligate habitat is present within evaluation area.
<i>Oncorhynchus mykiss irideus</i> Steelhead (south-central California coast DPS)	FT / — / —	Cold headwaters, creeks, and small to large rivers and lakes; anadromous in coastal streams.	Not Present No suitable obligate habitat is present within evaluation area.
<i>Spirinchus thaleichthys</i> Longfin smelt	FC / ST+CSC / —	Euryhaline, nektonic and anadromous. Found in open waters of estuaries, mostly in middle or bottom of water column. Prefers salinities of 15-30 PPT, but can be found in completely freshwater to almost pure seawater.	Not Present No suitable obligate habitat is present within evaluation area.
INVERTEBRATES			
<i>Danaus plexippus</i> Monarch butterfly	FC / — / —	Overwinters in coastal California using colonial roosts generally found in Eucalyptus, pine and acacia trees. Overwintering habitat for this species within the Coastal Zone represents ESHA. Local ordinances often protect this species as well.	Unlikely No suitable habitat is present within the evaluation area. No overwintering occurrences are known within the evaluation area.
<i>Branchinecta lynchi</i> Vernal pool fairy shrimp	FT / — / —	Require ephemeral pools with no flow. Associated with vernal pool/grasslands from near Red Bluff (Shasta County), through the central valley, and into the South Coast Mountains Region. Require ephemeral pools with no flow.	Not Present No suitable obligate habitat is present within evaluation area.

Species	Status (Service/CDFW/CNPS)	General Habitat	Potential Occurrence
<i>Euphilotes enoptes smithi</i> Smith's blue butterfly	FE / — / —	Most commonly associated with coastal dunes and coastal sage scrub plant communities in Monterey and Santa Cruz Counties. Plant hosts are <i>Eriogonum latifolium</i> and <i>E. parvifolium</i> .	Moderate Suitable habitat is present within the evaluation area. The CNDDDB reports 14 occurrences of this species within the evaluation area, the nearest located approximately 2.4 miles west of the evaluation area within Fort Ord Dunes State Park. The obligate host plants were not identified within the evaluation area during previous botanical surveys; however, surveys were conducted more than three years ago and may not reflect current site conditions.
<i>Lindieriella occidentalis</i> California linderiella (fairy shrimp)	— / — / —	Ephemeral ponds with no flow. Generally associated with hardpans.	Not Present No suitable obligate habitat within the evaluation area.
PLANTS			
<i>Agrostis lacuna-vernalis</i> Vernal pool bent grass	— / — / 1B	Vernal pool Mimma mounds at elevations of 115-145 meters. Annual herb in the Poaceae family; blooms April-May. Known only from Butterfly Valley and Machine Gun Flats of Ft. Ord National Monument.	Unlikely No suitable habitat within the evaluation area.
<i>Allium hickmanii</i> Hickman's onion	— / — / 1B	Closed-cone coniferous forests, maritime chaparral, coastal prairie, coastal scrub, and valley and foothill grasslands at elevations of 5-200 meters. Bulbiferous perennial herb in the Alliaceae family; blooms March-May.	Unlikely No suitable habitat within the evaluation area.
<i>Arctostaphylos hookeri</i> ssp. <i>hookeri</i> Hooker's manzanita	— / — / 1B	Closed-cone coniferous forest, chaparral, cismontane woodland, and coastal scrub on sandy soils at elevations of 85-536 meters. Evergreen shrub in the Ericaceae family; blooms January-June.	Moderate Suitable habitat is present within the evaluation area. The CNDDDB reports 19 occurrences of this species within the quadrangles reviewed, the nearest located less than one mile from the evaluation area. This species was not identified within the evaluation area during 2016 botanical surveys; however, surveys were conducted more than three years ago and may not reflect current site conditions.
<i>Arctostaphylos montereyensis</i> Toro manzanita	— / — / 1B	Maritime chaparral, cismontane woodland, and coastal scrub on sandy soils at elevations of 30-730 meters. Evergreen shrub in the Ericaceae family; blooms February-March.	Moderate Suitable habitat is present within the evaluation area. The CNDDDB reports 16 occurrences of this species within the quadrangles reviewed, the nearest located approximately 550 feet from the evaluation area. This species was not identified within the evaluation area during 2016 botanical surveys; however, surveys were conducted more than three years ago and may not reflect current site conditions.

Species	Status (Service/CDFW/CNPS)	General Habitat	Potential Occurrence
<i>Arctostaphylos pajaroensis</i> Pajaro manzanita	— / — / 1B	Chaparral on sandy soils at elevations of 30-760 meters. Evergreen shrub in the Ericaceae family; blooms December-March.	Moderate Suitable habitat is present within the evaluation area. The CNDDDB reports 22 occurrences of this species within the quadrangles reviewed, the nearest located approximately 1.6 miles from the evaluation area. This species was not identified within the evaluation area during 2016 botanical surveys; however, surveys were conducted more than three years ago and may not reflect current site conditions.
<i>Arctostaphylos pumila</i> Sandmat manzanita	— / — / 1B	Openings of closed-cone coniferous forests, maritime chaparral, cismontane woodland, coastal dunes, and coastal scrub on sandy soils at elevations of 3-205 meters. Evergreen shrub in the Ericaceae family; blooms February-May.	Moderate Suitable habitat is present within the evaluation area. The CNDDDB reports 17 occurrences of this species within the quadrangles reviewed, including an occurrence which overlaps the evaluation area. This species was not identified within the evaluation area during 2016 botanical surveys; however, surveys were conducted more than three years ago and may not reflect current site conditions.
<i>Arenaria patulicola</i> Marsh sandwort	FE / SE / 1B	Known from only two natural occurrences in Black Lake Canyon and at Oso Flaco Lake. Sandy openings of freshwater of brackish marshes and swamps at elevations of 3-170 meters. Stoloniferous perennial herb in the Caryophyllaceae family; blooms May-August.	Unlikely No suitable habitat within the evaluation area. The evaluation area is outside of the currently known range for this species.
<i>Astragalus tener</i> var. <i>tener</i> Alkali milk-vetch	— / — / 1B	Playas, valley and foothill grassland on adobe clay, and vernal pools on alkaline soils at elevations of 1-60 meters. Annual herb in the Fabaceae family; blooms March-June.	Unlikely No suitable habitat within the evaluation area.
<i>Astragalus tener</i> var. <i>titi</i> Coastal dunes milk-vetch	FE / SE / 1B	Sandy soils in coastal bluff scrub, coastal dunes, coastal prairie (mesic); elevation 3-164 feet. Annual herb in the Fabaceae family; blooms March-May.	Unlikely No suitable habitat within the evaluation area.
<i>Bryoria spiralis</i> Twisted horsehair lichen	— / — / 1B	California North Coast coniferous forest at elevations of 0-30 meters. Often found on conifers, including <i>Picea sitchensis</i> , <i>Pinus contorta</i> var. <i>contorta</i> , <i>Pseudotsuga menziesii</i> , <i>Abies grandis</i> , and <i>Tsuga heterophylla</i> . Fruticose lichen in the Parmeliaceae family.	Unlikely No suitable habitat within the evaluation area.
<i>Castilleja ambigua</i> var. <i>insalutata</i> Pink Johnny-nip	— / — / 1B	Coastal prairie and coastal scrub at elevations of 0-100 meters. Annual herb in the Orobanchaceae family; blooms May-August.	Low Low quality habitat is present within the coastal scrub habitat in the evaluation area. The CNDDDB reports nine occurrences of this species within the quadrangles reviewed, including a non-specific occurrence approximately 365 feet from the evaluation area; however, the CNDDDB identifies that the species was found in the “mima mounds” area of Fort Ord, which does not occur within the site.

Species	Status (Service/CDFW/CNPS)	General Habitat	Potential Occurrence
<i>Ceanothus rigidus</i> Monterey ceanothus	— / — / —	Closed cone coniferous forest, chaparral, and coastal scrub on sandy soils at elevations of 3-550 meters. Evergreen shrub in the Rhamnaceae family, blooms February-June.	Moderate Suitable habitat is present within the evaluation area. The CNDDDB does not report any occurrences of this species within the quadrangles reviewed; however, this species is known to occur throughout the Former Fort Ord where suitable habitat is present. This species was not identified within the evaluation area during 2016 botanical surveys; however, surveys were conducted more than three years ago and may not reflect current site conditions.
<i>Centromadia parryi</i> ssp. <i>congonii</i> Congdon's tarplant	— / — / 1B	Valley and foothill grassland on heavy clay, saline, or alkaline soils at elevations of 0-230 meters. Annual herb in the Asteraceae family; blooms May-November.	Unlikely No suitable habitat within the evaluation area.
<i>Chorizanthe minutiflora</i> Fort Ord spineflower	— / — / 1B	Sandy openings of maritime chaparral and coastal scrub at elevations of 55-150 meters. Only known occurrences on Fort Ord National Monument. Annual herb in the Polygonaceae family; blooms April-July.	Moderate Suitable habitat is present within the evaluation area. The CNDDDB reports five occurrences of this species within the quadrangles reviewed, the nearest located approximately 1.2 miles from the evaluation area. This species was not identified within the evaluation area during 2016 botanical surveys; however, surveys were conducted more than three years ago and may not reflect current site conditions.
<i>Chorizanthe pungens</i> var. <i>pungens</i> Monterey spineflower	FT / — / 1B	Maritime chaparral, cismontane woodland, coastal dunes, coastal scrub, and valley and foothill grassland on sandy soils at elevations of 3-450 meters. Annual herb in the Polygonaceae family; blooms April-July.	Present Suitable habitat is present within the evaluation area. This species was observed within the evaluation area during 2016 botanical surveys.
<i>Chorizanthe robusta</i> var. <i>robusta</i> Robust spineflower	FE / — / 1B	Openings in cismontane woodland, coastal dunes, maritime chaparral, and coastal scrub on sandy or gravelly soils at elevations of 3-300 meters. Annual herb in the Polygonaceae family; blooms April-September.	Unlikely Suitable habitat is present within the evaluation area; however, the evaluation area is outside of the known distribution range of this species.
<i>Clarkia jolonensis</i> Jolon clarkia	— / — / 1B	Cismontane woodland, chaparral, riparian woodland, and coastal scrub at elevations of 20-660 meters. Annual herb in the Onagraceae family; blooms April-June.	Low Low quality habitat is present within the coast live oak woodland and coastal scrub habitats of the evaluation area. No occurrences of this species are known on the Former Fort Ord.
<i>Collinsia multicolor</i> San Francisco collinsia	— / — / 1B	Closed-cone coniferous forest and coastal scrub, sometimes on serpentinite soils, at elevations of 30-250 meters. Annual herb in the Plantaginaceae family; blooms March-May.	Low Suitable habitat is present within coastal scrub habitats of the evaluation area; however, no occurrences of this species are known on the Former Fort Ord.

Species	Status (Service/CDFW/CNPS)	General Habitat	Potential Occurrence
<i>Cordylanthus rigidus</i> ssp. <i>littoralis</i> Seaside bird's-beak	— / SE / 1B	Closed-cone coniferous forests, maritime chaparral, cismontane woodlands, coastal dunes, and coastal scrub on sandy soils, often on disturbed sites, at elevations of 0-425 meters. Annual hemi-parasitic herb in the Orobanchaceae family; blooms April-October.	Moderate Suitable habitat is present within the evaluation area. The CNDDDB reports 14 occurrences of this species within the quadrangles reviewed, the nearest located approximately 0.3 miles from the evaluation area. This species was not identified within the evaluation area during 2016 botanical surveys; however, surveys were conducted more than three years ago and may not reflect current site conditions.
<i>Delphinium californicum</i> ssp. <i>interius</i> Hospital Canyon larkspur	— / — / 1B	Openings in chaparral, coastal scrub, and mesic areas of cismontane woodland at elevations of 230-1095 meters. Perennial herb in the Ranunculaceae family; blooms April-June.	Unlikely Suitable habitat is present within the evaluation area; however, the evaluation area is outside the known elevation range of this species.
<i>Delphinium hutchinsoniae</i> Hutchinson's larkspur	— / — / 1B	Broadleaved upland forest, chaparral, coastal scrub, and coastal prairie at elevations of 0-427 meters. Perennial herb in the Ranunculaceae family; blooms March-June.	Low Suitable habitat is present within chaparral and coastal scrub habitats of the evaluation area; however, no occurrences of this species are known on the Former Fort Ord.
<i>Delphinium umbraculorum</i> Umbrella larkspur	— / — / 1B	Cismontane woodland at elevations of 400-1600 meters. Perennial herb in the Ranunculaceae family; blooms April-June.	Unlikely Suitable habitat is present within the evaluation area; however, the evaluation area is outside the known elevation range of this species.
<i>Ericameria fasciculata</i> Eastwood's goldenbush	— / — / 1B	Openings in closed-cone coniferous forest, maritime chaparral, coastal dunes, and coastal scrub on sandy soils at elevations of 30-275 meters. Evergreen shrub in the Asteraceae family; blooms July-October.	Moderate Suitable habitat is present within the evaluation area. The CNDDDB reports 23 occurrences of this species within the quadrangles reviewed, including an occurrence which overlaps the evaluation area. This species was not identified within the evaluation area during 2016 botanical surveys; however, surveys were conducted more than three years ago and may not reflect current site conditions.
<i>Eriogonum nortonii</i> Pinnacles buckwheat	— / — / 1B	Chaparral and valley and foothill grassland on sandy soils, often on recent burns, at elevations of 300-975 meters. Annual herb in the Polygonaceae family; blooms May-September.	Unlikely Suitable habitat is present within the evaluation area; however, the evaluation area is outside the known elevation range of this species.
<i>Erysimum ammophilum</i> Coast wallflower	— / — / 1B	Openings in maritime chaparral, coastal dunes, and coastal scrub on sandy soils at elevations of 0-60 meters. Perennial herb in the Brassicaceae family; blooms February-June.	Moderate Suitable habitat is present within the evaluation area. The CNDDDB reports 21 occurrences of this species within the quadrangles reviewed, including an occurrence which overlaps the evaluation area. This species was not identified within the evaluation area during 2016 botanical surveys; however, surveys were conducted more than three years ago and may not reflect current site conditions.
<i>Erysimum menziesii</i> Menzies' wallflower	FE / SE / 1B	Coastal dunes at elevations of 0-35 meters. Perennial herb in the Brassicaceae family; blooms March-September.	Unlikely No suitable habitat within the evaluation area.

Species	Status (Service/CDFW/CNPS)	General Habitat	Potential Occurrence
<i>Fritillaria liliacea</i> Fragrant fritillary	— / — / 1B	Cismontane woodland, coastal prairie, coastal scrub, and valley and foothill grassland, often serpentine, at elevations of 3-410 meters. Bulbiferous perennial herb in the Liliaceae family; blooms February-April.	Low Suitable habitat is present the evaluation area; however, no occurrences of this species are known on the Former Fort Ord.
<i>Gilia tenuiflora</i> ssp. <i>arenaria</i> Monterey gilia	FE / ST / 1B	Openings in maritime chaparral, cismontane woodland, coastal dunes, and coastal scrub on sandy soils at elevations of 0-45 meters. Annual herb in the Polemoniaceae family; blooms April-June.	Present Suitable habitat is present within the evaluation area. This species was observed within the evaluation area during 2016 surveys by DD&A and 2017 surveys by the F. Watson Lab.
<i>Hesperocyparis goveniana</i> Gowen cypress	FT / — / 1B	Closed-cone coniferous forest and maritime chaparral at elevations of 30-300 meters. Evergreen tree in the Cupressaceae family. Natively occurring only at Point Lobos near Gibson Creek and the Huckleberry Hill Nature Preserve near Highway 68.	Not Present Not observed within the evaluation area during 2016 botanical surveys.
<i>Hesperocyparis macrocarpa</i> Monterey cypress	— / — / 1B	Closed-cone coniferous forest at elevations of 10-30 meters. Evergreen tree in the Cupressaceae family. Natively occurring only at Cypress Point in Pebble Beach and Point Lobos State Park; widely planted and naturalized elsewhere.	Not Present The evaluation area is outside of the currently known native range of this species. Any Monterey cypress trees within the site are from planted stock and are therefore not considered special-status species.
<i>Holocarpha macradenia</i> Santa Cruz tarplant	FT / SE / 1B	Coastal prairies and valley foothill grasslands, often clay or sandy soils, at elevations of 10-220 meters. Annual herb in the Asteraceae family; blooms June-October.	Unlikely No suitable habitat within the evaluation area.
<i>Horkelia cuneata</i> ssp. <i>sericea</i> Kellogg's horkelia	— / — / 1B	Openings of closed-cone coniferous forests, maritime chaparral, coastal dunes, and coastal scrub on sandy or gravelly soils at elevations of 10-200 meters. Perennial herb in the Rosaceae family; blooms April-September.	Moderate Suitable habitat is present within the evaluation area. The CNDDDB reports 17 occurrences of this species within the quadrangles reviewed, the nearest located approximately 300 feet from the evaluation area. This species was not identified within the evaluation area during 2016 botanical surveys; however, surveys were conducted more than three years ago and may not reflect current site conditions.
<i>Horkelia marinensis</i> Point Reyes horkelia	— / — / 1B	Coastal dunes, coastal prairie, and coastal scrub on sandy soils at elevations of 5-350 meters. Perennial herb in the Rosaceae family; blooms May-September.	Low Marginally suitable habitat is present within the evaluation area. The CNDDDB reports only one occurrence of this species within the quadrangles reviewed, located approximately 2.5 miles west of the evaluation area within Fort Ord Dunes State Park.
<i>Lasthenia conjugens</i> Contra Costa goldfields	FE / — / 1B	Mesic areas of valley and foothill grassland, alkaline playas, cismontane woodland, and vernal pools at elevations of 0-470 meters. Annual herb in the Asteraceae family; blooms March-June.	Unlikely No suitable habitat within the evaluation area.
<i>Layia carnosa</i> Beach layia	FE / SE / 1B	Coastal dunes and coastal scrub on sandy soils at elevations of 0-60 meters. Annual herb in the Asteraceae family; blooms March-July.	Unlikely No suitable habitat within the evaluation area.

Species	Status (Service/CDFW/CNPS)	General Habitat	Potential Occurrence
<i>Legenere limosa</i> Legenere	— / — / 1B	Vernal pools and wetlands at elevations of 1-880 meters. Annual herb in the Campanulaceae family; blooms April- June.	Unlikely No suitable habitat within the evaluation area.
<i>Lupinus tidestromii</i> Tidestrom's lupine	FE / SE / 1B	Coastal dunes at elevations of 0-100 meters. Perennial rhizomatous herb in the Fabaceae family; blooms April-June.	Unlikely No suitable habitat within the evaluation area.
<i>Malacothamnus palmeri</i> var. <i>involutus</i> Carmel Valley bush-mallow	— / — / 1B	Chaparral, cismontane woodland, and coastal scrub at elevations of 30-1100 meters. Perennial deciduous shrub in the Malvaceae family; blooms May-October.	Unlikely Suitable habitat is present the evaluation area; however, no occurrences of this species are known on the Former Fort Ord and the evaluation area is likely outside the dispersal range of this species.
<i>Malacothrix saxatilis</i> var. <i>arachnoidea</i> Carmel Valley malacothrix	— / — / 1B	Chaparral and coastal scrub on rocky soils at elevations of 25-1036 meters. Perennial rhizomatous herb in the Asteraceae family; blooms June-December.	Unlikely Suitable habitat is present the evaluation area; however, no occurrences of this species are known on the Former Fort Ord and the evaluation area is likely outside the dispersal range of this species.
<i>Meconella oregana</i> Oregon meconella	— / — / 1B	Coastal prairie and coastal scrub at elevations of 250-620 meters. Annual herb in the Papaveraceae Family; blooms March-April.	Unlikely Suitable habitat is present within the evaluation area; however, the evaluation area is outside the known elevation range of this species.
<i>Microseris paludosa</i> Marsh microseris	— / — / 1B	Closed-cone coniferous forest, cismontane woodland, coastal scrub, and valley and foothill grassland at elevations of 5-300 meters. Perennial herb in the Asteraceae family; blooms April-July.	Moderate Marginally suitable habitat is present within the evaluation area. The CNDDDB reports 10 occurrences of this species within the quadrangles reviewed, the nearest located approximately 1.3 miles from the evaluation area. This species was not identified within the evaluation area during 2016 botanical surveys; however, surveys were conducted more than three years ago and may not reflect current site conditions.
<i>Monardella sinuata</i> ssp. <i>nigrescens</i> Northern curly-leaved monardella	— / — / 1B	Chaparral, coastal dunes, coastal scrub, and lower montane coniferous forest (ponderosa pine sandhills) on sandy soils at elevations of 0-300 meters. Annual herb in the Lamiaceae family; blooms April-September.	Moderate Suitable habitat is present within the evaluation area. The CNDDDB reports 10 occurrences of this species within the quadrangles reviewed, the nearest located approximately 580 feet from the evaluation area. This species was not identified within the evaluation area during 2016 botanical surveys; however, surveys were conducted more than three years ago and may not reflect current site conditions.
<i>Monolopia gracilens</i> Woodland woollythreads	— / — / 1B	Openings of broadleaved upland forest, chaparral, cismontane woodland, North Coast coniferous forest, and valley and foothill grassland on serpentine soils at elevations of 100-1200 meters. Annual herb in the Asteraceae family; blooms February-July.	Unlikely Suitable habitat is present within the evaluation area; however, the evaluation area is outside the known elevation range of this species.

Species	Status (Service/CDFW/CNPS)	General Habitat	Potential Occurrence
<i>Pinus radiata</i> Monterey pine	— / — / 1B	Closed-cone coniferous forest and cismontane woodland at elevations of 25-185 meters. Evergreen tree in the Pinaceae family. Only three native stands in CA at Ano Nuevo, Cambria, and the Monterey Peninsula; introduced in many areas.	Not Present The evaluation area is outside of the currently known native range of this species. Any Monterey pine trees within the site are from planted stock and are therefore not considered special-status species.
<i>Piperia yadonii</i> Yadon's rein orchid	FE / — / 1B	Sandy soils in coastal bluff scrub, closed-cone coniferous forest, and maritime chaparral at elevations of 10-510 meters. Annual herb in the Orchidaceae family; blooms February-August.	Moderate Suitable habitat is present within the evaluation area. The CNDDDB reports 24 occurrences of this species within the quadrangles reviewed, the nearest located approximately two miles from the evaluation area. This species was not identified within the evaluation area during 2016 botanical surveys; however, surveys were conducted more than three years ago and may not reflect current site conditions.
<i>Plagiobothrys chorisianus</i> var. <i>chorisianus</i> Choris' popcorn-flower	— / — / 1B	Mesic areas of chaparral, coastal prairie, and coastal scrub at elevations of 15-160 meters. Annual herb in the Boraginaceae family; blooms March-June.	Unlikely Marginally suitable habitat is present within the evaluation area. However, this species is only known to occur within a few vernal pools on the Former Fort Ord.
<i>Potentilla hickmanii</i> Hickman's cinquefoil	FE / SE / 1B	Coastal bluff scrub, closed-cone coniferous forests, vernal mesic meadows and seeps, and freshwater marshes and swamps at elevations of 10-149 meters. Perennial herb in the Rosaceae family; blooms April-August.	Unlikely No suitable habitat within the evaluation area.
<i>Ramalina thrausta</i> Angel's hair lichen	— / — / 2B	North coast coniferous forest on dead twigs and other lichens. Epiphytic fructose lichen in the Ramalinaceae family. In northern CA it is usually found on dead twigs, and has been found on <i>Athys rubra</i> , <i>Calocedrus decurrens</i> , <i>Pseudotsuga menziesii</i> , <i>Quercus garryana</i> , and <i>Rubus spectabilis</i> . In Sonoma County it grows on and among dangling mats of <i>R. menziesii</i> and <i>Usnea</i> spp.	Unlikely No suitable habitat within the evaluation area.
<i>Rosa pinetorum</i> Pine rose	— / — / 1B	Closed-cone coniferous forest at elevations of 2-300 meters. Perennial shrub in the Rosaceae family; blooms May-July. Possible hybrid of <i>R. spithamea</i> , <i>R. gymnocarpa</i> , or others; further study needed.	Unlikely No suitable habitat within the evaluation area.
<i>Stebbinsoseris decipiens</i> Santa Cruz microseris	— / — / 1B	Broadleaved upland forest, closed-cone coniferous forest, chaparral, coastal prairie, coastal scrub, and openings in valley and foothill grassland, sometimes on serpentinite, at elevations of 10-500 meters. Annual herb in the Asteraceae family; blooms April-May.	Low Suitable habitat is present within the evaluation area; however, no occurrences of this species are known on the former Fort Ord.
<i>Trifolium buckwestiorum</i> Santa Cruz clover	— / — / 1B	Gravelly margins of broadleaved upland forest, cismontane woodland, and coastal prairie at elevations of 105-610 meters. Annual herb in the Fabaceae family; blooms April-October.	Unlikely Suitable habitat is present within the evaluation area; however, the evaluation area is outside the known elevation range of this species.

Species	Status (Service/CDFW/CNPS)	General Habitat	Potential Occurrence
<i>Trifolium hydrophilum</i> Saline clover	— / — / 1B	Marshes and swamps, mesic and alkaline valley and foothill grassland, and vernal pools at elevations of 0-300 meters. Annual herb in the Fabaceae family; blooms April-June.	Unlikely No suitable habitat within the evaluation area.
<i>Trifolium polyodon</i> Pacific Grove clover	— / SR / 1B	Mesic areas of closed-cone coniferous forest, coastal prairie, meadows and seeps, and valley and foothill grassland at elevations of 5-120 meters. Annual herb in the Fabaceae family; blooms April-July.	Low Only marginally suitable habitat is present within the evaluation area. The CNDDDB reports only one occurrence of this species within the former Fort Ord, located approximately 3.6 miles from the evaluation area.
<i>Trifolium trichocalyx</i> Monterey clover	FE / SE / 1B	Sandy openings and burned areas of closed-cone coniferous forest at elevations of 30-240 meters. Annual herb in the Fabaceae family; blooms April-June.	Unlikely No suitable habitat within the evaluation area.

STATUS DEFINITIONS

Federal

- FE = listed as Endangered under the federal Endangered Species Act
- FT = listed as Threatened under the federal Endangered Species Act
- FC = Candidate for listing under the federal Endangered Species Act
- = no listing

State

- SE = listed as Endangered under the California Endangered Species Act
- ST = listed as Threatened under the California Endangered Species Act
- SC = Candidate for listing under California Endangered Species Act
- SR = listed as Rare under the California Native Plant Protection Act
- CFP = California Fully Protected Species
- CSC = CDFW Species of Concern
- = no listing

California Native Plant Society

- 1B = California Rare Plant Rank 1B species; plants rare, threatened, or endangered in California and elsewhere
- = no listing

Former Fort Ord Habitat Management Plan (HMP)

- Bold** = Former Fort Ord HMP Species

POTENTIAL TO OCCUR

- Present = known occurrence of species within the site; presence of suitable habitat conditions; or observed during field surveys
- High = known occurrence of species in the vicinity from the CNDDDB or other documentation; presence of suitable habitat conditions
- Moderate = known occurrence of species in the vicinity from the CNDDDB or other documentation; presence of marginal habitat conditions within the site
- Low = species known to occur in the vicinity from the CNDDDB or other documentation; lack of suitable habitat or poor quality
- Unlikely = species not known to occur in the vicinity from the CNDDDB or other documentation, no suitable habitat is present within the site
- Not Present = species was not observed during surveys