March 6, 2019

Mr. Adam Kirchner Wild Coast Farms 2198 Los Osos Valley Road Los Osos, California 93402 RECEIVED 2 9 MAR 2019

PLANNING & BUILDING

Subject:

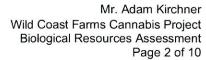
Biological Resources Assessment for the Wild Coast Farms Cannabis Cultivation Project, 2198 Los Osos Valley Road, Los Osos, San Luis Obispo County, California

Dear Mr. Kirchner:

At your request, Kevin Merk Associates, LLC (KMA) conducted a biological resources assessment for the proposed Wild Coast Farms (WCF) project located on the eastern edge of the community of Los Osos in San Luis Obispo County, California. The proposed Cannabis cultivation project, as shown on the site plan (March 2, 2019) you provided via email, is situated on a portion of a larger 13.4-acre parcel identified by Assessor's Parcel Number 067-011-057. The purpose of the investigation was to evaluate the existing conditions of the proposed project area, evaluate the potential for special status species to occur in the study area, and provide an assessment of biological resources that may be affected by the proposed project to help support the County of San Luis Obispo's environmental review process.

The project site is located about 0.3 mile north of Los Osos Valley Road just west of the Los Osos Wastewater Treatment Facility (WTF). The property is a generally flat agricultural parcel situated in rural coastal setting in a transition zone from the coastal sand dunes along the Pacific Ocean that segue into the deeper clay soils of the Los Osos Valley. Farmed fields are located throughout the vicinity, with row crop agriculture occurring to the west and grazing and hayfields to the north. The seven sisters, including Hollister Peak, are present further to the north, and the Los Osos cemetery is located to the south. The site is accessed from the road to the cemetery and WTF, or via an unpaved farm road both of which are to the north of Los Osos Valley Road. Please refer to the attached Site Location Map (Figure 1) and Aerial Overview Map (Figure 2) for additional location information.

The proposed project includes three (3) existing 3,000 square feet (SF) greenhouses, a proposed 3,900 SF nursery greenhouse, a metal building for manufacturing, and a 30,000 SF flowering house/drying area greenhouse. Parking improvements are also a project element along with a composting area. The entire cultivation and operations area would be surrounded with security fencing. An approximately 1,620 SF manufactured home is present onsite along with disturbed or ruderal areas including landscaping and parking/driveway with base rock. Trees along the western and northern property boundaries are outside the project footprint and would not be removed or impacted. Following are the methods and results of the investigation.





#### **METHODS**

Prior to field work, a list of special-status plants and wildlife potentially occurring onsite was developed based on our knowledge of the region, review of biological reports prepared from the area, and a query of the California Natural Diversity Database maintained by the California Department of Fish and Wildlife (CDFW; reviewed in November 2018 and again in January 2019). In addition, the California Native Plant Society's On-Line Inventory of Rare and Endangered Vascular Plants of California (CNPS; *Inventory*) was reviewed to ensure a thorough list of rare plants was developed. The CNDDB search range included three U.S. Geological Survey 7.5-minute topographic quadrangles: 1) Morro Bay North; 2) Morro Bay South; and 3) Cayucos. This was determined to be a sufficient search radius around the site to identify special status resources that could potentially be present given the geographic proximity of the site. It should be noted that the CNDDB and *Inventory* are based solely on reported occurrences and do not constitute an exhaustive inventory of all special-status species that occur in a given area and thus, serve only as predictive tools. Special-status species included on the target list are those species known to occur in coastal habitats in the project region, and were the focus of the survey efforts.

Discussions of plant communities herein use the classifications and terminology included in the Manual of California Vegetation, second edition (Sawyer, Keeler-Wolf and Evens, 2009), and Robert F. Holland's *Preliminary Description of the Terrestrial Natural Communities of California* (1986), which are consistent with current CNDDB classifications. Plant taxonomy follows the Jepson Manual, second edition (Baldwin et al., 2012) as updated online. In addition, the Consortium of California Herbaria and the Calflora online databases were searched for information on special status plants occurring in the region.

For the purpose of this report, special status species are those plants and animals listed, proposed for listing, or candidates for listing as threatened or endangered by the USFWS under the federal Endangered Species Act (ESA); those listed or proposed for listing as rare, threatened, or endangered by the CDFW under the California Endangered Species Act (CESA); animals designated as "Species of Special Concern," "Fully Protected," or "Watch List" by the CDFW; and plants occurring on California Rare Plant Ranks (CRPR) 1, 2, 3 and 4 developed by the CDFW working in concert with the CNPS. The specific code definitions are as follows:

- 1A = Plants presumed extinct in California;
- 1B.1 = Rare or endangered in California and elsewhere; seriously endangered in California (over 80% of occurrences threatened/high degree and immediacy of threat);
- 1B.2 = Rare or endangered in California and elsewhere; fairly endangered in California (20-80% occurrences threatened);
- 1B.3 = Rare or endangered in California and elsewhere, not very endangered in California (<20% of occurrences threatened or no current threats known);
- 2 = Rare, threatened or endangered in California, but more common elsewhere;



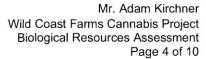
- 3 = Plants needing more information (most are species that are taxonomically unresolved; some species on this list meet the definitions of rarity under CNPS and CESA);
- 4.2 = Plants of limited distribution (watch list), fairly endangered in California (20-80% occurrences threatened); and
- 4.3= Plants of limited distribution (watch list), not very endangered in California.

KMA's Principal Biologist Kevin Merk conducted field reconnaissance of the property on multiple occasions including October 20 and November 7, 2018. An additional site survey was conducted on January 11, 2019 following a series of rain events to assess site drainage. Weather during the fall field surveys was generally clear, temperatures averaged approximately 60° Fahrenheit with winds ranging from zero to five miles per hour out of the west. The January visit was cool and wet with south winds blowing before the arrival of another storm. The site perimeter and project area was inspected on foot during each site visit to evaluate existing conditions and assess the potential occurrence of species status species. Binoculars were also used in the field to identify birds and wildlife activity onsite and adjacent to the site to help with the overall assessment of the property's potential to support special-status plant and animal species. During the field visits, all vascular plant species observed were identified primarily in accordance with the nomenclature presented in the Jepson Manual, second edition (Baldwin et al. 2012).

Aerial imagery obtained from Google Earth (2018 and 2019) was also inspected prior to, during and following the field surveys to define the current extent of on-site plant community boundaries and assist in the special-status species analysis. The National Wetland Inventory and Critical Habitat Portal maintained by the U.S. Fish and Wildlife Service (USFWS) were reviewed to identify the extent of mapped drainages, wetlands and critical habitat for federal threatened or endangered species in the immediate area. In addition, the Natural Resource Conservation Service's Web Soil Survey was queried to assist in our analysis.

The evaluation of special status species and identification of habitat conditions that could support these species was based on our field observations, knowledge of the particular species biology, and review of documented records included in the CNDDB, resulting in the development of a habitat suitability analysis. Habitat and wildlife observations were made during each survey and were used to assist with the special status species assessment (refer to Table 1 included as an attachment).

The investigation also evaluated the site for the presence of Environmentally Sensitive Habitat Area (ESHA) pursuant to the California Coastal Act. A variety of plant communities within the Coastal Zone meet the definition of ESHA (Coastal Act Section 30107.5), including riparian areas, wetlands, maritime chaparral, native grasslands and special status species habitat. The California Coastal Commission (CCC), with technical assistance from the CDFW, is responsible for protecting ESHA within the Coastal Zone, and have required local agencies such as the County of San Luis Obispo to develop policies aimed at protecting and preserving these areas. For wetland habitats, the CCC and CDFW rely on the USFWS wetland definition and classification system developed by Cowardin et al. (1979) titled, *Classification of Wetlands and Deep Water Habitats of the United States*, as the methodology for wetland determinations. The





CCC requires the presence of only one wetland parameter (e.g., wetland hydrology, hydric soils, or predominance of hydrophytic vegetation) for an area to qualify as a coastal wetland. Section 30121 of the California Coastal Act, the statute governing the CCC, broadly defines wetlands as:

"Lands 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, or fens."

The 1981 CCC Statewide Interpretive Guidelines define riparian habitats as areas of riparian vegetation. Riparian habitats may encompass wetland areas, but may also extend beyond those areas. Riparian vegetation is defined as

"an association of plant species which grows adjacent to freshwater watercourses, including perennial and intermittent streams, lakes, and other bodies of fresh water."

Following are the results of the investigation:

## **RESULTS**

The project site is located on a flat agricultural field in the Los Osos Valley adjacent to (west of) the Los Osos Wastewater Treatment Facility. The study area has an existing residence and developed areas, and has been under cultivation since the late 1930's (EDR, 2008, in Michael Brandman Associates, 2008). The elevation of the agricultural field is approximately 95 feet above mean sea level. The project footprint has been disturbed regularly, and during the field work consisted of tilled bare soils followed by growth of a cover crop containing weedy annual grasses and forbs to increase soil fertility. A grove of Monterey cypress (*Hesperocyparis macrocarpa*) trees was located near the existing manufactured home in the west-central portion of the site. The field surveys identified Agriculture, Monterey Cypress, and Ruderal/Disturbed as the primary habitat types onsite. The project site does not contain any natural drainages onsite, and during the development of the Los Osos WTF, a series of small drainage swales were constructed in the farm field to help drainage. The proposed cultivation area is separated from Los Osos Creek on the west by a distance of about 0.5 mile, and Warden Lake and Creek, to the east, is located approximately 0.5 to 0.2 mile away.

No special status plants were observed onsite, and none are expected to occur due to the regular cycle of disturbance from historic land uses onsite (i.e. cultivation) and predominance of non-native weedy species. Given the site's disturbance history, heavy clay soils, and being setback from the immediate coastline and away from wetland resources, no special status wildlife are expected to occur onsite. The project site is an area of heavy clay soils and special status wildlife known to occur in the Los Osos area such as the Morro shoulderband snail (*Helminthoglypta* walkeriana) are not expected to occur onsite due to the lack of suitable habitat. No habitats constituting ESHA were identified onsite. Review of the provided site plan confirmed the location of proposed project is confined to disturbed areas, and no special status biological resources would be directly impacted.

Included as attachments to this report are Figure 1, Site Location Map; Figure 2, Aerial Overview Map (including wetland information); Figure 3, Habitat Map; Figure 4, Soils Map;



Figure 5, CNDDB Plants Map; and Figure 6, CNDDB Fauna Map. Table 1 includes a list of special status biological resources evaluated in this investigation, and Table 2 provides a list of plants observed onsite during field surveys. A Photo Plate has also been included to aid in the existing conditions characterization. The following discussion describes the existing conditions of the property and provides a special status species analysis.

#### **Habitat Types**

# **Agriculture**

The entire property has been affected by agricultural activities for many years. At the time of the fall surveys, the farm field was disked and no vegetation was present. Greenhouse areas were maintained and the only vegetation was observed along the road margins or where disking had not occurred. Grasses observed during the surveys included wild oats (*Avena barbata*), ripgut brome (*Bromus diandrus*), soft chess (*Bromus hordeacous*), and red brome (*Bromus madritensis* ssp. *rubens*). Broad-leaved forbs observed onsite included red-stemmed filaree (*Erodium cicutarium*), mallow (*Malva nicaaensis*), common plantain (*Plantago lanceolata*), summer mustard (*Hirschfeldia incana*), and prickly sow thistle (*Sonchus asper*). Following the start of the winter rain season, the seeded cover crop germinated in the agricultural area and species such as vetch and fava/bell beans (*Vicia* spp.) were present along with a mix of grasses.

While birds such as western gull (*Larus occidentalis*), red-tailed hawk (*Buteo jamaicensis*) and turkey vulture (*Cathartes aura*)were observed flying over the site, the only wildlife observed onsite was pocket gopher (*Thomomys bottae*).

## **Monterey Cypress**

A windrow of Monterey cypress trees is present onsite to the west of the existing manufactured residence. Large trees can provide habitat for numerous birds in urban and agricultural areas, but the trees were searched and no nest sites, including raptor stick nests, were observed. Still, the windrow could provide perching and foraging habitat for numerous bird species, as well as potentially support nesting activities during the spring and summer nesting season.

## Ruderal/Disturbed

The disturbed parts of the property were composed of a gravel road, bare soils, and existing structures. This habitat type is not a native plant community, and is not described by the vegetation classification systems used in this study since it is an anthropogenic influenced land type. Ruderal or disturbed areas on the property were mostly bare, and contained scattered occurrences of plants characteristic of the developed areas. Because of the highly disturbed nature of this habitat and regular human presence, it is of marginal value to wildlife.

#### Soils

The USDA Soil Survey for the Coastal Part of San Luis Obispo County, California and the NRCS Web Soil Survey identify Concepcion loam, 2 to 5 percent slopes, and 5 to 9 percent slopes, as



the primary soil map units on the subject property and surrounding area. The northern portion contains Diablo clay, 5 to 9 percent slopes. The extent of these soils onsite are shown in Figure 4, Soil Map. Concepcion soils are very deep and moderately well drained soils that formed in old alluvium weathered from sedimentary rocks. They are typically located on marine terraces and differ from the excessively drained Baywood fine sands of the Los Osos -Baywood area. Diablo soils are deep, well drained, and slowly permeable. Field observations showed the site was primarily heavy clay soils that were lighter in color compared to the soil types identified by the USDA.

## **Natural Drainage Features**

The site is a flat field with no natural drainage features present. A series of swales were constructed in the agricultural field to assist with surface drainage. The closest drainage features with a defined bed and bank are located offsite on the WWTP site to the east, and referred to as drainages W-1 and W-2 in the WWTP Environmental Impact Report (Michael Brandman Associates, 2008). These off-site drainages eventually flow into Warden Creek, which is separated from the property by about 0.2 miles. Los Osos Creek is located further west of the site.

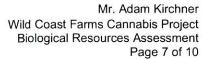
## Special-Status Plants and Plant Communities of Special Concern

No special status plants or plant communities were observed within the study area during the 2018 and 2019 field work. Although the surveys were conducted outside the bloom period of many of the rare annual plants known to occur in the area, the active farming on this property has removed all native habitat and there is no potential for rare plants to occur within the project site. The CNDDB identified numerous special-status plants and plant communities of special concern that have been found to occur within the general vicinity of the property, many of which are documented from habitats associated with coastal sand dunes or serpentine based soils. Special status plant communities known to occur in the area include: coastal dune scrub, coastal foredune, coastal and valley freshwater marsh, maritime chaparral, riparian and serpentine bunchgrass. None of these special status plant communities occur onsite.

A list of the special-status plants identified by the CNDDB within five miles of the project site is included in Table 1 and their recorded locations illustrated on the attached Figure 5. As discussed above, the disturbed nature of the site from years of farming does not provide suitable habitat for any of the special status plants or plant communities evaluated in this study, and as stated above, none are expected to occur onsite.

# Special Status Wildlife

The CNDDB search conducted for this report contains records of numerous special status animal species within five miles of the site (refer to Figure 6 – CNDDB Fauna Map). Nearly all of these species have highly specialized habitat requirements that are not present onsite. The federal threatened California red-legged frog (*Rana draytonii*) for instance is a highly aquatic amphibian that is known to occur in nearby drainage features, but the project site is situated on a flat level site surrounded by farmland. The site does not contain any natural drainage features or suitable aquatic habitat for the red-legged frog, and this species would not be expected to





occur onsite. Similarly, other aquatic reptiles and fish (i.e., western pond turtle, two-striped garter snake, tidewater goby, and southern steelhead) are, therefore, not expected to occur within the study area or be affected by the proposed project based on the lack of suitable habitat.

Since the proposed development area is highly disturbed from years of cultivation and is composed of heavy clay soils, habitat for species such as the legless lizard (*Anniella pulchra*) and coast horned lizard (*Phrynosoma blainvillii*) is not present, and therefore reptiles known to occur in coastal scrub habitats are not expected to occur. Given the proximity of the site to the Pacific Ocean, the CNDDB search identified numerous coastal species that are known from coastal sand dunes to the west and southwest of the study area. Species such as the California black rail (*Laterallus jamaicensis coturniculus*), Morro Bay blue butterfly (*Icaricia icarioides moroensis*), and western snowy plover (*Charadrius nivosus* ssp. *nivosus*) are also not expected to occur onsite based on the lack of suitable habitat.

Monarch butterflies (*Danaus plexippus*) are known to overwinter in the Los Osos-Morro Bay area further west of the site. The Monterey cypress trees on the study area were searched for monarch butterflies during the fall and winter surveys, and none were observed, which confirmed that this windrow of trees did not have sufficient structure or proximity to food and water sources to create the micro-climate needed to provide suitable autumnal congregation or overwintering habitat. Windrows lack the more complex structure needed to protect butterflies and buffer them from wind and cold temperatures during winter storm events.

Other invertebrate species with known occurrences in the Los Osos area include the federal endangered Morro shoulderband snail (Helminthoglypta walkeriana; MSS). The MSS is associated with coastal dune and coastal sage scrub habitats occurring on sandy soils (Baywood fine sands) around the Los Osos and Morro Bay area. Native plant species associated with MSS include mock heather (Ericameria ericoides), coast buckwheat (Eriogonum parvifolium), dune bush lupine (Lupinus chamissonis), deerweed (Acmispon glaber), California croton (Croton californicus), seaside golden yarrow (Eriophyllum staechadifolium), black sage (Salvia mellifera) and California sagebrush (Artemisia californica). MSS is also commonly found in association with non-native plant species such as veldt grass (Ehrharta calycina) and ice plant (Carpobrotus chiloensis and C. edulis) that have overtaken historic dune scrub areas. MSS has also been found in and around anthropogenic structures or debris/garbage (i.e.: building foundations, woodpiles, cardboard, etc.) in the Los Osos area.

The site does not support suitable MSS habitat since the site is an active agricultural area devoid of coastal dune scrub/sage scrub habitat, iceplant mats or clumps of veldt grass. In addition, the onsite soils are heavy clay, and the site is not adjacent to any potential habitat. Therefore, based on the lack of suitable habitat and soils, as well as separation from known occurrences by existing agriculture, development and a Monterey cypress windrow, MSS is not expected to occur onsite.

Although no special status wildlife were observed during the surveys, suitable habitat for nesting birds protected under the Migratory Bird Treaty Act and California Fish and Game Code was present in the Monterey cypress windrow in the western part of the site. No nests were observed during the field work, but birds could utilize the trees for perching, foraging and



nesting activities. As discussed above, the trees will not be impacted by the proposed project and continued agricultural activities on the site are not expected to adversely affect birds that may attempt to nest in these trees in the future.

#### IMPACT ANALYSIS AND RECOMMENDED MITIGATION MEASURE

The proposed project will expand the Cannabis cultivation activities on the property and construct additional greenhouses and required parking in areas already disturbed by ongoing farming and human presence. The agricultural land and ruderal/disturbed areas are not sensitive or special status from a biological perspective, and does not support special status species of plants or wildlife. Therefore, impacts to agricultural land and ruderal/disturbed areas on the property would be considered less than significant pursuant to the California Environmental Quality Act (CEQA) and would not require mitigation. Based on review of the site plan (March 2, 2019), the project would not affect the Monterey cypress trees adjacent to the existing residence. Still, nesting birds could be present on a seasonal basis in these trees, and construction activities associated with the new greenhouses and parking area could adversely affect their nesting activities. The following mitigation measure is provided to avoid impacts to birds protected under the MBTA and CFGC.

**Mitigation Measure for Nesting Birds**. To avoid impacts to nesting birds, including raptors, for construction activities occurring between February 15<sup>th</sup> and August 31<sup>st</sup>, a pre-construction survey for active bird nests within the limits of the project extending into the Monterey cypress tree canopies should be conducted by a qualified biologist. Surveys should be conducted within two weeks prior to construction activities. If no active nests are located, construction activities can proceed. If active nests are located, then all construction work should be conducted outside a non-disturbance buffer zone to be developed by the project biologist based on the species (i.e., 50 feet for common species and upwards of 250 feet for raptors), slope aspect and surrounding vegetation in proximity to the nest site. No direct disturbance to nests should occur until the young are no longer reliant on the nest site as determined by the project biologist. The biologist should conduct monitoring of the nest until all young have fledged.

Implementation of the above recommended avoidance and mitigation measure would be sufficient to ensure project related impacts to nesting birds are less than significant from a CEQA perspective.

#### CONCLUSION

The site consists of cultivated agricultural land and ruderal/disturbed areas with an existing residence and agricultural buildings. A windrow of Monterey cypress trees are also present to the west of the residence. The proposed project, consisting of greenhouses, parking and associated infrastructure are sited within the disturbed agricultural land and would not affect any native habitat. The investigation determined that no special-status plants or plant communities (including ESHA), are present onsite. Based on the regular cycle of disturbance from farming, lack of suitable habitat and separation from native habitat and drainage areas to the north, east and west, no special status wildlife such as the CRLF are expected to occur on the property. In addition, no suitable soils or habitat is present for the Morro shoulderband snail. With the presence of large Monterey cypress trees immediately adjacent to the residence,



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nesting birds could occur on a seasonal basis. As such, a mitigation measure is provided above that would avoid potential project related impacts to nesting birds and ensure impacts to biological resources are less than significant pursuant to CEQA.

#### REFERENCES

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Thank you for the opportunity to provide environmental consulting services for this project. I trust the above information is sufficient to assist with your reporting requirements at this time. If you have any questions regarding the above findings, please contact me directly.

Sincerely,

Kevin Merk Associates, LLC

Kevin B. Merk

Principal Biologist

Attachments:

Figure 1 - Site Location Map;

Figure 2 - Aerial Overview Map;

Figure 3 – Habitat Map;

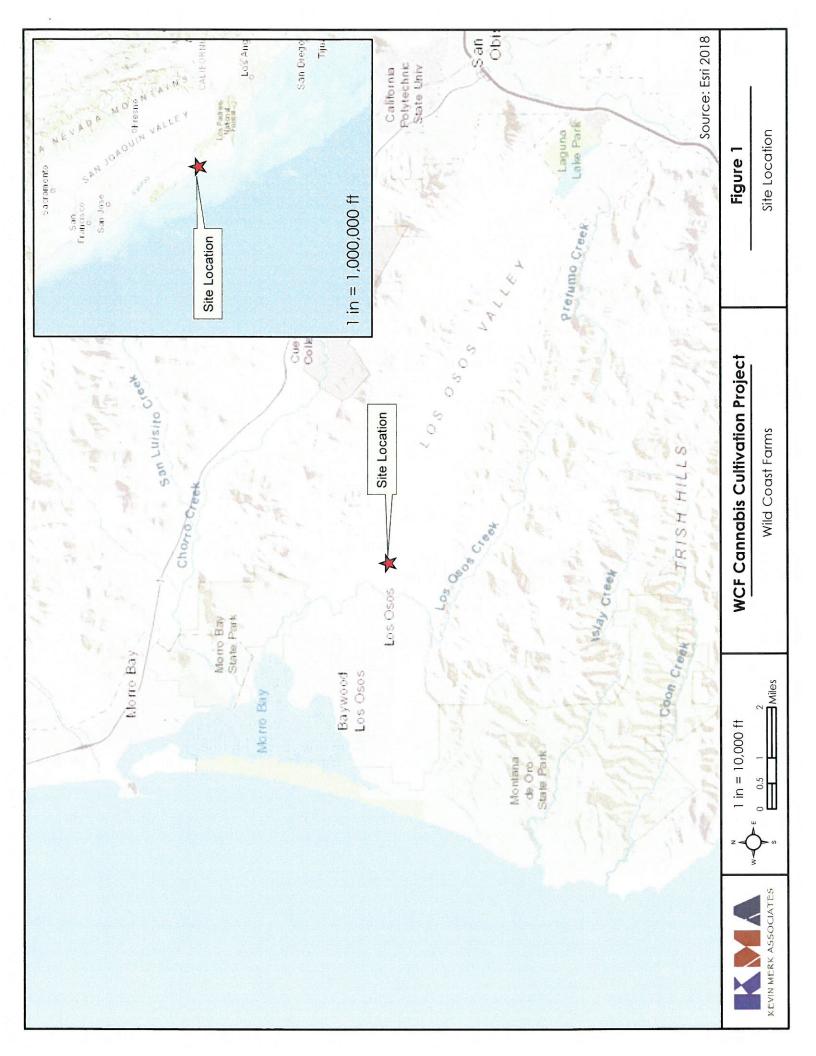
Figure 4 - Soils Map;

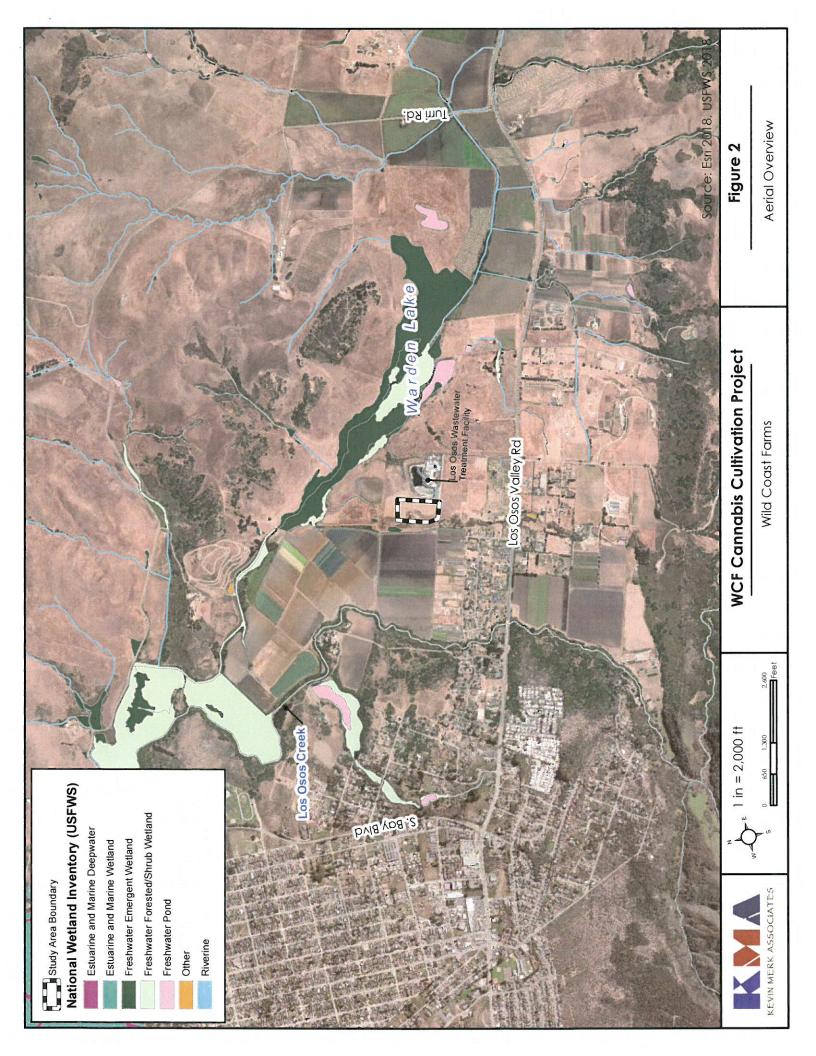
Figure 5 – CNDDB Plants Map; Figure 6 – CNDDB Animals Map;

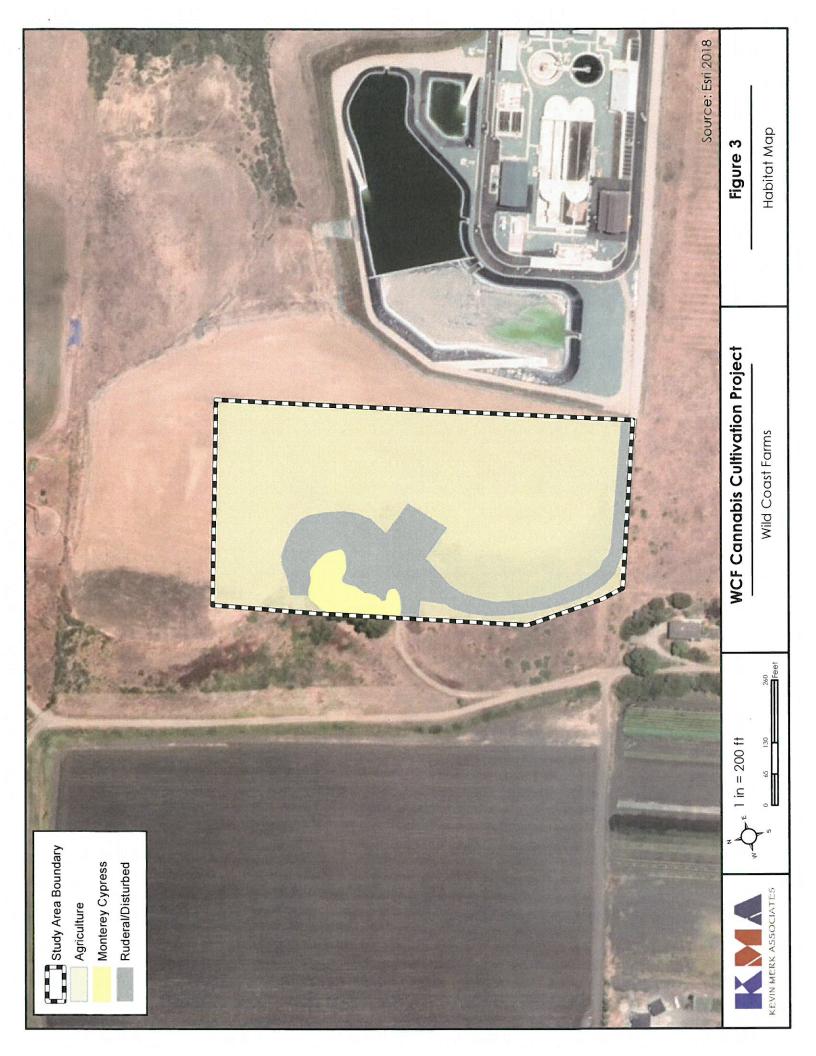
Table 1 - Special Status Biological Resources Known to Occur in the Project Vicinity;

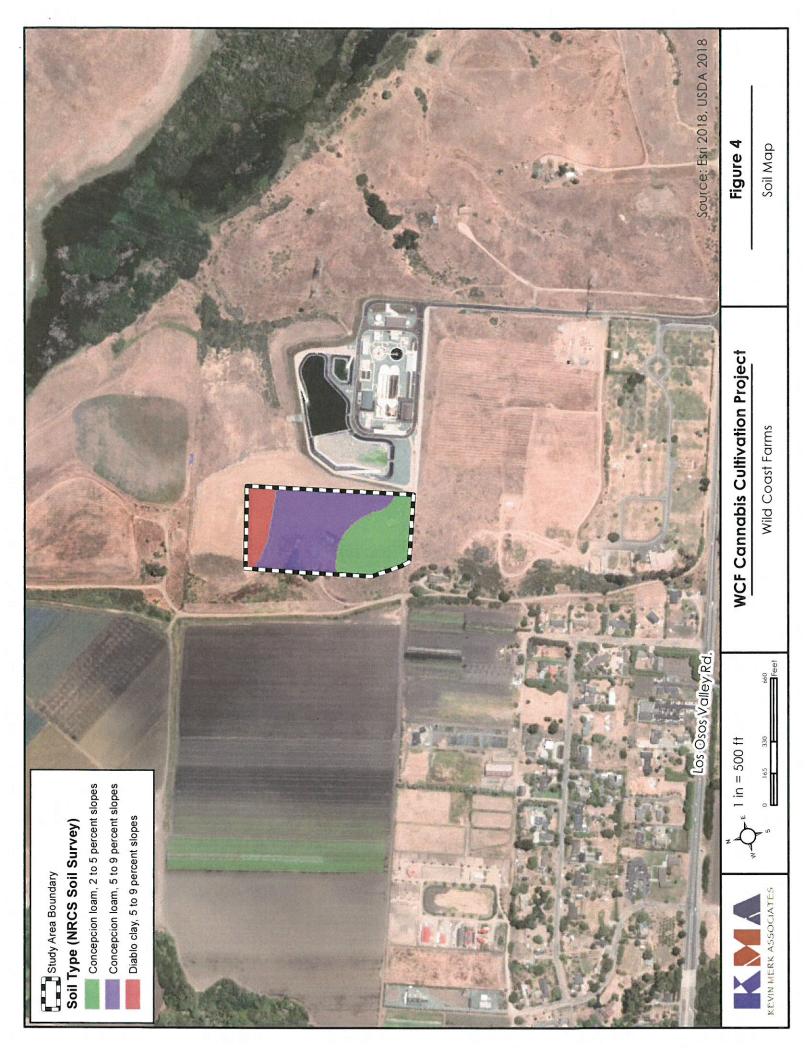
Table 2 - List of Plants Observed Onsite During Field Surveys; and

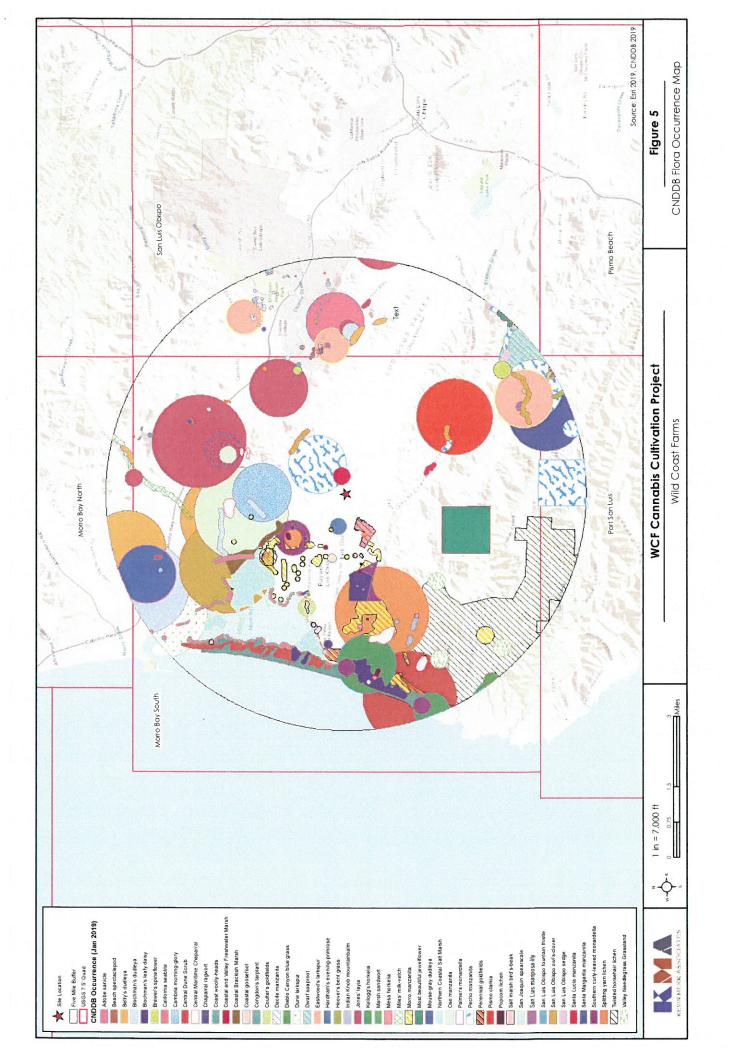
Photo Plate











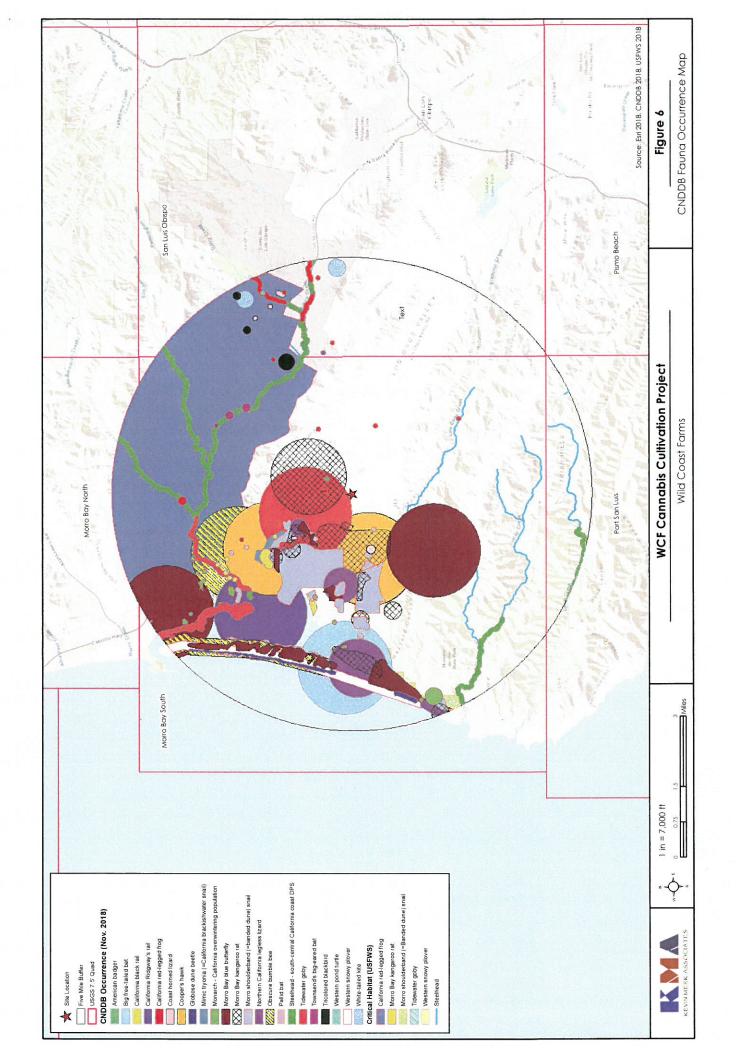




Table 1. Special Status Biological Resources Known to Occur in the Project Vicinity:

Species	Status* Fed/CA/CDFW	Habitat Requirements	Project Site Suitability/Observations
	1.00/0/000111	LICHENS/BRYOPHYTES	20.44444
Firm cup lichen  Cladonia firma	//2B	Lichen known from maritime habitats in Europe and North America on stabilized sand dunes on the coast. Documented in the Morro Bay/Los Osos area on sands of marine origin.	No suitable habitat present onsite. Not expected to occur.
Splitting yarn lichen Sulcaria isidiifera	//1B.1	Known from the Los Osos area growing on branches of coast live oak and maritime chaparral plants in sandy areas.	No suitable habitat present onsite. All reported collections are from the Baywood fine sands of Los Osos. Not expected to occur based on the lack of suitable habitat.
Twisted horsehair lichen  Bryoria spiralifera	//1B.1	Largest known population is on the Samoa Peninsula in Humboldt Co. Possibly threatened by coastal development, air pollution, and climate change. Usually on Picea sitchensis, Pinus contorta var. contorta, Pseudotsuga menziesii, Abies grandis, and Tsuga heterophylla.	No suitable habitat present onsite. Not expected to occur.
		PLANTS	
Arroyo de la Cruz manzanita Arctostaphylos cruzensis	//1B.2	Perennial shrub; blooms from December to March; occurs between 60 and 310 meters in sandy soils; found in broadleaved upland forest, coastal bluff scrub, closed-cone coniferous forest, chaparral, coastal scrub and valley and foothill grassland. It is only known to occur in Monterey and San Luis Obispo Counties.	No suitable habitat present. Perennial shrub would have been identifiable if present. Not observed during surveys. Not present in the study area.
Beach spectaclepod  Dithyrea maritima	/T/1B.1	Rhizomatous, perennial herb; blooms March through May; found in sandy soils, usually near shore, in coastal dunes and coastal scrub habitats; ranges from 3 to 50 meters in elevation.	Species only known to occur on sand dunes along the coast. No suitable habitat present. Not observed during surveys. No expected to occur.
Betty's dudleya  Dudleya abramsii ssp. bettinae	//1B.2	Perennial succulent; blooms May through July and is endemic to coastal San Luis Obispo County west of Cerro Romualdo; found in chaparral, coastal scrub, and valley and foothill grasslands, usually on serpentine outcrops or shallow rocky soils; ranges in elevation from 20 to 180 meters.	No suitable habitat present due to lack of serpentine rock outcrops. Not observed during surveys, not expected to occur within study area or be affected by the project.
Blochman's dudleya  Dudleya blochmaniae ssp. blochmaniae	//1B.1	Perennial herb; blooms April through June; found on rocky, often clay or serpentine soils in coastal bluff scrub, chaparral, coastal scrub, and valley and foothill grassland; ranges from 5 to 450 meters in elevation.	No suitable habitat present. Not observed during surveys and not expected to occur within study area.
Blochman's leafy daisy Erigeron blochmaniae	//1B.2	Rhizomatous perennial herb; blooms July through August; ranges from 3 to 45 meters in elevation and occurs in coastal dunes and coastal scrub.	This species is restricted to coastal dunes along the immediate coastline. Not observed during surveys, not expected to occur within study area or be affected by the project.



Table 1. Special Status Biological Resources Known to Occur in the Project Vicinity:

Species	Status* Fed/CA/CDFW	Habitat Requirements	Project Site Suitability/Observations
Brewer's spineflower Chorizanthe breweri	//1B.3	Occurs in closed-cone coniferous forest, chaparral, cismontane woodland, and coastal scrub habitats on serpentine derived soils and rock outcrops, mostly in rocky and gravelly areas; ranges in elevation from 45 to 800 meters; annual herb; blooms May through August.	No suitable habitat present due to lack of serpentine rock outcrops and thin rocky soils. Not observed during surveys, not expected to occur within study area or be affected by the project.
California seablite Suaeda californica	E//1B.1	Perennial succulent shrub that grows along the margins of coastal salt marshes in a narrow elevation range from 0 to 5 meters; known to occur in the Morro Bay area.	No coastal salt marsh habitat present. Not observed during surveys, not expected to occur within study area or be affected by the project.
Cambria (San Luis Obispo County) morning-glory Calystegia subacaulis ssp. episcopalis	//4.2	Rhizomatous, perennial herb; blooms from April to May; occurs in chaparral, cismontane woodland, and sparse to dense grassland covering sloped or flat areas in clayrich soils; ranges from 60-500 meters; restricted to outer South Coast ranges in SLO and Santa Barbara Counties.	Onsite agricultural land not suitable for this species. Not observed during surveys and not expected to occur.
Chaparral ragwort Senecio aphanactis	//2B.2	Annual herb known to occur in foothill woodland, northern coastal scrub and coastal sage habitats typically on serpentine soils; blooms January through April.	No suitable habitat present. Not observed during surveys, and not expected to occur onsite.
Coast woolly threads  Nemacaulis denudata var. denudata	//1B.2	Annual herb that grows in coastal sand dunes in open spaces of the coastal strand; known to occur in the Montana de Oro area in sandy soils.	No suitable habitat present. Not observed during surveys, and not expected to occur onsite.
Coastal goosefoot  Chenopodium littoreum	//1B.2	Annual herb that grows on sandy flats in coastal dunes along wetland and salt marsh habitat. Typically found between 30 and 100 meters, and is known from the Morro Bay estuary.	No coastal dune or salt marsh habitat present. Not observed during surveys, not expected to occur within study area or be affected by the project.
Coulter's goldfields Lasthenia glabrata ssp. coulteri	//1B.1	Annual herb that grows in coastal salt marshes, playas, valley and foothill grassland, and vernal pools usually on alkaline soils from 1-1,400 meters.	No suitable habitat present. Not observed during surveys, not expected to occur within study area or be affected by the project
Cuesta Ridge thistle  Cirsium occidentale var.  lucianum	//1B.2	Perennial herb known to occur along the Cuesta Ridge in openings on steep rocky serpentinite slopes from 500 to 750 meters.	Study area is outside the known range for this species. No suitable habitat present due to lack of rocky serpentine soils. Not observed during surveys, not expected to occur within study area or be affected by the project.
Dacite manzanita  Arctostaphylos tomentosa ssp. daciticola	//1B.1	Perennial shrub known to occur in chaparral and cismontane woodland. Only one known occurrence of this species in SLO County on the porphyry buttes (Hollister Peak) east of Morro Bay	No suitable habitat for this species present onsite. Perennial shrub would have been identifiable if encountered onsite during the surveys. Not observed during surveys. Not present in the study area.
Dune larkspur Delphinium parryi ssp. blochmaniae	//1B.2	Perennial herb known to occur on sandy soils in coastal scrub, chaparral and strand habitats. Blooms from April through May.	No suitable habitat present onsite. Not observed during surveys and not expected to occur onsite.



Table 1. Special Status Biological Resources Known to Occur in the Project Vicinity:

Species	Status* Fed/CA/CDFW	Habitat Requirements	Project Site Suitability/Observations
Eastwood's larkspur  Delphinium parryi ssp. eastwoodiae	//1B.2	Perennial herb known to occur on serpentine based soils (clays) and outcrops in the general San Luis Obispo area with collections made on Camp San Luis Obispo. Blooms March to May.	No suitable habitat present due to lack of serpentine soils. Not observed during surveys, not expected to occur within study area or be affected by the project.
Jones' layia Layia jonesii	//1B.2	Annual herb; blooms March through May; occurs on clay soils in close association to serpentine outcrops in chaparral and valley and foothill grassland; ranges in elevation from 5 to 400 meters.	No suitable habitat present due to lack of rocky serpentine soils. Not observed during surveys, not expected to occur within study area or be affected by the project.
Marsh sandwort Arenaria paludicola	E/E/1B.1	Stoloniferous, perennial herb; blooms May to August; occurs in freshwater marshes and swamps, bogs and fens, and some coastal scrub, ranging from 3 to 170 meters in elevation; common associates include Typha, Juncus, and Scirpus.	No freshwater marsh or swamp habitat present. Not observed during surveys, not expected to occur within study area or be affected by the project.
Miles' milk-vetch  Astragalus didymocarpus var. milesianus	//1B.2	Annual herb; blooms March to June; found in coastal scrub habitats, typically occurring on clay soils; ranges in elevation 20 to 90 meters.	No suitable habitat present. Not observed during surveys, not expected to occur within study area or be affected by the project.
Morro manzanita Arctostaphylos morroensis	T//1B.1	Evergreen shrub; blooms December through March; ranges in elevation from 5 to 205 meters; typically found on sandy-loam or Baywood sands in chaparral, woodlands, coastal dunes and coastal scrub.	Project site is outside the known range of this species. Not observed during surveys. Not present onsite.
Most beautiful jewel- flower Streptanthus albidus ssp. peramoenus	//1B.2	Annual herb; blooms April through June; occurs on serpentine soils in chaparral, valley and foothill grassland, and cismontane woodland, ranging from 120 to 1000 meters in elevation.	No suitable habitat present due to lack of rocky serpentine soils. Not observed during surveys, not expected to occur within study area or be affected by the project.
Oso manzanita  Arctostaphylos osoensis	//1B.2	Perennial shrub known to occur in chaparral and cismontane woodland on the porphyry buttes east of Morro Bay.	No suitable habitat present. Shrub would have been identifiable if encountered during surveys. Not observed during surveys. Not present in the study area.
Palmer's monardella Monardella palmeri	//1B.2	Rhizomatous, perennial herb; blooms June through August; occurs on serpentine soils in chaparral and cismontane woodland habitats at elevations ranging from 200 to 800 meters.	No suitable habitat present due to lack of rocky serpentine soils. Not observed during surveys, not expected to occur within study area or be affected by the project.
Pecho manzanita  Arctostaphylos pechoensis	//1B.2	Perennial shrub; blooms November to March; occurs on siliceous shale in closed-cone coniferous forest, chaparral, and coastal scrub habitats, ranging from 170 to 1100 meters in elevation.	No suitable habitat present. Not observed during surveys. Not present in the study area.
Perennial goldfields  Lasthenia californica  ssp. micrantha	//1B.2	Annual herb found typically in northern coastal scrub habitat along the immediate coast; blooms January through November.	No suitable habitat present. Not observed during surveys. Not present in the study area.



Table 1. Special Status Biological Resources Known to Occur in the Project Vicinity:

Species	Status* Fed/CA/CDFW	Habitat Requirements	Project Site Suitability/Observations
Salt marsh bird's-beak  Chloropyron maritimum ssp. maritimum	E/E/1B.2	Annual herb known to occur along margins of salt marsh habitat and coastal dunes. Limited to the higher zones of the Morro Bay estuary.	No salt marsh habitat present. Not observed during surveys, not expected to occur within study area or be affected by the project.
San Benito fritillary Fritillaria viridea	//1B.2	Bulbiferous, perennial herb; blooms March to May; ranges from 200 to 1525 meters in elevation and occurs in chaparral on serpentine soils.	No suitable habitat present due to lack of rocky serpentine soils. Not observed during surveys, not expected to occur within study area or be affected by the project.
San Joaquin spearscale  Atriplex joaquinana	//1B.2	Annual herb that grows in seasonal alkali wetlands and alkali sink scrub typically found in the San Joaquin Valley. One recorded occurrence of this species from 1899 in CNDDB was from the vicinity of Morro Bay.	No suitable habitat present. Not observed during surveys, and unlikely to occur onsite.
San Luis mariposa-lily  Calochortus obispoensis	//1B.2	Bulbiferous, perennial herb; blooms May to July; ranges from 75 to 730 meters on sandstone, serpentine and/or sandy soils in chaparral, coastal scrub and valley and foothill grassland; endemic to San Luis Obispo County.	No suitable habitat present due to lack of rocky serpentine soils. Not observed during surveys, not expected to occur within study area or be affected by the project.
San Luis Obispo fountain thistle (Chorro Creek bog thistle) Cirsium fontinale var. obispoense	E/E/1B.2	Perennial herb; blooms February to July; ranges from 35 to 365 meters in elevation; occurs in chaparral and cismontane woodland habitats, often in serpentine seeps.	No suitable habitat present due to lack of serpentine seeps. Perennial plant was not observed during surveys, not expected to occur within study area or be affected by the project.
San Luis Obispo owl's clover Castilleja densiflora ssp. obispoensis	//1B.2	Annual herb; blooms in April; ranges from 10 to 400 meters in elevation and occurs in meadows, seeps, and valley and foothill grassland.	Agricultural land is disturbed which is not suitable for this species. Not observed during surveys during bloom period when it would have been identifiable. Not expected to occur onsite.
Southern curly-leaved monardella  Monardella undulata	//4.2	Annual herb; blooms May through September; occurs on dunes and sandy soils in coastal strand, chaparral, northern coastal scrub, coastal sage scrub, at elevations below 300 meters.	No suitable habitat present. Not observed during surveys. Not expected to occur within study area or be affected by the project.
Umbrella larkspur Delphinium umbraculorum	//1B.3	Perennial herb; found in granite of cismontane woodlands, chaparral, and coastal scrub; 85-1,035 meters in elevation; blooms May to July.	No suitable habitat present due to lack of granite soils. Not observed during surveys, not expected to occur within study area or be affected by the project.
		INVERTEBRATES	
Globose dune beetle Coelus globosus	/SA/	Inhabits coastal sand dune habitat in foredunes and sand hummocks most common beneath dune vegetation.	No suitable habitat present. Not expected to occur.
Mimic tryonia (=California brackishwater snail) Tryonia imitator	/SA/	Found only in permanently submerged areas in coastal lagoons.	No suitable habitat present. Not expected to occur.
Monarch butterfly Danaus plexippus	/SA/	Wind-protected tree groves of eucalyptus, Monterey pine and cypress with nectar and water sources nearby.	No suitable overwintering habitat present. Species likely forages in study area, but is not expected to use the study area or neighboring windrow of cypress for overwintering.



Table 1. Special Status Biological Resources Known to Occur in the Project Vicinity:

Species	Status* Fed/CA/CDFW	Habitat Requirements	Project Site Suitability/Observations
Morro Bay blue butterfly Plebejus icarioides moroensis	/SA/	Inhabits stabilized dunes and adjacent areas of coastal San Luis Obispo and NW Santa Barbara counties.	No suitable habitat present. Not expected to occur.
Morro shoulderband snail Helminthoglypta walkeriana	E//	Known to occur in coastal sage scrub and dune scrub habitats on Baywood fine sands near Morro Bay.	No suitable habitat present. Onsite soils are not suitable and no coastal scrub or large patches of iceplant or veldt grass are present that could potentially support this species. Site is separated from potentially suitable coastal dune scrub habitat further west by existing development and agriculture, so no opportunity for this species to move onto the property during winter rain season. Not expected to occur or be affected by the project.
San Luis Obispo pyrg  Pyrgulopsis taylori	/SA/	Freshwater habitats in San Luis Obispo County.	No suitable habitat present. Not expected to occur onsite or be affected by the project.
Sandy beach tiger beetle Cicindela hirticollis gravida	/SA/	Inhabits area adjacent to non- brackish water along the coast of California from San Francisco Bay to Northern Mexico.	No suitable habitat present. Not expected to occur.
		FISH	
Steelhead – South/Central California ESU Oncorhynchus mykiss irideus	T/SSC/	Fresh water, fast flowing, highly oxygenated, clear, cool stream where riffles tend to predominate pools.	No suitable habitat present. Known to occur in Chorro Creek. Not expected to occur onsite or be affected by the project.
Tidewater goby Eucyclogobius newberryi	E/SSC/	Brackish water habitats along the California coast from San Diego county to Del Norte county.	No suitable habitat present. Known to occur in Chorro Creek and the mouth of Los Osos Creek. Not expected to occur onsite or be affected by the project.
3		AMPHIBIANS/REPTILES	
California red-legged frog Rana draytonii	T/SSC/	Lowland and foothills in or near permanent or semi-permanent sources of deep water (at least 0.5 meter) bordered by emergent wetland and/or riparian vegetation. May use a variety of aquatic and upland habitats during the year for refugia and dispersal.	No suitable habitat present. Not expected to occur onsite or be affected by the project.
Coast horned lizard  Phrynosoma blainvillii	/SSC/	Frequents a wide variety of habitat including sandy washes with scattered shrubs and open areas for sunning. Loose soils for burial.	No suitable habitat present. Not expected to occur onsite or be affected by the project.
Silvery/Black legless lizard Anniella pulchra	/SSC/	Sandy or loamy soils in valley and foothill woodlands, chaparral, coastal scrub and coastal dunes.	No suitable habitat present. No dune scrub habitat that could support this fossorial lizard. Not expected to occur onsite or be affected by the project.
Southern Pacific (western) pond turtle Emys marmorata	/SSC/	Basking sites such as partially submerged logs, vegetation mats, or open mud banks.	No suitable habitat present. Not expected to occur onsite or be affected by the project.
	· · · · · · · · · · · · · · · · · · ·	BIRDS	
California black rail Laterallus jamaicensis coturniculus	/T/	Freshwater marshes, wet meadows and shallow margins of saltwater marshes bordering larger bays.  Needs water depths of about 1 inch that does not fluctuate and dense vegetation for nesting.	No suitable habitat present. Not expected to occur.



Table 1. Special Status Biological Resources Known to Occur in the Project Vicinity:

Species	Status* Fed/CA/CDFW	Habitat Requirements	Project Site Suitability/Observations
California clapper rail Rallus longirostris obsoletus	E/E/	Occurs in salt-water and brackish marshes traversed by tidal sloughs with abundant growths of pickleweed.	No suitable habitat present. Not expected to occur.
Cooper's hawk Accipiter cooperii	/WL/ (nesting)	Wooded areas. Nests in tall trees and often hunts around human structures.	No suitable roosting or nesting habitat within cultivation area. Windrow to the west of on site buildings could support both roosting and nesting habitat for this species. Ornamental trees were searched during field work and no stick nests observed. Low probability to nest onsite, but could forage.
Western snowy plover Charadrius alexandrinus nivosus	T/SSC/ (nesting)	Sandy beaches, salt pond levees or shores of large alkali lakes. Sandy, gravelly or friable soils required for nesting. Federal listing refers only to the Pacific coastal population.	No suitable habitat present. Not expected to occur.
		MAMMALS	
American badger Taxidea taxus	/SSC/	Friable soils and open, uncultivated ground for denning. Preys on burrowing rodents such as ground squirrels.	Badgers known to occur in the region, but agricultural field does not provide suitable denning habitat and no significant prey base such as ground squirrels was observed. Not expected to occur.
Big free-tailed bat Nyctinomops macrotis	/SSC/	Occurs in low lying arid areas of Southern California. Needs high cliffs or rocky outcrops for roosting sites. Feeds primarily on large moths.	No suitable roosting habitat present. Not expected to occur.
Morro Bay kangaroo rat Dipodomys heermanii morroensis	E/E/	Coastal sage scrub on the south side of Morro Bay. Needs sandy soil on stabilized dunes with vegetation.	No suitable habitat present. Not expected to occur.
Pallid bat Antrozous pallidus	/SSC/	Occurs in deserts, grasslands, shrublands, woodlands, and forests. Most common in open, dry habitats with rocky areas for roosting. Roosts under bridges and in some areas in old structures such as barns.	No suitable roosting habitat present. Not expected to occur.
Townsend's western big-eared bat Corynorhinus townsendii townsendii	/-SSC/	Requires caves, tunnels, mines, or similar man-made structures for roosting. This bat feeds primarily on moths, but will eat a variety of soft-bodied insects.	No suitable roosting habitat present. Not expected to occur onsite or be affected by the project.
	e contracted the statement of the statem	NATURAL COMMUNITIES	
Central Dune Scrub			Not present
Central Maritime Chaparral			Not present
Coastal Brackish Marsh			Not present
Coastal Valley Freshwater Marsh			Not present
Northern Coastal Salt Marsh			Not present
Bunchgrass Grassland (purple needlegrass)			Not present
Central Coast Arroyo Willow Riparian Forest			Not present

<sup>\*</sup>E = Endangered; T = Threatened; R = Rare CE = Candidate for Endangered Status; SSC = Califomia Species of Special Concern; FP = Fully Protected; WL = Watch List; SA — Special Animal; '--' = no status; List 18 — Rare, threatened, or endangered in California and elsewhere; List 2 — Rare, threatened or endangered in California, but more common elsewhere; List 4 — Limited distribution (Watch List). Source: California Natural Diversity Database (CDFW, 2018); California Native Plant Society Online Inventory of Rare Plants, accessed April 2018 (online at www.cnps.org); Special Animals List (CDFW 2018); Special Vascular Plants, Bryophytes, and Lichens List (CDFW 2018).

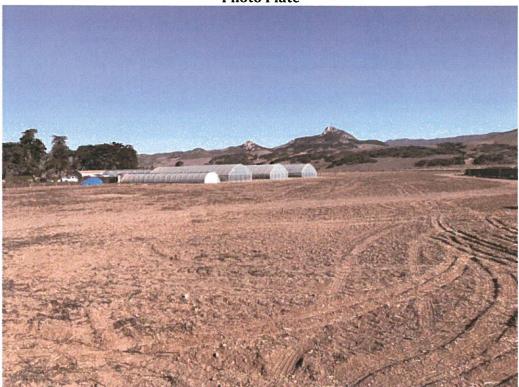


Table 2. List of Plants Observed During Field Surveys.

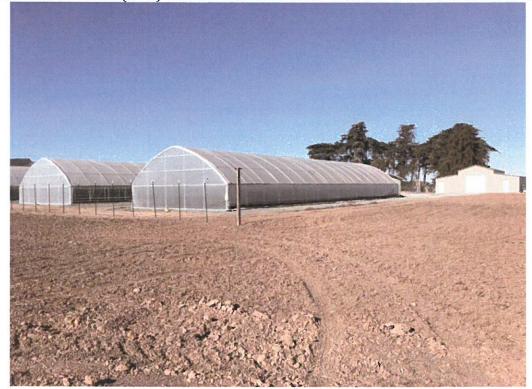
Scientific Name*	Common Name	
Ambrosia psilostachys	Ragweed	
Avena barbata*	Slender wild oats	
Baccharis pilularis	Coyote brush (young plants are mowed regularly)	
Brassica nigra*	Black mustard	
Bromus diandrus*	Ripgut brome	
Bromus hordeacous*	Soft chess	
Bromus madritensis ssp. rubens*	Red brome	
Carduus pycnocephalus*	Italian thistle	
Conyza canadensis	Horseweed	
Cynodon dactylon*	Bermuda grass	
Erodium botrys*	Filaree	
Erodium cicutarium*	Red-stemmed filaree	
Festuca perenne (=Lolium multiflorum)*	Italian ryegrass	
Foeniculum vulgare*	Fennel	
Gnaphalium californica	California everlasting	
Hesperocyparis (=Cupressus) macrocarpa*	Monterey cypress (planted individuals)	
Hirschfeldia incana*	Summer mustard	
Hordeum murinum ssp. leporinum*	Foxtail	
Lactuca serriola*	Wild lettuce	
Malva nicaaensis*	Bull mallow	
Matricaria matricarioides*	Pineapple weed	
Medicago polymorpha*	Bur clover	
Melilotus sativa*	Sweet cicily	
Oxalis pes-caprae*	Bermuda buttercup	
Plantago lanceolata*	English plantain	
Rumex acetosella*	Sheep sorrel	
Sonchus asper*	Prickly sow thistle	
Vicia sp.	Beans (in cover crop – likely bell or fava)	
Vicia villosa ssp. villosa*	Hairy vetch	
Vulpia myuros*	Rattail fescue	

<sup>\*</sup>Asterisk identifies non-native species.

# **Photo Plate**



**Photo 1.** Northerly view of site showing greenhouses in an agricultural field. Monterey cypress trees are visible to the left (west) behind residence and Los Osos WWTF fence is visible to the right.



**Photo 2.** Westerly view of greenhouses in agricultural field. Monterey cypress trees behind residence are also visible.





**Photo 3.** Westerly view of greenhouses in the agricultural field. Field is disturbed regularly by farming and no native habitat was present in the study area.

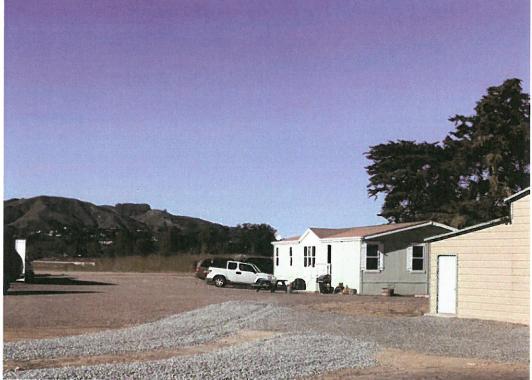


Photo 4. Southerly view of residence and parking area mapped as ruderal/disturbed.