Appendix C.2

Biological Survey Report
MIG, Inc.

Botanical Resources Survey Report

Oasis at Indio
Indio, Riverside County, California

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Table of Contents

1 Introduction

This report details the outcome of MIG's botanical surveys conducted on the 180-acre property of the Oasis at Indio Project. The goal of this report is to assess the presence of botanical resources, including sensitive plant taxa (species, subspecies, and varieties) and sensitive plant communities, within the project site to evaluate the potential impacts of the proposed development on these protected resources. The report provides a comprehensive overview of methods, findings, and conclusions, adhering to established protocols set forth by organizations including the California Native Plant Society (CNPS), California Department of Fish and Wildlife (CDFW), and U.S. Fish and Wildlife Service (USFWS). Prepared in compliance with the guidelines of the California Environmental Quality Act (CEQA), this report is structured to facilitate CEQA review and resource agency permits, if any are required. Project Site Location

The 180-acre project site is located at 42501 Monroe Street, south of Avenue 42 between Madison Street and Monroe Street and north of the 10 Freeway in the City of Indio, San Bernardino County, California. The project is located within Section 15, Township 5S, Range 7E within the United States Geological Survey (USGS) 7.5-minute series Indio quadrangle (Figure 1, *Regional Map*, Figure 2, *USGS Topographic Map*). The project site includes Assessor Parcel Numbers (APNs) 610-020-001, -010, -012, -013, -021, -034, and -036, (Figure 3, *Project Site Map*). The project site is flat, with elevations ranging between 5-25 feet above mean sea level (AMSL) (Figure 2, *USGS Topographic Map*).

The project site is primarily surrounded by a mix of land use types, including agriculture and residential homes to the north; a gas station and shopping center to the east; vacant land with a dune berm and storm-flow ephemeral waterway to the west; and the 10 freeway, Thousand Palm Canyon Wash, and vacant lands to the south (Figure 3). The project site consists mainly of vacant lots that have historically been used for agriculture, most recently for sod grass. The dune berm adjacent to the project site was previously covered in tamarisk and other stabilizing plants; however, in approximately 2020 all vegetation on the berm was burned in a fire attributed to the homeless population. The project site is highly disturbed due to previous agricultural uses and is covered in fine windblown dune sands, mainly originating from dunes adjacent to the western side of the property. The site has been regularly maintained by mowing, and hence, only emergent tamarisk, saltbush, and smaller herbs, grasses, and shrubs have emerged since agricultural operations. Most of the vegetation on the site is ruderal; however, some native plants were observed on the site.

1.1 Project Site Description

The project will consist of multi-family residential/commercial/retail areas on the north side of the site, totaling approximately 75 acres. The southern portion will contain approximately 95+ acres of industrial development. Just over 1.8 million square feet of industrial development is expected to be constructed.

2 Regulatory Setting

The following discussion identifies federal, state, and local environmental regulations and policies that protect sensitive biological resources relevant to the proposed project site and any subsequent CEQA review process.

2.1 Federal

2.1.1 Federal Endangered Species Act

The Federal Endangered Species Act (FESA) of 1973, as amended, provides the regulatory framework for the protection of plant and animal species (and their associated critical habitats) that are formally listed, proposed for listing, or candidates for listing as endangered or threatened under the FESA. The U.S. Fish and Wildlife Service (USFWS) and the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries) share the responsibility for the administration of the FESA. The FESA has the following four major components: (1) provisions for listing species, (2) requirements for consultation with the USFWS and/or the NOAA Fisheries, (3) prohibitions against "taking" (meaning harassing, harming, hunting, shooting, wounding, killing, trapping, capturing, or collecting, or attempting to engage in any such conduct) of listed species, and (4) provisions for permits that allow incidental "take". The FESA also discusses recovery plans and critical habitat designation for listed species. Section 7 requires Federal agencies, in consultation with and with the assistance of the USFWS or NOAA Fisheries, as appropriate, to ensure that actions they authorize, fund, or carry out are not likely to jeopardize the continued existence of threatened or endangered species or result in the destruction or adverse modification of critical habitat for these species. Non-federal agencies and private entities can seek authorization to take federally listed species under Section 10 of FESA, which requires the preparation of a Habitat Conservation Plan (HCP).

2.2 State

2.2.1 California Endangered Species Act

California enacted similar laws to the FESA, including the California Native Plant Protection Act (NPPA) in 1977 and the California Endangered Species Act (CESA) in 1984. The CESA expanded upon the original NPPA and enhanced legal protection for plants, but the NPPA remains part of the California Fish and Game Code (CFGC) (section 2.2.2). To align with the FESA, CESA created the categories of "threatened" and "endangered" species. It converted all designated "rare" animals into the CESA as threatened species but did not do so for special-status plants. Thus, these laws provide the legal framework for protecting California-listed rare, threatened, and endangered plant and animal species. The California Department of Fish and Wildlife (CDFW) implements NPPA and CESA, and its Wildlife and Habitat Data Analysis Branch maintains the California Natural Diversity Database (CNDDB), a computerized inventory of information on the general location and status of California's rarest plants, animals, and natural communities. During the CEQA review process, the CDFW is given the opportunity to comment on the potential of the proposed Project to affect listed plants and animals.

2.2.2 Native Plant Protection Act

The NPPA of 1977 (CFGC, §§ 1900 through 1913) directed the CDFW to carry out the Legislature's intent to "preserve, protect and enhance rare and endangered plants in this State." The NPPA is administered by the CDFW, which has the authority to designate native plants as endangered or rare and to protect them from "take."

2.2.3 California Environmental Quality Act

CEQA was enacted in 1970 to provide for full disclosure of environmental impacts to the public before the issuance of a permit by state and local public agencies. CEQA (Public Resources Code Sections 21000 et. seq.) requires public agencies to review activities that may affect the quality of the environment so that consideration is given to preventing damage to the environment. When a lead agency issues a permit for development that could affect the environment, it must disclose the project's potential environmental effects. This is done with an Initial Study and Negative Declaration (or Mitigated Negative Declaration) or an Environmental Impact Report. Certain classes of projects are exempt from detailed analysis under CEQA. CEQA Guidelines Section 15380 defines endangered, threatened, and rare species for purposes of CEQA and clarifies that CEQA review extends to other species not formally listed under the CESA or FESA but that meet specified criteria.

2.2.4 Other Sensitive Plants – California Native Plant Society

The California Native Plant Society (CNPS), a non-profit plant conservation organization, publishes and maintains an Inventory of Rare and Endangered Vascular Plants of California in both hard copy and electronic versions (http://www.cnps.org/cnps/rareplants/inventory/).

The Inventory assigns plants to the following categories:

- 1A Presumed extinct in California;
- 1B Rare, threatened, or endangered in California and elsewhere;
- 2 Rare, threatened, or endangered in California, but more common elsewhere;
- 3 Plants for which more information is needed – A review list; and
- 4 Plants of limited distribution – A watch list.

Additional endangerment codes are assigned to each taxon as follows:

- 1 Seriously endangered in California (over 80% of occurrences threatened/high degree of immediacy of threat).
- 2 Fairly endangered in California (20-80% occurrences threatened).
- 3 Not very endangered in California (<20% of occurrences threatened or no current threats known).

Plants on Lists 1A, 1B, and 2 of the CNPS Inventory consist of plants that may qualify for listing by the CDFW and other state agencies (e.g., California Department of Forestry and Fire Protection). As part of the CEQA process, such species should be fully considered, as they meet the definition of threatened or endangered under the NPPA and Sections 2062 and 2067 of the CFGC. California Rare Plant Rank 3 and 4 species are considered plants that more information is needed or are uncommon enough that their status should be regularly monitored. Such plants may be eligible or may become eligible for state listing, and CNPS and CDFW recommend that these species be evaluated for consideration during the preparation of CEQA documents (CNPS 2001, CDFW 2018).

2.2.5 California Fish and Game Code Section 1600-1603

Streams, lakes, and riparian vegetation, as habitat for fish and other wildlife species, are subject to jurisdiction by the CDFW under Sections 1600-1616 of the CFGC. Any activity that will do one or more of the following: (1) substantially obstruct or divert the natural flow of a river, stream, or lake; (2) substantially change or use any material from the bed, channel, or bank of a river, stream, or lake; or (3) deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it can pass into a river, stream, or lake generally require a 1602 Lake and Streambed Alteration Agreement. The term “stream,” which includes creeks and rivers, is defined in the California Code of Regulations (“CCR”) as follows: “a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life.” This includes watercourses having a surface or subsurface flow that supports or has supported riparian vegetation” (14 CCR 1.72). In addition, the term stream can include ephemeral streams, dry washes, watercourses with subsurface flows, canals, aqueducts, irrigation ditches, and other means of water conveyance if they support aquatic life, riparian vegetation, or stream-dependent terrestrial wildlife (CDFW 1994). Riparian vegetation is “vegetation which occurs in and/or adjacent to a stream and is dependent on and occurs because of, the stream itself” (CDFW 1994). In addition to impacts to jurisdictional streambeds, removal of riparian vegetation also requires a Section 1602 Lake and Streambed Alteration Agreement from the CDFW.

2.2.6 Sensitive Natural Communities

Sensitive natural communities are habitats that are unique in constituent components, of relatively limited regional distribution, or of exceptionally high wildlife value. These communities may or may not necessarily contain special-status species. Sensitive natural communities are usually identified in local or regional plans, policies, or regulations, or by the CDFW or the USFWS. The CNDDB identifies many natural communities as rare and given the highest inventory priority (CDFW 2023a). Impacts on sensitive natural communities and habitats must be considered and evaluated under the CEQA (CCR: Title 14, Div. 6, Chap. 3, Appendix G).

2.3 Local

2.3.1 Coachella Valley Multiple Species Habitat Conservation Plan

The Coachella Valley Multiple Species Habitat Conservation Plan (CVMSHCP), approved in 2008, was created to conserve species and the ecosystems that support them while supporting the economic development of the region. The multijurisdictional plan includes the following permittees: Coachella Valley Association of Governments, Coachella Valley Conservation Commission, Riverside County, Riverside County Flood Control, Riverside County Parks, Riverside County Department of Waste Resources, Coachella Valley Water District, Imperial Irrigation District, Mission Springs Water District, Caltrans, Cathedral City, Coachella (city), Desert Hot Springs (city), Indian Wells (city), Indio (city), La Quinta (city), Palm Desert (city), Palm Springs (city), Rancho Mirage (city), Coachella Valley Mountains Conservancy, and State Parks. The CVMSHCP is administered by the Coachella Valley Conservation Commission, as a joint powers authority with elected representatives. The CVMSHCP covers 27 sensitive habitats within

designated Conservation Areas and 22 wildlife and 5 plant species. The Conservation Areas, where species and habitat preservation have distinct objectives for the conservation of adequate habitat and reducing the impacts of habitat fragmentation, require more protection measures than undesignated areas within the CVMSHCP plan area. The project site is located within the plan boundaries but is not within a Conservation Area. Areas within the plan boundaries that are not targeted for conservation are generally required to pay a Local Development Mitigation Fee to support the administration of the CVMSHCP.

3 Methods

3.1 Literature Search

Prior to conducting field surveys, MIG biologists reviewed available background information pertaining to the biological resources on and in the vicinity of the project. Available literature and resource mapping reviewed included the occurrence records for special-status plant species and sensitive natural communities and numerous other information sources listed below:

- CNDDB record search for State and Federally Listed Endangered, Threatened, and Wildlife and Rare Plants of California within the Indio and surrounding eight USGS quadrangles: La Quinta, West Berdoo Canyon, Myoma, Mecca, Valerie, Martinez Mountain, Thermal Canyon, and Rockhouse Canyon (CDFW CNDDB 2024; Appendix A)
- CNPS Rare Plant Program, Inventory of Rare and Endangered Plants of California (CNPS 2024) records search within the Indio and surrounding eight USGS quadrangles (Appendix A)
- USFWS Information for Planning and Consultation (IPaC; USFWS 2024; Appendix A)
- Soil Survey Staff, Natural Resource Conservation Service (NRCS), United States Department of Agricultural (USDA NRCS 2024)
- CDFW California Natural Community List (CDFW 2023)
- USFWS National Wetlands Inventory (USFWS 2024b)
- iNaturalist, Search for Observations in Coachella Valley, Riverside County, CA (2024)
- Coachella Valley Multiple Species Habitat Conservation Plan (CVMSHCP)

3.2 Special-Status Plant Species Habitat Assessment

The potential occurrence of special-status plant species on the project site was initially evaluated by conducting a 9-quadrangle database records search[1] of CNDDB, CNPS Electronic Inventory, and the USFWS IPaC database (Appendix B) to ensure a complete list of species was generated for the habitat assessment. Following the records search, the list of special-status species was developed (see Appendix C), and subsequently, listing status and habitat information was summarized for each species for comparison with habitats within the project site. The species list was further refined by evaluating the habitat requirements of each species relative to the conditions observed during the field survey conducted by MIG biologists (see column titled “Discussion” in Appendix C; also see MIG 2024). Species that would not be expected on-site are not evaluated further, and no recommendations are provided for these species (see last column of Appendix C, species indicated with the classification of “None”).

[1] A 9-quadrangle search is conducted using a U.S. Geological Survey 7.5-minute topographic quadrangle map. The search includes the quadrangle where the project is located (Indio) and the eight surrounding quadrangles (La Quinta, West Berdoo Canyon, Myoma, Mecca, Valerie, Martinez Mountain, Thermal Canyon, and Rockhouse Canyon).

Nomenclature used for plant names follows the Second Edition of The Jepson Manual (Baldwin et al. 2012), and any changes made to species nomenclature as published in scientific journals since the publication.

3.3 Field Surveys

MIG biologist Elizabeth Kempton, PhD, conducted a biological field survey on foot on December 27, 2023, and April 4, 2024. The survey assessed the project site's existing conditions, including recording observed plant species and vegetation communities. Based on the habitat assessment previously completed for the project (MIG 2024; see Attachment C), the survey focused on species that had the potential to occur. These species included the following identified in Table 1, provided in the *Results* section below. Two visits were required to capture the correct blooming time for these species.

The “survey area” included the “project site” plus a 200-foot buffer around the project grading footprint. The field survey was floristic in nature, documented all plant species located on the survey (Attachment E, Floral Compendium), and was consistent with protocols provided by the California Native Plant Society (2001), California Department of Fish and Wildlife (2018), and United States Fish and Wildlife Service (2000) for a field survey.

3.3.1 Plant Communities

During the field survey, the MIG biologist traversed the entire project site by foot and evaluated the suitability of on-site vegetation communities to support special-status species. An attempt was made to classify plant communities according to the Second Edition of the Manual of California Vegetation (MCV) (Sawyer et al. 2009) classification system, as this method is preferred (but not required) by CDFW. However, for certain vegetation types, this system is too species-specific in its definitions of plant associations and alliances and does not accurately characterize the highly variable species composition of plant communities. For this project site, it was necessary to identify variants of plant community types for ruderal and ornamental plant assemblages and unvegetated areas not described in the literature. The List of California Natural and Terrestrial Communities (CDFW 2023) was consulted to determine whether rare or sensitive plant communities are present. In addition, plant communities were evaluated to determine if they are considered sensitive under federal and/or other state regulations and local policies. Plant communities within the project site were mapped in the field onto a color aerial photograph and digitized into ArcView Geographic Information System (GIS) shapefiles. The habitat types covered by the CVMSHCP are only covered in specified Conservation Areas of the CVMSHCP, and although discussed in this report these do not require additional mitigation.

4 RESULTS

4.1 Plant Communities & Associated Wildlife Habitats

Plant communities on-site were evaluated to determine if they are considered sensitive under federal, state, or local regulations or policies. As defined by CEQA and other applicable laws and regulations, biological communities were classified as sensitive or non-sensitive. The 180-acre project site is considered highly disturbed due to previous agricultural uses and mowing and is covered in fine windblown dune sands, mostly originating from dunes adjacent to the western side of the property. Most of the 180-acre project site is unvegetated with sparse emergent tamarisk, saltbush, and smaller herbs, grasses, and shrubs. Most of the vegetation on the site is largely ruderal; however, this includes some native plants. The landcover type observed during the field survey is described below.

Disturbed and/or Developed (180 acres)

The entire project site has been historically altered by agriculture, and as such, all the landcover at the project site can be classified as Disturbed and/or Developed. However, the species composition observed on the site is discussed below. None of the dominant species observed on the property constitute components of Sensitive Natural Communities following CDFW lists. Most of these species are known to occupy disturbed areas, and due to the community structure of being variously dominant (scattered) were not mapped.

During the Winter 2023 visit, limited annual species were observed. By far, the most dominant perennial species at the site was the tamarisk (*Tamarix ramosissima*). As specified in the GBRA for the project (MIG 2024), the percent cover of dominant plants (tamarisk) is too low of total percent cover (<2%) and does not correspond to any membership rules for Tamarisk Thickets (*Tamarix* spp. Shrubland Semi-Natural Alliance) recognized by the MCV. In addition to tamarisk being present, emergent native shrubs are also present (primarily saltbush; especially on the east side of the property has been used less extensively for agriculture). Much of the vegetation on the site is non-native, and vegetation on the site is cleared regularly to comply with the fire code.

Based on the Spring 2024 field visit, the dominant vegetation primarily consisted of annuals, which were variously dominant throughout the property, including (asterisk [*] indicates non-native): *Chenopodium murale* (nettle leaf goosefoot), *Eulobus californicus* (California primrose), *Chylismia claviformis* ssp*. aurantiaca* (pinnate-leaved primrose*), Cynodon dactylon* (Bermuda grass)*, *Tribulus terrestris* (puncture vine)*, *Schismus barbatus* (schismus)*, *Malva parviflora* (cheeseweed)*, *Salsola tragus* (Russian thistle)*, *Brassica tournefortii* (Saharan mustard)* and *Sisymbrium* spp. (tumble mustards). Of note, the three most dominant annuals throughout the site (*Chenopodium murale, Eulobus californicus, and Chylismia claviformis*) are native species, but they commonly occur in disturbed areas.

Aeolian sands. Dune-like sands present on the project site may qualify as aeolian sand dunes; however, these are covered by the establishment of the Conservation Areas included in the CVMSHCP that mitigate for loss of aeolian sands. Since these sands are not considered a Natural Vegetation Community or habitat considered sensitive by the CDFW, these scattered locations

are not mapped, and no additional mitigation is required. Since aeolian sands are covered in Conservation Areas, no further discussion about this habitat type is warranted.

4.2 Sensitive Plant Communities and Critical Habitat

No sensitive plant communities were observed on the project site, and the site does not exhibit the characteristic attributes that may support sensitive plant species, such as the known distribution and elevation, landscape position, plant species composition, soil and/or substrate type, water chemistry, and/or hydroperiod, because vegetation on the project site has been regularly removed, and past agricultural uses have disturbed the soil profile. The CDFW CNDDB search indicates that one Sensitive Plant Community (Desert Fan Palm Oasis Woodland) occurs within the vicinity (see the end of Appendix C); however, no evidence of this community was found during the site survey.

A search of the IPAC database (2024) determined that no USFWS-designated critical habitat areas for any federally listed animals are present.

4.3 Special-Status Plants

Special-status plants are defined here to include: (1) plants that are federal- or state-listed as rare, threatened, or endangered, (2) federal and state candidates for listing, (3) plants assigned a Rank of 1 through 4 by the CNPS Inventory, and (4) plants that qualify under the definition of "rare" in the CEQA, section 15380. The project site was initially determined to provide potentially suitable habitat for a total of 80 special-status plant species based on the proximity of the project to previously recorded occurrences in the region, vegetation types and habitat quality, topography, elevation, soil types, and other species-specific habitat requirements (CDFW CNDDB 2022). Based on the results of the habitat suitability analysis conducted on November 17th and 23rd, 2022 (MIG 2024), the site was determined to have potentially suitable habitat for nine (9) of the 44 plant species. A table presenting the special-status plant species considered and evaluated for their potential occurrence on the project site, including plant species' habitat requirements and reported blooming periods, is provided below in Table 1, and the species returned from database searches are included in Appendix C.

Table 1. Species Targeted for Field Survey

Species	Form/Bloom Time	Target Survey Time	Result
Chaparral sand-verbena *Abronia villosa* var. *aurita*	Annual herb; Blooms (January) March to September	April 4, 2024	**Not detected.**
Borrego milk-vetch *Astragalus lentiginosus* var. *borreganus*	Annual herb; Blooms February-May	April 4, 2024	**Not detected.**
Coachella Valley milk-vetch Astragalus lentiginosus var. *coachellae*	Annual/perennial herb; Blooms February-May	April 4, 2024	**Not detected.**
Gravel milk-vetch *Astragalus sabulonum*	Annual/perennial herb; Blooms February-June	April 4, 2024	**Not detected.**
Glandular ditaxis *Ditaxis claryana*	Perennial herb; Blooms October-March	December 27, 2023	**Not detected.**
Flat-seeded spurge *Euphorbia platysperma*	Annual herb; Blooms February-September	April 4, 2024	**Not detected.**
Ribbed cryptantha *Johnstonella costata*	Annual herb; Blooms February-May	April 4, 2024	**Not detected.**
Slender cottonheads *Nemacaulis denudata* var. *gracilis*	Annual herb; Blooms (March) April-May	April 4, 2024	**Not detected.**
Narrow-leaf sandpaper-plant *Petalonyx linearis*	Perennial shrub; Blooms (January-February) March-May (June-December)	April 4, 2024	**Not detected.**

The sensitive plant species for which suitable habitat occurs on the site include (asterisk indicates species covered by the CVMSHCP): chaparral sand-verbena (*Abronia villosa* var. *aurita*), Borrego milk-vetch (*Astragalus lentiginosus* var. *borreganus*), Coachella Valley milk-vetch (*Astragalus lentiginosus* var. *coachellae*)*, gravel milk-vetch (*Astragalus sabulonum*), glandular ditaxis (*Ditaxis claryana*), flat-seeded spurge (*Euphorbia platysperma*), ribbed cryptantha (*Johnstonella costata*), slender cottonheads (*Nemacaulis denudata* var. *gracilis*), and narrow-leaf sandpaper-plant (*Petalonyx linearis*). All of these species may occur in fine sands (dune sands) similar to those that are present in scattered locations of the project site, especially on the southwest portion. These plants have a lowered potential to occur due to the agricultural uses previously occurring on the site (classified as moderate rather than high potential), but due to the ongoing establishment of wind-blown dune sand (and seeds of plants that may travel along with the sand), there is still some potential that they could occur. While none of these plants were found on the project site, it is possible that one of these plants could occur on the project site in the future, and therefore, one recommendation is provided below.

5 Conclusions and Recommendations

No rare plants were identified during focused surveys performed on the Oasis at Indio Project. Based on the presence of suitable habitat, one recommended mitigation measure is provided to mitigate potential impacts to sensitive plants should they encroach on the project site in the future.

Recommendation BIO-1. Pre-construction Protocol Surveys for Rare Plants. If the project is not developed within two years subsequent to CEQA document approval, a pre-construction

survey for Special-status plants shall be required. Surveys shall be limited to areas with the aeolian fine/dune sands on-site and shall be conducted prior to ground disturbance at the project site. Surveys shall be conducted by a Qualified Botanist as determined by CVCC and Wildlife Agencies. Special-status plant surveys shall be conducted in accordance with accepted protocols, including the *Protocols or Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities* (CDFW 2018), *CNPS Botanical Survey Guidelines* (1983, rev. 2001). If a special-status plant is found on the site, in consultation with the Wildlife Agencies, the Applicant shall develop a mitigation and avoidance plan that incorporates avoiding plants during flowering times, topsoil salvage, seed collection, and/or relocation of plants.

A Qualified Botanist is an individual who has a degree in biological sciences or related resource management with a minimum of two seasonal years post-degree experience conducting surveys for rare plants. During or following academic training, the qualified biologist will have achieved a high level of professional experience and knowledge in special-status plant species identification, ecology, and habitat requirements.

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Appendix A. Figures

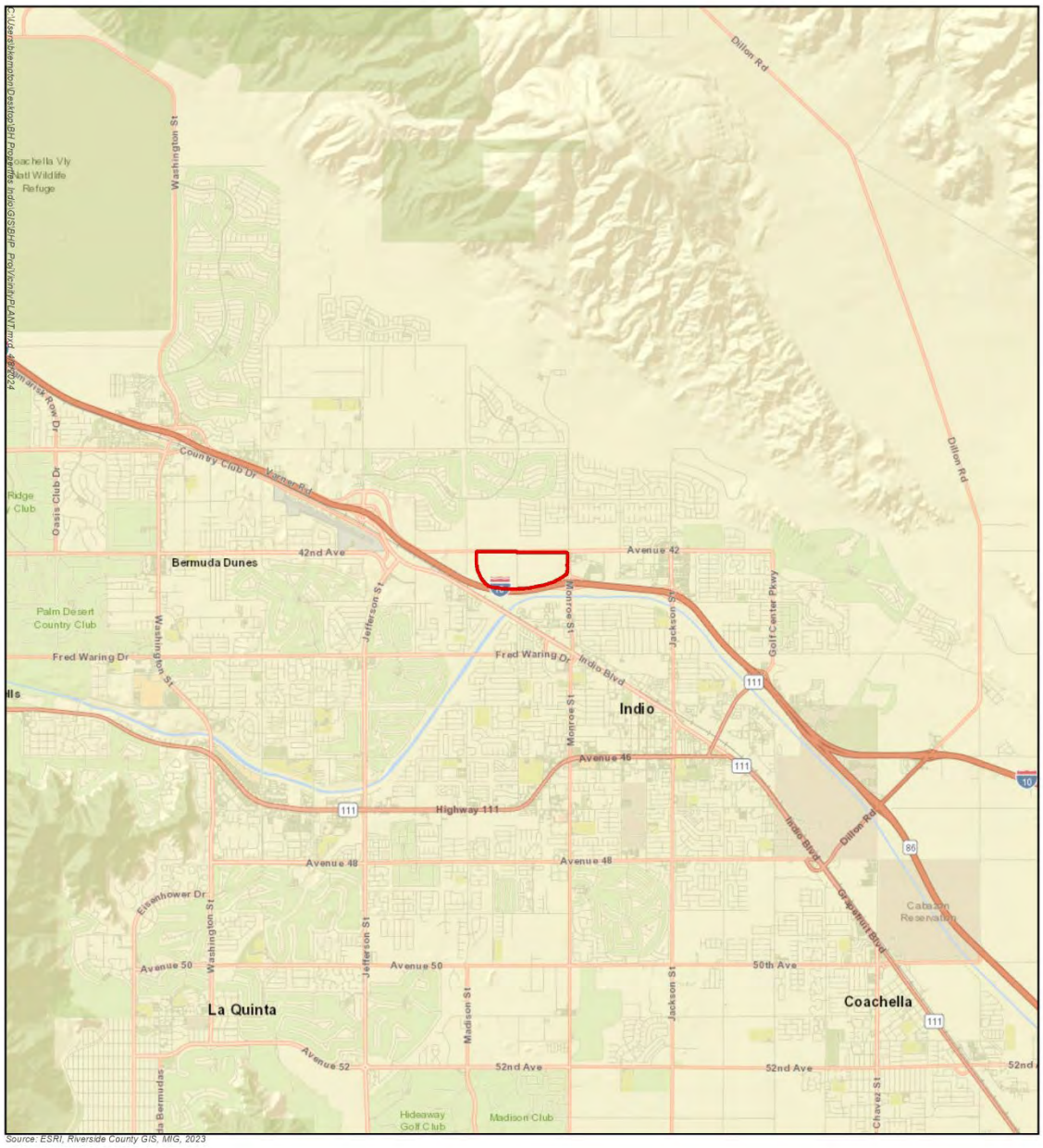

Figure 1. Project Vicinity Map
42501 Monroe Street Project
Indio, CA
BH Properties

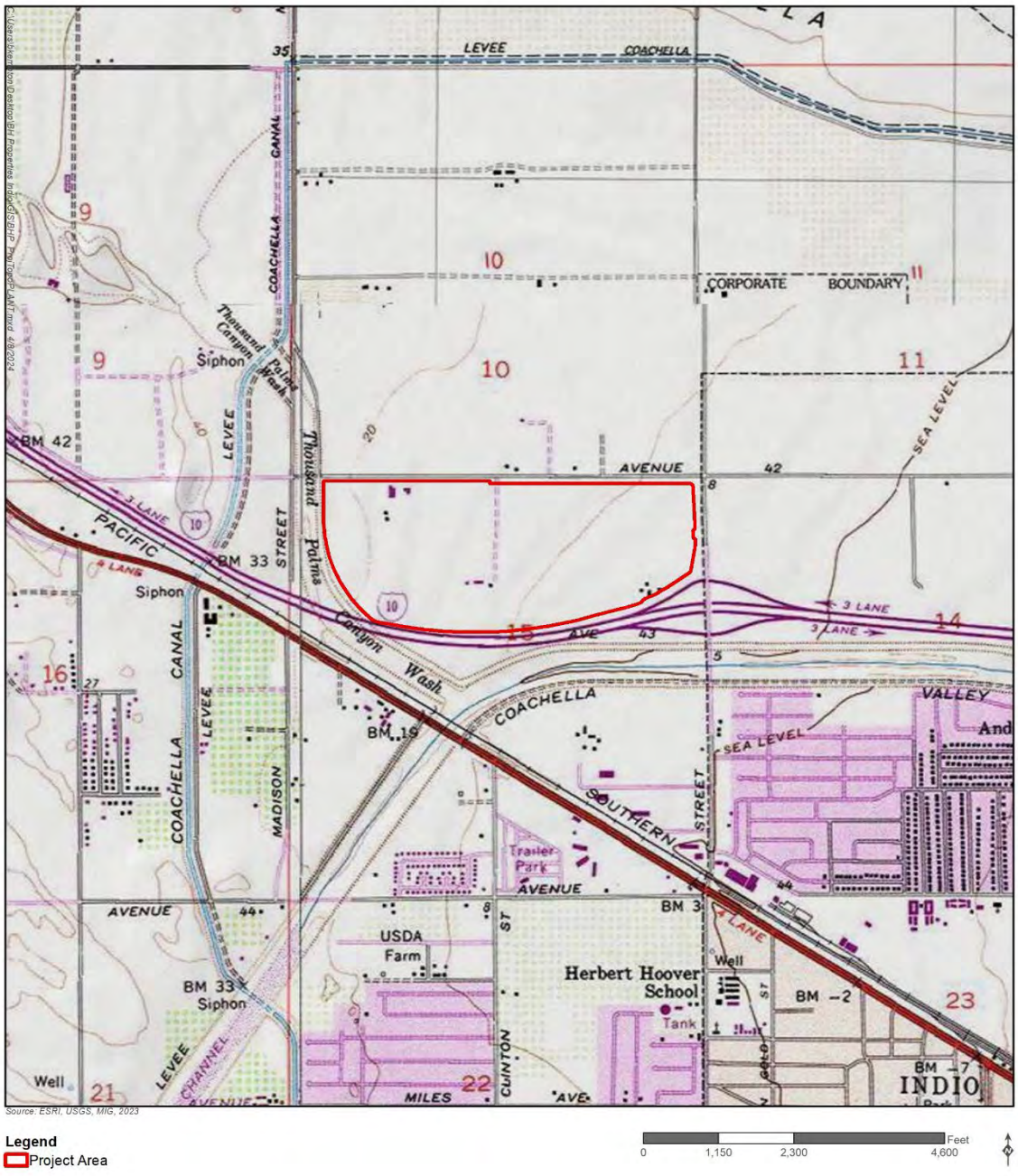

Figure 2. USGS Topographic Map
42501 Monroe Street Project
Indio, CA
BH Properties

Figure 3. Project Location
42501 Monroe Street Project
Indio, CA
BH Properties

Figure 4. USFWS Critical Habitat Map
42501 Monroe Street Project
Indio, CA
BH Properties

FIGURE 5: PROJECT SITE PHOTOGRAPHS

Photo 1. View of property showing a stand of *Eulobus californicus* (California primrose). California primrose was one of the most dominant plants on the site during the spring survey on April 4, 2024.

Photo 2. Image of *Mentzelia albicaulis* (white-stemmed blazing star) and *Chenopodium murale* (nettle leaf goosefoot). *Chenopodium murale* was one of the most dominant plants on the project site, on April 4, 2024.

Photo 3. Image of *Plantago ovata*. This plant is known to support various insect species. Photo taken on April 4, 2024.

Photo 4. View of *Palafoxia arida* (Spanish needle) inflorescence. Photo taken on December 27, 2023.

Photo 5. Looking northeast toward the powerline that bisects the property. This photo was taken on April 4, 2024.

Photo 6. An image of *Atriplex canescens* (4-wing saltbush) growing on the east side of the property on April 4, 2024.

FIGURE 5 (CONT.): PROJECT SITE PHOTOGRAPHS

Photo 7. Image of *Abronia villosa* var. *villosa* (hairy sand verbena). Ruler provided to show that flower tube does not exceed 2 cm required to qualify as *A. v.* var. *aurita,* April 4, 2024.

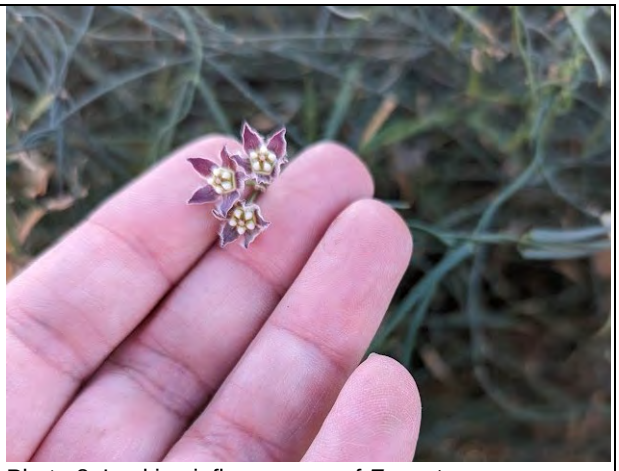

Photo 8. Looking inflorescence of *Funastrum cynanchoides* (climbing milkweed) on April 4, 2024.

Photo 9. Image of two pallid-winged grasshoppers observed on the project site, April 4, 2024.

Photo 10. View of burrowing owl pair, April 4, 2024.

Photo 11. Looking toward the southwest corner of the project site, note the re-emergence of tamarisk plants along the property's fence line. April 4, 2024.

Photo 12. Photograph of *Geraea canescens* (hairy desert sunflower) on December 27, 2023.

Appendix B. Database Searches

Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (La Quinta (3311663) OR Rockhouse Canyon (3311671) OR West Berdoo Canyon (3311672) OR Myoma (3311673) OR Mecca (3311651) OR Valerie (3311652) OR Martinez Mtn. (3311653) OR Thermal Canyon (3311661) OR Indio (3311662))
 AND Taxonomic Group IS (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
Abronia villosa var. aurita chaparral sand-verbena	PDNYC010P1	None	None	G5T2?	S2	1B.1
Ambrosia monogyra singlewhorl burrobrush	PDAST50010	None	None	G5	S2	2B.2
Astragalus bernardinus San Bernardino milk-vetch	PDFAB0F190	None	None	G3	S3	1B.2
Astragalus lentiginosus var. coachellae Coachella Valley milk-vetch	PDFAB0FB97	Endangered	None	G5T1	S1	1B.2
Astragalus preussii var. laxiflorus Lancaster milk-vetch	PDFAB0F721	None	None	G4T2	S1	1B.1
Astragalus sabulonum gravel milk-vetch	PDFAB0F7R0	None	None	G4G5	S2	2B.2
Astragalus tricarinatus triple-ribbed milk-vetch	PDFAB0F920	Endangered	None	G2	S2	1B.2
Ayenia compacta California ayenia	PDSTE01020	None	None	G4	S3	2B.3
Bursera microphylla little-leaf elephant tree	PDBUR01020	None	None	G4	S2	2B.3
Ditaxis claryana glandular ditaxis	PDEUP080L0	None	None	G3G4	S2	2B.2
Ditaxis serrata var. californica California ditaxis	PDEUP08050	None	None	G5T3T4	S2?	3.2
Eremothera boothii ssp. boothii Booth's evening-primrose	PDONA03052	None	None	G5T4	S3	2B.3
Eriastrum harwoodii Harwood's eriastrum	PDPLM030B1	None	None	G2	S2	1B.2
Euphorbia abramsiana Abrams' spurge	PDEUP0D010	None	None	G4	S2	2B.2
Euphorbia arizonica Arizona spurge	PDEUP0D060	None	None	G5	S3	2B.3
Euphorbia platysperma flat-seeded spurge	PDEUP0D1X0	None	None	G3	S1	1B.2
Funastrum crispum wavyleaf twinvine	PDASC0F020	None	None	G4	S1	2B.2
Jaffueliobryum raui Rau's jaffueliobryum moss	NBMUS97010	None	None	G4	S2	2B.3

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Leptosiphon floribundus ssp. hallii Santa Rosa Mountains leptosiphon	PDPLM090J3	None	None	G4T1T2	S1S2	1B.3
Marina orcuttii var. orcuttii California marina	PDFAB2F031	None	None	G2G3T1T2	S2?	1B.3
Matelea parvifolia spear-leaf matelea	PDASC0A0J0	None	None	G5	S3	2B.3
Nemacaulis denudata var. gracilis slender cottonheads	PDPGN0G012	None	None	G3G4T3?	S2	2B.2
Petalonyx linearis narrow-leaf sandpaper-plant	PDLOA04010	None	None	G4	S3?	2B.3
Phaseolus filiformis slender-stem bean	PDFAB330P0	None	None	G5	S1	2B.1
Pseudorontium cyathiferum Deep Canyon snapdragon	PDSCR2R010	None	None	G4G5	S1	2B.3
Saltugilia latimeri Latimer's woodland-gilia	PDPLM0H010	None	None	G3	S3	1B.2
Selaginella eremophila desert spike-moss	PPSEL010G0	None	None	G4	S2S3	2B.2
Senna covesii Cove's cassia	PDFAB491X0	None	None	G5	S3	2B.2
Stemodia durantifolia purple stemodia	PDSCR1U010	None	None	G5	S2	2B.1
Wislizenia refracta ssp. refracta jackass-clover	PDCPP09013	None	None	G5T5?	S1	2B.2
Xylorhiza cognata Mecca-aster	PDASTA1010	None	None	G2	S2	1B.2

Record Count: 31

California Native Plant Society

CNPS Rare Plant Inventory

Search Results

44 matches found. Click on scientific name for details

Search Criteria: 9-Quad include [**3311663:3311671:3311672:3311673:3311651:3311652:3311653:3311661:3311662**]

▲ SCIENTIFIC NAME	COMMON NAME	FAMILY	LIFEFORM	BLOOMING PERIOD	FED LIST	STATE LIST	CA RARE PLANT RANK	GENERAL HABITATS	MICROHABITATS	LOWEST ELEVATION (FT)	HIGHEST ELEVATION (FT)	PHOTO
Abronia villosa var. *aurita*	chaparral sand-verbena	Nyctaginaceae	annual herb	(Jan)Mar-Sep	None	None	1B.1	Chaparral, Coastal scrub, Desert dunes	Sandy	245	5250	 © 2011 Aaron E. Sims
Ambrosia monogyra	singlewhorl burrobrush	Asteraceae	perennial shrub	Aug-Nov	None	None	2B.2	Chaparral, Sonoran desert scrub	Sandy	35	1640	 © 2014 Keir Morse
Astragalus bernardinus	San Bernardino milk-vetch	Fabaceae	perennial herb	Apr-Jun	None	None	1B.2	Joshua tree "woodland", Pinyon and juniper woodland	Carbonate (often), Granitic (often)	2955	6560	No Photo Available
Astragalus lentiginosus var. *borreganus*	Borrego milk-vetch	Fabaceae	annual herb	Feb-May	None	None	4.3	Mojavean desert scrub, Sonoran desert scrub	Sandy	100	2935	No Photo Available
Astragalus lentiginosus var. *coachellae*	Coachella Valley milk-vetch	Fabaceae	annual/perennial herb	Feb-May	FE	None	1B.2	Desert dunes, Sonoran desert scrub (sandy)		130	2150	No Photo Available
Astragalus preussii var. *laxiflorus*	Lancaster milk-vetch	Fabaceae	perennial herb	Mar-May	None	None	1B.1	Chenopod scrub		2295	2295	No Photo Available
Astragalus sabulonum	gravel milk-vetch	Fabaceae	annual/perennial herb	Feb-Jun	None	None	2B.2	Desert dunes, Mojavean desert scrub, Sonoran desert scrub	Flats, Gravelly (sometimes), Roadsides, Sandy (usually), Washes	-195	3050	No Photo Available

Astragalus tricarinatus	triple-ribbed milk-vetch	Fabaceae	perennial herb	Feb-May	FE	None	1B.2	Joshua tree "woodland", Sonoran desert scrub	Gravelly (sometimes), Sandy (sometimes)	1475	3905	No Photo Available
Ayenia compacta	California ayenia	Malvaceae	perennial herb	Mar-Apr	None	None	2B.3	Mojavean desert scrub, Sonoran desert scrub	Rocky	490	3595	No Photo Available
Bursera microphylla	little-leaf elephant tree	Burseraceae	perennial deciduous tree	Jun-Jul	None	None	2B.3	Sonoran desert scrub (rocky)		655	2295	No Photo Available
Chorizanthe leptotheca	Peninsular spineflower	Polygonaceae	annual herb	May-Aug	None	None	4.2	Chaparral, Coastal scrub, Lower montane coniferous forest	Granitic	985	6235	No Photo Available
Ditaxis claryana	glandular ditaxis	Euphorbiaceae	perennial herb	Oct-Mar	None	None	2B.2	Mojavean desert scrub, Sonoran desert scrub	Sandy	0	1525	No Photo Available
Ditaxis serrata var. *californica*	California ditaxis	Euphorbiaceae	perennial herb	Mar-Dec	None	None	3.2	Sonoran desert scrub		100	3280	No Photo Available
Eremothera boothii ssp. *boothii*	Booth's evening-primrose	Onagraceae	annual herb	Apr-Sep	None	None	2B.3	Joshua tree "woodland", Pinyon and juniper woodland		2675	7875	No Photo Available
Eriastrum harwoodii	Harwood's eriastrum	Polemoniaceae	annual herb	Mar-Jun	None	None	1B.2	Desert dunes		410	3000	No Photo Available
Eschscholzia androuxii	Joshua Tree poppy	Papaveraceae	annual herb	Feb-May(Jun)	None	None	4.3	Joshua tree "woodland", Mojavean desert scrub	Flats, Gravelly, Rocky, Sandy, Slopes, Washes	1920	5530	No Photo Available
Euphorbia abramsiana	Abrams' spurge	Euphorbiaceae	annual herb	(Aug)Sep-Nov	None	None	2B.2	Mojavean desert scrub, Sonoran desert scrub	Sandy	-15	4300	No Photo Available
Euphorbia arizonica	Arizona spurge	Euphorbiaceae	perennial herb	Mar-Apr	None	None	2B.3	Sonoran desert scrub (sandy)		165	985	No Photo Available

Euphorbia platysperma	flat-seeded spurge	Euphorbiaceae	annual herb	Feb-Sep	None	None	1B.2	Desert dunes, Sonoran desert scrub (sandy)		215	330	No Photo Available
Funastrum crispum	wavyleaf twinvine	Apocynaceae	perennial herb	May-Aug	None	None	2B.2	Chaparral, Pinyon and juniper woodland		3820	6035	 © 2016 Keir Morse
Horsfordia alata	pink velvet-mallow	Malvaceae	perennial shrub	Feb-Dec	None	None	4.3	Sonoran desert scrub (rocky)		330	1640	No Photo Available
Horsfordia newberryi	Newberry's velvet-mallow	Malvaceae	perennial shrub	Feb-Dec	None	None	4.3	Sonoran desert scrub (rocky)		10	2625	No Photo Available
Jaffueliobryum raui	Rau's jaffueliobryum moss	Grimmiaceae	moss		None	None	2B.3	Alpine dwarf scrub, Chaparral, Mojavean desert scrub, Sonoran desert scrub	Carbonate, Dry, Openings, Rock crevices	1610	6890	 © 2021 Scot Loring
Johnstonella costata	ribbed cryptantha	Boraginaceae	annual herb	Feb-May	None	None	4.3	Desert dunes, Mojavean desert scrub, Sonoran desert scrub	Sandy	-195	1640	No Photo Available
Johnstonella holoptera	winged cryptantha	Boraginaceae	annual herb	Mar-Apr	None	None	4.3	Mojavean desert scrub, Sonoran desert scrub		330	5545	No Photo Available
Juncus acutus ssp. *leopoldii*	southwestern spiny rush	Juncaceae	perennial rhizomatous herb	(Mar)May-Jun	None	None	4.2	Coastal dunes (mesic), Coastal scrub, Marshes and swamps (coastal salt), Meadows and seeps (alkaline seeps)		10	2955	 © 2019 Belinda Lo

Juncus cooperi	Cooper's rush	Juncaceae	perennial herb	Apr-May(Aug)	None	None	4.3	Meadows and seeps (mesic, alkaline or saline)		-855	5805	 © 2018 Neal Kramer
Leptosiphon floribundus ssp. *hallii*	Santa Rosa Mountains leptosiphon	Polemoniaceae	perennial herb	May-Jul(Nov)	None	None	1B.3	Pinyon and juniper woodland, Sonoran desert scrub		3280	6560	 © 2016 Keir Morse
Lycium torreyi	Torrey's box-thorn	Solanaceae	perennial shrub	(Jan-Feb)Mar-Jun(Sep-Nov)	None	None	4.2	Mojavean desert scrub, Sonoran desert scrub	Rocky, Sandy, Streambanks, Washes	-165	4005	No Photo Available
Marina orcuttii var. *orcuttii*	California marina	Fabaceae	perennial herb	May-Oct	None	None	1B.3	Chaparral, Pinyon and juniper woodland, Sonoran desert scrub	Rocky	3445	3805	No Photo Available
Matelea parvifolia	spear-leaf matelea	Apocynaceae	perennial herb	Mar-May(Jul)	None	None	2B.3	Mojavean desert scrub, Sonoran desert scrub	Rocky	1445	3595	No Photo Available
Mirabilis tenuiloba	slender-lobed four o'clock	Nyctaginaceae	perennial herb	(Feb)Mar-May	None	None	4.3	Sonoran desert scrub		755	3595	No Photo Available
Nemacaulis denudata var. *gracilis*	slender cottonheads	Polygonaceae	annual herb	(Mar)Apr-May	None	None	2B.2	Coastal dunes, Desert dunes, Sonoran desert scrub		-165	1310	No Photo Available
Petalonyx linearis	narrow-leaf sandpaper-plant	Loasaceae	perennial shrub	(Jan-Feb)Mar-May(Jun-Dec)	None	None	2B.3	Mojavean desert scrub, Sonoran desert scrub	Rocky (sometimes), Sandy (sometimes)	-80	3660	No Photo Available
Phaseolus filiformis	slender-stem bean	Fabaceae	annual herb	Apr	None	None	2B.1	Sonoran desert scrub		410	410	No Photo Available
Pseudorontium cyathiferum	Deep Canyon snapdragon	Plantaginaceae	annual herb	Feb-Apr	None	None	2B.3	Sonoran desert scrub (rocky)		0	2625	No Photo Available

Saltugilia latimeri	Latimer's woodland-gilia	Polemoniaceae	annual herb	Mar-Jun	None	None	1B.2	Chaparral, Mojavean desert scrub, Pinyon and juniper woodland	Granitic (often), Rocky (sometimes), Sandy (sometimes), Washes (sometimes)	1310	6235	No Photo Available
Selaginella eremophila	desert spike-moss	Selaginellaceae	perennial rhizomatous herb	(May)Jun(Jul)	None	None	2B.2	Chaparral, Sonoran desert scrub (gravelly, rocky)		655	4250	No Photo Available
Senna covesii	Cove's cassia	Fabaceae	perennial herb	Mar-Jun(Aug)	None	None	2B.2	Sonoran desert scrub	Dry, Sandy, Slopes, Washes	740	4250	No Photo Available
Stemodia durantifolia	purple stemodia	Plantaginaceae	perennial herb	(Jan)Apr-Dec	None	None	2B.1	Sonoran desert scrub (often mesic, sandy)		590	985	No Photo Available
Tetracoccus hallii	Hall's tetracoccus	Picrodendraceae	perennial deciduous shrub	Jan-May	None	None	4.3	Mojavean desert scrub, Sonoran desert scrub		100	3935	No Photo Available
Wislizenia refracta ssp. *refracta*	jackass-clover	Cleomaceae	annual herb	Apr-Nov	None	None	2B.2	Desert dunes, Mojavean desert scrub, Playas, Sonoran desert scrub		1970	2625	No Photo Available
Xylorhiza cognata	Mecca-aster	Asteraceae	perennial herb	Jan-Jun	None	None	1B.2	Sonoran desert scrub		65	1310	No Photo Available
Yucca brevifolia					CC	CBR						No Photo Available

Showing 1 to 44 of 44 entries

Suggested Citation:

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

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Riverside County, California

Local office

Carlsbad Fish And Wildlife Office

(760) 431-9440
(760) 431-5901

2177 Salk Avenue - Suite 250
Carlsbad, CA 92008-7385

Endangered species

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

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

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

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

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

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

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

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information. IPaC only shows species that are regulated by USFWS (see FAQ).
2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

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

Mammals

NAME	STATUS
Peninsular Bighorn Sheep Ovis canadensis nelsoni There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/4970	Endangered

Birds

NAME	STATUS
Least Bell's Vireo Vireo bellii pusillus Wherever found There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/5945	Endangered

Southwestern Willow Flycatcher Empidonax traillii extimus — Endangered
Wherever found
There is **final** critical habitat for this species. Your location does not overlap the critical habitat.
https://ecos.fws.gov/ecp/species/6749

Reptiles

NAME	STATUS
Coachella Valley Fringe-toed Lizard Uma inornata	Threatened
Wherever found There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/2069	
Desert Tortoise Gopherus agassizii	Threatened
There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/4481	

Insects

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

Flowering Plants

NAME	STATUS
Coachella Valley Milk-vetch Astragalus lentiginosus var. coachellae	Endangered
Wherever found There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/7426	

Critical habitats

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

There are no critical habitats at this location.

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

Bald & Golden Eagles

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

Any person or organization who plans or conducts activities that may result in impacts to bald or golden eagles, or their habitats[3], should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the "Supplemental Information on Migratory Birds and Eagles".

Additional information can be found using the following links:

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

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

There are likely bald eagles present in your project area. For additional information on bald eagles, refer to Bald Eagle Nesting and Sensitivity to Human Activity

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

NAME	BREEDING SEASON
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Oct 15 to Aug 31

Probability of Presence Summary

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

Probability of Presence (▪)

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

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

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

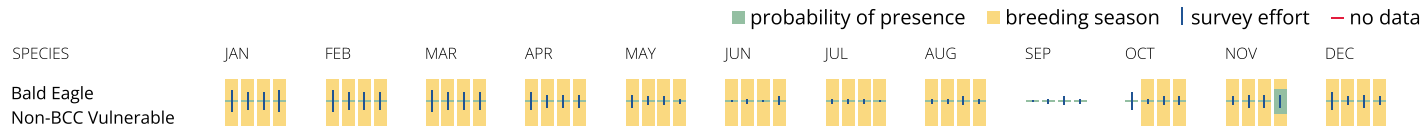
Breeding Season (▪)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

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

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

No Data (–)
A week is marked as having no data if there were no survey events for that week.

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



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

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

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

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

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

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

What if I have eagles on my list?

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

Migratory birds

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

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats[3] should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the "Supplemental Information on Migratory Birds and Eagles".

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

Additional information can be found using the following links:

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

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

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

NAME	BREEDING SEASON
American Avocet Recurvirostra americana This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds Apr 21 to Aug 10
Bald Eagle Haliaeetus leucocephalus This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Oct 15 to Aug 31
Costa's Hummingbird Calypte costae This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9470	Breeds Jan 15 to Jun 10
Marbled Godwit Limosa fedoa This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9481	Breeds elsewhere
Western Grebe aechmophorus occidentalis This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/6743	Breeds Jun 1 to Aug 31

Probability of Presence Summary

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

Probability of Presence (■)

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

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

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

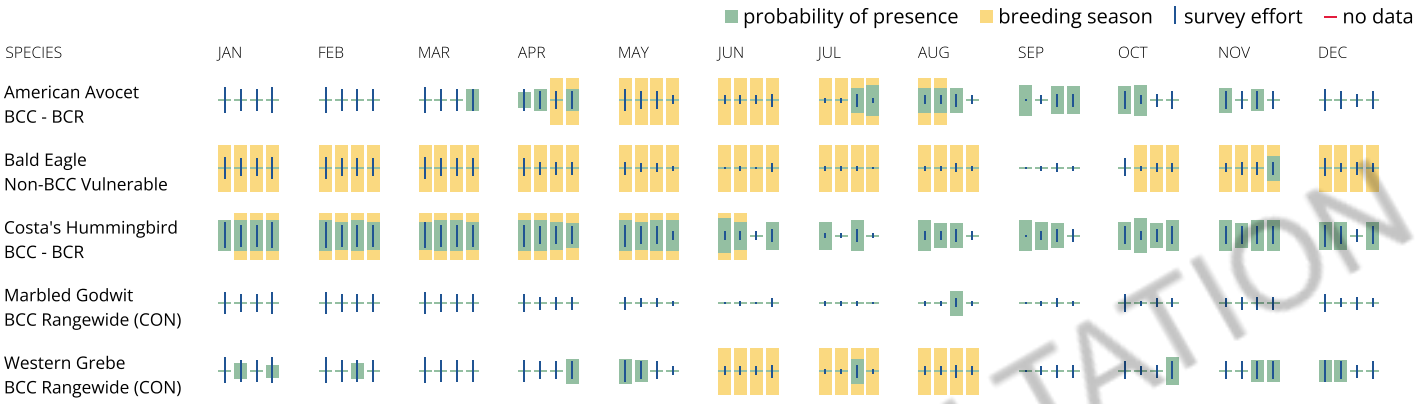
Survey Effort (|)

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

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

No Data (–)
A week is marked as having no data if there were no survey events for that week.

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



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

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

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

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

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

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

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

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

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

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

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

What are the levels of concern for migratory birds?

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

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

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

Details about birds that are potentially affected by offshore projects

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

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

What if I have eagles on my list?

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

Proper Interpretation and Use of Your Migratory Bird Report

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

Facilities

National Wildlife Refuge lands

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

There are no refuge lands at this location.

Fish hatcheries

There are no fish hatcheries at this location.

Wetlands in the National Wetlands Inventory (NWI)

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

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

Wetland information is not available at this time

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

Data limitations

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

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

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

Data exclusions

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

Data precautions

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

Appendix C. List of Species with Potential to Occur

Appendix C: Special Status Plant Species with Potential to Occur on the Project Site.

Species	Status[1, 2]			General Habitat and Micro Habitat Requirements[1]	Elevation Range; Lifeform; Blooming Period[2]	Discussion[3]	Recommendations
	Federal	State	CNPS CRPR				
DICOTS							
Chaparral sand-verbena *Abronia villosa* var. *aurita*	--	--	1B.1	Chaparral, Coastal scrub, Desert dunes; Sandy	75-1,600 m; Annual herb; Blooms (January) March to September	**Not Found, Moderate Potential to Occur.** Despite the potential habitat (fine dune sands) for this species on-site, it was not located during focused surveys on the project site. Focused surveys were performed within the known blooming time when this species under adequate rainfall conditions.	**Yes. See Bot-1.**
Singlewhorl burrobrush *Ambrosia monogyra*	--	--	2B.2	Chaparral, Sonoran Desert scrub; Sandy	10-500 m; Perennial shrub; Blooms August to November	**Not Expected to Occur.** Habitats present at the project site would not support this species. The vegetation types that could support this species are not present at the project site. This perennial species was not observed at the project site.	**None.**
San Bernardinomilk-vetch *Astragalus bernardinus*	--	--	1B.2	Joshua tree "woodland", Pinyon and juniper woodland; Carbonate (often), Granitic (often)	900-2000m; Perennial herb; Blooms April-June	**Not Expected to Occur.** Habitats present at the project site would not support this species. The project site is outside of the known elevation range of this species.	**None.**
Borrego milk-vetch *Astragalus lentiginosus* var. *borreganus*	--	--	4.3	Mojave Desert scrub, Sonoran Desert scrub; Sandy	30-895m; Annual herb; Blooms February-May	**Not Found, Moderate Potential to Occur.** Despite the potential habitat (fine dune sands) for this species on-site, it was not located during focused surveys on the project site. Focused surveys were performed within the known blooming time when this species under adequate rainfall conditions.	**Yes. See Bot-1.**

Appendix C: Special Status Plant Species with Potential to Occur on the Project Site.

Species	Status[1, 2]			General Habitat and Micro Habitat Requirements[1]	Elevation Range; Lifeform; Blooming Period[2]	Discussion[3]	Recommendations
	Federal	State	CNPS CRPR				
Coachella Valley milk-vetch *Astragalus lentiginosus* var. *coachellae*	FE	--	1B.2	Desert dunes, Sonoran Desert scrub	40-655m; Annual/perennial herb; Blooms February-May	**Not Found, Moderate Potential to Occur.** Despite the potential habitat (fine dune sands) for this species on-site, it was not located during focused surveys on the project site. Focused surveys were performed within the known blooming time when this species under adequate rainfall conditions.	**Yes. See Bot-1.**
Lancaster milk-vetch *Astragalus preussii* var. *laxiflorus*	--	--	1B.1	Chenopod scrub	700m; Perennial herb; Blooms from March-May	**Not Expected to Occur.** Habitats present at the project site would not support this species. The project site is outside of the known elevation range of this species.	**None.**
Gravel milk-vetch *Astragalus sabulonum*	--	--	2B.2	Desert dunes, Mojave Desert scrub, Sonoran Desert scrub; Flats, Gravelly (sometimes), Roadsides, Sandy (usually), Washes	60-930m; Annual/perennial herb; Blooms February-June	**Not Found, Moderate Potential to Occur.** Despite the potential habitat (fine dune sands) for this species on-site, it was not located during focused surveys on the project site. Focused surveys were performed within the known blooming time when this species under adequate rainfall conditions.	**Yes. See Bot-1.**
triple-ribbed milk-vetch *Astragalus tricarinatus*	FE	--	1B.2	Joshua tree "woodland", Sonoran Desert scrub; Gravelly (sometimes), Sandy (sometimes)	450-1190m; Perennial herb; Blooms February-May	**Not Expected to Occur.** Habitats present at the project site would not support this species. The project site is outside of the known elevation range of this species.	**None.**

Appendix C: Special Status Plant Species with Potential to Occur on the Project Site.

Species	Status[1, 2]			General Habitat and Micro Habitat Requirements[1]	Elevation Range; Lifeform; Blooming Period[2]	Discussion[3]	Recommendations
	Federal	State	CNPS CRPR				
California ayenia *Ayenia compacta*	--	--	2B.3	Mojave Desert scrub, Sonoran Desert scrub; Rocky	150-1095m; Perennial herb; Blooms March-April	**Not Expected to Occur.** Habitats present at the project site would not support this species. The project site is outside of the known elevation range of this species.	**None.**
Little-leaf elephant tree *Bursera microphylla*	--	--	2B.3	Sonoran Desert scrub	200-700m; Perennial deciduous tree; Blooms June-July	**Not Expected to Occur.** Habitats present at the project site would not support this species. The project site is outside of the known elevation range of this species.	**None.**
Peninsular spineflower *Chorizanthe leptotheca*	--	--	4.2	Chaparral, Coastal scrub, Lower montane coniferous forest; Granitic	300-1,900 m; Annual herb; Blooms May-August	**Not Expected to Occur.** Habitats present at the project site would not support this species. The project site is outside of the known elevation range of this species.	**None.**
Glandular ditaxis *Ditaxis claryana*	--	--	2B.2	Mojave Desert scrub, Sonoran Desert scrub; Sandy	0-465m; Perennial herb; Blooms October-March	**Not Found, Moderate Potential to Occur.** Despite the potential habitat (fine dune sands) for this species on-site, it was not located during focused surveys on the project site. Focused surveys were performed within the known blooming time when this species under adequate rainfall conditions.	**Yes. See Bot-1.**
California ditaxis *Ditaxis serrata var. californica*	--	--	3.2	Sonoran Desert scrub	30-1,000m; Perennial herb; Blooms March-December	**Not Expected to Occur.** Habitats present at the project site would not support this species. The vegetation types that could support this species are not present at the project site. This perennial species was not observed at the project site	**None.**

Appendix C: Special Status Plant Species with Potential to Occur on the Project Site.

Species	Status[1, 2]			General Habitat and Micro Habitat Requirements[1]	Elevation Range; Lifeform; Blooming Period[2]	Discussion[3]	Recommendations
	Federal	State	CNPS CRPR				
Booth's evening-primrose *Eremothera boothii* ssp. *boothii*	--	--	2B.3	Joshua tree "woodland", Pinyon and juniper woodland	815-2,400m; Annual herb; Blooms April-September	**Not Expected to Occur.** Habitats present at the project site would not support this species. The project site is outside of the known elevation range of this species.	**None.**
Harwood's eriastrum *Eriastrum harwoodii*	--	--	1B.2	Desert dunes	125-915m; Annual herb; Blooms March-June	**Not Expected to Occur.** Habitats present at the project site would not support this species. The project site is outside of the known elevation range of this species.	**None.**
Joshua Tree poppy *Eschscholzia androuxii*	--	--	4.3	Joshua tree "woodland", Mojave Desert scrub; Flats, Gravelly, Rocky, Sandy, Slopes, Washes	585-1,685m; Annual herb; Blooms February-May (June)	**Not Expected to Occur.** Habitats present at the project site would not support this species. The project site is outside of the known elevation range of this species.	**None.**
Abrams' spurge *Euphorbia abramsiana*	--	--	2B.2	Mojave Desert scrub, Sonoran Desert scrub; Sandy	-5-1,310m; Annual herb; Blooms (August) September-November	**Not Expected to Occur.** Habitats present at the project site would not support this species. The vegetation types that could support this species are not present at the project site. This perennial species was not observed at the project site	**None.**
Arizona spurge *Euphorbia arizonica*	--	--	2B.3	Sonoran Desert scrub	50-300m; Perennial herb; Blooms March-April	**Not Expected to Occur.** Habitats present at the project site would not support this species. The vegetation types that could support this species are not present at the project site. This perennial species was not observed at the project site	**None.**

Appendix C: Special Status Plant Species with Potential to Occur on the Project Site.

Species	Status[1, 2]			General Habitat and Micro Habitat Requirements[1]	Elevation Range; Lifeform; Blooming Period[2]	Discussion[3]	Recommendations
	Federal	State	CNPS CRPR				
Flat-seeded spurge *Euphorbia platysperma*	--	--	1B.2	Desert dunes, Sonoran Desert scrub	65-100m; Annual herb; Blooms February-September	**Not Found, Moderate Potential to Occur.** Despite the potential habitat (fine dune sands) for this species on-site, it was not located during focused surveys on the project site. Focused surveys were performed within the known blooming time when this species under adequate rainfall conditions.	**Yes. See Bot-1.**
wavyleaf twinvine *Funastrum crispum*	--	--	2B.2	Chaparral, Pinyon and juniper woodland	1,165-1,840m; Perennial herb; Blooms May-August	**Not Expected to Occur.** Habitats present at the project site would not support this species. The project site is outside of the known elevation range of this species.	**None.**
pink velvet-mallow *Horsfordia alata*	--	--	4.3	Sonoran Desert scrub	100-500m Perennial shrub; Blooms February-December	**Not Expected to Occur.** Habitats present at the project site would not support this species. The project site is outside of the known elevation range of this species.	**None.**
Newberry's velvet-mallow *Horsfordia newberryi*	--	--	4.3	Sonoran Desert scrub	3-800; Perennial shrub; Blooms February-December	**Not Expected to Occur.** Habitats present at the project site would not support this species. The vegetation types that could support this species are not present at the project site. This perennial species was not observed at the project site	**None.**

Appendix C: Special Status Plant Species with Potential to Occur on the Project Site.

Species	Status[1, 2]			General Habitat and Micro Habitat Requirements[1]	Elevation Range; Lifeform; Blooming Period[2]	Discussion[3]	Recommendations
	Federal	State	CNPS CRPR				
Ribbed cryptantha *Johnstonella costata*	--	--	4.3	Desert dunes, Mojave Desert scrub, Sonoran Desert scrub; Sandy	-60-500m; Annual herb; Blooms February-May	**Not Found, Moderate Potential to Occur.** Despite the potential habitat (fine dune sands) for this species on-site, it was not located during focused surveys on the project site. Focused surveys were performed within the known blooming time when this species under adequate rainfall conditions.	**Yes. See Bot-1.**
Winged cryptantha *Johnstonella holoptera*	--	--	4.3	Mojave Desert scrub, Sonoran Desert scrub	100-1,690m; Annual herb; Blooms March-April	**Not Expected to Occur.** Habitats present at the project site would not support this species. The vegetation types that could support this species are not present at the project site.	**None.**
Santa Rosa Mountains leptosiphon *Leptosiphon floribundus* ssp. *hallii*	--	--	1B.3	Pinyon and juniper woodland, Sonoran Desert scrub	1,000-2,000m; Perennial herb; Blooms May-July (November)	**Not Expected to Occur.** Habitats present at the project site would not support this species. The project site is outside of the known elevation range of this species.	**None.**
Torrey's box-thorn *Lycium torreyi*	--	--	4.2	Mojave Desert scrub, Sonoran Desert scrub; Rocky, Sandy, Streambanks, Washes	-50-1,220m; Perennial shrub; Blooms (January - February) March-June (September-November)	**Not Expected to Occur.** Habitats present at the project site would not support this species. The vegetation types that could support this species are not present at the project site. This perennial species was not observed at the project site	**None.**
California marina *Marina orcuttii* var. *orcuttii*	--	--	1B.3	Chaparral, Pinyon and juniper woodland, Sonoran Desert scrub; Rocky	1,050-1,160; Perennial herb; Blooms May-October	**Not Expected to Occur.** Habitats present at the project site would not support this species. The project site is outside of the known elevation range of this species.	**None.**

Appendix C: Special Status Plant Species with Potential to Occur on the Project Site.

Species	Status[1, 2]			General Habitat and Micro Habitat Requirements[1]	Elevation Range; Lifeform; Blooming Period[2]	Discussion[3]	Recommendations
	Federal	State	CNPS CRPR				
Spear-leaf matelea *Matelea parvifolia*	--	--	2B.3	Mojave Desert scrub, Sonoran Desert scrub; Rocky	440-1,095m; Perennial herb; Blooms March-May (July)	**Not Expected to Occur.** Habitats present at the project site would not support this species. The project site is outside of the known elevation range of this species.	**None.**
Slender-lobed four o'clock *Mirabilis tenuiloba*	--	--	4.3	Sonoran Desert scrub	230-1,095m; Perennial herb; Blooms (February) March-May	**Not Expected to Occur.** Habitats present at the project site would not support this species. The project site is outside of the known elevation range of this species.	**None.**
Slender cottonheads *Nemacaulis denudata* var. *gracilis*	--	--	2B.2	Coastal dunes, Desert dunes, Sonoran Desert scrub	-50-400; Annual herb; Blooms (March) April-May	**Not Found, Moderate Potential to Occur.** Despite the potential habitat (fine dune sands) for this species on-site, it was not located during focused surveys on the project site. Focused surveys were performed within the known blooming time when this species under adequate rainfall conditions.	**Yes. See Bot-1.**
Narrow-leaf sandpaper-plant *Petalonyx linearis*	--	--	2B.3	Mojave Desert scrub, Sonoran Desert scrub; Rocky (sometimes), Sandy (sometimes)	-25-1,115m; Perennial shrub; Blooms (January-February) March-May (June-December)	**Not Found, Moderate Potential to Occur.** Despite the potential habitat (fine dune sands) for this species on-site, it was not located during focused surveys on the project site. Focused surveys were performed within the known blooming time when this species under adequate rainfall conditions.	**Yes. See Bot-1.**

Appendix C: Special Status Plant Species with Potential to Occur on the Project Site.

Species	Status[1, 2]			General Habitat and Micro Habitat Requirements[1]	Elevation Range; Lifeform; Blooming Period[2]	Discussion[3]	Recommendations
	Federal	State	CNPS CRPR				
Slender-stem bean *Phaseolus filiformis*	--	--	2B.1	Sonoran Desert scrub	125-125m; Annual herb; Blooms in April	**Not Expected to Occur.** Habitats present at the project site would not support this species. The project site is outside of the known elevation range of this species.	**None.**
Deep Canyon snapdragon *Pseudorontium cyathiferum*	--	--	2B.3	Sonoran Desert scrub	0-800m; Annual herb; Blooms February-April	**Not Expected to Occur.** Habitats present at the project site would not support this species. The vegetation types that could support this species are not present at the project site.	**None.**
Latimer's woodland-gilia *Saltugilia latimeri*	--	--	1B.2	Chaparral, Mojave Desert scrub, Pinyon and juniper woodland; Granitic (often), Rocky (sometimes), Sandy (sometimes), Washes (sometimes)	400-1,900m; Annual herb; Blooms March-June	**Not Expected to Occur.** Habitats present at the project site would not support this species. The project site is outside of the known elevation range of this species.	**None.**
Cove's cassia *Senna covesii*	--	--	2B.2	Sonoran Desert scrub; Dry, Sandy, Slopes, Washes	225-1,295m; Perennial herb; Blooms March-June (August)	**Not Expected to Occur.** Habitats present at the project site would not support this species. The project site is outside of the known elevation range of this species.	**None.**
Purple stemodia *Stemodia durantifolia*	--	--	2B.1	Sonoran Desert scrub	180-300m; Perennial herb; Blooms (January) April-December	**Not Expected to Occur.** Habitats present at the project site would not support this species. The project site is outside of the known elevation range of this species.	**None.**

Appendix C: Special Status Plant Species with Potential to Occur on the Project Site.

Species	Status[1, 2]			General Habitat and Micro Habitat Requirements[1]	Elevation Range; Lifeform; Blooming Period[2]	Discussion[3]	Recommendations
	Federal	State	CNPS CRPR				
Hall's tetracoccus *Tetracoccus hallii*	--	--	4.3	Mojave Desert scrub, Sonoran Desert scrub	30-1,200m; Perennial deciduous shrub; Blooms January-May	**Not Expected to Occur.** Habitats present at the project site would not support this species. The vegetation types that could support this species are not present at the project site. This perennial species was not observed at the project site	**None.**
Jackass-clover *Wislizenia refracta* ssp. *refracta*	--	--	2B.2	Desert dunes, Mojave Desert scrub, Playas, Sonoran Desert scrub	600-800m; Annual herb; Blooms April-November	**Not Expected to Occur.** Habitats present at the project site would not support this species. The project site is outside of the known elevation range of this species.	**None.**
Mecca-aster *Xylorhiza cognata*	--	--	1B.2	Sonoran Desert scrub	20-400m; Perennial herb; January-June	**Not Expected to Occur.** Habitats present at the project site would not support this species. The vegetation types that could support this species are not present at the project site. This perennial species was not observed at the project site	**None.**
Yucca brevifolia	--	CE	CBR	Joshua tree woodland	various	**Not Expected to Occur.** Habitats present at the project site would not support this species. The vegetation types that could support this species are not present at the project site. This perennial species was not observed at the project site.	**None.**
MONOCOTS							

Appendix C: Special Status Plant Species with Potential to Occur on the Project Site.

Species	Status[1, 2]			General Habitat and Micro Habitat Requirements[1]	Elevation Range; Lifeform; Blooming Period[2]	Discussion[3]	Recommendations
	Federal	State	CNPS CRPR				
Southwestern spiny rush *Juncus acutus* ssp. *leopoldii*	--	--	4.2	Coastal dunes, Marshes and swamps, Meadows and seeps	3-900m; Perennial rhizomatous herb; (March) May-June	**Not Expected to Occur.** Habitats present at the project site would not support this species. The project site is not sufficiently mesic enough to support this species.	**None.**
Cooper's rush *Juncus cooperi*	--	--	4.3	Meadows and seeps	-260-1,770m; Perennial herb; Blooms April-May (August)	**Not Expected to Occur.** Habitats present at the project site would not support this species. The project site is not sufficiently mesic enough to support this species.	**None.**
Ferns/Moss							
Rau's jaffueliobryum moss *Jaffueliobryum raui*	--	--	2B.3	Alpine dwarf scrub, Chaparral, Mojave Desert scrub, Sonoran Desert scrub; Carbonate, Dry, Openings, Rock crevices	490-2,100m; moss	**Not Expected to Occur.** Habitats present at the project site would not support this species. The project site is outside of the known elevation range of this species.	**None.**
desert spike-moss *Selaginella eremophila*	--	--	2B.2	Chaparral, Sonoran Desert scrub	200-1,295m; Perennial rhizomatous herb; Blooms (May) June (July)	**Not Expected to Occur.** Habitats present at the project site would not support this species. The project site is outside of the known elevation range of this species.	**None.**
Plant Communities							
Desert Fan Palm Oasis Woodland						**Not Present.** This plant community is not present on the Project Site. While fan palms are present on the project site, these plants established due to water availability from previous agricultural uses and would not constitute a natural oasis woodland.	**None.**

Appendix C: Special Status Plant Species with Potential to Occur on the Project Site.

NOTES:

[1] Excerpted from CNDDB (2022) and/or CNPS (2022)
[2] Excerpted from CNPS (2022)
[3] The potential for occurrence is based on occurrences recorded in the CNDDB (2022) and CNPS (2022), knowledge of species requirements, and site inspections during 2022 field survey

STATUS KEY:

Federal
FE: Federally-listed Endangered
FT: Federally-listed Threatened

State
SE: California-listed Endangered
ST: California-listed Threatened

California Native Plant Society (CNPS): CNPS has developed five categories of rarity known as the California Rare Plant Ranking (CRPR). CRPR designations are defined as follows:
1A: Presumed extinct in California
1B: Plants listed as rare, threatened, or endangered in California and elsewhere
2B: Plants rare, threatened, or endangered in California, but more common elsewhere
3: Plants about which we need more information
4: Species of limited distribution in California, but whose existence does not appear to be susceptible to threat

CNPS also adds a decimal threat rank to the List rank to parallel that used by the CNDDB. CNPS rank designations therefore appear as: 1B.1, 1B.2, etc. Threat code extensions are defined as follows:
.1 – Seriously endangered in California (over 80% of occurrences threatened / high degree of immediacy of threat)
.2 – Fairly endangered in California (20-80% occurrences threatened)
.3 – Not very endangered in California (<20% of occurrences threatened or no current threats known)

Appendix D List of Observed Plant Species

Note: This is a list of species observed as part of the plant surveys on December 27, 2023 and April 4, 2024.

Kingdom Plantae	
DICOTS	
Aizoaceae (Fig-Marigold Family)	
Horse purslane	*Trianthema portulacastrum*
Amaranthaceae (Amaranth Family)	
Tumbleweed	*Amaranthus albus**
Mat amaranth	*Amaranthus blitoides**
Lamb's quarters	*Chenopodium album**
Nettle-leaved goosefoot	*Chenopodium murale*
Hoary saltbush	*Atriplex canescens*
Big saltbush	*Atriplex lentiformis*
Cattle spinach	*Atriplex polycarpa*
California goosefoot	*Chenopodium californicum*
Russian thistle	*Salsola tragus**
Bush seepweed	*Suaeda nigra*
Apocynaceae (Dogbane Family)	
Climbing milkweed	*Funastrum cynanchoides*
Asteraceae (Sunflower Family)	
Annual burrweed	*Ambrosia acanthicarpa*
Smooth hawksbeard	*Crepis capillaris**
Hairy desert sunflower	*Geraea canescens*
Prickly lettuce	*Lactuca serriola**
Desert dandelion	*Malacothrix glabrata*
Stinknet	*Oncosiphon pilulifer**
Spanish needle	*Palafoxia arida*
Arrow weed	*Pluchea sericea*
Spiny sowthistle	*Sonchus asper**
Brassicaceae (Mustard Family)	
Mustard	*Brassica tournefortii**

Wild radish	*Raphanus sativus**
Tumblemustard	*Sisymbrium altissimum**
London rocket	*Sisymbrium irio**
Cucurbitaceae (Gourd Family)	
Coyote melon	*Cucurbita palmata*
Boraginaceae (Borane Family)	
Common cryptantha	*Cryptantha intermedia var. intermedia*
Whispering Bells	*Emmenanthe penduliflora*
Narrow-leaved johnstonella	*Johnstonella angustifolia*
Hairy leaved comb bur	*Pectocarya heterocarpa*
Common phacelia	*Phacelia distans*
Plicate coldenia	*Tiquilia plicata*
Euphorbiaceae (Spurge Family)	
Smallseed sandmat	*Euphorbia polycarpa*
Fabaceae (Pea Family)	
Yellow sweet clover	*Melilotus officinalis**
Jerusalem thorn	*Parkinsonia aculeata*
Velvet mesquite	*Prosopis velutina*
Emory's indigo bush	*Psorothamnus emoryi**
Geraniaceae (Geranium Family)	
Coastal heron’s bill	*Erodium cicutarium**
Loasaceae (Stickleaf Family)	
Whitestem blazingstar	*Mentzelia albicaulis*
Malvaceae (Mallow Family)	
White mallow	*Eremalche exilis*
Cheeseweed	*Malva parviflora**
Nyctaginaceae (Four O'clock Family)	
Desert sand verbena	*Abronia villosa* var. *villosa*
Windmills	*Allionia incarnata*
Onagraceae (Primrose Family)	

Pinnate-leaved primrose	*Chylismia claviformis* ssp. *aurantiaca*
California primrose	*Eulobus californicus*
Cutleaf evening primrose	*Oenothera laciniata**
Papaveraceae (Poppy Family)	
Fumitory	*Fumaria officinalis**
Solanaceae (Nightshade Family)	
Jimsonweed	*Datura wrightii*
Tamaricaceae (Tamarisk Family)	
Tamarisk	*Tamarix ramosissima**
Zygophyllaceae (Caltrop Family)	
Creosote bush	*Larrea tridentata*
Puncture vine	*Tribulus terrestris**
MONOCOTS	
Agavaceae (Agave Family)	
American century plant	*Agave americana**
Arecaceae (Palm Family)	
California fan palm	*Washingtonia filifera*
Cyperaceae (Nutsedge Family)	
Nutgrass	*Cyperus rotundus**
Poaceae (Grass Family)	
Red brome	*Bromus rubens**
Bermuda grass	*Cynodon dactylon**
Little love grass	*Eragrostus minor*
Foxtail barley	*Hordeum murinum**
Buffelgrass	*Pennisetum ciliare**
Fountaingrass	*Pennisetum setaceum**
Common timothy	*Phleum pratense**
Schismus	*Schismus barbatus**
Asterisk (*) denotes non-native or invasive species.	