

BIOLOGICAL RESOURCE ASSESSMENT REPORT

MORRO BAY POWER COMPANY, LLC BATTERY ENERGY STORAGE SYSTEM CITY OF MORRO BAY, CALIFORNIA

Project No. 1902-1172

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FEBRUARY 2021



Authenticity and Signature Page



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Padre Associates, Inc. hereby certifies that all statements furnished in the following Biological Resources Assessment Report and all supporting information reviewed and referenced within this Report are true and correct to the best of our knowledge and belief. Further, we certify that all field surveys associated with this Report were performed by Padre Associates, Inc. using standards accepted by San Luis Obispo County and accurately represent all information retained from field visits to the Morro Bay Power Plant – Battery Energy Storage Solutions Project site located in Morro Bay, California.

A handwritten signature in black ink, appearing to read "Alyssa Berry", written over a horizontal line.

Alyssa Berry
Senior Biologist

A handwritten signature in black ink, appearing to read "Christina Santala", written over a horizontal line.

Christina Santala
Project Biologist

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1.0 INTRODUCTION

Padre Associates, Inc. (Padre) has prepared this Biological Resources Assessment Report (Report), on behalf of EMC Planning Group (EMC) to document the results of a biological resources survey completed in support of the Morro Bay Power Company, LLC – Battery Energy Storage System (BESS) Project (Project) located in the City of Morro Bay, California. The Project includes installation of a BESS within the former tank farm site, which will require tree and vegetation removal, and construction of three BESS buildings. Utility facilities will extend beyond the tank farm within the existing Morro Bay Power Plant (MBPP) property boundary to connect to the Pacific Gas and Electric (PG&E) switchyard. At the request of the City of Morro Bay, an area has been identified on the site plan for a multi-use path within an existing easement for a meandering multi-use path along Embarcadero Road within the MBPP property boundary. According to the site plan, this path is not to exceed 12 feet and will not include tree removal, but may include vegetation clean-up and tree trimming, in accordance with the limitation of this strip of land as ESHA.

The BESS will be located northwest of the existing power plant building and west of the existing PG&E switchyard fence. Figure 1-1 Site Plan presents the location of the Project site within the MBPP property boundary. Six Monterey cypress trees and vegetation within the former tank farm will be removed as part of the Project.

This Report presents a review of the biological resources within the Project site that have the potential to be impacted by the Project. The following information is presented in support of the Project: 1) a comprehensive review of the existing biological resources within the Project site; 2) a review of the anticipated regulatory setting/permitting process; 3) a review of the impacts of Project construction; and 4) recommended avoidance measures.

The information in this Report was obtained through review of existing literature and a focused biological resources survey. Padre conducted a biological field survey on December 16, 2020, which served to update data from a previous field survey completed within the MBPP in September 2015 and encompassed a larger biological survey area (BSA) based on the proposed Project plan. The BSA includes areas outside of the Project site to account for adjacent biological resources that have the potential to be indirectly impacted by the Project. In addition, this Report includes a general impact discussion and a list of recommended mitigation measures to reduce impacts to sensitive biological resources.

1.1 PROJECT LOCATION

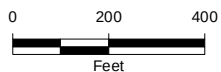
The Project site is located directly north of Morro Bay Harbor and just south of Morro Creek within the City of Morro Bay (refer to Figure 1-2 Site Location). Prominent natural features in the Project vicinity include Morro Creek to the north and Morro Rock Natural Preserve, Morro Bay Harbor, and the Morro Bay National Estuary to the south.



LEGEND:

- Site Feature - - - Project Boundary — Trees to be Removed
- Electrical Enclosure — Stormdrain

Source: Vistra / Sargent & Lundy December 2020
 Notes: This map was created for informational and display purposes only.

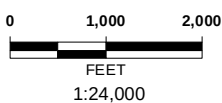


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 ENGINEERS, GEOLOGISTS &
 ENVIRONMENTAL SCIENTISTS

PROJECT NAME: BATTERY STORAGE PROJECT MORRO BAY POWER PLANT SAN LUIS OBISPO COUNTY, CA	
PROJECT NUMBER: 1902-1172	DATE: February 2021

SITE PLAN

**FIGURE
1-1**



LEGEND:

Project Location



USGS 7.5' Quadrangle: Morro Bay North & Morro Bay South
 Legal Description: T29S, R10E, Sec. 25

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 ENVIRONMENTAL SCIENTISTS

PROJECT NAME: BATTERY STORAGE PROJECT
 MORRO BAY POWER PLANT
 SAN LUIS OBISPO COUNTY, CA

PROJECT NUMBER:
 1902-1171

DATE:
 February 2021

PROJECT LOCATION

FIGURE
 1-2

2.0 REGULATORY SETTING

The regulatory setting identifies those laws and policies administered by resource agencies pertaining to those biological resources that are known to exist and/or have the potential to occur within the Project site.

2.1 FEDERAL AUTHORITY

2.1.1 Special-Status Species

The Federal Endangered Species Act (FESA) administered by the U.S. Fish and Wildlife Service (USFWS) and the National Oceanic and Atmospheric Administration – Fisheries (NOAA Fisheries), provides protection to species listed as threatened or endangered. FESA also provides protection to those species proposed to be listed under FESA or critical habitats proposed to be designated for such species. In addition to the listed species, the Federal government also maintains lists of species that are neither formally listed nor proposed but could potentially be listed in the future. Species on this list receive “special attention” from federal agencies during environmental review, although they are not protected otherwise under the FESA. The candidate species include taxa for which substantial information on biological vulnerability and potential threats exist and are maintained in order to support the appropriateness of proposing to list the taxa as an endangered or threatened species.

Section 9 of the FESA prohibits the “take” of any member of a listed species. Take is defined as, “...to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.” Harass is “an intentional or negligent act or omission that creates the likelihood of injury to a listed species by annoying it to such an extent as to significantly disrupt normal behavior patterns that include, but are not limited to, breeding, feeding, or sheltering.” Harm is defined as “...significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns such as breeding, feeding, or sheltering.”

Projects that would result in the take of a federally listed or proposed species are required to consult with USFWS or NOAA Fisheries. The objective of consultation is to determine whether the project would jeopardize the continued existence of a listed or proposed species, and to determine what mitigation measures would be required to avoid jeopardy.

Consultations are conducted under Sections 7 or 10 of FESA depending on the involvement by the Federal government. Section 7 requires agencies to make a finding on all federal actions, including the approval by an agency of a public or private action, such as the issuance of a permit pursuant to Section 10/404 of the Clean Water Act, on the potential to jeopardize the continued existence of any listed or proposed species potentially impacted by the action. Section 10 is conducted when there is no Federal involvement in a project except compliance with FESA.

Under Section 7, the USFWS and NOAA Fisheries are authorized to issue Incidental Take Permits (ITP) for the take of a listed species that results from, but is not the purpose of, carrying out an otherwise lawful activity conducted by the Federal agency. The ITP includes measures to minimize the take. Under Section 10(a), the USFWS and NOAA Fisheries can issue ITPs for non-Federal projects.

The USFWS also administers the federal Migratory Bird Treaty Act (MBTA) of 1918 (16 USC 703-711). Under the MBTA, it is unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed in 50 CFR 10, including feathers or other parts of birds, nests, eggs or products, except as allowed by implementing regulations (50 CFR 21).

2.1.2 Waters and Wetlands

2.1.2.1 Federal Waters

The U.S. Army Corps of Engineers (ACOE) is responsible for the issuance of permits for the placement of dredged or fill material into waters of the U.S. pursuant to Section 404 of the Clean Water Act (33 USC 1344).

In non-tidal waters the lateral extent of federal jurisdiction is determined by the OHWM, which is defined as the: “...*line on the shore established by the fluctuations of water and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.*” (33 CFR 328[e]). Additional physical characteristics, including matted vegetation, sediment sorting, multiple observed flow events, water staining, and others, have also been used to determine the OHWM (U.S. Army Corps of Engineers, 2005).

In tidal areas, the ACOE jurisdiction under Section 404 extends to the high tide line (HTL), which, in the absence of actual data, is defined as... “*a line of oil or scum along shore objects, a more or less continuous deposit of fine shells or debris on the foreshore or berm, other physical markings or characteristics, vegetation lines, tidal gages, or other suitable means that delineate the general height reached by a rising tide.*”

Wetlands could also be regulated as waters of the U.S. if they were adjacent to jurisdictional waters (other than waters that are themselves wetlands). The ACOE regulation concerning wetlands adjacent to jurisdictional waters is defined at 33 CFR 328.4(c)(4):

Non-tidal Waters of the United States. The limits of jurisdiction in non-tidal waters:

In the absence of adjacent wetlands, the jurisdiction extends to the ordinary high-water mark, or

When adjacent wetlands are present, the jurisdiction extends beyond the ordinary high-water mark to the limit of the adjacent wetlands (emphasis added)

The term adjacent is defined at 33 CFR 328.3(C) as:

The term adjacent means bordering, contiguous, or neighboring. Wetlands separated from other waters of the United States by man-made dikes or barriers, natural river berms, beach dunes and the like are “adjacent wetlands”

The recently issued Navigable Waters Protection Rule offers further clarification that adjacent wetlands include the following:

- Wetlands that physically touch each other
- Wetlands separated from a water of the U.S. by only a natural berm, bank or dune
- Wetlands inundated by flooding from a water of the U.S. in a typical year

- Wetlands that are physically separated from a jurisdictional water of the U.S. by an artificial dike, barrier, or similar artificial structure with a direct hydrologic surface connection to the jurisdictional water in a typical year
- Wetlands that are divided by a road or similar artificial structure with a direct hydrologic surface connection through or over that structure in a typical year

In 2015, the ACOE and U.S. Environmental Protection Agency (EPA) issued new definitions for waters/wetlands (U.S. Army Corps of Engineers and U.S. Environmental Protection Agency, 2015), known as the 2015 Clean Water Rule. Immediately subsequent to issuance, the new Rule was challenged in Federal courts, resulting in a nationwide hold on the new Rule, reverting to the 1986 regulations and subsequent guidance for Approved Jurisdictional Determinations. In 2017, the ACOE and EPA published their intent to “review and rescind or revise” the 2015 Clean Water Rule, and the EPA asked the courts to suspend the case while the Rule was under review. In 2018 the EPA delayed the effective date of the 2015 Clean Water Rule for two years, and the Sixth Circuit Court lifted its stay of the Rule. A federal judge then issued a nationwide injunction on the administrative delay of the Clean Water Rule for failure to comply with the Administrative Procedure Act. Pursuant to the Court order, the 2015 Clean Water Rule became effective in 22 states, including California (U.S. Army Corps of Engineers, 2018).

In December 2018 the ACOE and EPA proposed a revised definition of waters of the U.S. that was published in the Federal Register in early 2019, and subsequently repealed the 2015 Clean Water Rule reverting regulation back to the 1986 regulations and subsequent guidance for Approved Jurisdictional Determinations. On January 23, 2020, the ACOE and EPA finalized the Navigable Waters Protection Rule to define Waters of the U.S. and streamline the definition so that it includes four categories of jurisdictional waters, provides clear exclusions for features not regulated, and defines terms in the regulatory text. The Navigable Waters Protection Rule fulfills Executive Order 13788 and became effective on June 23, 2020.

The four clear categories of waters that are considered waters of the U.S. under the Navigable Waters Protection Rule include the following:

- Territorial seas and traditional navigable waters (TNW)
- Perennial and intermittent tributaries that contribute surface flow, directly or through non-jurisdictional surface water features, to a TNW in a typical year
- Lakes, ponds, and impoundments of jurisdictional waters
- Adjacent wetlands (wetlands that are physically touching, separated by natural feature, or separated by artificial feature with direct hydrologic surface water connection)

The Navigable Waters Protection Rule also outlines what aquatic features are not waters of the U.S. The most notable of these are groundwater, ephemeral features, many farm and roadside ditches, artificial lakes and ponds or water filled depressions excavated in upland, stormwater control and groundwater recharge features.

2.1.2.2 Federal Wetlands

Wetlands are a special category of waters of the U.S. and are defined at 33 CFR 328.3(b) as: “...those areas that are inundated or saturated by surface or groundwater at a frequency and

duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas."

The ACOE utilizes the *Corps of Engineers Wetland Delineation Manual* (1987), herein referred to as *1987 ACOE Manual*, to identify wetlands subject to regulatory jurisdiction (jurisdictional wetlands) under the CWA. In central and southern California, Nevada, Arizona, and the other arid regions of the western U.S. the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)* prepared by the ACOE's Engineer Research and Development Center (2008) is used to delineate jurisdictional wetlands.

The ACOE identifies jurisdictional wetlands using a three-parameter definition using vegetation, soil, and hydrological characteristics. Excluding unusual conditions (atypical conditions or disturbed sites), all three parameters must be present for a site to be considered a jurisdictional wetland.

2.1.2.3 Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403)

The ACOE is also responsible for authorizing work affecting navigable waters of the United States. Structures or work under or over a navigable water of the United States is considered to have an impact on the navigable capacity of the waterbody (33 CFR 322.3[a]).

2.2 STATE AUTHORITY

2.2.1 Special-Status Species

The California Department of Fish and Wildlife (CDFW) administers a number of laws and programs designed to protect fish and wildlife resources. Principal of these is the California Endangered Species Act of 1984 (CESA - Fish and Game Code Section 2050) that regulates the listing and take of threatened and endangered species. Under Section 2081 of CESA, CDFW may authorize the take of an endangered and/or threatened species, or candidate species by a permit or Memorandum of Understanding for scientific, educational, or management purposes.

CDFW also maintains lists of "candidate species" which are species that CDFW has formally noticed as under review for addition to the threatened or endangered species lists. California candidate species are afforded the same level of protection as listed species. CDFW also designates "species of special concern" which are species of limited distribution, declining populations, diminishing habitat, or unusual scientific, recreational, or educational value. These species do not have the same legal protection as listed species but may be added to official lists in the future. The species of special concern list is intended by CDFW as a management tool to call attention to declining populations and focus efforts on decreasing threats to long-term viability.

CDFW also administers other State laws designed to protect wildlife and plants, including those laws stated within Fish and Game Code Section 3511, 3503, 3503.5. Under Section 3511 of the Fish and Game Code, CDFW designates species that are afforded "fully protected" status. Fish and Game Code 3503 states that it is unlawful to take, possess, or needlessly destroy the nests or eggs of *any bird*. Section 3503.5 of the Fish and Game Code states that it is "*unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes (birds of prey) or 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.*"

CDFW also manages the California Native Plant Protection Act of 1977 (Fish and Game Code Section 1900, et seq), which was enacted to identify, designate and protect rare plants. In accordance with CDFG guidelines, California Native Plant Society (CNPS) Rare Plant Rank 1B plants are considered “rare” under the Act and are evaluated in California Environmental Quality Act reports.

Project-related adverse impacts on special-status species are considered significant for California Environmental Quality Act (CEQA) purposes. Section 15065 of CEQA states that a Lead Agency shall find that a project may have a significant effect on the environment and thereby require an Environmental Impact Report (EIR) to be prepared for the project where the project has the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, or reduce the number or restrict the range of a rare or endangered plant or animal.

2.2.2 Waters and Wetlands

Pursuant to Section 1602 of the California Fish and Game Code, CDFW requires a Lake or Streambed Alteration Agreement between CDFW and any State or local governmental agency, public utility, or private entity before the initiation of any construction project that will: 1) divert, obstruct, or change the natural flow or the bed, channel, or bank of any river, stream, or lake; 2) use materials from a streambed; or 3) result in the disposal or deposition of debris, waste, or other material containing crumbled, flaked, or ground pavement where it can pass into any river, stream, or lake.

The California Fish and Game Commission adopted a modification of the USFWS definition of wetlands on March 9, 1987 as its principal means of wetland identification in conjunction with on-site inspections for implementation of the Fish and Game Commission's policy. Unlike USFWS, the CDFW definition only requires the presence of one wetland indicator for an area to qualify as a wetland. CDFW does not have a wetland regulatory program but advises other state agencies on wetland issues.

The Regional Water Quality Control Board (RWQCB) issues Water Quality Certifications per Section 401 of the Clean Water Act, and pursuant to the Porter-Cologne Water Quality Control Act of 1969 (CA Water Code §§ 13000-13999.10) that mandates that waters of the State shall be protected. Water quality certification is required prior to issuance of the 404 permit from the USACE. Section 401 of the Clean Water Act gives the RWQCB the authority to prohibit an activity, including any grading or construction project, if that project can impact water quality or have other unacceptable environmental consequences.

The Project site is located within the “coastal zone”. Wetlands found in the coastal zone are regulated by the California Coastal Commission (CCC) under the California Coastal Act of 1976 (CCA) and the federal Coastal Zone Management Act. Under the CCA, wetlands are defined as land within the coastal zone which may be covered periodically or permanently with shallow water and include saltwater marshes, freshwater marshes, open or closed brackish water marshes, swamps, mudflats, and fens. (Pub. Res. Code §30121). Seaward of the mean high tide line is the original jurisdiction of the CCC, and is therefore, also subject to the policies of the CCA.

2.3 LOCAL AUTHORITY

The Project site is located within the Coastal Zone of Morro Bay, and is therefore within the jurisdiction of the CCC and City of Morro Bay. Currently, the City of Morro Bay is in the process of updating its General Plan and Local Coastal Plan into one comprehensive document “Plan Morro Bay” (Morro Bay, 2020) that is anticipated to be approved in 2021. The following policies reflect the approved LCP and updates from Plan Morro Bay.

2.3.1 Environmentally Sensitive Habitat Areas

Special-status species and habitats of the Project site are afforded protection under the CCA through enforcement of goals and policies contained in the City of Morro Bay’s Local Coastal Plan (LCP). To address Environmentally Sensitive Habitat Areas (ESHAs) consistent with the CCA, the LCP applies the following criteria for designating ESHAs:

- Unique, rare or fragile communities which should be preserved to ensure their survival in the future;
- Rare and endangered species habitats that are also protected by state and federal laws;
- Specialized wildlife habitat which are vital to species survival;
- Outstanding representative natural communities which have an unusual variety or diversity of plant and animal species;
- Areas with outstanding educational values that should be protected for scientific research and education uses now and in the future. (Morro Bay, 1982).

Policy 11.01 provides protections for ESHA, including wetlands. A minimum 100-foot Project setback is required around all wetlands; except for uses listed in Section 30233(c) of the CCA (Morro Bay, 1982).

Policy 11.02 requires development within an ESHA to be “sited and designed to prevent impacts which would significantly degrade such areas, and shall maintain the habitat’s functional capacity” (Morro Bay, 1982).

Policy 11.05 requires that all projects within 250 feet of ESHA conform with applicable habitat protection policies with the LCP and depict ESHA boundaries on development plans (Morro Bay, 1982).

Policy 11.06 requires a minimum 100-foot setback from ESHA for permanent structures, with the exception of minor structures such as fences and at-grade improvements (Morro Bay, 1982).

Policy C-1.3 requires biological assessments of proposed developments that are within 100 feet of mapped ESHA (Morro Bay, 2020).

Policy C-1.4 requires preparation of a dune stabilization and/or restoration plan for all new developments that could impact dune ESHA (Morro Bay, 2020).

Policy C-1.5 requires setbacks from ESHA that are sufficient to protect sensitive resources (Morro Bay, 2020). These setbacks range from 100 to 50 feet and may be further reduce to 25 feet with City approval if deemed equally protective of the ESHA (Morro Bay, 2020).

Policy C-1.8 stipulates that if development with ESHA or required ESHA boundary “must be allowed to avoid an unconstitutional taking of private property without just compensation, the amount and type of development allowed shall be the least necessary to avoid a taking, and shall be as consistent with LCP policies as possible”. All impacts to ESHA and required ESHA boundaries must be restored and fully mitigated (Morro Bay, 2020).

Policy C-1.16 provides requirements for replacing trees that are native or measure 6 inches at 54 inches above grade (Morro Bay, 2020).

Policy C-1.17 provides guidelines for reducing impacts to wildlife from fencing and light (Morro Bay, 2020).

3.0 METHODS

3.1 DESKTOP REVIEW

The initial desktop review included an aerial imagery review of the BSA and surrounding region. The Project region, for the purposes of this Biological Resources Assessment Report, includes a five-mile radius from the boundaries of the BSA, within United States Geological Survey (USGS) 7.5-minute quadrangles Cayucos, Morro Bay North, and Morro Bay South. This review included the incorporation of Geographic Information Systems (GIS) layers which were reviewed to analyze potential migratory routes, habitat connectivity and landscape fragmentation, and investigation of surrounding land uses. These images were also used in the field to further assist in defining and mapping existing vegetation communities and sensitive habitats identified within the BSA.

The desktop review included a query of the CDFW California Natural Diversity Database (CNDDDB) to identify reported occurrences of special-status plant and wildlife species and sensitive habitats within the region surrounding the BSA. The CNDDDB is a statewide digital database utilized to locate the nearest occurrences of all rare, threatened, endangered, and special-status species and natural communities in California. All wildlife taxa listed in the CNDDDB are considered "Special Animals," which the CDFW is interested in tracking, regardless of their legal protection status. The CNDDDB occurrences are displayed as polygons and/or points that depict the accuracy of the data that was used to map the occurrence. Each polygon is provided an accuracy class that describes the level of the location detail. A polygon, therefore, does not necessarily reflect that a species occurs in all areas of the polygon, but may represent a non-specific area that documents habitat resources and/or simply a buffer distance around a specific point.

The USFWS Critical Habitat Portal (USFWS 2020a) was reviewed to determine location of Critical Habitat for federally protected species that may potentially occur in the region. The USFWS Critical Habitat Portal is an online database that provides most recent datasets for federally defined Critical Habitat areas.

The desktop review also examined multiple sources of technical survey information completed in the vicinity of the BSA, including the following:

- Dynegy Morro Bay, LLC, Morro Bay Power Plant Marine Terminal Decommissioning Project Initial Study/Mitigated Negative Declaration, prepared by the California State Lands Commission (SLC, 2018);
- Dynegy Morro Bay, LLC Morro Bay Power Plant Marine Terminal Decommissioning Project Execution Plan, prepared by Padre Associates, Inc. (Padre, 2016);
- Morro Shoulderband Snail Protocol Survey Report at Morro Bay Power Plant, Morro Bay, San Luis Obispo County, prepared by Ecological Assets Management, LLC (EAM, 2016)
- Chevron/Estero Marine Terminal Source Removal Project Execution Plan, prepared by Padre Associates, Inc. (Padre, 2015);

- Biological Survey Report for Duke Energy, prepared by V.L. Holland, Ph.D. & Villablanca, Ph.D. (Holland and Villablanca, 2000); and
- City of Morro Bay, Morro Creek Multi-Use Trail and Bridge Project, Initial Study-Mitigated Negative Declaration prepared by Rincon Consultants, Inc. (Rincon, 2013).

3.2 FIELD SURVEYS

Padre biologists, Christina Santala and Shannon Gonzalez, conducted a biological field survey on December 16, 2020, which served to update data from a previous field survey completed within the MBPP in September 2015 and to encompass a larger BSA based on the proposed Project plans. During all field surveys, biologists walked the terrain within the BSA documenting all wildlife species observed. Direct visual observations, indirect signs (e.g., tracks, scat, skeletal remains, and burrows), and auditory cues (i.e., calls and songs) were documented.

All identifiable plant species were recorded and presence of suitable habitat for potentially occurring special-status plants was noted. Plant specimens that were not positively identified in the field were further examined using a dissecting microscope and appropriate botanical keys, including The Jepson Manual: Vascular Plants of California, Second Edition (Baldwin et al., 2012) and The Jepson Herbarium Online Interchange California Floristics (University of California, 2015). Vegetation types identified during the surveys were classified based on the CNPS A Manual of California Vegetation, Second Edition (Sawyer et al., 2009) (MCVII) and Preliminary Descriptions of the Terrestrial Natural Communities of California (Holland, 1986), as appropriate.

4.0 FINDINGS

The following discussion of biological resources is limited primarily to those resources that were observed within the immediate vicinity of the BSA or resources that would be expected to occur and/or frequent a particular area based on the presence of suitable habitat. All documented resources discussed below are based on findings during field surveys completed in September 2015 and December 2020. Supporting documents include Figure 4-1 – Biological Resources Assessment Results, Figure 4-2 – Sensitive Habitats, Appendix A – Site Photographs, Appendix B – Plant Inventory, Appendix C – Wildlife Inventory, Appendix D – VRAP Data Sheets, and Appendix E – CNDDDB Documentation.

4.1 REGIONAL SETTING

The Project is located on the site of the former tank farm within the MBPP in the City of Morro Bay, between State Highway 1 and the Pacific Ocean. The Project site is at an elevation of approximately 20 feet above sea level, approximately 0.2 miles east of the Pacific Ocean with steep topographic relief associated with the former tank locations.

The nearest residences are approximately 0.25 miles southeast. West of the Project site and extending north approximately two miles is Morro Strand State Beach. Morro Bay, Morro Bay State Park, Montaña De Oro State Park, and Morro Dunes Natural Preserve are located to the south of the Project site.

Northeast of the Project is the valley of Morro Creek and due east of the Project site the hills of the Coast Range rise to heights of 500 to 600 feet within one mile. Approximately 0.6 miles west-southwest of the Project site lies Morro Rock, elevation 578 feet.

4.1.1 Aquatic Resources

The Project site is situated between three water bodies, including Morro Bay estuary to the south, Morro Creek to the north, and the Pacific Ocean to the west. The Morro Bay estuary is located along the Pacific Flyway and is recognized as part of the National Estuary Program. Additionally, a portion of the estuary is considered a bird sanctuary (i.e., within the City of Morro Bay). Morro Creek is a seasonal stream with areas of freshwater emergent wetland and includes mostly willow woodland and scrub habitat along the creek corridor.

Based on the query of the USFWS National Wetlands Inventory (NWI) database and the field survey observations, aquatic features within the BSA included Morro Creek (Riverine) and the surrounding riparian corridor (Freshwater/Forested Shrub Wetland) (USFWS, 2020b). Morro Creek is located immediately adjacent to the proposed Project footprint; however, the footprint does not overlap the creek.

4.1.2 Climate

The region of Morro Bay has a mild climate with coastal fog common especially in the summer months. The prevailing wind direction is northwest to southeast off the Pacific Ocean. Annual average temperatures range from the low 50s to the 70s with little diurnal or seasonal variation. Average rainfall within the area is approximately 18 inches per year (U.S. Climate Data, 2020).



LEGEND:

- VRAP Location
- Inactive Nest Location
- Project Site
- Biological Survey Area (BSA)

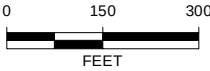
Environmentally Sensitive Habitat Areas (ESHA): City of Morro Bay

- Backdune / Dune Scrub
- Foredune
- Freshwater Emergent Wetland
- Monarch Overwintering Site
- Outer Limit of SLR-Related Hazard Zones
- Rivers & Streams (Stream Mouth)
- Rookeries
- Shallow Bay / Mudflat / and Eelgrass Potential Habitat
- Willow Woodland and Scrubland

Vegetation Communities

- Arroyo Willow Thicket
- Ruderal/Developed
- Iceplant Mat
- Mixed Dune
- Ornamental
- Silver Bush Lupine Scrub

MAP EXTENT:



Source: Esri Online Imagery Basemap, City of Morro Bay, County of San Luis Obispo
Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet
Notes: This map was created for informational and display purposes only.



PROJECT NAME: BATTERY STORAGE PROJECT
MORRO BAY POWER PLANT
SAN LUIS OBISPO COUNTY, CA

PROJECT NUMBER:
1902-1172

DATE:
February 2021

**BIOLOGICAL RESOURCES
ASSESSMENT RESULTS MAP**

**FIGURE
4-1**

4.2 VEGETATION TYPES

Based on species composition, life form, and community membership rules, the vegetation identified within the BSA can be classified into distinct vegetation types (i.e., alliances, associations) as described in the Manual of California Vegetation; Second Edition (MCV2) (Sawyer et al., 2009), or designated as site-specific vegetation types/land use areas. Refer to Appendix B for a list of plants observed within the BSA during the December 2020 field survey. CDFW Vegetation Rapid Assessment Protocol (VRAP) Data Sheets are provided as Appendix D. Vegetation types identified within the BSA are listed in Table 4-1 – Vegetation Types within the BSA, illustrated in Figure 4-1 - Biological Resources Assessment Results, and described in detail in this section.

Table 4-1. Vegetation Types within the BSA

Vegetation Type / (Holland Community)	Sensitivity Status CDFW / City of Morro Bay)
Arroyo willow thickets	None, ESHA
Ice plant mats	None
Silver bush lupine scrub / (Central Dune Scrub)	G3, S3
Mixed dune / (Central Dune Scrub)	G3, S3 / ESHA
Ornamental ¹	None
Ruderal/Developed	None
Notes: ¹ Ornamental vegetation includes mixed and distinct stands of Eucalyptus, Monterey cypress, and Monterey pine. The stands of these species are planted and considered ornamental and are not considered as sensitive communities (CDFW, 2019); however, individual trees are considered to be special-status species (CNPS, 2020). Notes: ESHA Environmentally Sensitive Habitat Area (Rincon, 2018) Global and State Rarity Ranks (CDFW, 2020): G3 S3 Vulnerable - Restricted range, relatively few populations (often 80 or fewer).	

4.2.1 Arroyo willow thickets

Arroyo willow thickets (*Salix lasiolepis* Shrubland Alliance) occurs along stream banks and benches, slope seeps, and stringers along drainages and is characterized by presence of arroyo willow as dominant or co-dominant within the shrub or tree canopy; canopy is open to continuous and the herbaceous layer is variable (Sawyer et al., 2009). As observed during the field survey, this alliance occurred along Morro Creek and Willow Camp Creek in the north and northeastern portion of the BSA. The quantitative vegetation assessment (Appendix D: data sheet MBPP003) identified native and non-native tree, shrub, and herbaceous species with arroyo willow as the dominant species. Component and intermittent species observed includes blackberry (*Rubus ursinus*), poison oak (*Toxicodendron diversilobum*), and Monterey cypress (*Hesperocyparis macrocarpa*). Arroyo willow thicket associated with riparian habitat is designated as ESHA by the City of Morro Bay.

4.2.2 Ice plant mats

Ice plant mats (*Carpobrotus edulis* or Other Ice Plants Semi-Natural Herbaceous Stands Alliance) occur on bluffs, disturbed land, sand dunes of immediate coastline, coastal and alkaline terraces characterized by the presence of ice plant as dominant in the herbaceous canopy, emergent trees and shrubs may be present; canopy is intermittent to continuous (Sawyer et al., 2009). As observed during the field survey, this alliance occurred primarily in the southeastern portion of the BSA. The quantitative vegetation assessment (Appendix D: data sheet MBPP006) identified native and non-native, shrub and herbaceous species with ice plant (*Carpobrotus edulis*) as the dominant species. Component species included telegraph weed (*Heterotheca grandiflora*), coyote brush (*Baccharis pilularis*), and remnant annual grasses. This alliance is not considered sensitive by the CDFW and is not protected under CEQA.

4.2.3 Silver bush lupine scrub

Silver bush lupine scrub (*Lupinus chamissonis* Shrubland Alliance) occurs on stabilized dunes, river mouths, and coastal spits, bluffs and terraces (Sawyer et. al., 2009) and is characterized by the presence of silver bush lupine as dominant or co-dominant in the shrub layer, canopy is open to continuous, herbaceous layer is open to intermittent. As observed during the field survey, silver bush lupine occurs in stands intermittently throughout the former tank farm area where the Ruderal/Developed habitat has experienced natural recruitment. The quantitative vegetation assessment (Appendix D: data sheet MBPP001) identified dune lupine as the dominant species, with minimal understory comprised of remnant annual grasses and ice plant. An additional species of lupine was observed as a component of this Alliance or as distinct stands; however, the lupine species was not identifiable during the December 2020 field survey. The Silver bush lupine scrub has established on fill soils within Ruderal/Developed habitat that has been disturbed during operation and decommissioning of the MBPP. As such, Project impacts to this alliance should be evaluated within the context of the stands' limited and fragmented distribution throughout the former tank farm area. This alliance is considered sensitive by the CDFW (rarity ranking S3) and impacts to sensitive habitats may be considered significant under CEQA.

4.2.4 Mixed dune

A distinct stand of vegetation comprised of an assemblage of upland coastal species was observed along the northwestern boundary of the BSA. This area has been the focus of past restoration efforts, and existing vegetation varies in degree of establishment. Past studies completed in this location designated this assemblage of vegetation as Mixed dune (Padre, 2015a). As observed during the December 2020 field survey, the composition of species within the Mixed dune vegetation species was similar to previously assessed conditions, and consisted of ice plant, beach bur (*Ambrosia chamissonis*), coyote brush, and remnant annual grasses (Appendix A – Site Photographs, Photo 8). This alliance (referred to as Central Dune Scrub) is considered sensitive by the CDFW and is designated as ESHA (referred to as Back Dune/Dune Scrub) by the City of Morro Bay. Impacts to Mixed dune may be considered significant under CEQA.

4.2.5 Ornamental

Several stands of trees have been planted as windrows within the BSA, and within this Report, are collectively referred to and mapped as Ornamental. Three quantitative vegetation assessments were conducted to evaluate species composition and cover of this site-specific vegetation type. The quantitative vegetation assessments identified three distinct vegetation types including Monterey cypress stands, Eucalyptus groves, and Monterey pine stands (Appendix D: data sheets MBPP002, MBPP004, and MBPP005) which were comprised of native and non-native tree species including Monterey cypress (*Hesperocyparis macrocarpa*), Monterey pine (*Pinus radiata*), and eucalyptus (*Eucalyptus globulus*) as either the dominant or as components in the tree canopy of a stand. Component shrub and herbaceous species included silver bush lupine, ice plant, and Russian thistle (*Salsola tragus*).

There is a distinct stand of Ornamental vegetation comprised of Eucalyptus and Monterey Cypress located between the Embarcadero and the southeastern MBPP boundary that supports a rookery for multiple species of heron and is designated as ESHA, as well as protected under CEQA. In addition, Monterey cypress is a California Native Plant Society (CNPS) California Rare Plant Rank (CRPR) 1B.1 species, and Monterey pine is a CNPS CRPR 1B.2 species; however, the stands themselves are not considered to be sensitive by the CDFW. Stands of trees often provide suitable nesting habitat for birds and overwintering habitat for monarch butterflies. Refer to Section 4.5.1 Special-Status Plants for further details regarding these special-status tree species.

4.2.6 Ruderal/Developed

Within this Report, Ruderal/Developed habitat is a term used to describe those areas that have been disturbed by past land-use practices, recent ground disturbance or are currently developed. Ruderal/Developed habitat includes office facilities, paved and unpaved roads, industrial and commercial structures, and areas of vegetation along these features and within abandoned facilities. As observed during the December 2020 field survey, this vegetation type consisted primarily of remnant annual grasses, pampas grass (*Cortaderia jubata*), telegraph weed, ice plant, coyote brush, and scattered volunteer eucalyptus. Developed areas within the Ruderal/Developed habitat type generally do not support vegetative cover due to the presence of impervious surfaces.

4.3 WILDLIFE

Wildlife observed within the BSA during the field studies included both invertebrate and vertebrate species. This includes species seen or detected by tracks, scat, skeletal remains, burrows and/or vocalization during the field surveys conducted within the BSA. Limitations in the quantitative assessment of both terrestrial vertebrate and invertebrate populations include:

- Many species may occur in the area only for short periods during migrations;
- Many species of amphibians and reptiles become inactive during one or more seasons;
- Seasonal or annual fluctuations in climate or weather patterns may confound observations;
- No focused protocol-level surveys, mist-netting, trapping, tracking surveys, aquatic surveys or nocturnal surveys were completed by Padre biologists; and

- Protocol surveys for Morro shoulderband snail were initiated during the rainy season of 2020-2021 and will be reported separately, upon completion.

Following are descriptions of several classifications of invertebrate and vertebrate species either observed or considered likely to be present within the BSA. Further descriptions of special-status species that have potential to occur within the BSA can be found in Section 4.5.2.

4.3.1 Invertebrates

Invertebrates observed during field surveys within the BSA included European snail (*Helix aspersa*) and dentate stink beetle (*Eleodes dentipes*). In addition, the following special-status species have the potential to occur within the BSA based on their prevalence throughout the region and/or the presence of suitable habitat: monarch butterfly (*Danaus plexippus*), globose dune beetle (*Coleus globosus*), Morro Bay blue butterfly (*Plebejus icarioides moroensis*), Morro shoulderband snail (*Helminthoglypta walkeriana*), obscure bumble bee (*Bombus caliginosus*), and sandy beach tiger beetle (*Cicindela hirticollis gravida*).

4.3.2 Amphibians

Amphibians detected during field surveys were limited to Sierran treefrog (*Pseudacris sierra*) which was heard calling at the north end of the BSA near Morro Creek. No additional amphibians were observed during field surveys within the BSA; however, the following species have the potential to occur within the BSA based on their prevalence throughout the region and/or the presence of suitable habitat: Black-bellied slender salamander (*Batrachoseps nigriventris*), arboreal salamander (*Aneides lugubris*), California toad (*Anaxyrus boreas halophilus*), and California red-legged frog (*Rana draytonii*).

4.3.3 Reptiles

No reptiles were observed during field surveys; however, coast range fence lizard (*Sceloporus occidentalis bocourti*) has been previously documented at the MBPP. In addition, the following species have the potential to occur within the BSA based on their prevalence throughout the region and/or the presence of suitable habitat: woodland alligator lizard (*Elgaria multicarinata webbia*), San Diego gopher snake (*Pituophis catenifer annectens*), gartersnake species (*Thamnophis* sp.), coast horned lizard (*Phrynosoma blainvillii*), northern legless lizard (*Anniella pulchra*), and southwestern pond turtle (*Actinemys pallida*).

4.3.4 Fish

No aquatic habitat suitable for fish is present within the BSA.

4.3.5 Birds

Birds observed during field surveys within the BSA include Anna's hummingbird (*Calypte anna*), house finch (*Carpodacus mexicanus*), American crow (*Corvus brachyrhynchos*), yellow-rumped warbler (*Setophaga coronata*), black phoebe (*Sayornis nigricans*), California thrasher (*Toxostoma redivivum*), Hutton's vireo (*Vireo huttoni*), wrentit (*Chamaea fasciata*), blue-gray gnatcatcher (*Polioptila caerulea*), turkey vulture (*Carthartes aura*), red-tailed hawk (*Buteo jamaicensis*), Bewick's wren (*Thrymanes bewickii*), and white-crowned sparrow (*Zonotrichia leucophrys*).

4.3.6 Mammals

Mammals detected during field surveys within the BSA include raccoon (*Procyon lotor*), mule deer (*Odocoileus hemionus*), Virginia opossum (*Didelphis virginiana*), and coyote (*Canis latrans*). Other common mammal species expected to occur within the BSA based on the presence of suitable habitat include California ground squirrel (*Otospermophilus beecheyi*), California vole (*Microtus californicus*), brush rabbit (*Sylvilagus bachmani*), black-tailed jackrabbit (*Lepus californicus*), and striped skunk (*Mephitis mephitis*).

4.4 SENSITIVE HABITATS OF THE PROJECT REGION

Based on information obtained from the desktop review, several habitats occur in the region that are afforded protection by a Federal, State, or local authority, and may support special-status plants and wildlife. For the purpose of this report, sensitive habitats include the following:

- Critical Habitat defined by the FESA under Section 3, and protected by the USFWS and/or National Marine Fisheries Service (Figure 4-2 – Sensitive Habitats);
- Sensitive habitats defined by the CESA and protected by the CDFW and/or local agencies; the CDFW considers vegetation types with an imperilment status of S3/G3 or rarer to be addressed in the environmental review processes of CEQA or its equivalents. (CDFW, 2018b).
- ESHAs protected by the City of Morro Bay and outlined in the City of Morro Bay Environmental Sensitive Habitat Area (ESHA) Analysis: 2050 Sea Level Rise Scenario Plan (Rincon, 2018); and
- Rare habitats identified by local professional organizations and/or the scientific community.

Sensitive habitats occurring within the Project region are summarized in Table 4-2 – Sensitive Habitats in the Project Region and illustrated in Figure 4-2 – Sensitive Habitats.

Table 4-2. Sensitive Habitats of the Project Region

Sensitive Habitat	Protection Status	Located within BSA	Located within Project site
USFWS/NMFS Designated Critical Habitat¹			
California red-legged frog	Designated Critical Habitat	No	No
Tidewater goby; Unit SLO-8, and SLO-9	Designated Critical Habitat	No	No
Morro Shoulderband Snail	Designated Critical Habitat	No	No
Morro Bay Kangaroo Rat	Designated Critical Habitat	No	No
CDFW CNDDDB Sensitive Natural Communities²			
Central Dune Scrub (Mixed dune)	G2, S2.2	Yes	No
Central Maritime Chaparral	G2, S2.2	No	No
Coastal Brackish Marsh	G2, S2.1	No	No
Northern Coastal Salt Marsh	G3, S3.2	No	No
Alliances Designated as CDFW Sensitive Natural Communities / ESHA³			
Willow Woodland and Scrub [Arroyo willow thickets]	ESHA	Yes	No
Rookeries	ESHA	Yes	Yes ⁴
Monarch Overwintering Site	ESHA	Yes	No
Silver bush lupine scrub	G3, S3	Yes	Yes
Back Dune/Dune Scrub (Mixed dune)	ESHA	Yes	No
Notes: ¹ USFWS Federal Register ² The CDFW Sensitive Natural Communities listed in this table are results of the CNDDDB query of the Project region (CDFW, 2020). Site-specific vegetation type equivalent is provided in parentheses and MCV2 equivalent is provide in brackets. The ranking codes are part of the Heritage Methodology that provides information about the status of the taxon/community throughout their entire range and within California. G Global Rank S State Rank G1-G5 Globally critically imperiled (G1) to demonstrably secure (G5) S1-S5 State critically imperiled (S1) to demonstrably secure (S5) ³ Communities listed and described in the Natural Communities List based on life form (CDFW, 2019), and ESHA designated by the City of Morro Bay (Rincon, 2018). ⁴ The multi-use path will traverse rookeries designated as ESHA.			

4.4.1 Critical Habitat

Four USFWS Critical Habitat areas are designated within five miles of the Project site; however, none overlap the Project site limits. These Critical Habitats are discussed below.

4.4.1.1 California Red-Legged Frog Critical Habitat

USFWS-designated Critical Habitat for California red-legged frog was finalized in March of 2001 for core areas selected based on the following criteria: 1) areas that are occupied by California red-legged frog; 2) areas where populations of California red-legged frog appear to be source populations; 3) areas that provide connectivity between source populations; and 4) areas that represent areas of ecological significance (USFWS, 2002). Critical habitat may include an area that is not currently occupied by the species but is important for its recovery. Further, California red-legged frog are ultimately protected if occurring outside designated Critical Habitat areas. California red-legged frog Critical Habitat is located less than one mile from the BSA but does not extend into the BSA.

4.4.1.2 Tidewater Goby Critical Habitat

Tidewater goby are federally listed as Endangered under the FESA, and USFWS-designated Critical Habitat includes all locations where this species is known or likely to occur. The nearest tidewater goby Critical Habitats, referred to as SLO-8 and SLO-9, are located within Toro Creek approximately 2.5 miles northwest of the BSA and Los Osos Creek less than five miles south of the BSA. Critical Habitat does not extend into the BSA.

4.4.1.3 Western Snowy Plover Critical Habitat

The Pacific Coast population of western snowy plover is federally listed under the FESA as Threatened. USFWS-designated Critical Habitat for this species was finalized in June of 2012 for areas along the coasts of California, Oregon, and Washington. Critical Habitat areas for western snowy plover consist of sandy beaches, dune systems immediately inland of an active beach face, salt flats, and mud flats, that were selected based on the following criteria: 1) areas that will allow the species to move and expand; 2) known breeding areas; 3) known wintering areas; 4) habitat that is unique or that provides interchange between otherwise widely separated units; 5) areas to maintain connectivity of habitat; and 6) areas in which restoration activities will occur. Western snowy plover Critical Habitat occurs within the coastal dune habitat adjacent to the BSA but does not extend into the BSA.

4.4.1.4 Morro Shoulderband Snail Critical Habitat

USFWS-designated Critical Habitat for Morro shoulderband snail was finalized in March of 2001. Critical Habitat designated by the USFWS includes these elements: 1) sand or sandy soils which are necessary for reproduction 2) to permit movement, no greater than a ten percent slope, 3) and native coastal dune scrub vegetation. Morro shoulderband snail Critical Habitat occurs less than one mile from the BSA but does not extend into the BSA.

4.4.1.5 Morro Bay Kangaroo Rat Critical Habitat

USFWS-designated Critical Habitat for Morro Bay Kangaroo Rat (*Dipodomys heermanni morroensis*) was finalized August 1977. The Critical Habitat was originally delineated because it contained a significant population of the species. Since the designation, the population has

decreased and is now restricted to an area of approximately five square miles, generally corresponding to the distribution of Baywood fine sand, south and southeast of Morro Bay. The species has not been observed in the wild since 1986. Morro Bay Kangaroo Rat Critical Habitat occurs less than five miles south of the BSA within Montaña De Oro State Park. Critical Habitat does not extend into the BSA.

4.4.2 Sensitive Natural Communities, Alliances, and ESHA

Based on the CNDDDB query conducted during the desktop review, the following Sensitive Natural Communities were documented within the region: Central Dune Scrub, Central Maritime Chaparral, Coastal Brackish Marsh, and Northern Coastal Salt Marsh (CDFW, 2020), with Central Dune Scrub as the only CDFW Sensitive Natural Community identified within the BSA.

Sensitive vegetation alliances (CDFW, 2019, CNPS, 2020a) are based on life form of the dominant plant species found within a vegetation type. These vegetation types are described in the MCV2 (Sawyer et.al., 2009, CNPS, 2020a) and are assigned a rarity rank by the CDFW (CDFW, 2019). The one sensitive vegetation alliance identified within the BSA was Silver bush lupine scrub, which corresponds to the Holland Community, Central Dune Scrub (CNPS, 2020a). The ESHAs as designated by the City of Morro Bay (Rincon, 2018) identified within the BSA included Rookeries, Back dune/Dune Scrub, Willow Woodland and Scrub, and Monarch Overwintering Site (Rincon, 2018). Table 4-1 above provides a summary of these sensitive natural communities and alliances.

4.5 SPECIAL-STATUS BIOLOGICAL RESOURCES

4.5.1 Special-Status Plants

Special-status plants are either listed as Endangered or Threatened under FESA or CESA, considered Rare under the California Native Plant Protection Act, or considered rare (but not legally listed) by resources agencies, professional organizations, and the scientific community under the following categories.

- Plants listed or proposed for listing as Threatened or Endangered under the Federal Endangered Species Act (50 CFR 17.12 for listed plants and various notices in the Federal Register for proposed species.).
- Plants that are candidates for possible future listing as Threatened or Endangered under the Federal Endangered Species Act (Federal Register October 10, 2019).
- Plants that meet the definitions of rare or endangered species under the CEQA (State CEQA Guidelines, Section 15380).
- Plants considered by the CNPS to be "Rare, Threatened, or Endangered" in California (Ranks 1B and 2 in CNPS, 2020b).
- Plants listed by CNPS as plants about which we need more information and plants of limited distribution (Ranks 3 and 4 in CNPS, 2020b).
- Plants listed or proposed for listing by the State of California as Threatened or Endangered under the California Endangered Species Act (14 CCR 670.5).

- Plants listed under the California Native Plant Protection Act (California Fish and Game Code 1900 et seq.).
- Plants considered sensitive by other Federal agencies (i.e., U.S. Forest Service, Bureau of Land Management), state and local agencies or jurisdictions.
- Plants considered sensitive or unique by the scientific community or occurring at the limits of their natural range (State CEQA Guidelines).

The results of the desktop review indicated that 38 special-status plant species have been documented within approximately five miles of the BSA (Project region) (CDFW, 2020, CNPS, 2020). Appendix E – CNDDDB Documentation lists species documented in the three quadrangles that encompass the region and BSA. Padre evaluated the documented species to identify which species had the potential to occur within the BSA. This evaluation compared the habitat preferences of the documented species to the existing habitats and conditions of the BSA, and nearest documented occurrence to the BSA. Based on the evaluation and field survey, nine special-status plant species have the potential to occur within the Project site as shown in Table 4-3 - Special-Status Species of the Project Region and discussed below.

Table 4-3. Special-Status Plant Species of the Project Region

Scientific Name Common Name	Status	Habitat Description¹ (CDFW, 2020)	Habitat Present	Occurrence <1 mile	Potential for Occurrence	Observed in Project Site
<i>Abronia maritima</i> Sticky sand verbena	CRPR 4.2	Coastal dunes.	X			
<i>Arctostaphylos cruzensis</i> Arroyo de la Cruz manzanita	CRPR 1B.2	Broad-leaved upland forest, coastal bluff scrub, closed-cone coniferous forest, chaparral, coastal scrub, valley and foothill grassland.				
<i>Arctostaphylos morroensis</i> Morro manzanita	FT, CRPR 1B.2	Chaparral, cismontane woodland, coastal dunes, coastal scrub in sandy loam.				
<i>Arctostaphylos osoensis</i> Oso manzanita	CRPR 1B.2	Chaparral, cismontane woodland, narrowly endemic to mountains north of Los Osos Valley, San Luis Obispo County.				
<i>Arctostaphylos pechoensis</i> Pecho manzanita	CRPR 1B.2	Chaparral, coastal sage scrub, closed-cone coniferous forest.	X			

Table 4-3. Special-Status Plant Species of the Project Region

Scientific Name Common Name	Status	Habitat Description¹ (CDFW, 2020)	Habitat Present	Occurrence <1 mile	Potential for Occurrence	Observed in Project Site
<i>Arctostaphylos tomentosa</i> ssp. <i>daciticola</i> Dacite manzanita	CRPR 1B.1	Chaparral, cismontane woodland.				
<i>Arenaria paludicola</i> Marsh sandwort	FE, SE, CRPR 1B.1	Marshes and swamps.				
<i>Astragalus didymocarpus</i> var. <i>milesianus</i> Miles' milk vetch	CRPR 1B.2	Coastal scrub.	X	X	X	
<i>Atriplex coulteri</i> Coulter's saltbush	CRPR 1B.2	Coastal strand, valley grassland, coastal sage scrub, occasionally in				
<i>Bryoria spiralifera</i> Twisted horsehair lichen	CRPR 1B.1	North coast coniferous forest.				
<i>Calystegia subacaulis</i> ssp. <i>episcopalis</i> Cambria morning-glory	CRPR 4.2	Chaparral and cismontane woodland.				
<i>Camissoniopsis hardhamiae</i> Hardham's evening-primrose	CRPR 1B.2	Closed-cone coniferous forest, chaparral in serpentine soils.				
<i>Castilleja densiflora</i> var. <i>Obispoensis</i> San Luis Obispo owl's-clover	CRPR 1B.2	Meadows and seeps, valley and foothill grassland, sometimes in serpentine soil.		X		
<i>Ceanothus thyrsiflorus</i> var. <i>Obispoensis</i> San Luis Obispo ceanothus	CRPR 1B.1	Chaparral, cismontane woodland.				
<i>Chenopodium littoreum</i> Coastal goosefoot	CRPR 1B.2	Coastal dunes.				
<i>Chloropyron maritimum</i> ssp. <i>maritimum</i> Salt marsh bird's-beak	FE, SE, CRPR 1B.2	Coastal salt marsh, coastal dunes.				

Table 4-3. Special-Status Plant Species of the Project Region

Scientific Name Common Name	Status	Habitat Description¹ (CDFW, 2020)	Habitat Present	Occurrence <1 mile	Potential for Occurrence	Observed in Project Site
<i>Cirsium fontinales</i> Chorro Creek bog thistle	FE, SE, CRPR 1B.2	Chaparral, foothill woodland, wetland-riparian, seeps.				
<i>Cladonia firma</i> Popcorn lichen	CRPR 2B.2	Maritime habitats, stabilized dunes along the coast.	X		X	
<i>Delphinium parryi</i> ssp. <i>blochmaniae</i> Dune larkspur	CRPR 1B.2	Coastal strand, chaparral, dunes.		X		
<i>Delphinium parryi</i> ssp. <i>eastwoodiae</i> Eastwood's larkspur	CRPR 1B.2	Chaparral, valley and foothill grassland.		X		
<i>Dudleya abramsii</i> ssp. <i>bettinae</i> Betty's dudleya	CRPR 1B.2	Chaparral, coastal scrub, valley and foothill grassland on rocky barren exposures of				
<i>Dudleya abramsii</i> ssp. <i>murina</i> Mouse-gray dudleya	CRPR 1B.3	Chaparral, cismontane woodland, valley and foothill grassland on rocky barren		X		
<i>Dudleya blochmaniae</i> ssp. <i>blochmaniae</i> Blochman's dudleya	CRPR 1B.1	Coastal bluff scrub, chaparral, coastal scrub, valley and foothill grassland with shallow rocky slopes in clays over		X		
<i>Dithyrea maritima</i> Beach spectaclepod	ST, CRPR 1B.1	Coastal dunes and coastal scrub.				
<i>Erigeron blochmaniae</i> Blochman's leafy daisy	CRPR1 B.2	Coastal dunes, coastal scrub, endemic to San Luis Obispo County.	X	X	X	
<i>Eriodictyon altissimum</i> Indian Knob mountainbalm	FE, SE, CRPR 1B.1	Maritime chaparral, cismontane woodland, coastal scrub, endemic to San Luis Obispo County. Elevation 80-270m				
<i>Extriplex joaquinana</i> San Joaquin spearscale	CRPR 1B.2	Chenopod scrub, meadows and seeps, playas, valley and foothill grassland in alkaline.		X		

Table 4-3. Special-Status Plant Species of the Project Region

Scientific Name Common Name	Status	Habitat Description¹ (CDFW, 2020)	Habitat Present	Occurrence <1 mile	Potential for Occurrence	Observed in Project Site
<i>Hesperocyparis macrocarpa</i> Monterey cypress	CRPR 1B.2	Closed-cone pine forest.	X		X	X
<i>Horkelia cuneata</i> var. <i>puberula</i> Mesa horkelia	CRPR 1B.1	Chaparral (maritime), cismontane Woodland, coastal scrub; sandy gravelly	X		X	
<i>Horkelia cuneata</i> var. <i>sericea</i> Kellogg's horkelia	CRPR 1B.1	Northern coastal scrub, coastal sage scrub, closed- cone pine forest.		X	X	
<i>Lasthenia glabrata</i> ssp. <i>coulteri</i> Coulter's goldfields	CRPR 1B.1	Coastal salt marsh, playas, vernal pools.				
<i>Layia jonesii</i> Jones' layia	CRPR 1B.2	Chaparral and grasslands areas with clay and serpentine outcrops and soil.		X		
<i>Monardella sinuata</i> ssp. <i>sinuata</i> Southern curly-leaved monardella	CRPR 1B.2	Coastal dunes, coastal scrub, chaparral, cismontane woodlands.	X		X	
<i>Nemacaulis denudata</i> var. <i>denudata</i> Coast woolly-heads	CRPR 1B.2	Coastal dunes.				
<i>Pinus radiata</i> Monterey pine	CRPR 1B.1	Closed-cone coniferous forest, cismontane woodland.				
<i>Senecio aphanactis</i> Chaparral ragwort	CRPR 2B.2	Foothill woodland, northern coastal scrub, coastal sage scrub.	X		X	
<i>Senecio blochmaniae</i> Blochman's ragwort	CRPR 4.2	Coastal sand dunes, sandy floodplains.	X	X ²	X	
<i>Suaeda californica</i> California seablight	FE, CRPR 1B.1	Coastal salt marshes and swamps.		X		

Table 4-3. Special-Status Plant Species of the Project Region

Scientific Name Common Name	Status	Habitat Description¹ (CDFW, 2020)	Habitat Present	Occurrence <1 mile	Potential for Occurrence	Observed in Project Site
<i>Sulcaria isidiifer</i> Splitting yarn lichen	CRPR 1B.1	Chaparral, cismontane woodland.				
Notes: ¹Habitat descriptions found in CDFW, 2020, CalFlora, 2020, and/or CNPS, 2020b. Habitat presence and potential for occurrence based on evaluation of the Project site. ²Observed by Padre in Mixed dune habitat outside of the BSA (Padre, 2015). NA Not applicable FE Federally endangered FT Federally threatened SE State endangered ST State threatened CNPS Ranking System (CNPS, 2019); CRPR California Rare Plant Rank: 1A Plants presumed extirpated in California and either rare or extinct elsewhere 1B Plants rare, threatened, or endangered in California and elsewhere 2A Plants presumed extirpated in California, but common elsewhere 2B Plants, rare, threatened, or endangered in California, but more common elsewhere 3 Plants about which more information is needed – a review list 4 Plant of limited distribution – a watch list CRPR Threat Ranks (CNPS, 2019) 0.1 Seriously threatened in California 0.2 Moderately threatened in California 0.3 Not very threatened in California						

Two special-status species were observed during the field survey: Monterey cypress (*Hesperocyparis macrocarpa*) and Monterey pine (*Pinus radiata*), and one species, Blochman's ragwort, was observed during previous surveys in the vicinity of the Project site. The field survey was conducted in December 2020, outside of the typical blooming period for most of the special-status species with the potential to occur. However, although not in bloom in December, the perennial species with a potential to occur would likely be identifiable based on the plant's structure and morphological characteristics visible at any time of the year.

A follow up spring botanical survey will be completed in 2021 and the survey results will be documented and submitted as a supplement to this report. The spring botanical survey will focus on the annual special-status plant species that were determined to have potential to occur based on suitable habitat but may not have been identifiable during the December 2020 survey including: Miles' milk vetch (*Astragalus didymocarpus* var. *milesianus*), southern curly-leaved monardella (*Monardella sinuata* ssp. *sinuata*), and chaparral ragwort (*Senecio aphanactis*). The blooming periods for these species are shown in Table 4-4 - Blooming Periods for Potentially Occurring Special-Status Annual Herbs and Lichen. Details on each of the species observed within the BSA or that has the potential to occur within the BSA, are described below.

Table 4-4. Blooming Periods for Potentially Occurring Special-Status Annual Herbs and Lichen

Common Name	Blooming Period ¹ (month)											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Popcorn lichen ²												
Miles' milk vetch												
S. curly-leaved monardella												
Chapparal ragwort												
Notes: ¹ Blooming period information was provided by Baldwin et al., 2012 and CNPS, 2021. ² Non-blooming species												

4.5.1.1 Monterey cypress

Monterey cypress is a perennial evergreen tree in the Cypress Family (Cupressaceae) that is native to California and endemic to central coast of California, occurs in coastal pine forest habitats, and is a CNPS CRPR 1B.2 species. This species is widely planted and has been naturalized outside its native range (University of California, 2020). In the wild, this species is limited to two small populations, near Monterey and Carmel, California (Calflora, 2020, CNPS, 2020b). As observed during the field survey, there were several stands (shown on Figure 4-1 as Ornamental vegetation) and individual trees that appeared to be planted as landscape trees within the BSA. All trees were healthy and averaged in height from approximately ten to 20 feet tall. It is expected that six Monterey cypress will be removed as part of Project activities and is labeled on Figure 1-1. Refer to Section 5.0 for information on replacement trees plantings.

4.5.1.2 Monterey pine

Monterey pine is a perennial evergreen tree in the Pine Family (Pinaceae) that is native to California, occurs in coastal pine forest habitats, and is a CNPS CRPR 1B.1 species. Monterey pine is native to three very limited areas located in Santa Cruz, Monterey peninsula, and San Luis Obispo Counties, and in these stands is co-dominant with Monterey cypress. This species is extensively cultivated around the world for lumber and can be invasive in parts of California (Calflora, 2020, CNPS, 2020b). As observed during the field survey, there were several stands (shown on Figure 4-1 as Ornamental vegetation) and individual trees that appeared to be planted as landscape trees within the BSA.

4.5.1.3 Blochman's ragwort

Blochman's ragwort is a shrub in the Sunflower Family (Asteraceae) family that occurs in coastal dune and sandy floodplain habitats, is a CNPS CRPR 4.2 species, and typically blooms between May and November. Padre observed this species in Mixed dune vegetation outside of the current BSA during previous surveys completed within the vicinity of the BSA (Padre, 2015a). As such, there is potential for this species to occur within the Mixed dune vegetation along the

western boundary of the Project footprint, however, individuals were not observed during the December 2020 field survey.

4.5.1.4 Miles' milk vetch

Miles' milk vetch is an annual herb in the Legume (Fabaceae) family that occurs in grassy areas near the coast. It is a CNPS CRPR 1B.2 that typically blooms from March to May. An appropriately timed botanical survey is recommended to determine presence/absence of this species within the Project site (eFlora, 2021).

4.5.1.5 Southern Curly-leaved Monardella

Southern curly-leaved monardella is an annual herb in the Mint (Lamiaceae) family that occurs on sandy soils, coastal strand, coastal dune, coastal sagebrush scrub, coastal chaparral and oak woodland. It is a CNPS CRPR 1B.2 that typically blooms from April to September. An appropriately timed botanical survey is recommended to determine presence/absence of this species within the Project site (eFlora, 2021).

4.5.1.6 Chaparral Ragwort

Chaparral ragwort is an annual herb in the Sunflower (Asteraceae) family that occurs foothill woodland, northern coastal scrub, and coastal sage scrub. It is a CNPS CRPR 2B.2 that typically blooms from January to April. An appropriately timed botanical survey is recommended to determine presence/absence of this species within the Project site (eFlora, 2021).

4.5.1.7 Popcorn Lichen

Popcorn lichen is a native lichen in the Cladoniaceae family that occurs in maritime habitats and stabilized dunes along the coast. It is a CNPS CRPR 2B.2 that may not have been detected during the field survey in December 2020. A focused botanical survey is recommended to determine presence/absence of this species within the Project site (CNPS, 2021).

4.5.2 Special-Status Wildlife

Special-status wildlife species are either listed as Endangered or Threatened under FESA or CESA, or considered rare (but not formally listed) by resources agencies, professional organizations, and the scientific community under the following categories:

- Animals listed or proposed for listing as Threatened or Endangered under the Federal Endangered Species Act (50 CFR 17.11 for listed animals and various notices in the Federal Register for proposed species).
- Animals that are candidates for possible future listing as Threatened or Endangered under the Federal Endangered Species Act (Federal Register October 10, 2019).
- Animals that meet the definitions of rare or endangered species under the CEQA (*State CEQA Guidelines*, Section 15380)
- Animal considered Species of Special Concern by CDFW (Shuford and Gardali, 2008 for birds; Williams, 1986 for mammals; Moyle et al., 2015 for fish; and Thomson et al., 2016 for amphibians and reptiles).

- Animals listed or proposed for listing by the State of California as Threatened and Endangered under the California Endangered Species Act (14 CCR 670.5).
- Animal species that are fully protected in California (California Fish and Game Code, Section 3511 [birds], 4700 [mammals], and 5050 [reptiles and amphibians]).
- Animal species protected under the Marine Mammal Protection Act (as amended in 1994).
- Birds of Conservation Concern. Migratory and nonmigratory bird species (beyond those already designated as federally Threatened or Endangered) that represent the USFWS highest conservation priorities in effort to draw attention to species in need of conservation action (Shuford and Gardali, 2008).
- Birds on the CDFW Watch List include “Taxa to Watch” (Shuford and Gardali, 2008) 1) not on the current Special Concern list but were on previous lists and they have not been state listed under CESA; 2) were previously state or federally listed and now are on neither list; or 3) are on the list of “Fully Protected” species.
- The Western Bat Working Group is comprised of agencies, organizations and individuals interested in bat research, management and conservation from the 13 western states and provinces. Species designated as “High Priority” are imperiled or are at high risk of imperilment based on available information on distribution, status, ecology and known threats.

The results of the desktop review indicated that 21 special-status plant species have been documented within the Project region (CDFW, 2020). Appendix E lists species documented in the three quadrangles that encompass the region and BSA. Padre evaluated the documented species to identify which species had the potential to occur within the Project site. This evaluation compared the habitat preferences of the documented species to the existing habitats and conditions of the Project site, and nearest documented occurrence. Based on the evaluation and field survey, 9 special-status wildlife species have the potential to occur within the Project site as shown in Table 4-5 - Special-Status Wildlife Species of the Project Region and discussed below.

Table 4-5. Special-Status Wildlife Species of the Project Region

Scientific Name Common Name	Status	Habitat Description (CDFW, 2020)	Habitat Present	Occurrence <1 mile	Potential for Occurrence in Project Site
Invertebrates					
<i>Bombus caliginosus</i> Obscure bumble bee	SA	Coastal areas from Santa Barbara county north to the state of Washington.	X	X	This species was not observed during field surveys; however, based on the presence of suitable habitat, as well as nearby occurrences and their transitory nature, this species has the potential to occur within the Project site.
<i>Cicindela hirticollis grvida</i> Sandy beach tiger beetle	SA	Habitats adjacent to non-brackish water.		X	The Project site does not support non-brackish water nor is it directly adjacent, this species is not likely to occur.
<i>Coelus globosus</i> Globose dune beetle	SA	Coastal sand dune habitat.		X	The Project site is predominantly comprised of previously disturbed soils, this species is not likely to occur.
<i>Danaus plexippus</i> Monarch - California overwintering population (Pop. 1)	SA	Roosts located in wind-protected tree groves (eucalyptus, Monterey pine, cypress) with nectar and water sources nearby.	X	X	Overwintering monarchs were not observed within the Project site, but a nearby overwintering population has been documented southeast of the Project site.

Table 4-5. Special-Status Wildlife Species of the Project Region

Scientific Name Common Name	Status	Habitat Description (CDFW, 2020)	Habitat Present	Occurrence <1 mile	Potential for Occurrence in Project Site
<i>Helminthoglypta walkeriana</i> Morro shoulderband snail	FE	Coastal dune and coastal scrub.	X	X	Protocol surveys within the Project site and adjacent habitats were negative in 2016 (EAM, 2016) and thus far, four of five protocol surveys have been negative in 2020-2021. This species is not likely to occur.
<i>Plebeius icarioides moroensis</i> Morro Bay blue butterfly	SA	Coastal dune scrub containing silver dune lupine (<i>Lupinus chamissonis</i>).	X	X	This species was not observed during field surveys; however, based on the presence of suitable habitat, as well as nearby occurrences and their transitory nature, this species has the potential to occur within the Project site.
<i>Tryonia imitator</i> Mimic tryonia	SA	Inhabits coastal lagoons, estuaries and salt marshes.	-	-	The Project site does not provide habitat, this species is not likely to occur.
Fish					
<i>Eucyclogobius newberryi</i> Tidewater goby	FE	Brackish water habitats. Found in shallow lagoons and lower stream reaches, they need fairly still but not stagnant water and high oxygen levels.	-	X	The Project site does not provide habitat, the nearest occurrence is located in Morro Creek, north of the Project site.

Table 4-5. Special-Status Wildlife Species of the Project Region

Scientific Name Common Name	Status	Habitat Description (CDFW, 2020)	Habitat Present	Occurrence <1 mile	Potential for Occurrence in Project Site
<i>Oncorhynchus mykiss irideus</i> Steelhead – south-central California coast DPS (Pop. 9)	FT	Coastal streams.	-	X	The Project site does not provide habitat, the nearest occurrence is located in Morro Creek, north of the Project site.
Amphibians					
<i>Rana draytonii</i> California red-legged frog	FT, SSC	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation.	X	X	The Project site does not provide aquatic habitat, the nearest occurrence is located in Morro Creek, north of the Project site. There is a low potential for this species to disperse through the Project site during migration between breeding sites.
Reptiles					
<i>Anniella pulchra</i> Northern California legless lizard	SSC	Sandy soils, sparse vegetation.	X	X	The Project site is predominantly comprised of previously disturbed soils, however, there is potential for this species to occur within the Silver bush lupine scrub and along the perimeter of the Project site adjacent to Mixed Dune.
<i>Actinemys pallida</i> Southwestern pond turtle	SSC	Ponds, marshes, rivers, streams, and irrigation ditches, usually with aquatic vegetation, and adjacent upland habitats.	X		Morro Creek to the north of the Project site has suitable aquatic habitat for this species, however, there is an existing chain link fence that would prevent entry into the Project site during upland dispersal.

Table 4-5. Special-Status Wildlife Species of the Project Region

Scientific Name Common Name	Status	Habitat Description (CDFW, 2020)	Habitat Present	Occurrence <1 mile	Potential for Occurrence in Project Site
<i>Phrynosoma blainvillii</i> Coast horned lizard	SSC	Wide variety of habitats, most common in lowlands along sandy washes with scattered low bushes.	X	X	The Project site is predominantly comprised of previously disturbed soils, however, there is potential for this species to occur within the Silver bush lupine scrub and along the perimeter of the Project site adjacent to Mixed Dune
Birds					
<i>Accipiter cooperii</i> Cooper's hawk	WL	Found in riparian forest and nests in tall trees.	X		There is potential for this species to nest in trees within Morro Creek and to forage in the Project site.
<i>Charadrius alexandrinus nivosus</i> Western snowy plover	FT, SSC	Sandy beaches, salt pond levees and shores of large alkali lakes.	X	X	No western snowy plovers were observed within the BSA during field surveys, and it is not likely that this species would occur based on past land use and current disturbance level of the potential suitable. Individuals may occur transiently given the proximity of extant populations.
<i>Laterallus jamaicensis coturniculus</i> California black rail	ST, FP	Marshes, swamps, meadows.	-	-	Absent.
<i>Rallus obsoletus</i> California Ridgeway's rail	FE, SE, FP	Salt water and brackish marshes traversed by tidal	-	-	Absent.

Table 4-5. Special-Status Wildlife Species of the Project Region

Scientific Name Common Name	Status	Habitat Description (CDFW, 2020)	Habitat Present	Occurrence <1 mile	Potential for Occurrence in Project Site
		sloughs in the vicinity of San Francisco Bay.			
Mammals					
<i>Antrozous pallidus</i> Pallid bat	SSC	Deserts, grasslands, shrublands, woodlands, and forests, open dry habitats with rocky outcrops for roosting.	X	X	No bats were observed during the field surveys; however, there is potential for bats to occur within abandoned buildings, structures, and groves of trees within and adjacent to the Project site.
<i>Corynorhinus townsendii</i> Townsend's big-eared bat	SSC	Throughout California in a wide variety of habitats. Most common in mesic sites. Roosts in the open, hanging from walls and ceilings. Roosting sites limiting. Extremely sensitive to human disturbance.	X	-	No bats were observed during the field surveys; however, there is potential for bats to occur within abandoned buildings, structures, and groves of trees within and adjacent to the Project site.
<i>Dipodomys heermanni morroensis</i> Morro Bay kangaroo rat	FE, SE, FP	Coastal sage scrub on south side of Morro Bay.	-	-	Absent.
<i>Nyctinomops macrotis</i> Big free-tailed bat	SSC	Crevices on cliff faces or mature forests.	X	-	No bats were observed during the field surveys; however, there is potential for bats to occur within abandoned buildings,

Table 4-5. Special-Status Wildlife Species of the Project Region

Scientific Name Common Name	Status	Habitat Description (CDFW, 2020)	Habitat Present	Occurrence <1 mile	Potential for Occurrence in Project Site
					structures, and groves of trees within and adjacent to the Project site
Status Codes: SSC Species of Special Concern (CDFW) FP Fully protected under Fish and Game Code (CDFW) SA Special Animal (CDFW) WL Watch List (CDFW) SE State Endangered (CDFW) FT Federal Threatened (USFWS) ST State Threatened (CDFW) FE Federal Endangered (USFWS)					

No special-status wildlife species were observed during the field survey. However, the Project site may provide suitable habitat to support several special-status wildlife species that are documented to occur in the Project region. The following sections provide an overview of the general habitat requirements for these species and further detail on the potential for each of these species to occur in the Project site.

4.5.2.1 Special-status Invertebrates

Sandy beach tiger beetle, globose dune beetle, obscure bumble bee, monarch butterfly, and Morro Bay blue butterfly are considered Special Animals by CDFW and are found in coastal and dune habitats similar to the habitats within the BSA and Project site. Morro shoulderband snail is a federally Endangered species found only in the Morro Bay area. Species with a higher potential to occur within the Project site are discussed below.

Obscure bumblebee. The obscure bumblebee is considered a Special Animal by CDFW. Historically, this species' range extended from Northern Washington to Southern California along the Pacific Coast and inland to the Central Valley of California, but that range is decreasing. Like other species of bumblebees, it lives in annual colonies with only new queens overwintering to nest the following spring. Although, literature on this particular species is limited, many prefer loosely consolidated/disturbed soil or leaf litter for overwintering sites (Xerces et al., 2018). Food plant preference is largely a factor of tongue length for bumblebees, and for this medium long-tongued species, they often include genus' such as *Ceanothus*, *Lupinus*, *Rubus*, and *Cirsium* (Hatfield et al., 2020). This species was not observed during the December 2020 field surveys; however, based on the presence of suitable habitat, as well as nearby occurrences and their transitory nature, this species has the potential to occur within the Project site.

Morro shoulderband snail. Morro shoulderband snail is a federally Endangered species, and USFWS-designated Critical Habitat exists within five miles of the BSA. The Morro shoulderband snail occurs in coastal dune and scrub communities. The snail is most closely associated with the dominant shrub, mock heather (*Ericameria ericoides*); however, several other shrub and succulent species are associated with the habitat of the Morro shoulderband snail, including non-native ice plant. These vegetation communities and suburban landscapes are known to provide shelter for this species. Current range for the snail is in western San Luis Obispo County in Morro Bay; specifically, areas south of Morro Bay, west of Los Osos Creek, and North of Hazard Canyon. This species was reported in Morro Strand State Beach (CDFW, 2020) within one mile of the BSA in 2001 before the rediscovery of Chorro shoulderband snails. It is possible that the snail was misidentified, given the similarity of these two species and the presumed extirpation of Chorro shoulderband snails at the time of identification. Protocol-level surveys for this species were conducted within the Project site in 2001, 2004, and 2015 resulting in negative findings (Padre, 2015). Additional protocol-level surveys are currently underway within the current BSA with expectation to be complete in winter of 2021, results are pending and will be reported separately.

Monarch butterfly. This species is not formally listed as an Endangered or Threatened species; however, over-wintering monarch butterflies are considered to be a "special animal" by the CDFW. Monarch butterfly wintering sites are classified as "demonstrably secure" worldwide but within California they are considered of "restricted range; rare." Monarch butterflies will begin to abandon autumnal roosts within northern United States and Canada in early November to

December to over-wintering sites in the warmer climates in southern California and Mexico. Monarch butterflies will fly north for breeding as the milkweed plants come into bloom in the spring.

Wintering aggregations of monarch butterflies in California can primarily be found on Monterey pines and in eucalyptus groves (Sakai and Calvert, 1991). Wintering habitat components frequently include sources of moisture such as streams, ponds or abundant morning dew. Other habitat preferences include little direct sunlight, minimal wind, and moist ambient conditions. Monarch butterflies are commonly observed throughout the region and are known to roost in eucalyptus planted within the southeast corner of the MBPP, although these are not considered wintering roosts, but rather fall aggregation sites (Padre, 2005a). As observed during the field survey, there were stands of eucalyptus, Monterey cypress, and Monterey pine (ornamental) trees within the Project site. Although no monarchs were observed, this species has the potential to occur transiently within the Project site during migration or movement throughout the region.

Morro Bay blue butterfly. This species occurs in coastal dune scrub areas within the region and is closely associated with its food host plant, silver bush lupine. Silver bush lupine scrub vegetation occurs scattered throughout the Project site. Focused surveys were not conducted for Morro Bay blue butterfly within the BSA and this species was not observed during the December 2020 field survey; however, due to its close association with silver bush lupine and nearby occurrences, this species has the potential to occur within the Project site.

4.5.2.2 Special-Status Amphibians

California red-legged frog. California red-legged frog is a federally Threatened species, and USFWS-designated Critical Habitat for this species occurs within one mile of the BSA. California red-legged frog use a variety of aquatic and terrestrial habitats, including streams, marshes, ponds, riparian woodlands, springs, lagoons, irrigation canals, wells, reservoirs, and even sewage treatment ponds, as well as upland habitats for dispersal/migration. California red-legged frog have been documented less than one-mile northeast of the BSA within wetland habitat in Morro Strand State Park. Protocol-level surveys were conducted for California red-legged frog in 2000 within a section of Morro Creek intersecting the MBPP (Holland and Villablanca, 2000), resulting in negative findings. Although no California red-legged frog were observed during previous or the recent December 2020 field surveys; due to nearby occurrences, as well as potentially suitable habitat within Morro Creek, California red-legged frog have the potential to occur transiently within the Project site during upland dispersal/migration.

4.5.2.3 Special-Status Reptiles

Sandy soils, areas of sparse vegetation, and occasionally ponded water provide suitable habitat for three special-status reptile species within the Project site.

Northern California legless lizard. The Northern California legless lizard is a State Species of Special Concern. This species lives mostly underground, burrowing in moist warm loose soil in sparsely vegetated areas of beach dunes, chaparral, sandy washes, and stream terraces with oaks. These lizards range from four to seven inches in snout to vent length and are often found under rocks, boards, driftwood, and logs. This species does not bask in direct sunlight and feeds primarily on larval insects, beetles, termites, and spiders. Legless lizards are sometimes active on the surface at dusk and at night, and remain below ground during the day (Stebbins, 2003).

No legless lizards were observed during the December 2020 field surveys; however, due to the presence of suitable habitat within the proposed impact area, as well as nearby occurrences, this species has the potential to occur within the Project site.

Southwestern pond turtle. The southwestern pond turtle is a State and Federal Species of Special Concern. It is an aquatic turtle inhabiting streams, marshes, ponds, and irrigation ditches within woodland, grassland, and open forest communities. However, it requires upland sites for nesting and over-wintering. Stream habitat must contain large, deep pool areas (six feet) with moderate-to-good plant cover, and rock and cobble substrates for escape retreats. Southwestern pond turtle has been documented near the mouth of Alva Paul Creek where it meets Morro Strand State Beach, less than two miles northeast of the Project site (CDFW, 2020). Several focused surveys were conducted for this species in 2000 within Morro Creek (Holland and Villablanca, 2000), resulting in negative findings. No southwestern pond turtles were observed during the December 2020 survey; an existing chain link fence separates the Project site from suitable aquatic habitat within Morro Creek, therefore this species is not likely to occur within the Project site during nesting and/or over-wintering periods.

Coast horned lizard. Coast horned lizard has been documented in various places throughout San Luis Obispo County, including localities around Morro Bay and Los Osos, specifically at the Morro Bay sand spit (CDFW, 2020). Within its range it can be found in a variety of habitats; along the coast of California this lizard is often associated with shrublands and grasslands (Stebbins, 2003). In addition to being found in sandy washes, they are found in areas with a substrate of fine loose soil. Horned lizard's diet consists of ants and other insects (Stebbins, 2003). In some regions of California, it is thought that exotic ant species, that have displaced and reduced numbers of native ants, are unpalatable to horned lizards and have subsequently reduced the lizard's abundance. Focused surveys were not conducted for coast horned lizard within the BSA, and this species was not observed during the December 2020 field survey; however, due to the presence of suitable habitat, as well as nearby occurrences, this species has the potential to occur within the Project site.

4.5.2.4 Special-Status Birds

The Project site provides suitable nesting and/or foraging habitat for various common and special-status birds and raptors including those documented to occur in the Project region (CDFW, 2020): Western snowy plover, California black rail, California ridgeway rail, and Cooper's hawk. In addition to these special-status birds, a heron and egret rookery has been documented in the eucalyptus and Monterey cypress trees on the southern boundary of the MBPP property along Embarcadero Road (Rincon, 2018).

Western snowy plover. The Pacific coast population of western snowy plover is federally listed as Threatened, and USFWS-designated Critical Habitat for this species includes the beach and foredunes within the BSA. This species inhabits sandy beaches and shores of alkali lakes along the coast of California and feeds on small aquatic prey and requires sandy, gravelly, or friable soils for nesting (Sibley, 2014; USFWS, 2020). Nests, which consist of a shallow scrape lined with bits of shell or stone, are easily disturbed by human activity. Western snowy plovers are also known to be heavily impacted by natural predators, such as raccoons, coyotes, and foxes. Western snowy plovers are known to breed along the Morro Bay Sand Spit and along the dune complex of Morro Strand State Beach. No western snowy plovers were observed within the

BSA during the December 2020 field survey, and it is not likely that this species would occur based on past land use and current disturbance level of the potential suitable habitat within the Project site.

Cooper's Hawk and Other Raptors. Cooper's hawk and other raptors such as white-tailed kite and peregrine falcon are well-documented within the Project site region. These species may also utilize habitat within and adjacent to the Project site for nesting, which are often used year after year and are protected by State and Federal agencies, including CDFW and USFWS. No suitable nesting sites are located within the proposed impact area; however, due to the mobility of these species, as well as nearby occurrences, there is potential for birds of prey to occur transiently within the Project site during foraging and/or movement throughout the region.

American peregrine falcon is listed as a federally Endangered species during its nesting season. This bird of prey species frequently nests near water on ledges of rocky cliffs or buildings, and occasionally will use abandoned nests of other species. Peregrine falcons do not build nests but scrape a small depression in the surface of their nesting site and typically nest year after year in the same locations. American peregrine falcons are fairly uncommon throughout San Luis Obispo County and are generally found along coastal areas. Long-term nest use (over 15 years) has been recorded at the Morro Rock Natural Preserve, approximately less than one mile of the BSA. This is one of only a few sites within the County where nesting peregrines are consistently found, although migrants and winter transients augment wintering populations. Focused surveys were not conducted for American peregrine falcon within the BSA, and this species was not observed during the September 2015 or December 2020 field survey; however, its distribution throughout the region is well documented (Padre, 2015a). Due to the mobility of this species and nearby occurrences, American peregrine falcons have the potential to occur transiently within the Project site during foraging and/or movement throughout the region.

Nesting Birds. No active nesting bird activity was observed within the BSA during the December 2020 field survey; however, several abandoned nests were observed in shrub habitat. Vegetation and other substrates (e.g., man-made structures, areas of open ground, ornamental trees, etc.) present within the Project site provide suitable nesting habitat for a variety of bird species. Nesting birds and their nests/eggs are protected under the federal Migratory Bird Treaty Act of 1918 and California Fish and Game Code, and nesting bird season generally occurs between February 15 and August 31.

4.5.2.5 Special-Status Mammals

Pallid bat, Townsend's big-eared bat, and big free-tailed bat are all considered Species of Special Concern with the CDFW. These special-status bats occupy a wide-range of different habitats and utilize various types of roosts including but not limited to cliffsides, trees, and man-made structures/buildings. Suitable roosting/foraging habitat for the special-status bats listed above are present throughout the Project site including trees, buildings, and water sources. No bats were observed during the December 2020 field survey; however, there is potential for bats to occur within abandoned buildings, structures, and groves of trees within and adjacent to the Project site.

5.0 POTENTIAL IMPACTS AND APPLICANT PROPOSED MITIGATION MEASURES

The following provides a discussion of the potential impacts to biological resources that may occur as a result of the proposed Project and the applicant's proposed mitigation measures. Potential short-term impacts include ground disturbance from installing the infrastructure and increased construction related vehicle traffic. Potential long-term impacts are related to habitat loss and indirect impacts to adjacent habitats. Avoidance and minimization measures to reduce and avoid the potential short- and long-term negative impacts are discussed for each resource.

5.1 BOTANICAL RESOURCES

The Project site contains one special-status vegetation type (Silver bush lupine scrub), is in the vicinity of four ESHAs (Rookeries, Back dune/Dune Scrub, Willow Woodland and Scrub, and Monarch Overwintering Site), and is less than 100 feet from the riparian canopy associated with Morro Creek and Willow Camp Creek, both of which are designated ESHAs. Project activities including vegetation removal, ground disturbance, and construction activities may directly and indirectly impact the existing vegetation, potentially occurring special-status plants, and habitat function.

Monterey cypress and Monterey pine are special-status species that occur within the MBPP property; six Monterey cypress trees will be removed as part of the proposed Project activities. In accordance with City of Morro Bay regulations a Coastal Development Permit is required prior to removal of a tree with a minimum of six-inch diameter at four and one-half vertical feet above the ground. The replacement ratio for tree removal is either: two five-gallon trees or one 15-gallon tree planted for every tree removed. If tree removal is in an ESHA, then the replacement ratio is increased to three to one (City of Morro Bay, 2007).

Approximately 2.27 acres of Silver bush lupine scrub, which established on site after removal of the tank farm in 2014, will be removed within the Project site. The Silver bush lupine scrub has established on fill soils within Ruderal/Developed habitat that had previously been developed and was disturbed during operation and decommissioning of the MBPP. As such, Project impacts to this alliance should be evaluated within the context of the stands' limited and fragmented distribution throughout the former tank farm area. This alliance is considered a sensitive natural community by the CDFW (rarity ranking S3) and impacts should be mitigated with a Project Restoration Plan.

Due to the timing of field surveys, special-status annual and perennial herbs may not have been detected. If present, special-status plant species would be impacted during vegetation removal, ground disturbances, construction, and habitat loss.

To mitigate impacts to botanical resources, the following mitigation measures are proposed by the applicant:

1. The former tank farm site proposed for redevelopment is adjacent to ESHA to the north and the west. Although redevelopment of the tank farm site would not directly affect ESHA, development adjacent to ESHA does have the potential for inadvertent impacts to ESHA. Therefore, prior to the start of Project construction, all ESHA boundaries that are not separated from work/staging areas or access routes by the existing permanent fencing

- shall be clearly delineated with orange construction fencing or other high-visibility materials.
2. The use of Best Management Practices (BMPs) during construction to reduce fugitive dust, erosion, runoff, and introduction of non-native invasive plant materials shall be implemented to ensure adjacent ESHA will not be affected;
 3. Drainage plans shall be designed to prevent runoff into adjacent ESHA;
 4. Landscaping will be maintained free of non-native invasive plant species that have the potential to invade adjacent ESHA and plantings will utilize appropriate native plant species;
 5. The use of heavy equipment and vehicles shall be limited to the proposed Project limits, existing roadways, and defined staging areas/access points with the exception of construction activities in support of the pathway along the Embarcadero. No unauthorized personnel or equipment shall be allowed within delineated ESHA areas;
 6. The use of heavy equipment to construct the pathway under the Rookery ESHA shall be minimized to the greatest extent feasible and shall be scheduled to avoid the nesting bird season, typically February 25 through August 31;
 7. All development in and impacts to ESHAs shall be avoided to the maximum extent feasible;
 8. If impacts to an ESHA are unavoidable the following measures shall be implemented:
 - a. A Restoration/Mitigation Plan shall be prepared and submitted to the appropriate agencies for approval. At a minimum the Restoration/Mitigation Plan shall include: the size of the disturbance area, the proposed location of compensatory mitigation planting if necessary, a description of pre-disturbance conditions, location of reference site(s), revegetation and monitoring methods, success criteria, locations of permanent photo-points, and a list of recommended Best Management Practices (BMPs) for erosion control;
 - b. The Project shall be modified, where possible, to minimize environmental damage to the greatest extent feasible;
 - c. Quantitative data shall be collected by a qualified botanist to determine pre-disturbance species composition;
 - d. Wherever possible native plant species will be salvaged and kept in a well-protected and shaded area until Project completion; and
 - e. The extent of disturbance shall be photographed from permanent photographic monitoring points (photo-points).
 9. Compensatory replanting shall be conducted for the removal of all native trees that are 6 inches or greater at 54 inches above grade, irrespective of the need for a Restoration/Mitigation Plan as described above. Replanting shall be in the form of two five-gallon trees or one 15-gallon tree per tree removed. Because of the proximity to the Mixed dune ESHA, should the tree removal create disturbance within the ESHA, then a replacement ratio of three five-gallon trees or two 15-gallon trees shall be applied. The

trees shall be irrigated for a period of three years, or until deemed self-sufficient by a qualified biological monitor;

10. A botanical survey shall be conducted the growing season directly prior to ground disturbance to determine the presence/absence of potentially occurring special-status plant species within the Project site. A qualified botanist shall conduct botanical surveys during the appropriate flowering period for these species. Should these or other special-status plant species be identified within or adjacent to work sites, avoid to the greatest extent feasible. If avoidance is not feasible, a Project Restoration Plan will be developed and implemented by a qualified biologist/restoration specialist and may include transplanting seeds or cuttings from impact areas to suitable habitat;
11. A Project Restoration Plan shall be prepared to compensate for the removal of Silver bush lupine scrub within the Project site. The Project Restoration Plan will include methodologies for enhancing the Mixed Dune habitat within the MBPP Property through removal of non-native invasive ice plant and establishment of Silver bush lupine scrub. The Project Restoration Plan will provide details on, maintenance, monitoring and reporting for a period of three years, and performance criteria for completion.

5.2 AQUATIC FEATURES

The Project site does not contain natural aquatic features; however, the riparian corridor associated with Morro Creek and Willow Camp Creek is located near the Project site to the northwest and northeast. Loose soils generated during ground disturbance may erode and cause sedimentation of these adjacent streams. These aquatic features are considered ESHAs, as well as sensitive habitats by other Federal, State, and local agencies and provide suitable habitat for special-status aquatic and riparian plants and wildlife. Impacts to aquatic resources would be minimized by implementation of Mitigation Measure 2, listed in Section 5.1.

5.3 WILDLIFE

Impacts to wildlife include short-term and long-term impacts associated with construction activities, facilities, and loss of habitat. Potential impacts to wildlife resources, may be minimized by implementation of avoidance and minimization measures.

Short-term impacts are limited to the construction phase. Generally, construction equipment used during Project implementation will temporarily increase noise, increase the potential for vehicle strikes, and may disrupt wildlife behavior. Ground disturbance has the potential to result in injury or death of wildlife and bird nest. Construction activities have the potential to introduce non-native plant and wildlife species that may displace native wildlife. Food waste and other construction related trash has the potential to attract nuisance wildlife and increase presence of predators that may reduce fecundity of special-status wildlife. Wildlife may be temporarily displaced into adjacent habitats and may experience greater competition for food and nest sites.

Special-status wildlife species associated with Morro Creek may be indirectly impacted during construction activities if erosion causes sediment to enter the waterway. South-central California coast steelhead have been observed within Morro Creek as recently as July 2000, and during years of sufficient inundation, portions of Morro Creek may still support inland migrating and/or reproducing fish. Tidewater goby has the potential to occur within Morro Creek due to the

periodic formation of a brackish lagoon at the mouth of Morro Creek and identification of individuals during pipeline decommissioning.

Semi-aquatic special-status species, Southwestern pond turtle and California red-legged frog are species that utilize both upland and aquatic habitats for portions of their life cycle. There is the potential for California red-legged frog and/or southwestern pond turtles to be injured during upland migration/nesting. Project development has the potential to reduce the suitability of upland migration/nesting habitat.

Long-term impacts include development of above ground facilities, associated lighting, and impervious surfaces which may degrade or reduce habitat. Special-status invertebrate and reptiles have the potential to be impacted through loss of habitat include: obscure bumblebee, Morro shoulderband snail, Morro Bay blue butterfly, Coast horned lizard, and silvery legless lizard. Migratory birds and raptors may be impacted by above ground facilities such as building and powerlines. Presence of energized power lines within the Project site create significant potential impacts to birds that utilize the site for foraging, perching, and nesting. The Project will reduce potential bird nesting habitat.

To mitigate impacts to wildlife resources, the following mitigation measures are proposed by the applicant in addition to those previously described:

12. Exterior lighting shall consist of motion sensor lighting that is shielded to prevent light pollution in adjacent ESHA and wildlife habitat;
13. Above-ground electrical transmission lines shall be designed using industry best practices to minimize bird electrocution hazards. These may include, but are not limited to, adequate phase-to-phase or phase-to-ground separation and/or appropriate insulation of components. Where insulation is not feasible near perching locations, bird deterrent materials may be used as an alternative;
14. Food waste and other construction related trash shall be contained in secured waste bins and regularly removed from the Project site;
15. A Project-specific Worker Environmental Awareness Training shall be prepared by a biologist familiar with the Project region and incorporated into site-specific training for all Project personnel. The purpose of the orientation is to educate Project personnel on local special-status wildlife species that may occur within the Project site and to provide an overview of the regulations and mitigation measures to be adhered to during the Project. In addition, personnel will be briefed on the reporting process in the event that an inadvertent injury should occur to a special-status species during construction. A record of attendees shall be maintained;
16. A qualified Biological Monitor shall be onsite as necessary during construction activities. The Biological Monitor shall be responsible for conducting pre-construction surveys for listed and non-listed species, ensuring Project compliance with biologically related measures and permit conditions, relocating wildlife species out of the impact area, and surveying and documenting wildlife species occurring onsite or in the immediate vicinity.
17. The Biological Monitor shall have authority to halt construction activities to avoid impacts to special-status wildlife. Wildlife will be allowed to leave the Project site prior to restarting

construction activities. Special-status wildlife will not be handled without prior permission from regulatory agencies;

18. If feasible, vegetation removal and initial ground disturbance activities shall take place outside of the nesting bird season (i.e., February 25 through August 31). If vegetation removal and/or ground disturbing activities occur within nesting bird season, the following conditions shall be implemented to protect special-status bird species during Project activities:

- Staging areas shall be located as far as possible from the heron rookery location along the southwest Project site boundary, as determined through coordinated between the Project Foreman and Biological Monitor;
- No more than one week prior to the start of the Project construction, the work area shall be surveyed by a qualified biologist to determine the presence or absence of active nests. If active nests are discovered, all areas within a 500-foot radius of the nesting site shall be clearly marked and avoided during construction. No disturbances shall occur within the protective area until all young birds have fledged, as confirmed by the biologist. Work may proceed within 500 feet of nests if biological monitoring determines that the activity has no effect on the nesting behavior; and

19. If at any time during Project operations special-status bird species (including but not limited to western snowy plover, burrowing owl, and peregrine falcon) are observed within the work area, work shall be stopped or redirected to an area that would not pose a danger to the birds. Special-status birds will be monitored and kept out of harm's way during work activities.

5.4 ENVIRONMENTALLY SENSITIVE HABITAT AREAS

Four ESHAs (Rookeries, Back Dune/Dune Scrub, Willow Woodland and Scrub, and Monarch Overwintering Site), including Morro Creek and Willow Camp Creek, are located within the vicinity of the Project site. The engineering plans have been designed to avoid direct impacts to ESHA based on the available ESHA overlays from the City of Morro Bay. Padre's field survey delineated the boundaries of vegetation types, identifying Mixed Dune as correlated with the ESHA overlay for Back Dune/Dune Scrub. Therefore, direct impacts to Mixed Dune shall be avoided, except for activities related to habitat restoration that are proposed as mitigation.

Indirect impacts to adjacent ESHAs may occur during construction and operation of the Project. Indirect impacts to ESHA may include those listed in Section 5.3, that have the potential to degrade habitat, such as, lighting, stormwater runoff, and introduction of non-native plant and wildlife species. Mitigation measures listed in Section 5.1 will minimize indirect impacts to ESHA.

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APPENDIX A

SITE PHOTOGRAPHS



Photograph 1. Representative view of the Project Site conditions (aspect: southeast; December 16, 2020).



Photograph 2. Monterey pine and Monterey cypress adjacent to paved access roads and abandoned tank footprints (aspect: north; December 16, 2020).



Photograph 3. Monterey cypress and paved access road in northern portion of the Project site (aspect: northeast; December 16, 2020).



Photograph 4. Morro Creek with Arroyo willow thicket vegetation along the northern boundary of the Project site (aspect: northwest; December 16, 2020).



Photograph 5. Eucalyptus and Monterey cypress along Embarcadero Road and Project site boundary (aspect: northwest; December 16, 2020).



Photograph 6. Representative Ruderal vegetation and Developed areas within the Project site (aspect: southeast; December 16, 2020).



Photograph 7. Current MBPP infrastructure, ponded water visible (aspect: southeast; December 16, 2020).



Photograph 8. Ruderal vegetation within the Project site (foreground) with Mixed dune outside of an existing fence and outside of Project site (aspect: west; December 16, 2020).

APPENDIX B

PLANT INVENTORY

**List of Vascular Plant Species Observed within the BSA
Battery Energy Storage Systems Project, Morro Bay, California**

Scientific Name	Common Name	Habit	Indicator Status	Conservation Status	Family
<i>Ambrosia chamissonis</i>	Beach bur	PH	.		Asteraceae
<i>Baccharis pilularis</i>	Coyote brush	S	.		Asteraceae
<i>Brassica nigra</i> *	Black mustard	AH	.		Brassicaceae
<i>Bromus diandrus</i> *	Rip gut brome	AG	.		Poaceae
<i>Carpobrotus edulis</i> *	Iceplant	PH	.		Aizoaceae
<i>Cortaderia jubata</i> *	Pampas grass	PG	FACU		Poaceae
<i>Delairea odorata</i> *	Cape ivy	PH	.		Asteraceae
<i>Distichlis spicata</i>	Salt grass	PG	FAC		Poaceae
<i>Erigeron canadensis</i>	Horseweed	AH	.		Asteraceae
<i>Eucalyptus globulus</i> *	Blue gum	T	.		Papaveraceae
<i>Hesperocyparis macrocarpa</i>	Monterey cypress	T	.	1B.2	Cupressaceae
<i>Hesperocyparis</i> sp.	Ornamental cypress	T	.		Cupressaceae
<i>Heterotheca grandiflora</i>	Telegraph weed	PH	.		Asteraceae
<i>Lupinus chamissonis</i>	Dune lupine	S	.		Fabaceae
<i>Lupinus</i> sp.	Lupine	S	.		Fabaceae
<i>Pinus radiata</i>	Monterey pine	T	.	1B.1	Pinaceae
<i>Salix lasiolepis</i>	Arroyo willow	S	FACW		Salicaceae
<i>Salsola tragus</i> *	Russian thistle	AH	.		Chenopodiaceae

Notes: Scientific nomenclature follows Baldwin (2012).

An "*" indicates non-native species which have become naturalized or persist without cultivation.

An "." indicates that no indicator has been assigned due to lack of information to determine indicator status; or is not listed and assumed an upland species.

Habit definitions:

AG - Annual grass.

AH - Annual herb.

F - Fern

PG - Perennial grass.

PH - Perennial herb.

PV - Perennial vine.

S - Shrub

T - Tree

Wetland indicator status (Lichvar and Kartesz, 2016):

OBL (Obligate Wetland Plants) - Almost always occur in wetlands.

FACW (Facultative Wetland Plants) - Usually occur in wetland, but may occur in non-wetlands.

FAC (Facultative Wetland Plants) - Occur in wetlands and non-wetlands.

FACU (Facultative Upland Plants) - Usually occur in non-wetlands, but may occur in wetlands.

UPL (Upland Plants) - Almost always occur in non-wetlands.

APPENDIX C

WILDLIFE INVENTORY

**Wildlife Species Observed within the BSA
MBPP BESS Project, Morro Bay, California**

Common Name	Scientific Name	Residence Status	Protected Status	Habitat
Invertebrates				
European snail	<i>Helix aspersa</i>	R	--	M
Dentate stink beetle	<i>Eleodes dentipes</i>	R	--	M
Chorro shoulderband snail	<i>Helminthoglypta morroensis</i>	R	--	M
Amphibians				
Sierran treefrog	<i>Pseudacris sierra</i>	R	--	A, R, W, M
Reptiles				
Coast Range fence lizard	<i>Sceloporus occidentalis bocourtii</i>	R	--	G, D, P, S, M
Birds				
American crow	<i>Corvus brachyrhynchos</i>	R	M	M
Anna's hummingbird	<i>Calypte anna</i>	R	M	P
Bewick's wren	<i>Thryomanes bewickii</i>	R	M	P, S
Black phoebe	<i>Sayornis nigricans</i>	R	M	G, S, M
Black-crowned night heron	<i>Nycticorax nycticorax</i>	R	M	A, C, W, R
Blue-gray gnatcatcher	<i>Polioptila caerulea</i>	R	M	P, R, S
California thrasher	<i>Toxostoma redivivum</i>	R	M	P, S
Chestnut-backed chickadee	<i>Poecile rufescens</i>	R	M	P
Great blue heron	<i>Ardea herodias</i>	R	M	A, C, W, R
House finch	<i>Haemorhous mexicanus</i>	R	M	G, D, P, S, M
Hutton's vireo	<i>Vireo huttoni</i>	R	M	P, R
Mourning dove	<i>Zenaida macroura</i>	R	M	G, D, M
Red-tailed hawk	<i>Buteo jamaicensis</i>	R	M	G, P, M
Rock pigeon	<i>Columba livia</i>	R	M	D, M
Turkey vulture	<i>Cathartes aura</i>	R	M	R, G, P
Western gull	<i>Larus occidentalis</i>	R	M	A, C, M
White-crowned sparrow	<i>Zonotrichia leucophrys</i>	R	M	D, S
Wrentit	<i>Chamaea fasciata</i>	R	M	S, P, R
Yellow-rumped warbler	<i>Setophaga coronata</i>	W	M	R, W, S
Mammals				
Coyote	<i>Canis latrans</i>	R	--	M
Mule deer	<i>Odocoileus hemionus</i>	R	--	R, G
Raccoon	<i>Procyon lotor</i>	R	--	M
Virginia possum	<i>Didelphis virginiana</i>	R	--	M

Notes:

Fauna observed by visualizations, indirect signs (tracks, scat, skeletal remains, burros, etc.), and/or auditory cues.

Residence Status

R - Permanent resident
W - Winter resident
B - Summer resident

Protected Status

FE - Federal
FT - Federal threatened species
FC - Federal candidate species
M - Migratory Bird Treaty Act
SE - State endangered species
ST - State threatened species
CS - Candidate species for CESA
CSC - California Species of Special Concern
CFP - California Fully Protected Species
BCC - Bird of Conservation Concern (USFWS)

Typical Habitat

A - Aquatic
D - Developed areas
G - Grassland
M - Multiple habitats
P - Woodland
R - Riparian
W - Wetland
C - Coastal lagoons, shores, oceans
O - Rock outcrops
S - Scrub

APPENDIX D

VRAP DATA SHEETS

Combined Vegetation Rapid Assessment and Relevé Field Form

(Revised March 27, 2018)

For Office Use:	Final database #:	Final vegetation type:	Alliance <u>No MCVZ alliance (Silver lupine stand)</u>
			Association
I. LOCATIONAL/ENVIRONMENTAL DESCRIPTION			circle: Relevé or (RA)
Database #: <u>MBPP 001</u>	Date: <u>12/16/20</u>	Name of recorder: <u>Chinshua Santal a</u>	☐
	UID:	Other surveyors:	
		Location Name: <u>MBPP Power Plant</u>	☐
GPS name: <u>Fiona Elf/collector</u>		For Relevé only: Bearing°, left axis at ID point ____ of Long / Short side	
UTME _____ UTMN _____		Zone: <u>11</u> NAD83 GPS error: ft./ m./ PDOP _____	
Decimal degrees: LAT <u>35.375440</u>		LONG <u>-120.860222</u>	
GPS within stand? (Yes) / No		If No, cite from GPS to stand: distance (m) _____ bearing ° _____ inclination ° _____	
and record: Base point ID <u>MBPP 001</u>		Projected UTM: UTM _____ UTMN _____	
Camera Name: <u>CS iPhone</u>		Cardinal photos at ID point: <u>N, E, S, W</u>	
Other photos: <u>Overview aspect East</u>			
Stand Size (acres): (1) 1-5, >5		Plot Area (m²): 100 / _____ Plot Dimensions _____ x _____ m RA Radius _____ m	
Exposure, Actual °: _____ NE NW SE SW (flat) Variable		Steepness, Actual °: _____ (0) 1-5° > 5-25° > 25	
Topography: Macro: top upper mid lower (bottom)		Micro: convex (flat) concave undulating	
Geology code: <u>SETU</u> Soil Texture code: <u>SAND</u>		Upland or Wetland/Riparian (circle one)	
% Surface cover: (Incl. outcrops) (>60cm diam) (25-60cm) (7.5-25cm) (2mm-7.5cm) (Incl sand, mud)			
H ₂ O: ☒ BA Stems: <u>25</u> Litter: <u>10</u> Bedrock: ☒ Boulder: ☒ Stone: ☒ Cobble: ☒ Gravel: ☒ Fines: <u>65</u> =100%			
% Current year bioturbation <u>2</u>		Past bioturbation present? Yes / (No) % Hoof punch <u>0</u>	
Fire evidence: Yes / No (circle one) If yes, describe in Site history section, including date of fire, if known.			
Site history, stand age, comments: <u>Abandoned power plant facilities, potentially toxic/leachy basins,</u>			
Disturbance code / Intensity (L,M,H): <u>D1 / M</u> _____ "Other" _____			
II. HABITAT DESCRIPTION			
Tree DBH: <u>T1</u> (<1" dbh), <u>T2</u> (1-6" dbh), <u>T3</u> (6-11" dbh), <u>T4</u> (11-24" dbh), <u>T5</u> (>24" dbh), <u>T6</u> multi-layered (T3 or T4 layer under T5, >60% cover)			
Shrub: <u>S1</u> seedling (<3 yr. old), <u>S2</u> young (<1% dead), (S3) mature (1-25% dead), <u>S4</u> decadent (>25% dead)			
Herbaceous: (H1) (<12" plant ht.), <u>H2</u> (>12" ht.)			
Desert Riparian Tree/Shrub: 1 (<2ft. stem ht.), 2 (2-10ft. ht.), 3 (10-20ft. ht.), 4 (>20ft. ht.)			
Desert Palm/Joshua Tree: 1 (<1.5" base diameter), 2 (1.5-6" diam.), 3 (>6" diam.)			
III. INTERPRETATION OF STAND			
Field-assessed vegetation Alliance name: <u>Silver lupine stand (Lupinus chamissonis)</u>			
Field-assessed Association name (optional): _____			
Adjacent Alliances/direction: <u>Ruderal, Developed</u>			
Confidence in Alliance identification: L M (H) Explain: _____			
Phenology (E,P,L): Herb <u>L</u> Shrub <u>P/L</u> Tree <u>0</u> Other identification or mapping information: <u>Found in clusters throughout BSA</u>			

(Revised March 27, 2018)

SPECIES SHEET

% NonVasc cover: 10 Total % Vasc Veg cover: 85

Regenerating Tree: ☒ Shrub: ☒ Herbaceous: ☒

Regenerating Tree: 6 Shrub: 23 Herbaceous:

Height classes: 1=<1/2m, 2=1/2-1m, 3=1-2m, 4=2-5m, 5=5-10m, 6=10-15m, 7=15-20m, 8=20-35m, 9=35-50m, 10=>50m

% Cover Intervals for reference: r = trace, + = <1%, 1-5%, >5-15%, >15-25%, >25-50%, >50-75%, >75%

% Cover Intervals for reference: r = trace, + = <1%, 1-5%, >5-15%, >15-25%, >25-50%, >50-75%, >75%

[illegible]

Unusual species: Worms

Project: 1902-1172 Biological Resources Assessment; MBPP BESS Project
Vegetation Rapid Assessment Attachment
Stand/Plot ID: **MBPP001**



North



East



South



West

Classification: Silver bush lupine scrub (MCV2)

Combined Vegetation Rapid Assessment and Relevé Field Form

(Revised March 27, 2018)

For Office Use:	Final database #:	Final vegetation type:	Alliance: <u>Ornamental (Monterey cypress stands)</u>
I. LOCATIONAL/ENVIRONMENTAL DESCRIPTION			circle: Relevé or RA
Database #: <u>MBTP 002</u>	Date: <u>12/16/20</u>	Name of recorder: <u>C. Santula</u>	☐
	UID:	Other surveyors:	
		Location Name: <u>Monterey Power Plant</u>	☐
GPS name: <u>Fiona Ell/collector</u>		For Relevé only: Bearing°, left axis at ID point ____ of Long / Short side	
UTME _____ UTMN _____		Zone: <u>11</u> NAD83 GPS error: ft./ m./ PDOP _____	
Decimal degrees: LAT <u>35.375848</u>		LONG <u>-120.859792</u>	
GPS within stand? <u>(Yes)</u> No		If No, cite from GPS to stand: distance (m) ____ bearing ° ____ inclination ° ____	
and record: Base point ID _____		Projected UTM: UTM _____ UTMN _____	
Camera Name: <u>CCS iPhone</u>		Cardinal photos at ID point: <u>N, E, S, W</u>	
Other photos: <u>overview aspect NW</u>			
Stand Size (acres): <u><1, 1-5, >5</u>		Plot Area (m²): 100 / _____ Plot Dimensions ____ x ____ m RA Radius ____ m	
Exposure, Actual °: <u>340° NE (NW)</u> SE SW Flat Variable		Steepness, Actual °: ____ 0° 1-5° <u>>5-25°</u> > 25	
Topography: Macro: top upper <u>(mid)</u> lower bottom		Micro: convex flat concave <u>(undulating)</u>	
Geology code: <u>SETU</u> Soil Texture code: <u>SAND</u>		Upland or Wetland/Riparian (circle one)	
% Surface cover: (Incl. outcrops) (>60cm diam) (25-60cm) (7.5-25cm) (2mm-7.5cm) (Incl sand, mud)			
H ₂ O: <u>0</u> BA Stems: <u>15</u> Litter: <u>80</u> Bedrock: <u>0</u> Boulder: <u>0</u> Stone: <u>0</u> Cobble: <u>0</u> Gravel: <u>0</u> Fines: <u>5</u> =100%			
% Current year bioturbation <u>0</u> Past bioturbation present? Yes / <u>No</u> % Hoof punch <u>0</u>			
Fire evidence: Yes / <u>No</u> (circle one) If yes, describe in Site history section, including date of fire, if known.			
Site history, stand age, comments: <u>Abandoned power plant, stand @ north end of property - appears to be planted as ornamental windrow / view shot separating adjacent property</u>			
Disturbance code / Intensity (L,M,H): <u>D1 / L</u> _____ "Other" _____			
II. HABITAT DESCRIPTION			
Tree DBH: <u>T1</u> (<1" dbh), <u>T2</u> (1-6" dbh), <u>(T3)</u> (6-11" dbh), <u>(T4)</u> (11-24" dbh), <u>T5</u> (>24" dbh), <u>T6</u> multi-layered (T3 or T4 layer under T5, >60% cover)			
Shrub: <u>S1</u> seedling (<3 yr. old), <u>S2</u> young (<1% dead), <u>(S3)</u> mature (1-25% dead), <u>S4</u> decadent (>25% dead) <u>Healthy</u>			
Herbaceous: <u>(H1)</u> (<12" plant ht.), <u>H2</u> (>12" ht.)			
Desert Riparian Tree/Shrub: 1 (<2ft. stem ht.), 2 (2-10ft. ht.), 3 (10-20ft. ht.), 4 (>20ft. ht.)			
Desert Palm/Joshua Tree: 1 (<1.5" base diameter), 2 (1.5-6" diam.), 3 (>6" diam.)			
III. INTERPRETATION OF STAND			
Field-assessed vegetation Alliance name: <u>Monterey cypress stand (Hesperocyparis macrocarpa)</u>			
Field-assessed Association name (optional): _____			
Adjacent Alliances/direction: <u>Ruderal, Developed</u> _____			
Confidence in Alliance identification: L M <u>(H)</u> Explain: _____			
Phenology (E,P,L): Herb <u>L</u> Shrub <u>0</u> Tree <u>P</u> Other identification or mapping information: <u>Planted</u>			

(Revised March 27, 2018)

SPECIES SHEET

% NonVasc cover: 0 Total % Vasc Veg cover: 95

Regenerating Tree: ☒ Shrub: ☒ Herbaceous: ☒

Regenerating Tree: ☒ Shrub: ☒ Herbaceous: ☒

Height classes: 1= $\leq 1/2$ m. 2=1/2-1m. 3=1-2m. 4=2-5m. 5=5-10m. 6=10-15m. 7=15-20m. 8=20-35m. 9=35-50m. 10= ≥ 50 m

% Cover Intervals for reference: r = trace, + = <1%, 1-5%, >5-15%, >15-25%, >25-50%, >50-75%, >75%

[illegible]

Unusual species: _____

Project: 1902-1172 Biological Resources Assessment; MBPP BESS Project
Vegetation Rapid Assessment Attachment
Stand/Plot ID: **MBPP002**



North



East



South



West

Classification: Monterey cypress stand (Site-Specific; Ornamental)

Combined Vegetation Rapid Assessment and Relevé Field Form

(Revised March 27, 2018)

For Office Use:		Final database #:	Final vegetation type:	Alliance <u>Arroyo willow thicket</u>
			Association	
I. LOCATIONAL/ENVIRONMENTAL DESCRIPTION				circle: Relevé or <u>RA</u>
Database #:	Date:	Name of recorder:		
<u>MBPP003</u>	<u>12/16/20</u>	<u>C. Santala</u>		
	UID:	Other surveyors:		
		Location Name:	<u>Morro Bay</u>	
GPS name: <u>Funa Cliff/Collector</u>		For Relevé only: Bearing°, left axis at ID point ____ of Long / Short side		
UTME ____		UTMN ____ Zone: 11 NAD83 GPS error: ft./ m./ PDOP ____		
Decimal degrees: LAT <u>35.376629</u>		LONG <u>-120.858166</u>		
GPS within stand? Yes / <u>No</u>		If No, cite from GPS to stand: distance (m) <u>5m</u> bearing ° <u>S</u> inclination ° ____		
and record: Base point ID ____		Projected UTM: UTM ____ UTMN ____		
Camera Name: <u>CIS phone</u>		Cardinal photos at ID point: <u>N, E, S, W</u>		
Other photos: <u>Overview</u>				
Stand Size (acres): <1, <u>1-5</u> , >5		Plot Area (m²): 100 / ____ Plot Dimensions ____ x ____ m RA Radius ____ m		
Exposure, Actual °: ____ NE NW SE SW <u>Flat</u> Variable		Steepness, Actual °: ____ 0° 1-5° > 5-25° > 25		
Topography: Macro: top upper mid lower <u>bottom</u>		Micro: convex flat <u>concave</u> undulating		
Geology code: <u>SETU</u> Soil Texture code: <u>SAND</u>		Upland or <u>Wetland/Riparian</u> (circle one)		
% Surface cover: (Incl. outcrops) (>60cm diam) (25-60cm) (7.5-25cm) (2mm-7.5cm) (Incl sand, mud)				
H:0: <u>5</u> BA Stems: <u>50</u> Litter: <u>35</u> Bedrock: <u>0</u> Boulder: <u>0</u> Stone: <u>0</u> Cobble: <u>1</u> Gravel: <u>1</u> Fines: <u>8</u> =100%				
% Current year bioturbation <u>3</u>		Past bioturbation present? Yes <u>No</u> % Hoof punch <u>0</u>		
Fire evidence: Yes / <u>No</u> (circle one)		If yes, describe in Site history section, including date of fire, if known.		
Site history, stand age, comments: <u>Riverine feature, relatively undisturbed, adjacent east end @ turn (likely), with Poner plant property.</u>				
Disturbance code / Intensity (L,M,H): <u>01/1/2</u> ____ / ____ / ____ "Other" ____ / ____				
II. HABITAT DESCRIPTION				
Tree DBH: <u>T1</u> (<1" dbh), <u>T2</u> (1-6" dbh), <u>T3</u> (6-11" dbh), <u>T4</u> (11-24" dbh), <u>T5</u> (>24" dbh), <u>T6</u> multi-layered (T3 or T4 layer under T5, >60% cover)				
Shrub: <u>S1</u> seedling (<3 yr. old), <u>S2</u> young (<1% dead), <u>S3</u> mature (1-25% dead), <u>S4</u> decadent (>25% dead)				
Herbaceous: <u>H1</u> (<12" plant ht.), <u>H2</u> (>12" ht.)				
Desert Riparian Tree/Shrub: 1 (<2ft. stem ht.), 2 (2-10ft. ht.), 3 (10-20ft. ht.), 4 (>20ft. ht.)				
Desert Palm/Joshua Tree: 1 (<1.5" base diameter), 2 (1.5-6" diam.), 3 (>6" diam.)				
III. INTERPRETATION OF STAND				
Field-assessed vegetation Alliance name: <u>Arroyo willow thicket (Salix lasiolepis)</u>				
Field-assessed Association name (optional): ____				
Adjacent Alliances/direction: <u>Developed, Ruderal, Monterey Cypress</u>				
Confidence in Alliance identification: L M <u>H</u> Explain: ____				
Phenology (E,P,L): Herb <u>L</u> Shrub <u>P</u> Tree <u>P</u> Other identification or mapping information: <u>willow large enough to be considered trees</u>				

(Revised March 27, 2018)

SPECIES SHEET

% NonVasc cover: _____ Total % Vasc Veg cover: 95

Height Class - Conifer tree / Hardwood tree: 15.6 Regenerating Tree: 1 Shrub: Herbaceous: 3

Stratum categories: T=Tree, A = SApling, E = SEedling, S = Shrub, H= Herb, N= Non-vascular

[illegible]

Page 2

Project: 1902-1172 Biological Resources Assessment; MBPP BESS Project
Vegetation Rapid Assessment Attachment
Stand/Plot ID: **MBPP003**



North



East



South



West

Classification: Arroyo willow thickets (MCV2)

Combined Vegetation Rapid Assessment and Relevé Field Form

(Revised March 27, 2018)

For Office Use:	Final database #:	Final vegetation type:	Alliance <u>Ornamental (Eucalyptus grove)</u> Association
I. LOCATIONAL/ENVIRONMENTAL DESCRIPTION			circle: Relevé or <u>RA</u>
Database #:	Date:	Name of recorder:	
<u>MBPP-004</u>	<u>12/16/20</u>	<u>C. Santana</u>	
	UID:	Other surveyors:	
		Location Name:	<u>Morro Bay</u>
GPS name: <u>Fiona Elf/collector</u>		For Relevé only: Bearing°, left axis at ID point ____ of Long / Short side	
UTME _____		UTMN _____	
		Zone: <u>11</u> NAD83 GPS error: ft./m./PDOP _____	
Decimal degrees: LAT <u>35.371495</u>		LONG <u>-120.857538</u>	
GPS within stand? <u>(Yes)</u> No If No, cite from GPS to stand: distance (m) _____ bearing ° _____ inclination ° _____			
and record: Base point ID _____ Projected UTM: UTME _____ UTMN _____			
Camera Name: <u>AS iPhone</u> Cardinal photos at ID point: <u>N, E, S, W</u>			
Other photos: <u>Overview aspect SE</u>			
Stand Size (acres): <u>(1)</u> 1-5, >5 Plot Area (m²): 100 / _____ Plot Dimensions _____ x _____ m RA Radius _____ m			
Exposure, Actual °: _____ NE NW SE SW <u>(Flat)</u> Variable Steepness, Actual °: _____ <u>(0°)</u> 1-5° > 5-25° > 25			
Topography: Macro: top upper mid lower <u>(bottom)</u> Micro: convex <u>(flat)</u> concave undulating			
Geology code: <u>SETU</u> Soil Texture code: <u>silt & sand</u> Upland or Wetland/Riparian (circle one)			
% Surface cover: (Incl. outcrops) (>60cm diam) (25-60cm) (7.5-25cm) (2mm-7.5cm) (Incl sand, mud)			
H ₂ O: <u>0</u> BA Stems: <u>10</u> Litter: <u>85</u> Bedrock: _____ Boulder: _____ Stone: _____ Cobble: _____ Gravel: _____ Fines: <u>5</u> =100%			
% Current year bioturbation <u>5</u> Past bioturbation present? Yes / <u>(No)</u> % Hoof punch <u>0</u>			
Fire evidence: Yes / <u>(No)</u> (circle one) If yes, describe in Site history section, including date of fire, if known.			
Site history, stand age, comments: <u>Window between street & Power plant perimeter wall</u>			
Disturbance code / Intensity (L,M,H): <u>1/L</u> _____ "Other" _____			
II. HABITAT DESCRIPTION			
Tree DBH: <u>T1</u> (<1" dbh), <u>T2</u> (1-6" dbh), <u>T3</u> (6-11" dbh), <u>T4</u> (11-24" dbh), <u>T5</u> (>24" dbh), <u>T6</u> multi-layered (T3 or T4 layer under T5, >60% cover)			
Shrub: <u>S1</u> seedling (<3 yr. old), <u>S2</u> young (<1% dead), <u>S3</u> mature (1-25% dead), <u>S4</u> decadent (>25% dead)			
Herbaceous: <u>H1</u> (<12" plant ht.), <u>H2</u> (>12" ht.)			
Desert Riparian Tree/Shrub: 1 (<2ft. stem ht.), 2 (2-10ft. ht.), 3 (10-20ft. ht.), 4 (>20ft. ht.)			
Desert Palm/Joshua Tree: 1 (<1.5" base diameter), 2 (1.5-6" diam.), 3 (>6" diam.)			
III. INTERPRETATION OF STAND			
Field-assessed vegetation Alliance name: <u>Eucalyptus grove (Eucalyptus globulus)</u>			
Field-assessed Association name (optional): _____			
Adjacent Alliances/direction: <u>Developed, ruderal, iceplant mat</u>			
Confidence in Alliance identification: L M <u>(H)</u> Explain: _____			
Phenology (E,P,L): Herb <u>L</u> Shrub <u>—</u> Tree <u>P</u> Other identification or mapping information: _____			

Closest neighbor is Eucalyptus tree at Heaven - black bear grove

(Revised March 27, 2018)

SPECIES SHEET

% NonVasc cover: 0 Total % Vasc Veg cover: 75

Height Class - Conifer tree / Hardwood tree: 17 **Regenerating Tree:** **Shrub:** **Herbaceous:**

Height classes: 1= $\leq 1/2$ m, 2=1/2-1m, 3=1-2m, 4=2-5m, 5=5-10m, 6=10-15m, 7=15-20m, 8=20-35m, 9=35-50m, 10= ≥ 50 m

Stratum categories: T=Tree, A = SApling, E = SEedling, S = Shrub, H= Herb, N= Non-vascular

% Cover Intervals for reference: r = trace, + = <1%, 1-5%, >5-15%, >15-25%, >25-50%, >50-75%, >75%

Unusual species: _____

Project: 1902-1172 Biological Resources Assessment; MBPP BESS Project
Vegetation Rapid Assessment Attachment
Stand/Plot ID: **MBPP004**



North



East



South



West

Classification: Eucalyptus groves (Site-Specific; Ornamental)

Combined Vegetation Rapid Assessment and Relevé Field Form

(Revised March 27, 2018)

For Office Use:	Final database #:	Final vegetation type:	Alliance <u>Ornamental (Monterey Pine)</u> Association
I. LOCATIONAL/ENVIRONMENTAL DESCRIPTION			circle: Relevé or <u>RA</u>
Database #: <u>MBPP005</u>	Date: <u>12/16/20</u>	Name of recorder: <u>C. Santala</u>	☐
	UID:	Other surveyors:	
		Location Name: <u>Monro Bay</u>	☐
GPS name: <u>Fiona B/F/collector</u>		For Relevé only: Bearing°, left axis at ID point ____ of Long / Short side	
UTME _____ UTMN _____		Zone: <u>11</u> NAD83 GPS error: ft./ m./ PDOP _____	
Decimal degrees: LAT <u>35.373492</u>		LONG <u>-120.859414</u>	
GPS within stand? <u>Yes</u> / No		If No, cite from GPS to stand: distance (m) ____ bearing ° ____ inclination ° ____	
and record. Base point ID _____		Projected UTM: UTM _____ UTMN _____	
Camera Name: <u>CS iPhone</u>		Cardinal photos at ID point: <u>N, E, S, W</u>	
Other photos: <u>overview</u>			
Stand Size (acres): <u><1</u> 1-5, >5		Plot Area (m²): 100 / _____ Plot Dimensions ____ x ____ m RA Radius ____ m	
Exposure, Actual °: <u>223</u> NE NW SE <u>SW</u> Flat Variable		Steepness, Actual °: ____ 0° 1-5° > 5-25° > 25	
Topography: Macro: top upper mid lower bottom		Micro: convex flat concave undulating	
Geology code: _____ Soil Texture code: _____		Upland or Wetland/Riparian (circle one)	
% Surface cover: (Incl. outcrops) (>60cm diam) (25-60cm) (7.5-25cm) (2mm-7.5cm) (Incl sand, mud)			
H ₂ O: <u>✓</u> BA Stems: <u>25</u> Litter: <u>50</u> Bedrock: <u>0</u> Boulder: <u>0</u> Stone: <u>0</u> Cobble: <u>0</u> Gravel: <u>0</u> Fines: <u>25</u> =100%			
% Current year bioturbation <u>5</u>		Past bioturbation present? Yes <u>1</u> <u>SD</u> % Hoof punch <u>0</u>	
Fire evidence: Yes / No (circle one) If yes, describe in Site history section, including date of fire, if known.			
Site history, stand age, comments: <u>Planted as windrow w/in Power plant property</u>			
Disturbance code / Intensity (L,M,H): ____ / ____ / ____ "Other" ____ / ____			
II. HABITAT DESCRIPTION			
Tree DBH: <u>T1</u> (<1" dbh) <u>T2</u> (1-6" dbh) <u>T3</u> (6-11" dbh) <u>T4</u> (11-24" dbh) <u>T5</u> (>24" dbh) <u>T6</u> multi-layered (T3 or T4 layer under T5, >60% cover)			
Shrub: <u>S1</u> seedling (<3 yr. old) <u>S2</u> young (<1% dead) <u>S3</u> mature (1-25% dead) <u>S4</u> decadent (>25% dead)			
Herbaceous: <u>H1</u> (<12" plant ht.) <u>H2</u> (>12" ht.)			
Desert Riparian Tree/Shrub: 1 (<2ft. stem ht.) 2 (2-10ft. ht.) 3 (10-20ft. ht.) 4 (>20ft. ht.)			
Desert Palm/Joshua Tree: 1 (<1.5" base diameter) 2 (1.5-6" diam.) 3 (>6" diam.)			
III. INTERPRETATION OF STAND			
Field-assessed vegetation Alliance name: <u>Monterey Pine Stand</u>			
Field-assessed Association name (optional): _____			
Adjacent Alliances/direction: <u>Developed, Redwood, Silverupine stand</u>			
Confidence in Alliance identification: L M <u>H</u> Explain: _____			
Phenology (E,P,L): Herb <u>L</u> Shrub <u>-</u> Tree <u>P</u> Other identification or mapping information: <u>Planted</u>			

(Revised March 27, 2018)

SPECIES SHEET

% NonVasc cover: 6 Total % Vasc Veg cover: 98

Height Class - Conifer tree / Hardwood tree: 5 / 1 0 Regenerating Tree: 0 Shrub: 0 Herbaceous: 1

Height classes: 1=<1/2m, 2=1/2-1m, 3=1-2m, 4=2-5m, 5=5-10m, 6=10-15m, 7=15-20m, 8=20-35m, 9=35-50m, 10=>50m

Stratum categories: T=Tree, A = SApling, E = SEedling, S = Shrub, H= Herb, N= Non-vascular

% Cover Intervals for reference: r = trace, + = <1%, 1-5%, >5-15%, >15-25%, >25-50%, >50-75%, >75%

333

Project: 1902-1172 Biological Resources Assessment; MBPP BESS Project
Vegetation Rapid Assessment Attachment
Stand/Plot ID: **MBPP005**



North



East



South



West

Classification: Monterey pine stand (Site-Specific; Ornamental)

Combined Vegetation Rapid Assessment and Relevé Field Form

(Revised March 27, 2018)

For Office Use:	Final database #: _____	Final vegetation type: _____	Alliance: <u>Ice plant mat</u>
			Association: _____
I. LOCATIONAL/ENVIRONMENTAL DESCRIPTION			circle: Relevé or <u>RA</u>
Database #: <u>MBPP006</u>	Date: _____	Name of recorder: <u>C. Santala</u>	
		Other surveyors: _____	
	UID: _____	Location Name: <u>Morro Bay</u>	
GPS name: _____		For Relevé only: Bearing°, left axis at ID point _____ of Long / Short side	
UTME _____		UTMN _____	
		Zone: <u>11</u> NAD83 GPS error: ft./m./PDOP _____	
Decimal degrees: LAT <u>35.371746</u>		LONG <u>-120.855355</u>	
GPS within stand? <u>Yes</u> / No If No, cite from GPS to stand: distance (m) _____ bearing° _____ inclination° _____			
and record: Base point ID _____ Projected UTMs: UTME _____ UTMN _____			
Camera Name: <u>CIS phone</u> Cardinal photos at ID point: <u>N, E, S, W</u>			
Other photos: <u>overview</u>			
Stand Size (acres): <u><1</u> 1-5, >5 Plot Area (m²): 100 / _____ Plot Dimensions _____ x _____ m RA Radius _____ m			
Exposure, Actual°: <u>NE</u> NW SE SW Flat Variable Steepness, Actual°: _____ 0° <u>1-5°</u> >5-25° >25			
Topography: Macro: top <u>upper</u> <u>mid</u> <u>lower</u> bottom Micro: <u>convex</u> flat concave <u>undulating</u>			
Geology code: _____ Soil Texture code: _____ <u>Upland</u> or Wetland/Riparian (circle one)			
% Surface cover: (Incl. outcrops) (>60cm diam) (25-60cm) (7.5-25cm) (2mm-7.5cm) (Incl sand, mud)			
H2O: <u>0</u> BA Stems: <u>ES</u> Litter: <u>10</u> Bedrock: <u>0</u> Boulder: <u>0</u> Stone: <u>0</u> Cobble: <u>0</u> Gravel: <u>0</u> Fines: <u>5</u> =100%			
% Current year bioturbation <u>0</u> Past bioturbation present? Yes / <u>No</u> % Hoof punch <u>0</u>			
Fire evidence: Yes / No (circle one) If yes, describe in Site history section, including date of fire, if known.			
Site history, stand age, comments: <u>upgraded hillside w/in power plant property - revegetated w/ iceplant</u>			
Disturbance code / Intensity (L,M,H): _____ / _____ / _____ "Other" _____ / _____			
II. HABITAT DESCRIPTION			
Tree DBH: <u>T1</u> (<1" dbh), <u>T2</u> (1-6" dbh), <u>T3</u> (6-11" dbh), <u>T4</u> (11-24" dbh), <u>T5</u> (>24" dbh), <u>T6</u> multi-layered (T3 or T4 layer under T5, >60% cover)			
Shrub: <u>S1</u> seedling (<3 yr. old), <u>S2</u> young (<1% dead), <u>S3</u> mature (1-25% dead), <u>S4</u> decadent (>25% dead)			
Herbaceous: <u>H1</u> (<12" plant ht.), <u>H2</u> (>12" ht.)			
Desert Riparian Tree/Shrub: 1 (<2ft. stem ht.), 2 (2-10ft. ht.), 3 (10-20ft. ht.), 4 (>20ft. ht.)			
Desert Palm/Joshua Tree: 1 (<1.5" base diameter), 2 (1.5-6" diam.), 3 (>6" diam.)			
III. INTERPRETATION OF STAND			
Field-assessed vegetation Alliance name: <u>Ice plant mat (Carpobrotus edulis)</u>			
Field-assessed Association name (optional): _____			
Adjacent Alliances/direction: <u>Arroyo willow thickets, Redwoods, Developed, Eucalyptus Grove, Monterey Pine stand</u>			
Confidence in Alliance identification: L M <u>H</u> Explain: _____			
Phenology (E,P,L): Herb <u>L</u> Shrub <u>L</u> Tree <u>—</u> Other identification or mapping information: _____			

(Revised March 27, 2018)

SPECIES SHEET

% NonVasc cover: 0 Total % Vasc Veg cover: 98

Height classes: 1= $\leq 1/2$ m, 2=1/2-1m, 3=1-2m, 4=2-5m, 5=5-10m, 6=10-15m, 7=15-20m, 8=20-35m, 9=35-50m, 10= >50 m

% Cover Intervals for reference: r = trace, + = <1%, 1-5%, >5-15%, >15-25%, >25-50%, >50-75%, >75%

Unusual species:

Project: 1902-1172 Biological Resources Assessment; MBPP BESS Project
Vegetation Rapid Assessment Attachment
Stand/Plot ID: **MBPP006**



North



East



South



West

Classification: Ice plant mats (MCV2)

APPENDIX E

CNDDDB DOCUMENTATION



Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database



Query Criteria: Quad IS (Morro Bay South (3512037) OR Morro Bay North (3512047) OR Cayucos (3512048))
 AND Taxonomic Group IS (Dune OR Scrub OR Herbaceous OR Marsh OR Riparian OR Woodland OR Forest OR Alpine OR Inland Waters OR Marine OR Estuarine OR Riverine OR Palustrine OR Fish OR Amphibians OR Reptiles OR Birds OR Mammals OR Crustaceans OR Insects OR Ferns OR Gymnosperms OR Monocots OR Dicots OR Lichens OR Bryophytes)

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Accipiter cooperii</i> Cooper's hawk	ABNKC12040	None	None	G5	S4	WL
<i>Agelaius tricolor</i> tricolored blackbird	ABPBXB0020	None	Threatened	G2G3	S1S2	SSC
<i>Agrostis hooveri</i> Hoover's bent grass	PMPOA040M0	None	None	G2	S2	1B.2
<i>Anniella pulchra</i> Northern California legless lizard	ARACC01020	None	None	G3	S3	SSC
<i>Antrozous pallidus</i> pallid bat	AMACC10010	None	None	G5	S3	SSC
<i>Arctostaphylos luciana</i> Santa Lucia manzanita	PDERI040N0	None	None	G2	S2	1B.2
<i>Arctostaphylos morroensis</i> Morro manzanita	PDERI040S0	Threatened	None	G1	S1	1B.1
<i>Arctostaphylos osoensis</i> Oso manzanita	PDERI042S0	None	None	G1	S1	1B.2
<i>Arctostaphylos pechoensis</i> Pecho manzanita	PDERI04140	None	None	G2	S2	1B.2
<i>Arctostaphylos pilosula</i> Santa Margarita manzanita	PDERI042Z0	None	None	G2?	S2?	1B.2
<i>Arctostaphylos tomentosa ssp. dactylocola</i> dactylo manzanita	PDERI041HD	None	None	G4T1	S1	1B.1
<i>Arenaria paludicola</i> marsh sandwort	PDCAR040L0	Endangered	Endangered	G1	S1	1B.1
<i>Astragalus didymocarpus var. milesianus</i> Miles' milk-vetch	PDFAB0F2X3	None	None	G5T2	S2	1B.2
<i>Atractelmis wawona</i> Wawona riffle beetle	IICOL58010	None	None	G3	S1S2	
<i>Atriplex coulteri</i> Coulter's saltbush	PDCHE040E0	None	None	G3	S1S2	1B.2
<i>Batrachoseps minor</i> lesser slender salamander	AAAAD02170	None	None	G1	S1	SSC



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Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Bombus caliginosus</i> obscure bumble bee	IIHYM24380	None	None	G4?	S1S2	
<i>Bryoria spiralis</i> twisted horsehair lichen	NLTEST5460	None	None	G1G2	S1S2	1B.1
<i>Calochortus obispoensis</i> San Luis mariposa-lily	PMLIL0D110	None	None	G2	S2	1B.2
<i>Calystegia subacaulis ssp. episcopalis</i> Cambria morning-glory	PDCON040J1	None	None	G3T2?	S2?	4.2
<i>Camissoniopsis hardhamiae</i> Hardham's evening-primrose	PDONA030N0	None	None	G2	S2	1B.2
<i>Carex obispoensis</i> San Luis Obispo sedge	PMCYP039J0	None	None	G3?	S3?	1B.2
<i>Castilleja densiflora var. obispoensis</i> San Luis Obispo owl's-clover	PDSCR0D453	None	None	G5T2	S2	1B.2
<i>Ceanothus thyrsiflorus var. obispoensis</i> San Luis Obispo ceanothus	PDRHA04461	None	None	G5T1	S1	1B.1
<i>Central Dune Scrub</i> Central Dune Scrub	CTT21320CA	None	None	G2	S2.2	
<i>Central Maritime Chaparral</i> Central Maritime Chaparral	CTT37C20CA	None	None	G2	S2.2	
<i>Charadrius alexandrinus nivosus</i> western snowy plover	ABNNB03031	Threatened	None	G3T3	S2S3	SSC
<i>Chenopodium littoreum</i> coastal goosefoot	PDCHE091Z0	None	None	G1	S1	1B.2
<i>Chlorogalum pomeridianum var. minus</i> dwarf soaproot	PMLIL0G042	None	None	G5T3	S3	1B.2
<i>Chloropyron maritimum ssp. maritimum</i> salt marsh bird's-beak	PDSCR0J0C2	Endangered	Endangered	G4?T1	S1	1B.2
<i>Chorizanthe breweri</i> Brewer's spineflower	PDPGN04050	None	None	G3	S3	1B.3
<i>Cicindela hirticollis gravis</i> sandy beach tiger beetle	IICOL02101	None	None	G5T2	S2	
<i>Circus hudsonius</i> northern harrier	ABNKC11011	None	None	G5	S3	SSC
<i>Cirsium fontinale var. obispoense</i> Chorro Creek bog thistle	PDAST2E162	Endangered	Endangered	G2T2	S2	1B.2
<i>Cirsium occidentale var. compactum</i> compact cobwebby thistle	PDAST2E1Z1	None	None	G3G4T2	S2	1B.2
<i>Cirsium occidentale var. lucianum</i> Cuesta Ridge thistle	PDAST2E1Z6	None	None	G3G4T2	S2	1B.2
<i>Cladonia firma</i> popcorn lichen	NLT0008460	None	None	G4	S1	2B.1



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Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Clarkia speciosa ssp. immaculata</i> Pismo clarkia	PDONA05111	Endangered	Rare	G4T1	S1	1B.1
<i>Coastal and Valley Freshwater Marsh</i> Coastal and Valley Freshwater Marsh	CTT52410CA	None	None	G3	S2.1	
<i>Coastal Brackish Marsh</i> Coastal Brackish Marsh	CTT52200CA	None	None	G2	S2.1	
<i>Coelus globosus</i> globose dune beetle	IICOL4A010	None	None	G1G2	S1S2	
<i>Corynorhinus townsendii</i> Townsend's big-eared bat	AMACC08010	None	None	G3G4	S2	SSC
<i>Danaus plexippus pop. 1</i> monarch - California overwintering population	IILEPP2012	None	None	G4T2T3	S2S3	
<i>Delphinium parryi ssp. blochmaniae</i> dune larkspur	PDRAN0B1B1	None	None	G4T2	S2	1B.2
<i>Delphinium parryi ssp. eastwoodiae</i> Eastwood's larkspur	PDRAN0B1B2	None	None	G4T2	S2	1B.2
<i>Delphinium umbraculorum</i> umbrella larkspur	PDRAN0B1W0	None	None	G3	S3	1B.3
<i>Dipodomys heermanni morroensis</i> Morro Bay kangaroo rat	AMAFD03063	Endangered	Endangered	G3G4TH	SH	FP
<i>Dithyrea maritima</i> beach spectaclepod	PDBRA10020	None	Threatened	G1	S1	1B.1
<i>Dudleya abramsii ssp. bettinae</i> Betty's dudleya	PDCRA04011	None	None	G4T2	S2	1B.2
<i>Dudleya abramsii ssp. murina</i> mouse-gray dudleya	PDCRA04012	None	None	G4T2	S2	1B.3
<i>Dudleya blochmaniae ssp. blochmaniae</i> Blochman's dudleya	PDCRA04051	None	None	G3T2	S2	1B.1
<i>Emys marmorata</i> western pond turtle	ARAAD02030	None	None	G3G4	S3	SSC
<i>Erigeron blochmaniae</i> Blochman's leafy daisy	PDAST3M5J0	None	None	G2	S2	1B.2
<i>Eriodictyon altissimum</i> Indian Knob mountainbalm	PDHYD04010	Endangered	Endangered	G1	S1	1B.1
<i>Eucyclogobius newberryi</i> tidewater goby	AFCQN04010	Endangered	None	G3	S3	
<i>Extriplex joaquinana</i> San Joaquin spearscale	PDCHE041F3	None	None	G2	S2	1B.2
<i>Fritillaria ojaiensis</i> Ojai fritillary	PMLIL0V0N0	None	None	G3	S3	1B.2
<i>Fritillaria viridea</i> San Benito fritillary	PMLIL0V0L0	None	None	G2	S2	1B.2



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<i>Helminthoglypta walkeriana</i> Morro shoulderband (=banded dune) snail	IMGASC2510	Endangered	None	G1	S1S2	
<i>Horkelia cuneata</i> var. <i>puberula</i> mesa horkelia	PDROS0W045	None	None	G4T1	S1	1B.1
<i>Horkelia cuneata</i> var. <i>sericea</i> Kellogg's horkelia	PDROS0W043	None	None	G4T1?	S1?	1B.1
<i>Lasthenia californica</i> ssp. <i>macrantha</i> perennial goldfields	PDAST5L0C5	None	None	G3T2	S2	1B.2
<i>Lasthenia glabrata</i> ssp. <i>coulteri</i> Coulter's goldfields	PDAST5L0A1	None	None	G4T2	S2	1B.1
<i>Laterallus jamaicensis coturniculus</i> California black rail	ABNME03041	None	Threatened	G3G4T1	S1	FP
<i>Layia jonesii</i> Jones' layia	PDAST5N090	None	None	G2	S2	1B.2
<i>Malacothamnus palmeri</i> var. <i>palmeri</i> Santa Lucia bush-mallow	PDMAL0Q0B5	None	None	G3T2Q	S2	1B.2
<i>Monardella palmeri</i> Palmer's monardella	PDLAM180H0	None	None	G2	S2	1B.2
<i>Monardella sinuata</i> ssp. <i>sinuata</i> southern curly-leaved monardella	PDLAM18161	None	None	G3T2	S2	1B.2
<i>Nemacaulis denudata</i> var. <i>denudata</i> coast woolly-heads	PDPGN0G011	None	None	G3G4T2	S2	1B.2
<i>Neotoma lepida intermedia</i> San Diego desert woodrat	AMAFF08041	None	None	G5T3T4	S3S4	SSC
<i>Northern Coastal Salt Marsh</i> Northern Coastal Salt Marsh	CTT52110CA	None	None	G3	S3.2	
<i>Nyctinomops macrotis</i> big free-tailed bat	AMACD04020	None	None	G5	S3	SSC
<i>Oncorhynchus mykiss irideus</i> pop. 10 steelhead - southern California DPS	AFCHA0209J	Endangered	None	G5T1Q	S1	
<i>Oncorhynchus mykiss irideus</i> pop. 9 steelhead - south-central California coast DPS	AFCHA0209H	Threatened	None	G5T2Q	S2	
<i>Phrynosoma blainvillii</i> coast horned lizard	ARACF12100	None	None	G3G4	S3S4	SSC
<i>Plebejus icarioides moroensis</i> Morro Bay blue butterfly	IILEPG801B	None	None	G5T2	S2	
<i>Poa diabolii</i> Diablo Canyon blue grass	PMPOA4Z390	None	None	G2	S2	1B.2
<i>Pyrgulopsis taylori</i> San Luis Obispo pyrg	IMGASJ0A50	None	None	G1	S1	
<i>Rallus obsoletus obsoletus</i> California Ridgway's rail	ABNME05011	Endangered	Endangered	G5T1	S1	FP



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Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Rana draytonii</i> California red-legged frog	AAABH01022	Threatened	None	G2G3	S2S3	SSC
<i>Sanicula maritima</i> adobe sanicle	PDAP11Z0D0	None	Rare	G2	S2	1B.1
<i>Senecio aphanactis</i> chaparral ragwort	PDAST8H060	None	None	G3	S2	2B.2
<i>Streptanthus albidus ssp. peramoenus</i> most beautiful jewelflower	PDBRA2G012	None	None	G2T2	S2	1B.2
<i>Suaeda californica</i> California seablite	PDCHE0P020	Endangered	None	G1	S1	1B.1
<i>Sulcaria isidiifera</i> splitting yarn lichen	NLTEST0020	None	None	G1	S1	1B.1
<i>Taxidea taxus</i> American badger	AMAJF04010	None	None	G5	S3	SSC
<i>Tryonia imitator</i> mimic tryonia (=California brackishwater snail)	IMGASJ7040	None	None	G2	S2	
Valley Needlegrass Grassland Valley Needlegrass Grassland	CTT42110CA	None	None	G3	S3.1	

Record Count: 88