

5.2 Biological Resources

5.2.1 Introduction

This section describes the laws, ordinances, regulations, and standards (LORS) that apply to biological resource protection, the environmental setting, and conditions of the Carlsbad Energy Center Project (CECP) site and the adjacent area, the methods that were used to evaluate the potential presence of special-status species, and the potential adverse impacts on biological resources that could occur as a result of CECP construction and operation. Furthermore, this section presents measures that would avoid, minimize, or mitigate for adverse impacts. Specifically, Section 5.2.2 discusses applicable LORS that govern biological resources. Section 5.2.3 discusses the affected environment, including a regional overview of biological resources, vegetation, sensitive plant communities, wetlands, wildlife, and special-status species. Section 5.2.3 also discusses methods and results of biological field surveys. Section 5.2.4 discusses the effects that and construction and subsequent operation of CECP may have on biological resources. Section 5.2.5 addresses mitigation measures that would avoid, minimize, or reduce potentially significant impacts. Section 5.2.6 provides proposed Conditions of Certification. Section 5.2.7 presents agency contacts and Section 5.2.8 presents permit requirements and schedules. Section 5.2.9 contains references.

5.2.2 Laws, Ordinances, Regulations, and Standards

The following sections describe the primary LORS that apply to potential impacts on biological resources in the project area, and list the agencies responsible for enforcing the regulations. A summary of the LORS is provided in Table 5.2-1, at the end of this section.

5.2.2.1 Federal LORS

Federal Endangered Species Act (ESA)(16 United States Code [USC] 153 et seq.).

Applicants for projects that could result in adverse impacts on any federally listed species are required to consult with and mitigate potential impacts in consultation with the U.S. Fish and Wildlife Service (USFWS). Adverse impacts are defined as “take,” which is prohibited except through authorization of a Section 7 or Section 10 consultation and Incidental Take Authorization. “Take” “may include significant habitat modification or degradation” (50 Code of Federal Regulations [CFR] §17.3). Species that are not listed are not protected by the federal ESA, even if they are candidates for listing; however, USFWS advises that a candidate species (as well as species of concern) could be elevated to listed status at any time, and therefore, applicants should regard these species with special consideration.

Migratory Bird Treaty Act (16 USC 703 to 711) protects all migratory birds, including nests and eggs.

Bald and Golden Eagle Protection Act (16 USC 668) specifically protects bald and golden eagles from harm or trade in parts of these species.

5.2.2.2 State LORS

California Endangered Species Act (Fish and Game Code, Section 2050 et seq.). Species listed under this act cannot be “taken” or harmed, except under specific permit. At present, “take” means to do or attempt to do the following: hunt, pursue, catch, capture, or kill.

Fish and Game Code Section 3511 describes bird species, primarily raptors, that are “fully protected.” Fully protected birds may not be taken or possessed, except under specific permit requirements.

Fish and Game Code (Section 3503) states that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto.

Fish and Game Code (Section 3503.5) protects all birds of prey and their eggs and nests.

Fish and Game Code (Section 3513) makes it unlawful to take, possess, or destroy any birds of prey or to take, possess, or destroy the nest or eggs of any such bird.

Fish and Game Code (Sections 4700, 5050, and 5515) lists mammal, amphibian, and reptile species that are fully protected in California.

Fish and Game Code (Sections 1900 et seq.), the Native Plant Protection Act lists threatened, endangered, and rare plants listed by the state.

Title 14, California Code of Regulations (Sections 670.2 and 670.5) lists animals designated as threatened or endangered in California. California “Species of Concern” (CSC) is a category conferred by the California Department of Fish and Game (CDFG) on those species that are indicators of regional habitat changes or are considered potential future protected species. CSC do not have any special legal status, but are intended by CDFG for use as a management tool to take these species into special consideration when decisions are made concerning the future of any land parcel.

California Fish and Game Code (Sections 1601 through 1607) prohibits alteration of any stream, including intermittent and seasonal channels and many artificial channels, without a permit from CDFG. CDFG jurisdiction is limited to areas within the 100-year floodplain. Within this zone, CDFG jurisdiction is subject to the judgment of the department. This applies to any channel modifications that would be required to meet drainage, transportation, or flood control objectives of a project.

California Environmental Quality Act (CEQA) (Public Resources Code, Section 15380) defines “rare” in a broader sense than the definitions of threatened, endangered, or species of special concern. Under this definition, CDFG can request additional consideration of species not otherwise protected. CEQA requires that the effects of a project on environmental resources must be analyzed and assessed using criteria determined by the lead agency.

Warren Alquist Act (Public Resources Code, Section 25000, et seq.) is a CEQA-equivalent process implemented by the CECP. Preparation of this AFC will result in an assessment prepared by the CECP staff to fulfill the requirements of CEQA.

5.2.2.3 Local LORS and Other Jurisdictions

5.2.2.3.1 Applicable Habitat Conservation Plans and Critical Habitat Designations

The CECP site is located within the City of Carlsbad (City) Subarea Plan (Subarea Plan) within the North County Multiple Habitat Conservation Plan (MHCP). The MHCP is a regional plan under the California Natural Community Conservation Planning (NCCP) Act of 1991 (SANDAG, 2003). The MHCP is a long-term conservation program that addresses existing biological resources, proposed urban growth, habitat losses, and direct, indirect, and cumulative effects on sensitive species throughout the San Diego region. The MHCP requires the preparation of subarea plans in order for specific jurisdictions in the region to obtain Take Authorization. The Habitat Management Plan (HMP) for Natural Communities in the City was developed in cooperation with CDFG and the USFWS and provides the mechanism for a federal 10(a)(1)(B) permit and a State 2835 permit (City of Carlsbad, 2004). The City has entered into an Implementing Agreement (IA) with CDFG and USFWS and the HMP and IA allow for take of Covered Species. The HMP, which was amended in December 1999 and received final approval in November 2004, proposes a comprehensive, citywide program to preserve the diversity of habitat and to protect sensitive biological resources while allowing for additional development consistent with the City's General Plan and its Growth Management Plan.

The CECP site is located within the existing Encina Power Station adjacent to a regionally significant biological resource, Agua Hedionda Lagoon. The CECP site and 1-mile survey area are located within Local Facilities Management Zone (LFMZ) 1 and Core Area 4. LFMZs are defined by the City's Growth Management Plan and core areas are components of the preserve system established under the HMP, consisting of large blocks of conserved habitat capable of sustaining species over time. The Agua Hedionda watershed is located within an existing hardline conservation area. Existing hardline conservation areas include both publicly owned land and privately owned land that has been committed to habitat conservation as a result of existing open space regulations, past development approvals, or other actions. Figure 5.2-1 shows the CECP site in relation to HMP boundaries. Although Zone 1 is almost entirely developed, it contains scattered fragments of natural vegetation primarily on slopes adjoining Buena Vista and Agua Hedionda lagoons, thus contributing to the biological value of the lagoon watersheds (City of Carlsbad, 2004). Core Area 4 is approximately 1,063 acres located in west-central Carlsbad and includes Agua Hedionda Lagoon and upland habitats immediately east of the lagoon. Additionally, Core 4 has habitat linkages to Cores 2, 3, 6, and 8 (City of Carlsbad, 2004).

Conservation goals within Zone 1 include conservation of the majority of sensitive habitats in or contiguous with biological core areas, including no net loss of wetland habitat, and preserve, coastal sage scrub and maritime succulent scrub adjacent to the lagoons. Retain and manage natural habitats adjacent to lagoons to buffer wetland resources from adverse effects and provide upland nesting habitat for pond turtles and other HMP species or enhancement of like habitats adjacent to lagoons, or by offsite compensation or restoration within biological core and linkage areas. Preservation of habitat adjacent to the lagoon should also be maximized.

Critical habitat has been designated under the federal ESA in San Diego County for 15 listed species: Otay tarplant (*Deinandra conjugens*), thread-leaved brodiaea (*Brodiaea filifolia*), spreading navarretia (*Navarretia fossalis*), San Diego fairy shrimp (*Branchinecta*

sandiegensis), Riverside fairy shrimp (*Streptocephalus woottoni*), Quino checkerspot butterfly (*Euphydryas editha quino*), Laguna Mountains skipper (*Pyrgus ruralis lagunae*), tidewater goby (*Eucyclogobius newberryi*), steelhead (*Oncorhynchus mykiss*), arroyo toad (*Bufo californicus*), western snowy plover (*Charadrius alexandrinus nivosus*), southwestern willow flycatcher (*Empidonax traillii extimus*), least Bell's vireo (*Vireo bellii pusillus*), coastal California gnatcatcher, and Peninsular bighorn sheep (*Ovis canadensis cremnobates*). Table 5.2-2 lists the CECP site in relation to these critical habitat designations. The closest critical habitat to the CECP site is Critical Habitat Unit 10 for the tidewater goby, which includes Agua Hedionda (outer, middle, and inner lagoons).

TABLE 5.2-2
Critical Habitat Designations in Relation to the CECP Site

Species	Distance to CECP	Closest Critical Habitat Unit
Otay tarplant	35.4 miles	1
thread-leaved brodiaea	2.27 miles	none given
spreading navarretia	1.98 miles	2
San Diego fairy shrimp	2 miles	2
Riverside fairy shrimp	1.9 miles	3
Quino checkerspot butterfly	30 miles	2
Laguna Mountains skipper	28 miles	2
tidewater goby	110 feet	10
steelhead	22 miles	San Mateo Creek
arroyo toad	6.78 miles	12
western snowy plover	3.79 miles	25a – Batiqitos West
southwestern willow flycatcher	2.65 miles	Agua Hedionda
least Bell's vireo	4.8 miles	6
coastal California gnatcatcher	3,200 feet	3
Peninsular bighorn sheep	48 miles	none given

Source: FWS Critical Habitat Portal <http://criticalhabitat.fws.gov/>

5.2.2.3.2 Local Coastal Program and Agua Hedionda Land Use Plan

The City's Local Coastal Program (LCP), adopted in 1996, includes the City's land use plans, and policies, and standards and an implementing ordinance (Zoning Ordinance) for the City's Coastal Zone. The LCP meets the requirements, and implements the provisions and policies of the California Coastal Act. The City's LCP includes six planning areas or segments that cover approximately one-third of the City (Poseidon Resources, 2005). The CECP is located within the 1,100-acre Agua Hedionda segment. The Agua Hedionda Land Use Plan (LUP) was adopted by the City in 1982 and is incorporated into the LCP. In addition to the area within the CECP and other lands, the Agua Hedionda segment consists of three distinct areas; the Outer Lagoon, Middle Lagoon, and Inner Lagoon (City of Carlsbad, 2006).

Although the City has adopted the LUP and incorporated it into its LCP, the California Coastal Commission (CCC) excluded the Agua Hedionda segment in its final certification of the LCP. By withholding certification, the California Coastal Commission retained final permit authority for this area (referred to as the “deferred certification area”). Therefore, any proposed development within the deferred certification area would require a Coastal Development Permit issued by the CCC while proposed development outside the Agua Hedionda segment and still within the Coastal Zone would require a Coastal Development Permit issued by the City (Poseidon Resources, 2005). The LCP and LUP are further discussed in Section 5.6, Land Use.

5.2.2.3.3 City of Carlsbad General Plan

The project is located within the City of Carlsbad. The City of Carlsbad General Plan established the vision and planning framework for the future development of the City, and as such, has identified the general distribution, location, and extent of land uses within the City’s boundaries. The Carlsbad General Plan (City of Carlsbad, 1994) is the planning document applicable to this site and all linears. The Carlsbad General Plan and Zoning Ordinance both designate the CECP site as Public Utility, which allows electrical generation and transmission facilities. Zoning Designations within the project vicinity include Residential, Agricultural, Public Utility, and Open Space. The City of Carlsbad’s Open Space and Conservation Resource Management Plan provides the framework for protection of the City’s open space resources. Specific objectives of the open space and conservation plan are further discussed in Section 5.6, Land Use.

5.2.3 Affected Environment

The following sections describe the biological conditions of the CECP site, beginning with a regional overview, the vegetation types and habitat present in the project area, a description of wildlife typical to the area, and a discussion of specific special-status species known to occur in the general region.

5.2.3.1 Regional Overview

The CECP site is an approximately 23-acre site located in an industrial area zoned Public Utility that can be characterized as disturbed and developed land. The project site is located at 4600 Carlsbad Boulevard, in the City of Carlsbad, in western San Diego County, California. The project site is approximately 50 feet above mean sea level and can be found on the U.S. Geological Survey (USGS) San Luis Rey, California 7.5-minute series topographic quadrangle within Township 12 South, Range 4 West, Section 7. Elevation within the 1-mile survey area ranges from 0 to 300 feet above mean sea level.

The CECP site is located at the existing Encina Power Station, north of the intersection of Carlsbad Boulevard and Cannon Road. The main access to the CECP site will be from Carlsbad Boulevard, with secondary access for construction and for emergency access from Cannon Road. Specifically, the site is located on the northeast area of the existing Encina Power Station, between the existing rail line and Interstate 5 (I-5), and at the location of existing fuel oil tanks Nos. 5, 6, and 7. These three tanks are being demolished as part of existing operation and maintenance of the Encina Power Station. The construction of the CECP will be supported by 7 acres for equipment laydown and the construction parking areas will total approximately 3 acres. Part of the CECP site will be paved to provide

internal access to project facilities. The area around equipment, where not paved, will have gravel surfacing.

The CECP site is located in the northeastern corner of the existing Encina Power Station and therefore consists of developed and disturbed areas. Non-native ornamental landscaping occurs on portions of the CECP site and along the eastern perimeter of the site. The CECP site is bounded by the Encina Power Station on the west, I-5 on the east, Agua Hedionda Lagoon on the north, and the City of Carlsbad on the south. Figure 5.2-1 shows regional biological resources.

The closest natural habitat areas to the CECP site are Agua Hedionda Lagoon and the Pacific Ocean. The lagoon was originally a salt marsh dredged in the 1950s to provide cooling water to the Encina Power Station. Agua Hedionda is one of the City's four coastal lagoons (Buena Vista, Agua Hedionda, Batiquitos, and San Elijo) and is of regional significance in terms of plant and wildlife biodiversity. Because Agua Hedionda is located adjacent to the CECP site, this resource has been considered in all aspects of impact analysis. In addition to its natural resource value, there are also several recreational uses and aqua-culture facilities within Agua Hedionda that include mussel farming, a white sea bass hatchery, a lagoon discovery center in the outer lagoon, a YMCA facility in the middle lagoon, and water sports such as boating, water skiing, personal watercraft, boardsailing and fishing in the inner lagoon.

Sources of the Agua Hedionda Watershed include Calavera Creek and Agua Hedionda Creek. Calavera Creek originates in Oceanside and enters Carlsbad at Lake Calavera, a manmade reservoir. From the lake, the creek descends steeply to currently agricultural land before entering Agua Hedionda Lagoon. None of Calavera Creek is presently lined or channelized. Agua Hedionda Creek originates in Vista and enters Carlsbad at the Dawson-Los Monos Reserve. There is one tributary known as Little Encinas Creek. The creeks descend steeply through agricultural land until they reach El Camino Real where they merge and enter the lagoon. The portion of Agua Hedionda Creek passing through Rancho Carlsbad is channelized. Major bridge structures are located at I-5, the railroad trestle, and Carlsbad Boulevard. Culverts exist at other road crossings and flood quantities and velocities can be high. Agua Hedionda Lagoon has a permanent opening to the ocean and is therefore primarily a saltwater ecosystem with associated estuarine habitats. Because of the permanent connection to the ocean, Agua Hedionda has a significant capacity for receiving floodwaters and transferring them to the ocean without impacts to the lagoon ecosystem (City of Carlsbad, 2004).

The existing storm water system for the CECP site includes pumped collection sumps feeding existing discharge lines which eventually discharge into Agua Hedionda lagoon. This existing storm water collection system will be used for the CECP and modified as necessary to accommodate the project's layout and operation. Section 5.15, Water Resources, includes a more detailed discussion of existing NPDES permits, SWPPP, and associated best management practices (BMPs).

5.2.3.2 Biological Survey Methods

Previous biological surveys include an aquatic resource survey within Agua Hedionda conducted by MEC Analytical Systems in 1994 and 1995 for San Diego Gas & Electric

(SDG&E) and a previous biological survey conducted on the entire Encina plant by URS on May 20, 2003 (MEC, 1995; URS, 2003). A biological reconnaissance survey of the project area and 1-mile survey area was performed by a biologist from CH2M HILL on August 7, 2007. The surveyor's qualifications are provided in Appendix 5.2B. The field survey was aided by aerial photographs (1:4,800 scale), which helped identify land uses and natural habitat areas. The presence, or potential presence, of sensitive biological resources was determined from information gathered during field surveys conducted for the project, published and unpublished literature, and natural resource agency databases. With the exception of the reclaimed water line which will extend approximately 3,700 feet offsite, all project linear features are located within the existing Encina Power Station. Plant and wildlife species observed in the project vicinity during the survey are included in Tables 5.2-3 and 5.2-4 (located at the end of this section). Based on the project setting and the reconnaissance field survey, it was determined that additional species-specific focused surveys or botanical surveys would not be necessary within the project impact area because impacts to biological resources that may occur within the immediate vicinity of the project impact area could be avoided or minimized through mitigation measures.

5.2.3.3 Vegetation Communities and Wildlife Habitats

The CECP site is located within the existing Encina Power Station that includes associated structures, paved and disturbed areas. The disturbed areas are typically bare ground or a combination of bare ground and gravel with scattered vegetation. In addition to the sparse remnant vegetation scattered throughout the site, eucalyptus (*Eucalyptus* sp.) and other ornamentals have been planted throughout the site. Iceplant (*Mesembryanthemum* sp.) and eucalyptus are the most common plants and abundant vegetation within the site. Habitat on the CECP site is considered low-quality and does not provide significant habitat for plant or wildlife species. However, Agua Hedionda provides suitable wildlife habitat because the estuarine habitat provides abundant foraging and nesting opportunities, the structural diversity provides cover resources and microhabitats, and the coastal lagoon is an important source of water. Figure 5.2-2 shows the vegetation communities within the CECP site and 1-mile survey area.

Diegan coastal sage scrub. Diegan coastal sage scrub (DSS) occurs in remnant patches throughout the 1-mile survey area. Shrubs associated with this community include, but are limited to, California sagebrush (*Artemisia californica*), coastal goldenbush (*Isocoma menziesii*), California buckwheat (*Eriogonum fasciculatum* var. *fasciculatum*), buckwheat sp. (*Eriogonum* sp.), laurel sumac (*Malosma laurina*), lemonade berry (*Rhus integrifolia*), coast cholla (*Opuntia prolifera*), and coastal prickly pear (*Opuntia littoralis*).

Remnant buckwheat occurs along the railroad right-of-way (ROW); however the shrubs are too sparse to support nesting coastal California gnatcatchers. Additionally, the buckwheat scrub is located within 20 feet of the active railroad which produces excessive noise and a wind tunnel effect that would most likely preclude nesting gnatcatchers. However, the DSS located approximately 2,100 feet west/northwest of the site is suitable and does support nesting gnatcatchers (California Natural Diversity Data Base [CNDDB], 2007).

DSS-Ornamental. Because much of the surrounding area is developed, many non-native species used in landscaping have mixed with natural vegetation. Therefore, there are several

areas where there is a combination of DSS and ornamental plantings such as eucalyptus, pine (*Pinus* sp.), and oleander (*Nerium oleander*).

Non-native grassland. Species associated with non-native grassland (NNG) include, but are limited to, black mustard (*Brassica nigra*), wild oat (*Avena fatua*), foxtail chess (*Bromus madritensis* ssp. *rubens*), and peppergrass (*Lepidium* sp.). Also present on the site are pampas grass (*Cortaderia selloana*) and fountain grass (*Pennisetum setaceum*).

One known vernal pool occurs within the NNG located within the southern portion of the 1-mile survey area. This area, located within South Carlsbad State Beach, is referred to as the "Tomato Field" site and also contains scattered coastal goldenbush. San Diego fairy shrimp were discovered in this degraded coastal vernal pool (USFWS unpublished flyer).

Marsh, estuarine, freshwater and saltwater marsh, and other wetlands. Species associated with these habitat types include, but are limited to, sedge (*Carex* sp.), broad-leaved cattail (*Typha latifolia*), umbrella-plant (*Cyperus involucratus*), bulrush sp. (*Scirpus* sp.), rush sp. (*Juncus* sp.), common pickleweed (*Salicornia virginica*), saltgrass (*Distichlis spicata*), willows (*Salix* sp.), and mule fat (*Baccharis salicifolia*).

There is one storm drain on the Encina Power Station that is primarily vegetated with sedge, broad-leaved cattail, and umbrella-plant. This storm drain is expected to support common amphibian species such as pacific treefrog (*Pseudacris regilla*) and California toad (*Bufo boreas*). Marsh habitat within the survey area primarily occurs in association with Agua Hedionda Lagoon and supports a wide variety of common and sensitive plant and wildlife species. Special-status species are further discussed in Section 5.2.3.3, Special-status Species.

Riparian woodland. There is a small area to the south of the site that contains a small pond with riparian woodland species along the perimeter and vicinity. Species observed in this area include willow, western sycamore (*Platanus racemosa*), Fremont's cottonwood (*Populus fremontii* ssp. *fremontii*), mule fat, palm (*Washingtonia* sp.), pine, eucalyptus, and other ornamental species.

Open water. Open water habitat occurs within the survey area in association with Agua Hedionda Lagoon and the Pacific Ocean.

Ornamental. Ornamental plantings are located throughout the developed areas of the survey area. Eucalyptus occurs along portions of the railroad ROW and along the perimeters of the site and serve primarily as a visual block within the Encina Power Station and the CECP site. The eucalyptus windrow along the northern and eastern perimeter of the CECP site consists of trees greater than 45 feet in height, is well established, and forms a dense canopy capable of supporting nesting raptors. Figure 5.2-3 shows the eucalyptus trees along the northern and eastern perimeter of the CECP site.

Agriculture. Agriculture within the survey area includes row crops and nurseries. The main fields occur to the east of the CECP site and include the Carlsbad flower fields.

Disturbed. As the CECP site occurs within the existing Encina Power Station footprint, there are areas scattered throughout the site that are very disturbed. As mentioned earlier, these areas are typically bare ground or a combination of bare ground and gravel with scattered vegetation. The scattered vegetation consists of primarily non-natives and species that are often found in disturbed areas such as iceplant, tocalote (*Centaurea melitensis*),

horseweed sp. (*Conyza* sp.), black mustard (*Brassica nigra*), fountain grass, wild oat (*Avena fatua*), foxtail chess, tree tobacco (*Nicotiana glauca*), and western marsh-rosemary (*Limonium californicum*). The disturbed areas on the site also contain salt heliotrope (*Heliotropium curassavicum*), remnant buckwheat (*Eriogonum* sp.), and cudweed sp (*Gnaphalium* sp.).

Developed. The majority of the survey area is developed and consists of residential, commercial, industrial, and recreational land uses. Developed areas also include schools and parks with turf grass.

5.2.3.4 Special-status Species

A list of federal and state special-status plant and wildlife species was compiled for the project area using the following sources: the CNDDDB (CDFG, 2007); California Native Plant Society's (CNPS) Electronic Inventory (CNPS, 2007); a USFWS species list for San Diego County (USFWS Carlsbad Web site, 2007); HMP for Natural Communities in the City of Carlsbad (City of Carlsbad, 2004); and a field reconnaissance survey conducted in August of 2007. The reference information is based on known occurrences, historical records, or the presence of suitable habitat for any given life stage of a particular species. The known locations of special-status species identified in a 10-mile radius of the CECP site is shown on Figure 5.2-4. The special-status species reference search for CNDDDB records within the Las Pulgas Canyon, Morro Hill, Bonsall, Oceanside, San Luis Rey, San Marcos, Encinitas, and Rancho Santa Fe 7.5-minute USGS quadrangles, the onsite field survey, and habitat assessment resulted in the comprehensive special-status species list provided in Appendix 5.2A. The list includes species listed as threatened or endangered that have special requirements under the federal ESA and CESA and other unlisted special-status species that could become listed in the future. The table includes the habitat types that could support these species as well as the potential for occurrence in the project area. Any special-status species whose habitat(s) and/or known distribution are within the project area were evaluated for potential impacts from CECP construction and operation. Other special-status species that were included on the USFWS, CDFG, and CNPS lists whose habitats or known distribution do not occur within the project area were still included in Appendix 5.2A, but not evaluated further. Therefore, Table 5.2-5 represents an abbreviated list of special-status species that were evaluated for CECP.

5.2.3.4.1 Special-status Plants

Information acquired from the CNDDDB (species listed as endangered, threatened, or California Species of Special Concern species), CNPS (List 1 and 2), and other sources resulted in a list of 52 special-status plant species that could occur within the eight quad search area (Las Pulgas Canyon, Morro Hill, Bonsall, Oceanside, San Luis Rey, San Marcos, Encinitas, and Rancho Santa Fe 7.5-minute USGS quadrangles) (Appendix 5.2A).

With the exception of a storm drain that is vegetated with wetland species (*Typha* and *Carex* sp.), no native vegetation occurs within the CECP site or laydown areas. However, there is remnant buckwheat scrub bordering the railroad ROW and planted eucalyptus and other ornamentals throughout the site. Therefore, there is little to no potential for special-status plant species to occur within the project site. Although the majority of the surrounding area is developed and includes parks, landscaped vegetation, agricultural and disturbed areas, natural vegetation remaining in the project area includes open water and marsh habitat associated with Agua Hedionda, DSS, NNG, and riparian woodland.

Therefore, the remaining natural areas within the one-mile survey area contain suitable habitat for a variety of special-status plants.

A total of 46 special-status plant species have the potential to occur within the one-mile radius survey area of the CECP site. Of these, a total of 6 special-status plant species are known to occur within the one-mile radius survey area and vicinity and include: California adolphia (*Adolphia californica*), South Coast saltscale (*Atriplex pacifica*), wart-stemmed ceanothus (*Ceanothus verrucosus*), Orcutt's pincushion (*Chaenactis glabriuscula* var. *orcuttiana*), cliff spurge (*Euphorbia misera*), and coast woolly-heads (*Nemacaulis denudata* var. *denudata*) (CNDDDB 2007).

5.2.3.4.2 Special-status Wildlife

Information acquired from the CNDDDB, USFWS, and other sources resulted in a list of 57 special-status wildlife species that could occur within the eight quad search area (Appendix 5.2A). With the exception of a stormdrain that is vegetated with wetland species (*Typha* and *Carex* sp.), no native vegetation occurs within the CECP site or laydown areas. However, there is remnant buckwheat scrub bordering the railroad ROW and planted eucalyptus and other ornamentals throughout the site. Additionally, natural habitats occur within the one-mile survey area which contain suitable habitat for a variety of special-status wildlife. Therefore, although there is a low potential for special-status wildlife species to occur within the project site, natural areas within the surrounding area have a high potential.

A total of 54 special-status wildlife species have the potential to occur within the one-mile survey area. Of these, a total of 11 special-status wildlife species are known to occur within the one-mile survey area and include: San Diego fairy shrimp, tidewater goby, western snowy plover, Belding's savannah sparrow (*Passerculus sandwichensis beldingi*), California brown pelican (*Pelecanus occidentalis californicus*), coastal California gnatcatcher, light-footed clapper rail (*Rallus longirostris levipes*), California least tern (*Sterna antillarum browni*), elegant tern (*Sterna elegans*), western yellow bat (*Lasiurus xanthinus*), pocketed free-tailed bat (*Nyctinomops femorosaccus*) (CNDDDB, 2007; CH2M HILL, 2007). The majority of sensitive wildlife species known to occur within the vicinity occur within the lagoon and estuarine habitat associated with Agua Hedionda.

The HMP recognizes Agua Hedionda and associated estuarine habitats as an important foraging ground for American peregrine falcon (*Falco peregrinus anatum*) and osprey (*Pandion haliaetus*). Major nesting areas for Belding's savannah sparrow and California brown pelican and populations of western snowy plover and southwestern pond turtle (*Emys marmorata pallida*) also occur within Agua Hedionda. Additionally, Agua Hedionda provides potential suitable nesting habitat for California least tern, elegant tern, and light footed clapper rail.

5.2.4 Environmental Analysis

Potential direct and indirect impacts to biological resources were evaluated to determine the permanent and temporary effects of construction, operation, and maintenance of the CECP. Results from the current reconnaissance survey, habitat evaluations, and aerial photographs conclude an absence of significant biological resources at the CECP site. There are no property or project features that would support special-status plants or attract special-status

wildlife. Potential minor and less-than-significant impacts are limited to temporary construction noise impacts and possible avian collisions with the stacks. A summary of potential project impacts is presented in Table 5.2-6.

5.2.4.1 Standards of Significance

Impacts on biological resources are considered significant if one or more of the following conditions could result from implementation of the proposed project:

- Substantial effect, reduction in numbers, restricted range, or loss of habitat for a population of a state or federally listed threatened or endangered species.
- Substantial effect, reduction in numbers, restricted range, or loss of habitat for a population of special-status species, including fully protected, candidate proposed for listing, CSC, and certain CNPS list designations.
- Substantial interference with the movement of any resident or migratory fish or wildlife species.
- Substantial reduction of habitat for native fish, wildlife, or plants.
- Substantial disturbance of wetlands, marshes, riparian woodlands, and other wildlife habitat.
- Removal of trees designated as heritage or significant under County or local ordinances.
- Conflict with local habitat conservation plan or other approved local, regional, or state plan.

5.2.4.2 Potential Impacts of Construction and Operation

The CECP site is currently characterized by a combination of developed and disturbed areas. The active construction area will be approximately 23 acres of developed areas, disturbed habitat, and ornamental landscaping. The construction and equipment laydown areas will total approximately 7 acres and the construction parking areas will total approximately 3 acres and also consist of developed and disturbed areas. Of the 7 acres of laydown area, 5.4 acres are located on the CECP site and 1.6 acres are located west of the railroad ROW within the Encina Power Station. The affected habitat within the CECP site is shown on Figure 5.2-5. The project site currently consists of three fuel tanks and associated structures which will be demolished as part of existing operation and maintenance of the Encina Power Station. Therefore, the site provides little or no habitat value for native plant and wildlife species. However, the CECP site is located adjacent to and in the vicinity of Agua Hedionda Lagoon and near the Pacific Ocean which are significant biological resources.

TABLE 5.2-6
Summary of Potential CECP Impacts on Biological Resources During Construction

Location	Project Work	Construction Zone Size	Habitat Type	Sensitive Biological Resources	Impacts to Biological Resources	
					Temporary	Permanent
CECP site	Construction	23 acres (Includes 5.4 acres of construction laydown area)	Developed and Disturbed	None	None	None
Construction laydown areas	Paved or Gravel	7 acres (5.4 acres are included in the 23 acre CECP site)	Developed and Disturbed	None	None	None
Construction parking areas	Paved or Gravel	3 acres	Developed and Disturbed	None	None	None
Natural gas pipeline	Connection to existing onsite line	18" 1,100-ft onsite tie-in to Southern California Gas Company's existing line	Developed and Disturbed	None	None	None
Potable water supply line	Connection to existing sanitary sewer line	10" 1,200-ft onsite tie-in to existing Encina Wastewater Authority system	Developed and Disturbed	None	None	None
Reclaimed water line	New connection	12" 3,700-ft offsite tie-in at the Cannon Road tie point	Developed and Disturbed	None	None	None
Sewer line	Connection to existing sanitary sewer line	12" 1,100-ft onsite tie-in to existing Encina Wastewater Authority system	Developed and Disturbed	None	None	None
230-kV transmission line	Connection to existing switchyard	2,775-ft onsite connection to existing SDG&E Encina switchyard	Developed and Disturbed	None	None	None
138-kV transmission line	Connection to existing switchyard	1,250-ft onsite connection to existing SDG&E Encina switchyard	Developed and Disturbed	None	None	None

The construction laydown areas are located within the Encina Power Station and consist of disturbed habitat with varying amounts of vegetation. Laydown area A consists of dirt and gravel with remnant vegetation, eucalyptus, and other ornamental plantings. Laydown area B will be located where fuel tank No. 5 currently sits and is therefore developed. Laydown area C is essentially dirt and gravel. Laydown areas D and E are currently tank sites with scattered disturbed vegetation. Laydown area F is a gravel lot that is currently being used for miscellaneous equipment storage.

5.2.4.2.1 Noise Impacts of Construction and Operation

Noise Impact Criteria

Because birds primarily communicate with one another through vocalizations and auditory cues, increased noise levels can interfere with normal communication. Therefore, background noise can interfere with maintenance of contact between mated birds, warning and distress calls that signify predators and other threats, and feeding behavior and protection of the young. In addition, high noise levels may prevent an area that is otherwise appropriate for nesting from being suitable. Excessively noisy uses or activities adjacent to nesting habitat must either incorporate noise reduction measures or be curtailed during the breeding season of birds, especially of sensitive bird species. Standard BMPs designated in the MHCP for land uses adjacent to estuarine habitats require attenuation measures for activities that generate noise levels greater than 60 dBA occurring within 200 feet of important breeding habitat during the breeding season (SANDAG, 2003). The CECP site is located approximately 110 feet from open water habitat in the middle lagoon.

Construction Noise

Construction equipment will include various excavators and backhoes, dump trucks, cranes, compressors, welders, concrete vibrators, paving equipment, and other trucks. Construction activities may, at times, exceed the 60 dBA threshold. The northern portion of the CECP site which includes Laydown A is located approximately 110 feet up slope from the middle lagoon of Agua Hedionda. Therefore, the use of this laydown area during construction may result in temporary, indirect noise impacts to sensitive wildlife species foraging and nesting in this area of Agua Hedionda. Distance attenuation should reduce construction noise levels to between 60 and 71 dBA for average construction noise modeled at 375 feet. Additional sound attenuation will be achieved from the slope and the fact that each unit will be located down in the existing fuel tank basins. However, a number of avoidance and mitigation measures would be incorporated into such activities. To avoid the riparian bird nesting season, excessively noisy construction activities should not occur between March 15 and August 31, especially during dusk and early morning hours if birds are nesting within the middle lagoon (the limit of the 200-foot MHCP boundary). If construction cannot avoid the nesting season, then a qualified biologist will conduct a preconstruction survey of the surrounding riparian and estuarine habitat (up to 200 feet) to determine the presence/absence of nesting bird species. If nesting bird species are detected, then noise monitoring and mitigation will be incorporated. Should noise levels exceed 60 dBA during the breeding season, then feasible noise reduction measures (e.g., ensuring that construction equipment and mufflers are in good working condition, locating stationary equipment away from biologically sensitive areas, and sound barriers) will be implemented to reduce average noise levels to below 60 dBA. Mitigation measures are further discussed in Section 5.2.5. Therefore, temporary, indirect impacts associated with increased noise levels during

construction may occur. However, with the implementation of avoidance and mitigation measures discussed above, the impacts are anticipated to be less-than-significant.

Laydown areas B through F are not located adjacent to sensitive biological resources; therefore the use of these five areas during construction is not expected to result in direct, temporary, or indirect impacts to biological resources.

Operational Noise

Noise modeling was conducted for the CECP and monitoring locations are shown on Figure 5.2-6 and discussed in detail in Section 5.7, Noise. The CECP site is surrounded by industrial and commercial land uses, and adjacent to I-5 and the railroad that collectively generate overall existing ambient noise levels ranging from 51 to 60 dBA, at monitoring locations M5 and M7 located along the north side of Agua Hedionda. However, I-5 and rail traffic generates existing ambient noise levels up to 86 dBA measured at monitoring location M1 located adjacent to the railroad ROW. Therefore, existing conditions already include noise associated with existing industrial uses, rail and highway traffic, and surf noise. Operational noise levels at the middle lagoon close to the site may exceed 60 dBA; however, this level is already exceeded at certain times, such as near the railroad tracks and I-5, where periodic noise levels can reach 80 dBA when a train passes. With noise control incorporated in the design, operational noise impacts are not anticipated to exceed 51 to 52 dBA along the north side of the middle lagoon. It would be expected that wildlife species utilizing the middle lagoon would be accustomed to noise levels from the existing Encina Power Station, I-5 and rail noise that already exceed 60 dBA. Therefore, operational noise impacts in the middle lagoon are expected to be less than significant. Noise impacts and design features are further discussed in Section 5.7.

5.2.4.2.2 Light Impacts from Operation

Bright night lighting can potentially disturb wildlife (e.g., nesting birds, foraging mammals, and flying insects). Night lighting is also suspected to attract migratory birds to some areas and, if the lights are on tall buildings or the stacks, then collisions could occur. The HMP specifies lighting use restrictions consistent with existing City lighting guidelines for areas adjacent to preserves. Specifically, direct lighting within 200 feet of preserves must be directed away from the preserve (City of Carlsbad, 2004). As described in Section 5.13, Visual Resources, any facility lighting will be pointed downwards and away from Agua Hedionda, which will reduce impacts on wildlife and migrating birds to less than significant levels. Outdoor lighting for the CECP will be limited to minimal security and operational lighting in the form of pole-mounted and building-mounted fixtures. Operational lighting is anticipated to remain at approximately the same level as existing conditions. If nighttime construction occurs, then nighttime lighting will be limited to minimal work space lighting. Therefore, construction and operational light impacts to wildlife and migrating birds from the CECP are expected to be less than significant.

5.2.4.2.3 Cooling Tower Drift

The CECP will utilize an evaporative cooling system (i.e., dry air cooled) and does not have cooling towers. Therefore, potential impacts to biological resources from cooling tower drift are not applicable.

5.2.4.2.4 Water Discharge

CECP's process, evaporative cooling water, and miscellaneous plant uses (e.g., equipment wash water), and onsite irrigation will be CCR Title 22 reclaimed water supplied by the City of Carlsbad. CECP will use highly purified (demineralized) water for producing steam. Any reject stream will be disposed of via the City of Carlsbad sewer line and will be monitored prior to discharge, and treated if necessary, for compliance with the Encina Wastewater Authority (EWA) Discharge Limits. Wastewater from miscellaneous project uses, evaporative coolers, and heat recovery steam generator (HRSG) blowdown will be recycled to the raw water storage tank for reuse. Domestic wastewater generated at the CECP site will also be discharged to the City sanitary sewer system. This volume is expected to result in a minimal increase in demand on the sewer system and would be well within the treatment, conveyance, and disposal capacities of the City and EWA systems. This system is further discussed in Section 5.15, Water Resources. Because the CECP will draw process water from an existing water supply system and then discharge wastewater into the sanitary sewer system, there will be no mechanism to affect fish or other aquatic biota during operations. Therefore, there will be no significant impacts to biological resources from water intake or discharge.

Once CECP is in operation, Units 1, 2, and 3 at the Encina Power Station plant will be retired. Current operation of these units requires ocean intake and outfall. Once these units are retired, the volume of sea water used for once-through-cooling at the Encina Power Station will be reduced by approximately one-quarter (224.64 million gallons per day). This reduction will result in a decrease in impingement and entrainment effects at the Encina Power Station. The retirement of Encina Power Station Units 1, 2, and 3 and retirement of the once-through cooling pumps associated with these units is considered an integral part of compliance with Clean Water Act Section 316(b) at the Encina Power Station.

5.2.4.2.5 Air Emissions from Operation

Air emissions from the two new gas turbines include nitrogen oxides (NO_x). Nitrogen oxide gases (NO, NO₂) convert to nitrate particulates in a form that is suitable for uptake by most plants. The effect of this nitrogen could be to promote plant growth that could potentially encourage non-native plant species at the expense of native species. As discussed in the Air Quality Section 5.1.7.1, there is a net reduction in NO_x emissions for the proposed project with the shutdown of the existing Units 1, 2, and 3 at the Encina Power Station.

Consequently, the nitrogen deposition impacts associated with the new gas turbines is not expected to be significant due to the mitigating affect of the shutdown of the existing Units 1, 2, and 3 at the Encina Power Station.

5.2.4.2.6 Avian Collision and Electrocutation Hazards

The project would include two 100-foot-tall, 20-foot-diameter exhaust stacks and two new onsite transmission lines that could potentially result in bird collisions. The existing exhaust stack at the existing Encina Power Station is approximately 400 feet tall. Most avian collisions with structures involve nocturnal migrants flying at night in inclement weather and low-visibility conditions, colliding with tall, guyed television or radio transmission towers (California Energy Commission [CEC], 1995; Kerlinger, 2000 in Final Staff Assessment for Contra Costa Power Plant). Migratory birds generally fly at an altitude that would avoid ground structures, except when crossing over topographic features (e.g., ridge tops) or when inclement weather forces them closer to the ground.

Agua Hedionda attracts many migratory birds and provides foraging and nesting habitat for resident birds associated with estuarine and open water habitat. Additionally, many birds fly back and forth between the inner lagoon and the coast/Pacific Ocean. The tall structures and transmission lines within the Encina Power Station provide a good vantage point for foraging raptors. Although some birds flying between habitats would be expected to use the CECP site to rest, the majority would be expected to fly over the open water directly back and forth between habitats. The birds flying between habitats could collide with power plant structures such as stacks and transmission lines during low visibility periods of fog and rain. Although the CECP is located adjacent to an area of high bird concentration, most birds would be expected to remain over the open water and are not expected to forage directly over the Encina Power Station or the CECP site. However, because the site is adjacent to high bird use habitats, bird flight diverters (BFDs) installed on the 230-kV transmission line would add more protection for the birds by allowing better avian visualization of the thinner top wires during fog and rain events and reduce avian collisions with the wires. BFDs are preformed high-impact PVC spirals that thread onto the top wires. Studies have shown BFDs may reduce avian collisions by 57 percent to 89 percent (Avian Power Line Interaction Committee [APLIC], 1994).

Bird collisions with the new 138-kV and 230-kV electrical transmission connections are expected to be rare due to relatively low pole heights (approximately 67 to 106 feet) and the two CECP HRSG stack heights (100 feet) are below the height of the existing Encina Power Station stack (approximately 400 feet) which is the tallest structure at the Encina Power Station. Transmission lines currently occupy the site and the proposed transmission lines will tie into existing switchyards. Additionally, the CECP will comply with the Federal Aviation Administration limit by keeping the interconnect-transmission line pole height below 143 feet. Because of the relatively low structure height and lack of guy wires, the potential for bird collisions with stacks, poles, electric conductor wires, structures, and towers of the project is considered less than significant.

Large raptors, herons, and egrets can be electrocuted by transmission lines when a bird's wings simultaneously contact two conductors of different phases, or a conductor and a ground. The installation of above ground transmission line segments and towers will be constructed according to "raptor-friendly" guidelines (APLIC, 1996). The 138-kV and 230-kV electrical transmission line for the project will be constructed with at least a 5.5-foot span between conductor wires. The transmission line would not increase avian electrocutions in the area. Risk of electrocution is not expected to be significant since the site does not attract large numbers of birds. In addition, the "raptor-friendly" design would reduce potential impacts to less than significant.

5.2.4.3 Special-status Species

Agua Hedionda and surrounding open land areas provide habitat for several special-status plants and animals. Figure 5.2-4 shows the locations of sensitive plant and wildlife species and sensitive vegetation communities known to occur within 1-mile of the CECP site. Although these species are found in the vicinity of the CECP site, they are essentially restricted to the estuarine and open water habitats associated with Agua Hedionda and surrounding natural habitats. The following paragraphs briefly describe potential project impacts that could occur to special-status species that have suitable habitat, were observed

during surveys, or are known to be present on site or in adjacent habitats. Protection measures that were developed to protect these species are included in Section 5.2.5.

5.2.4.3.1 Plants

A total of 6 special-status plant species are known to occur within the one-mile radius survey area and vicinity and include: California adolphia, South Coast saltscale, wart-stemmed ceanothus, Orcutt's pincushion, cliff spurge, coast woolly-heads (CNDDDB, 2007). However, the CECP site is characterized by developed and disturbed areas dominated by upland ruderal habitat that does not support habitat for any special-status plant species. Therefore, impacts to special-status plant species are expected to be less than significant.

5.2.4.3.2 Aquatic Species

Construction and operation of CECP is not expected to adversely affect populations of aquatic invertebrates, gobies, or other fish in Agua Hedionda. The project's dry cooling system means that there will not be a thermal plume or intake and outflow issues to affect fish or other aquatic biota during operations. Additionally, all storm water discharges will comply with NPDES permits. Therefore, there will be no significant impacts to biological resources from water discharge.

Once CECP is in operation, Units 1, 2, and 3 at the Encina Power Station plant will be retired. Current operation of these units requires ocean intake and outfall. Once these units are retired, the volume of sea water used for once-through-cooling at the Encina Power Station will be reduced by approximately one-quarter (224.64 million gallons per day). This reduction will result in a decrease in impingement and entrainment effects at the Encina Power Station. The retirement of Encina Power Station Units 1, 2, and 3 and retirement of the once-through cooling pumps associated with these units is considered an integral part of compliance with Clean Water Act Section 316(b) at the Encina Power Station.

5.2.4.3.3 Wildlife

A total of 11 special-status wildlife species are known to occur within the one-mile survey area and include: San Diego fairy shrimp, tidewater goby, western snowy plover, Belding's savannah sparrow, California brown pelican, coastal California gnatcatcher, light-footed clapper rail, California least tern, elegant tern, western yellow bat, and pocketed free-tailed bat (CNDDDB, 2007; CH2M HILL, 2007).

San Diego Fairy Shrimp

San Diego fairy shrimp discovered in the degraded coastal vernal pool located at the "Tomato Field" site located within South Carlsbad State Beach in the southern portion of the 1-mile survey area (USFWS, unpublished flyer). There are no vernal pools on the CECP site and impacts to San Diego fairy shrimp are not anticipated.

Tidewater Goby

As discussed in section 5.2.4.3.2, Aquatic Species, construction and operation of CECP is not expected to adversely affect populations of gobies or other fish in Agua Hedionda. The project's dry cooling system means that there will not be a thermal plume or intake and outflow issues to affect fish or other aquatic biota during operations.

California Least Tern, Elegant Tern, and Western Snowy Plover

Agua Hedionda provides potential suitable nesting habitat for California least tern and elegant tern and supports populations of western snowy plover. No direct impacts to

nesting terns or plovers will occur from construction or operation of CECP as they do not nest on the site and Agua Hedionda will not be affected. Temporary indirect impacts to nesting terns and plovers could occur from construction noise during breeding season from March through August if noise levels are significantly above ambient levels. Excessively noisy construction activities will either be conducted outside of the breeding season, or noise minimization measures will be implemented as necessary. With implementation of avoidance and minimization measures discussed in Sections 5.2.4.2.1 and 5.2.5.1, effects of construction noise on California least tern, elegant tern, and western snowy plover nesting within Agua Hedionda would be less than significant.

Belding's Savannah Sparrow

Belding's savannah sparrows are known to nest in the pickleweed and marsh habitat associated with Agua Hedionda towards the eastern edge of the 1-mile survey area. No direct or indirect impacts to nesting Belding's savannah sparrow will occur from construction or operation of CECP as they do not nest on the site and Agua Hedionda will not be affected. Additionally, construction noise is not expected to affect Belding's savannah sparrow because suitable nesting habitat is primarily located towards the eastern portion of the inner lagoon, located approximately 1 mile from the CECP site, where distance attenuation would reduce construction noise to well below 60 dBA.

Brown Pelican

Brown pelicans roost in several areas of Agua Hedionda and were observed perched on floats in the outer lagoon during the survey. Pelicans feed exclusively on fish in the ocean and lagoon and do not forage on site. Noise and activities from construction may temporarily displace them from roosting sites immediately adjacent to the middle lagoon during construction activities. However, they are most likely accustomed to existing noise levels from the Encina Power Station and the adjacent I-5 and railroad and noise minimization measures will be implemented (Sections 5.2.4.2.1 and 5.2.5.1).

Coastal California Gnatcatcher

Remnant buckwheat occurs along the railroad ROW along the western portion of the CECP site, however the shrubs are too sparse to support nesting coastal California gnatcatchers. Additionally, the buckwheat scrub is located within 20 feet of the active railroad which produces excessive noise and a wind tunnel effect that would most likely preclude nesting gnatcatchers. However, DSS located beyond the site is suitable and does support nesting gnatcatchers (CNDDDB, 2007). As a precaution, a pre-construction survey for nesting birds will be conducted prior to ground disturbance. If gnatcatchers are detected, then the resource agencies will be contacted and appropriate avoidance and minimization measures will be implemented (further discussed in Section 5.2.5.1). Therefore, impacts to coastal California gnatcatchers are expected to be less than significant.

Light-Footed Clapper Rail

The CNDDDB occurrence of light-footed clapper rail in Agua Hedionda is for a historical population that was lost following a dewatering project. Currently, the lagoon contains potential suitable nesting habitat for light-footed clapper rail. Similar to project impacts for terns and plovers, no direct impacts to light-footed clapper rail will occur from construction or operation of CECP as they do not nest on the site and Agua Hedionda will not be affected. Temporary indirect impacts to nesting light-footed clapper rails could occur from construction noise during breeding season from March through August if levels are

significantly above ambient levels. Excessively noisy construction activities will either be conducted outside of the breeding season, or noise minimization measures will be implemented as necessary. With implementation of avoidance and minimization measures that are proposed in Sections 5.2.4.2.1 and 5.2.5.1, effects of construction noise on light-footed clapper rails nesting within Agua Hedionda would be less than significant.

Western Yellow Bat and Pocketed Free-Tailed Bat

Both occurrences of western yellow bat and pocketed free-tailed bat occur north of the CECP site. The buildings, structures, and trees in the immediate vicinity of the CECP site provide potential roosting habitat for several bat species. However, the trees along the perimeter will remain. If bats are observed during construction activities, then a qualified biologist will be contacted and appropriate minimization measures will be implemented.

5.2.4.3.4 Nesting Birds on Site

The compact dirt and sparse vegetation within the open bare ground provides nesting substrate for small songbirds. The open areas also provide nesting substrate for ground nesters such as horned lark and killdeer. If construction activities occur during nesting season (typically March through August), take of nests and or young could occur. To avoid and minimize impacts to nesting birds, nesting substrate for songbirds (taller plants) is proposed to be removed outside of the nesting season (non-nesting season typically September through February) before construction activities begin. The open areas requiring grading would be graded prior to March 1 and will be routinely inspected for nesting activities throughout construction and demolition. Any nests found in or adjacent to disturbance areas would be flagged and the area immediately around the nest protected from construction equipment. However, overall construction activities of CECP would not be affected by nests onsite, rather the protection and monitoring of the nests would allow construction activities to continue. These nests would be monitored and results included in the monthly compliance reports to the CEC.

5.2.4.3.5 Migratory Birds and Raptors

Migratory birds including waterfowl, shorebirds, and raptors are attracted to Agua Hedionda. Raptors that would be expected to forage on and near the site include red-tailed hawk, Cooper's hawk, red-shouldered hawk, American kestrel, osprey, and peregrine falcon. CECP and Encina plant provide suitable perching features such as the stacks, tanks, and light poles that overlook the lagoon. Additionally, the eucalyptus perimeter provides suitable raptor nesting habitat. Construction and operation of CECP would not result in significant impacts to migratory birds or raptors and may benefit these species by increasing available perch sites.

5.2.4.4 Water Resources, Wetlands, and Waters

None of the water features currently on the site are in a natural, undisturbed state. Drainage on site is captured in the existing storm water system which eventually discharges into Agua Hedionda Lagoon. This existing storm water collection system will be used for the CECP development and modified as necessary to accommodate the plant layout. Standing water can collect in the storm water drainages in the fuel tank basins and can therefore potentially support amphibian species. However, the drainages are regularly maintained and any vegetative growth is cut back.

No surface or groundwater would be used for the operation of the CECP site. Additionally, drainage flow from the CECP site will be about the same or less flow as that from the site under current conditions. Water will be applied to the site and laydown area for dust control during construction. Erosion and sediment washed into surface waters would be potentially harmful to water quality downstream. As discussed further in Section 5.15, Water Resources, the Applicant will prepare an erosion and sediment control plan that specifies BMPs to be implemented during all project activities to avoid sediment runoff and erosion that would cause water quality degradation. Therefore, impacts to water resources, wetlands, and waters of the U.S. are expected to be less than significant.

5.2.4.5 Impacts to Trees

The majority of trees within the Encina Power Station were planted as visual barriers. The landscaped trees consist primarily of eucalyptus, but also include other ornamental species. Figure 5.2-3 shows the eucalyptus trees along the northern and eastern perimeter of the CECP site. The eucalyptus trees will remain and the additional plantings may occur to enhance the visual block. The HMP designates a 100-foot buffer zone adjacent to wetland habitats in the coastal zone. Buffers shall be provided between all preserved habitat areas and development. Buffer areas that do not contain native habitat shall be landscaped using native plants (City of Carlsbad, 2004). Agua Hedionda is approximately 110 feet from the CECP site and although the remnant vegetation is very minimal, there are scattered native shrubs and plants. Therefore, additional planting of eucalyptus is not expected to affect the buffer zone or Agua Hedionda.

5.2.4.6 Conflict with Regional Habitat Conservation Plans

To continue supporting sensitive wildlife species, the HMP designates species-specific management objectives that generally include preservation of estuarine and coastal salt marsh habitat, reduction of disturbance at nesting sites, and maintenance of lagoon hydrology and water quality, including a 100-foot setback from existing wetland habitats (City of Carlsbad, 2004). The CECP site is located beyond the 100-foot setback and the project will not result in any direct impacts to HMP Covered Species or to protected habitat types. Construction noise has the potential to affect Covered bird Species that utilize Agua Hedionda; however, with the implementation of mitigation measures discussed in Section 5.2.4.2.1, impacts are anticipated to be less than significant. The only critical habitat that falls within the CECP biological study area is tidewater goby, which intersects at Agua Hedionda at Critical Habitat Unit 10. The CECP site will not affect Agua Hedionda; therefore, impacts to tidewater goby critical habitat are not anticipated.

5.2.4.7 Cumulative Effects

The Carlsbad Seawater Desalination Plant at the Encina Power Station is proposed by Poseidon Resources as a new source of potable water for the region. The proposed project consists of a 50 million gallon per day (MGD) seawater desalination plant and includes appurtenant and ancillary water and support facilities, including the offsite water delivery infrastructure to produce potable water. The desalination plant and the CECP are two separate projects. The Poseidon project will take sea water from the once-through-cooling system that provides cooling water to existing power units at the Encina Power Station. However, the Encina Power Station is not required to alter its once-through-cooling system;

any alterations are the responsibility of Poseidon. In addition, the Encina Power Station is not required to continue to operate the once-through-cooling system nor is it required to provide a certain amount of water to the desalination plant, therefore it does not have to operate the cooling system just to provide water to the desalination plant. CECP is a dry cooled plant and therefore does not rely upon seawater for once-through-cooling and will not affect fish or other aquatic resources. While the Poseidon project will result in temporary impacts to native vegetation that will be mitigated, the CECP will not impact native vegetation communities. Construction of the Poseidon project may occur concurrently to the CECP, however cumulative temporary construction noise impacts are not anticipated to be significant because both projects will incorporate a combination of noise reduction measures to avoid or minimize impacts to nesting raptors and sensitive nesting bird species (e.g., preconstruction surveys, timing restrictions). Due to the nature of the separate projects, each one required to be in compliance with regulatory authorities separate from each other, the cumulative effects for the CECP as it would relate to the Poseidon project would not be significant.

The HMP in conjunction with the MHCP provides regional mitigation for cumulative biological resource impacts. If a project is determined to be consistent with the MHCP and associated subarea plan and it provides appropriate mitigation to ensure less than significant impacts, then its cumulative effects would fall under the existing Take Authorization. Both the Poseidon project and the CECP are consistent with the MHCP and HMP and therefore, no significant cumulative effects on biological resources would result from implementation.

5.2.5 Mitigation Measures

The construction and operation of the CECP is not expected to result in significant biological impacts. However, the following avoidance and minimization measures will be incorporated to minimize avian impacts due to temporary construction noise impacts.

5.2.5.1 Noise Impacts

A preconstruction survey within the CECP site and the middle lagoon of Agua Hedionda should be conducted prior to ground disturbance and construction activities, between March 15 and August 31. The survey will be conducted no more than two weeks prior to construction activities and should be conducted by a qualified biologist familiar with the identification and vocalizations of coastal California gnatcatchers and estuarine species. Excessively noisy construction activities will be scheduled around the breeding season as feasible and construction equipment will be in good working condition with properly operated and maintained mufflers. If nesting bird species are detected, then noise monitoring and mitigation will be incorporated. Should average noise levels from the project near nesting sites exceed 60 dBA, feasible noise reduction measures will be implemented to reduce noise levels to below 60 dBA. Noise reduction measures include locating stationary equipment away from biologically sensitive areas and/or shielding nesting sites by installing sound barriers. Once the average noise level returns to below 60 dBA, the construction activities may resume. Educational programs to enhance employee awareness will be implemented as necessary.

The presence of any nesting raptors in the vicinity of the CECP site should be considered and addressed prior to the start of construction. The CDFG typically imposes a 300-foot radius for protection of nesting raptors. However, this can be addressed on a case-by-case basis as some raptors have been observed to nest much closer to human activities without exhibiting any stress, and raptors in this location may be habituated to human activity. Surveys conducted by a qualified biologist will also be conducted for nesting raptors within 300 feet of the project site prior to the start of construction between January 1 and August 31. Should a raptor nest be observed within 300 feet of the CECP site, a qualified biologist will determine whether or not construction activities could potentially disturb nesting raptors and implement appropriate measures (e.g., onsite monitor, timing restriction) to adequately protect nesting raptors.

5.2.6 Proposed Conditions for Certification

This section describes proposed conditions of certification that will be implemented for the CECP to ensure that impacts remain below level of significance:

BIO-1: The Applicant will implement the mitigation measures identified in Section 5.2.5.1 and the Application for Certification. The Applicant's proposed mitigation measures will be incorporated into the final Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP) unless the mitigation measures conflict with mitigation required by the USFWS and CDFG that is contained in their respective Biological Opinion and Incidental Take Permit, if applicable (see Condition of Certification BIO-8).

Protocol: The Applicant will:

1. Site transmission line poles, access roads, pulling sites, and storage and parking areas to avoid sensitive resources whenever possible.
2. Avoid all wetlands.
3. Design and construct transmission lines and poles to reduce the likelihood of electrocutions of large birds.
4. Bury any pipelines that cross streams and dry creek beds below the scour depth for each waterway. Streambeds disturbed during construction will be recontoured so that drainage patterns are not changed from pre-construction conditions.
5. Implement a Worker Environmental Awareness Program.
6. Hire a qualified biologist, who is acceptable to the CEC, USFWS, and CDFG staff, to conduct pre-construction surveys no more than fourteen (14) days prior to initiation of construction in any portion of the project area.
7. Clearly mark construction area boundaries with stakes, flagging, and/or rope or cord to minimize inadvertent degradation or loss of adjacent habitat during facility construction. All equipment storage will be restricted to designated construction zones or areas that are currently not considered sensitive species habitat.
8. Post signs and/or fence the power plant site and laydown areas to restrict vehicle access to designated areas.

9. Institute traffic restraints and signs to minimize temporary disturbances. A 20-mph speed limit will be implemented on the project site.
10. Provide a qualified wildlife biologist to monitor all activities that may affect nesting birds, raptors, or other sensitive biological resources identified in the preconstruction survey.
11. Conduct compliance inspections once per week and provide an annual compliance report to the CEC, the appropriate USFWS Field Office, and the appropriate CDFG Region office.
12. Provide a post-construction compliance report, within forty-five (45) calendar days of completion of the project, to the USFWS, CDFG, and the CEC.
13. Make certain that all food-related trash will be disposed of in closed containers and removed at least once a week. Feeding of wildlife shall be prohibited.
14. Prohibit firearms except for those carried by security personnel.
15. Prohibit pets from the project site.
16. Report all inadvertent deaths of birds and/or raptors to the appropriate project representative. Injured animals will be reported to CDFG, and the Applicant will follow instructions that are provided by CDFG.
17. Consult with USFWS, CDFG, and the CEC regarding appropriate protection measures for sensitive species following resolution of any emergency situation that takes place in sensitive habitat during clean-up activities.

Verification: At least sixty (60) days prior to start of any project related ground disturbance activities, the Applicant shall provide the CEC Compliance Project Manager (CPM) with the final version of the BRMIMP for the CECP, and the CPM will determine the plan's acceptability within fifteen (15) days of receipt of the final plans. Implementation of the above measures shall be included in the BRMIMP.

BIO-2 Construction site and/or ancillary facilities preparation (described as any ground disturbing activity other than allowed geotechnical work) shall not begin until a CEC CPM-approved Designated Biologist is available to conduct the preconstruction survey as discussed in Section 5.2.5.1 and if necessary, to be onsite.

The Designated Biologist must meet the following minimum qualifications:

1. A Bachelor's Degree in biological sciences, zoology, botany, ecology, or a closely related field
2. Three years of experience in field biology or current certification of a nationally-recognized biological society, such as The Ecological Society of America or The Wildlife Society
3. One year of field experience with biological resources found in or near the project area

4. An ability to demonstrate to the satisfaction of the CPM the appropriate education and experience for the biological resources tasks that must be addressed during project construction and operation

If the CPM determines the proposed Designated Biologist to be unacceptable, the Applicant shall submit another individual's name and qualifications for consideration. If the approved Designated Biologist needs to be replaced, the Applicant shall obtain approval of a new Designated Biologist by submitting to the CPM the name, qualifications, address, and telephone number of the proposed replacement. No disturbance will be allowed in any designated sensitive areas until the CPM approves a new Designated Biologist and the new Designated Biologist is onsite.

Verification: At least ninety (90) days prior to the start of any ground disturbance activities, the Applicant shall submit to the CPM for approval the name, qualifications, address, and telephone number of the individual selected by the Applicant as the Designated Biologist. If a Designated Biologist is replaced, the information on the proposed replacement as specified in the Condition must be submitted in writing at least ten working days prior to the termination or release of the preceding Designated Biologist.

BIO-3 Preconstruction surveys will be conducted prior to ground disturbance and construction activities between January 1 and August 31 to identify the presence of nesting raptors and between March 15 and August 31 to identify the presence of nesting special-status birds. The survey will be conducted no more than two weeks prior to construction activities and should be conducted by the CPM-approved Designated Biologist who is familiar with the identification and vocalizations of raptors, coastal California gnatcatchers, and estuarine species. Nesting raptor surveys will be conducted within 300 feet of the project site. Nesting bird surveys will be conducted for special-status songbirds and estuarine species within 200 feet of the project site and will include the middle lagoon of Agua Hedionda.

If nesting raptors, special-status bird species, or other sensitive biological resources are identified during the preconstruction survey in a location where adverse impacts could occur and biological monitoring is deemed necessary, then the mitigation measures specified in Section 5.2.5.1 will be implemented and the CPM-approved Designated Biologist shall perform the following during project construction and operation:

1. Advise the Applicant's supervising construction or operations engineer on the implementation of the biological resources Conditions of Certification
2. Supervise or conduct mitigation, monitoring, and other biological resources compliance efforts, particularly in areas requiring avoidance or containing sensitive biological resources, such as Agua Hedionda and special status species
3. Notify the Applicant and the CPM of any non-compliance with any biological resources Condition of Certification

Verification: During project construction, the Designated Biologist shall maintain written records of the tasks described above, and summaries of these records shall be submitted along with the Monthly Compliance Reports to the CPM. During project operation, the Designated Biologist shall submit record summaries in the Annual Compliance Report.

BIO-4 The Applicant's supervising construction and operations engineer shall act on the advice of the Designated Biologist to ensure conformance with the biological resources Conditions of Certification.

Protocol: The Applicant's supervising construction and operating engineer shall halt, if necessary, all construction activities in areas specifically identified by the Designated Biologist as sensitive to assure that potential significant biological resources impacts are avoided. The Designated Biologist shall:

1. Inform the Applicant and the supervising construction and operating engineer when to resume construction
2. Advise the CPM if any corrective actions are needed or have been instituted

Verification: Within two working days of a Designated Biologist notification of non-compliance with a Biological Resources Condition or a halt of construction, the Applicant shall notify the CPM by telephone of the circumstances and actions being taken to resolve the problem or the non-compliance with a Condition. For any necessary corrective action taken by the Applicant, a determination of success or failure will be made by the CPM within five working days after receipt of notice that corrective action is completed, or the Applicant will be notified by the CPM that coordination with other agencies will require additional time before a determination can be made.

BIO-5 The Applicant shall develop and implement a site-specific CPM approved Worker Environmental Awareness Program to inform all onsite personnel of the sensitive biological resources associated with the project, restrictions, protection measures, and individual responsibilities associated with the project. The program will be approved by CEC, USFWS, and CDFG. The program will be administered onsite by the Designated Biologist and may include an oral, video/powerpoint, and written materials presentation.

The Worker Environmental Awareness Program must:

1. Be developed by the Designated Biologist and consist of an onsite or training center presentation in which supporting written material is made available to all participants;
2. Discuss the locations and types of sensitive biological resources on the project site and adjacent areas
3. Present the reasons for protecting these resources
4. Present the meaning of various temporary and permanent habitat protection measures; and
5. Identify whom to contact if there are further comments and questions about the material discussed in the program

The specific program can be administered by a competent individual(s) acceptable to the Designated Biologist. Each participant in the onsite Worker Environmental Awareness Program shall sign a statement declaring that the individual understands and shall abide by the guidelines set forth in the program materials. The person administering the program shall also sign each statement.

Verification: At least sixty days prior to the start of rough grading, the Applicant shall provide copies of the Worker Environmental Awareness Program and all supporting written materials prepared by the Designated Biologist and the name and qualifications of the person(s) administering the program to the CPM for approval. The Applicant shall state in the Monthly Compliance Report the number of persons who have completed the training in the prior month and a running total of all persons who have completed the training to date. The signed statements for the construction phase shall be kept on file by the Applicant and made available for examination by the CPM for a period of at least six months after the start of commercial operation. During project operation, signed statements for active project operational personnel shall be kept on file for the duration of their employment and for six months after their termination.

BIO-6 If applicable, prior to start of any ground disturbance activities, the Applicant shall acquire an Incidental Take Permit from the CDFG (per Section 2081(b) of the CESA and implement the permit terms and conditions.

Verification: No less than five days prior to the start of any project-related ground disturbance activities the Applicant shall submit to the CPM a copy of the final CDFG Incidental Take Permit, if applicable. If applicable, permit terms and conditions will be incorporated into the BRMIMP. (See also Condition of Certification BIO-8.)

BIO-7 If applicable, prior to the start of any ground disturbance activities, the Applicant shall provide final copies of the Biological Opinion per Section 7 of the federal ESA obtained from the USFWS and incorporate the terms of the agreement into the BRMIMP. If applicable, the Applicant will implement the terms and conditions contained in the Biological Opinion (See also Condition of Certification BIO-8.)

Verification: At least sixty days prior to the start of any project-related ground disturbance activities the Applicant shall submit to the CPM a copy of the Biological Opinion, if applicable. If applicable, permit terms and conditions will be incorporated into the BRMIMP. (See also Condition of Certification BIO-8.)

BIO-8 The Applicant shall submit to the CPM for review and approval a copy of the final BRMIMP and shall implement the measures identified in the plan.

The final BRMIMP shall identify:

1. All mitigation, monitoring, and compliance measures recommended by the Applicant referred to, as well as those contained in, Condition of Certification BIO-1
2. All sensitive biological resources to be impacted, avoided, or mitigated by project construction, operation and closure
3. All mitigation measures provided in the USFWS Biological Opinion and CDFG Incidental Take Permit, if applicable.
4. All provisions specified in the CDFG Streambed Alteration Agreement Notification
5. All required mitigation measures for each sensitive biological resource, primarily nesting birds and raptors

6. Required habitat compensation, including provisions for acquisition, enhancement, and management for any temporary and permanent loss of sensitive biological resources;
7. A detailed description of measures that will be taken to avoid or mitigate temporary disturbances from construction activities
8. All locations, on a map of suitable scale, of laydown areas and areas requiring temporary protection and avoidance during construction
9. Aerial photographs of all areas to be disturbed during project construction activities - one set prior to site disturbance and one set subsequent to completion of mitigation measures. Include planned timing of aerial photography and a description of why times were chosen
10. Monitoring duration for each type of monitoring and a description of monitoring methodologies and frequency
11. Performance standards to be used to help decide if/when proposed mitigation is or is not successful
12. All performance standards and remedial measures to be implemented if performance standards are not met
13. A discussion of biological resources related facility closure measures
14. A process for proposing plan modifications to the CPM and appropriate agencies for review and approval

Verification: At least sixty days prior to start of any project related ground disturbance activities, the Applicant shall provide the CPM with the final version of the BRMIMP for this project, and the CPM will determine the plan's acceptability within fifteen days of receipt of the final plan. The Applicant shall notify the CPM five working days before implementing any modifications to the BRMIMP.

Within thirty days after completion of project construction, the Applicant shall provide to the CPM, for review and approval, a written report identifying which items of the BRMIMP have been completed, a summary of all modifications to mitigation measures made during the project's construction phase, and which mitigation and monitoring plan items are still outstanding.

BIO-9 The Applicant will incorporate into the planned permanent or unexpected permanent closure plan measures that address the local biological resources. The biological resources facility closure measures will also be incorporated into the BRMIMP. (See Condition of Certification BIO-8, above).

The planned permanent or unexpected permanent closure plan will address the following biological resources related mitigation measures:

1. Removal of transmission conductors when they are no longer used and useful;
2. Removal of all CECP facilities; and

3. Measures to restore wildlife habitat to promote the re-establishment of native plant and wildlife species.

Verification: At least twelve months (or a mutually agreed upon time) prior to the commencement of closure activities, the Applicant shall address all biological resources related issues associated with facility closure in a Biological Resources Element. The Biological Resources Element will be incorporated into The Facility Closure Plan and include a complete discussion of the local biological resources and proposed facility closure mitigation measures.

5.2.7 Involved Agencies and Agency Contacts

The following agencies have jurisdiction over various biological resources in the project vicinity: USFWS, CDFG, National Oceanic and Atmospheric Administration National Marine Fisheries Service, Regional Water Quality Control Board, and/or U.S. Army Corps of Engineers. Because the project requires no discretionary federal approvals, and it will not impact any state or federal listed species or state species of concern and will not cross any jurisdictional streams or wetlands, no agency contacts are provided.

5.2.8 Permits Required and Permit Schedule

Because no streams will be crossed, and no special-status species would be adversely affected, no federal, state, or local permits are required for Biological Resources.

5.2.9 References

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TABLE 5.2-1
Laws, Ordinances, Regulations, and Standards Applicable to Biological Resources

Element	Goal/Policy	Applicability (AFC Section Explaining Conformance)
Federal		
Federal Endangered Species Act (Federal ESA, 16; USC, 1531 et seq.)	Applicants for projects that could result in adverse impacts on any federally listed species are required to consult with and mitigate potential impacts in consultation with USFWS.	The CECP site does not include habitat for federally listed species. Construction and operation will avoid significant impacts to federally listed species and their habitat. The CECP will not affect tidewater goby critical habitat within Agua Hedionda, Unit 10. (Sections 5.2.2.1, 5.2.3.3, and 5.2.4.3)
Migratory Bird Treaty Act (16 USC 703 to 711)	Protects all migratory birds, including nests and eggs.	The CECP site does not include habitat that would likely attract migratory birds. Stacks will be low in profile (100 ft) and are not likely to result in significant bird strikes. Transmission lines will tie-in to the existing switchyards. If necessary, noise minimization measures will be implemented during the breeding season. (Sections 5.2.2.1, 5.2.4.2.6, 5.2.4.3.4, 5.2.4.3.5, and 5.2.5.1)
Bald and Golden Eagle Protection Act (16 USC 668)	Specifically protects bald and golden eagles from harm or trade in parts of these species.	The CECP site does not include habitat or other features that would likely attract eagles. Stacks will be low in profile (100 ft) and are not likely to result in significant bird strikes. Transmission lines will tie-in to the existing switchyard. (Section 5.2.2.1 and 5.2.4.2.6)
State		
California Endangered Species Act (Fish and Game Code, Section 2050 et seq.).	Species listed under this act cannot be “taken” or harmed, except under specific permit.	The CECP site and vicinity was analyzed and it was determined that CECP construction or operation will not affect listed species and, therefore, not result in “take.” (Sections 5.2.2.2 and 5.2.4.3)
Fish and Game Code, Section 3511	Describes bird species, primarily raptors, that are “fully protected.” Fully protected birds may not be taken or possessed, except under specific permit requirements.	CECP construction or operation will not result in “take.” Stacks will be low in profile (100 ft) and are not likely to result in significant bird strikes. Transmission lines will tie-in to the existing switchyard. (Sections 5.2.2.2 and 5.2.3.3)

TABLE 5.2-1
Laws, Ordinances, Regulations, and Standards Applicable to Biological Resources

Element	Goal/Policy	Applicability (AFC Section Explaining Conformance)
Fish and Game Code, Section 3503	States that it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto.	Although the eucalyptus perimeter provides suitable raptor nesting habitat, the CECP site was analyzed and does not include features that would encourage or accommodate nest building. Any encountered nests would be avoided during the species' breeding season. (Sections 5.2.2.2 and 5.2.5.1)
Fish and Game Code, Section 3503.5	Protects all birds of prey and their eggs and nests.	Stacks will be low in profile (100 ft) and are not likely to result in significant bird strikes. Transmission lines will tie-in to the existing switchyard. Although the eucalyptus perimeter provides suitable raptor nesting habitat, the CECP site does not include features that would encourage or accommodate nest building. (Sections 5.2.2.2 and 5.2.5.1).
Fish and Game Code, Section 3513	Makes it unlawful to take, possess, or destroy any birds of prey or to take, possess, or destroy the nest or eggs of any such bird.	With the implementation of preconstruction surveys, CECP construction or operation will not result in "take" of birds of prey, their nests, or eggs. Site features have been designed to avoid avian strikes. (Sections 5.2.2.2 and 5.2.5.1).
Fish and Game Code, Sections 4700, 5050, and 5515	Lists mammal, amphibian, and reptile species that are fully protected in California.	The CECP site was analyzed and does not include likely habitat for fully protected mammal, amphibian, or reptile species. (Sections 5.2.2.2, 5.2.3.3.2, and 5.2.4.3.3).
Fish and Game Code, Sections 1900 et seq.,	The Native Plant Protection Act lists threatened, endangered, and rare plants listed by the state.	The CECP site was analyzed and does not include likely habitat for protected plant species. (Sections 5.2.2.2, 5.2.3.3, and 5.2.4.3.1)
Title 14, California Code of Regulations, Sections 670.2 and 670.5	Lists animals designated as threatened or endangered in California.	The CECP site was analyzed and does not include likely habitat for state-listed species. (Sections 5.2.2.2, 5.2.3.3.2, and 5.2.4.3.3)
Fish and Game Code Sections 1601 through 1607	Prohibits alteration of any stream, including intermittent and seasonal channels and many artificial channels, without a permit from CDFG.	The CECP site construction was analyzed and will not include alteration of any stream or channel. (Sections 5.2.2.2 and 5.2.4.4)
CEQA (Public Resources Code, Section 15380)	CEQA requires that the effects of a project on environmental resources must be analyzed and assessed using criteria determined by the lead agency.	The AFC analysis and process is CEQA equivalent. All requirements under CEQA are met with the analysis in the CECP AFC. (Sections 5.2.2.2 and 5.2.4.1)

TABLE 5.2-1
Laws, Ordinances, Regulations, and Standards Applicable to Biological Resources

Element	Goal/Policy	Applicability (AFC Section Explaining Conformance)
Warren Alquist Act (Public Resources Code, Section 25000, et seq.)	Warren-Alquist Act is a CEQA-equivalent process implemented by the CECP.	The AFC analysis and process is CEQA-equivalent. All requirements under the Warren-Alquist Act are met with the analysis in the CECP AFC. (Section 5.2.2.2)
Local and Other Jurisdictions		
North County Multiple Habitat Conservation Plan (MHCP)	Long-term conservation program that addresses existing biological resources, proposed urban growth, habitat losses, and direct, indirect, and cumulative effects on sensitive species throughout the San Diego region.	The CECP site will not affect the long-term conservation goals for the MHCP. Potential noise impacts to wildlife in adjacent habitat are expected to be less than significant. (Sections 5.2.2.3.1 and 5.2.4.6)
Habitat Management Plan (HMP) for Natural Communities in the City of Carlsbad	A comprehensive, citywide program to preserve the diversity of habitat and protect sensitive biological resources while allowing for additional development consistent with the City's General Plan and its Growth Management Plan.	The CECP site will not affect conservation goals within the HMP plan area or Agua Hedionda. Potential noise impacts to wildlife in adjacent habitat are expected to be less than significant. (Sections 5.2.2.3.1 and 5.2.4.6)
Local Coastal Program (LCP) and Agua Hedionda Land Use Plan (LUP)	The City of Carlsbad's LCP, adopted in 1996, includes the City's land use plans, policies, and standards and an implementing ordinance (Zoning Ordinance) for the City's Coastal Zone.	The CECP site will not conflict with the LCP or LUP. (Section 5.2.2.3.2)
City of Carlsbad General Plan Comprehensive Open Space and Conservation Resource Management Plan	<p>The City of Carlsbad's Open Space and Conservation Resource Management Plan provides the framework for protection of the City's open space resources and includes five open space categories:</p> <ol style="list-style-type: none"> a. Open Space for Preservation of Natural Resources b. Open Space for Managed Production of Resources c. Open Space for Outdoor Recreation d. Open Space for Aesthetic, Cultural and Educational Purposes e. Open Space for Public Health and Safety. 	The CECP site will not affect the City of Carlsbad's ability to maintain and protect open space resources. (Section 5.2.2.3.3)

Source: City of Carlsbad, 2004 and 2005.

TABLE 5.2-3
Plant Species Observed Around the CECF Site

Scientific Name	Common Name
Pinaceae	
<i>Pinus</i> sp.	pine
Aizoaceae	
<i>Carpobrotus edulis</i>	hottentot-fig
<i>Mesembryanthemum crystallinum</i>	crystalline iceplant
<i>Mesembryanthemum nodiflorum</i>	slender-leaved iceplant
Anacardiaceae	
<i>Malosma laurina</i>	laurel sumac
<i>Rhus integrifolia</i>	lemonadeberry
<i>Schinus molle</i>	Peruvian pepper tree
Apiaceae	
<i>Daucus pusillus</i>	rattlesnake weed
<i>Foeniculum vulgare</i>	fennel
Apocynaceae	
<i>Nerium oleander</i>	oleander
Asteraceae	
<i>Artemisia californica</i>	California sagebrush
<i>Baccharis pilularis</i>	coyote brush
<i>Baccharis salicifolia</i>	mule fat
<i>Centaurea melitensis</i>	totalote
<i>Conyza bonariensis</i>	flax-leaved horseweed
<i>Conyza canadensis</i>	horseweed
<i>Gnaphalium</i> sp.	gnaphalium sp.
<i>Isocoma menziesii</i>	coastal goldenbush
Boraginaceae	
<i>Heliotropium curassavicum</i>	salt heliotrope
Arecaceae	
<i>Washingtonia</i> sp.	fan palm
Brassicaceae	
<i>Brassica</i> sp.	mustard
<i>Brassica nigra</i>	black mustard
<i>Lepidium</i> sp.	peppergrass sp.
Cactaceae	
<i>Opuntia littoralis</i>	coastal prickly pear
<i>Opuntia prolifera</i>	coast cholla
Chenopodiaceae	
<i>Atriplex semibaccata</i>	Australian saltbush
<i>Salicornia virginica</i>	common pickleweed
<i>Salsola tragus</i>	Russian thistle
Cyperaceae	
<i>Cyperus involucratus</i>	umbrella-plant
<i>Eleocharis macrostachya</i>	pale spike-rush
<i>Scirpus</i> sp.	bulrush sp.
<i>Scirpus californicus</i>	California bulrush
Euphorbiaceae	
<i>Chamaesyce albomarginata</i>	rattlesnake weed
<i>Ricinus communis</i>	castor bean
Fabaceae	
<i>Lotus scoparius</i>	deerweed
<i>Melilotus alba</i>	white sweetclover
Hydrophyllaceae	
<i>Eriodictyon</i> sp.	yerba santa sp.
Juncaceae	
<i>Juncus</i> sp.	juncus sp.
Liliaceae	
<i>Yucca</i> sp.	yucca sp.

TABLE 5.2-3
Plant Species Observed Around the CECP Site

Scientific Name	Common Name
Myrtaceae	
<i>Eucalyptus sp.</i>	eucalyptus
Platanaceae	
<i>Platanus racemosa</i>	western sycamore
Plumbaginaceae	
<i>Limonium californicum</i>	western marsh-rosemary
Poaceae	
<i>Arundo donax</i>	giant reed
<i>Avena barbata</i>	slender wild oat
<i>Avena fatua</i>	wild oat
<i>Bromus madritensis ssp. rubens</i>	foxtail chess
<i>Cortaderia selloana</i>	pampas grass
<i>Distichlis spicata</i>	saltgrass
<i>Pennisetum setaceum</i>	fountain grass
Polygonaceae	
<i>Eriogonum fasciculatum</i>	California buckwheat
<i>Eriogonum sp.</i>	buckwheat sp.
Salicaceae	
<i>Populus fremontii ssp. fremontii</i>	Fremont's cottonwood
<i>Salix sp.</i>	willow sp.
Solanaceae	
<i>Nicotiana glauca</i>	tree tobacco
Tamaricaceae	
<i>Tamarix ramosissima</i>	Mediterranean tamarisk
Typhaceae	
<i>Typha latifolia</i>	broad-leaved cattail

TABLE 5.2-4
Wildlife Species Observed Around the Proposed CECP Site

Common Name	Scientific Name	Location
Insects		
Parnassians, Swallowtails	Papilionidae	
Western tiger swallowtail	<i>Papilio rutulus</i>	1-mile survey area, Agua Hedionda
Whites & sulphurs	Pieridae	
Cabbage white	<i>Artogeia rapae</i>	CECP site, 1-mile survey area, Agua Hedionda
Alfalfa sp.	<i>Colias</i> sp.	Agua Hedionda
Skippers	Hesperiidae	
Skipper sp.	<i>Hesperiidae</i> sp.	1-mile survey area
Reptiles		
Zebra-Tailed, Earless, Fringe-Toed, Spiny, Tree, Side-Blotched, And Horny Lizards	Phrynosomatidae	
common side-blotched lizard	<i>Uta stansburiana</i>	1-mile survey area
Birds		
Pelicans	Pelecanidae	
California brown pelican	<i>Pelecanus occidentalis californicus</i>	1-mile survey area, Agua Hedionda and coast
Herons, bitterns	Ardeidae	1-mile survey area, Agua Hedionda and coast
great blue heron	<i>Ardea herodias</i>	
great egret	<i>Ardea alba</i>	
New world vultures	Cathartidae	
turkey vulture	<i>Cathartes aura</i>	1-mile survey area
Hawks, Kites, Eagles	Accipitridae	
red-tailed hawk	<i>Buteo jamaicensis</i>	1-mile survey area
Falcons	Falconidae	
American kestrel	<i>Falco sparverius</i>	1-mile survey area, Agua Hedionda
New World Quail	Odontophoridae	
California quail	<i>Callipepla californica</i>	1-mile survey area, Agua Hedionda
Sandpipers	Scolopacidae	
western sandpiper	<i>Calidris mauri</i>	Agua Hedionda

TABLE 5.2-4
Wildlife Species Observed Around the Proposed CECP Site

Common Name	Scientific Name	Location
Skuas, Gulls, Terns, Skimmers	LARIDAE	
western gull	<i>Larus occidentalis</i>	Agua Hedionda and coast
elegant tern	<i>Sterna elegans</i>	Agua Hedionda and coast
Pigeons & doves	Columbidae	
rock dove	<i>Columba livia</i>	CECP site, 1-mile survey area
mourning dove	<i>Zenaida macroura</i>	CECP site, 1-mile survey area, Agua Hedionda
Hummingbirds	Trochilidae	
Anna's hummingbird	<i>Calypte anna</i>	CECP site, 1-mile survey area, Agua Hedionda
Tyrant Flycatchers	Tyrannidae	
black phoebe	<i>Sayornis nigricans</i>	CECP site, 1-mile survey area, Agua Hedionda and coast
Swallows	Hirundinidae	
cliff swallow	<i>Petrochelidon pyrrhonota</i>	1-mile survey area, Agua Hedionda
Jays & crows	Corvidae	
American crow	<i>Corvus brachyrhynchos</i>	CECP site, 1-mile survey area and coast
Bushtits	Aegithalidae	
bushtit	<i>Psaltriparus minimus</i>	1-mile survey area
Wrens	Troglodytidae	
Bewick's wren	<i>Thryomanes bewickii</i>	1-mile survey area, Agua Hedionda
Mockingbirds, thrashers	Mimidae	
northern mockingbird	<i>Mimus polyglottos</i>	CECP site, 1-mile survey area
Starlings	Sturnidae	
European starling	<i>Sturnus vulgaris</i>	CECP site, 1-mile survey area
Wood warblers	Parulidae	
common yellowthroat	<i>Geothlypis trichas</i>	CECP site, Agua Hedionda
Emberizids	Emberizidae	
song sparrow	<i>Melospiza melodia</i>	1-mile survey area, Agua Hedionda
California towhee	<i>Pipilo crissalis</i>	CECP site, 1-mile survey area, Agua Hedionda
Finches	Fringillidae	
house finch	<i>Carpodacus mexicanus</i>	CECP site, 1-mile survey area, Agua Hedionda

TABLE 5.2-4
Wildlife Species Observed Around the Proposed CECP Site

Common Name	Scientific Name	Location
Old world sparrows	Passeridae	
house sparrow	<i>Passer domesticus</i>	CECP site, 1-mile survey area
Mammals		
Hares & rabbits	Leporidae	
desert cottontail	<i>Sylvilagus audubonii</i>	1-mile survey area, Agua Hedionda
Squirrels	Sciuridae	
California ground squirrel	<i>Spermophilus beecheyi</i>	CECP site, 1-mile survey area

TABLE 5.2-5
Abbreviated List of Special Status Species Evaluated for the Proposed CECP Site

Scientific Name	Common Name	Status ^a	Season ^b	Primary Habitat ^c	Potential Occurrence in Project Area
Plants					
<i>Abronia villosa</i> var. <i>aurita</i>	chaparral sand-verbena	CNPS 1B.1, HMP: No	Jan-Sep	Chaparral, coastal scrub, desert dunes.	Low-Moderate
<i>Acanthomintha ilicifolia</i>	San Diego thorn-mint	FT, CE, CNPS 1B.1, HMP: Yes, NE	April-June	Chaparral, coastal scrub, grassland, vernal pools.	Low
<i>Adolphia californica</i>	California adolphia	CNPS 2.1, HMP: No	Dec-May	Chaparral, coastal sage scrub, grassland.	Present within 1-mile radius (CNDDDB 2007).
<i>Ambrosia pumila</i>	San Diego ambrosia	FE, CNPS 1B.1, HMP: Yes, NE	Apr-Oct	Chaparral, coastal scrub, grassland, vernal pools.	Low
<i>Astragalus tener</i> var. <i>titi</i>	coastal dunes milk-vetch	FE, CE, CNPS 1B.1, HMP: No	Mar-May	Coastal bluff scrub, coastal dunes.	Low-Moderate
<i>Atriplex pacifica</i>	South Coast saltscale	CNPS 1B.2, HMP: No	Mar-Oct	Coastal scrub, coastal bluff scrub, playas, chenopod scrub.	Present within 1-mile radius (CNDDDB 2007).
<i>Atriplex serenana</i> var. <i> davidsonii</i>	Davidson's saltscale	CNPS 1B.2, HMP: No	Apr-Oct	Coastal bluff scrub, coastal scrub.	Low-Moderate
<i>Baccharis vanessae</i>	Encinitas baccharis	FT, CE, CNPS 1B.1, HMP: Yes, NE	Aug-Nov	Chaparral.	Low
<i>Brodiaea filifolia</i>	thread-leaved brodiaea	FT, CE, CNPS 1B.1, HMP: Yes, NE	Mar-Jun	Cismontane woodland, coastal scrub, playas, valley and foothill grassland, vernal pools.	Low
<i>Brodiaea orcuttii</i>	Orcutt's brodiaea	CNPS 1B.1, HMP: Yes, NE	May-Jul	Vernal pools, grassland, coniferous forest, cismontane woodland.	Low
<i>Ceanothus verrucosus</i>	wart-stemmed ceanothus	CNPS 2.2, HMP: Yes	Dec-May	Chaparral.	Present within 1-mile radius (CNDDDB 2007).
<i>Centromadia parryi</i> ssp. <i>australis</i>	southern tarplant	CNPS 1B.1, HMP: No	May-Nov	Marshes and swamps (margins), grassland, vernal pools.	Moderate
<i>Centromadia pungens</i> ssp. <i>laevis</i>	smooth tarplant	CNPS 1B.1, HMP: No	Apr-Sep	Grassland, chenopod scrub, meadows, playas, riparian woodland.	Moderate

TABLE 5.2-5
Abbreviated List of Special Status Species Evaluated for the Proposed CECP Site

Scientific Name	Common Name	Status ^a	Season ^b	Primary Habitat ^c	Potential Occurrence in Project Area
<i>Chaenactis glabriuscula</i> var. <i>orcuttiana</i>	Orcutt's pincushion	CNPS 1B.1, HMP: No	Jan-Aug	Coastal bluff scrub, coastal dunes.	Present within the immediate vicinity (CNDDDB 2007).
<i>Chorizanthe orcuttiana</i>	Orcutt's spineflower	FE, CE, CNPS 1B.1, HMP: Yes, NE	Mar-May	Coastal scrub, chaparral, closed-cone coniferous forest.	Low-Moderate
<i>Chorizanthe polygonoides</i> var. <i>longispina</i>	long-spined spineflower	CNPS 1B.2, HMP: No	Apr-Jul	Chaparral, coastal scrub, meadows, grassland.	Low-Moderate
<i>Comarostaphylis diversifolia</i> ssp. <i>diversifolia</i>	summer holly	CNPS 1B.2, HMP: Yes	Apr-Jun	Chaparral.	Low
<i>Coreopsis maritima</i>	sea dahlia	CNPS 2.2, HMP: No	Mar-May	Coastal scrub, coastal bluff scrub.	Low-Moderate
<i>Corethrogyne filaginifolia</i> var. <i>incana</i>	San Diego sand aster	CNPS 1B.1, HMP: No	Jun-Sep	Coastal scrub, coastal bluff scrub, chaparral.	Low-Moderate
<i>Corethrogyne filaginifolia</i> var. <i>linifolia</i>	Del Mar mesa sand aster	CNPS 1B.1, HMP: Yes, NE	May-Sep	Coastal bluff scrub, chaparral, coastal scrub.	Low-Moderate
<i>Dudleya blochmaniae</i> ssp. <i>blochmaniae</i>	Blochman's dudleya	CNPS 1B.1, HMP: Yes, NE	Apr-Jun	Coastal scrub, coastal bluff scrub, grassland.	Low-Moderate
<i>Dudleya multicaulis</i>	many-stemmed dudleya	CNPS 1B.2, HMP: No	Apr-Jul	Chaparral, coastal scrub, grassland.	Low-Moderate
<i>Dudleya variegata</i>	variegated dudleya	CNPS 1B.2, HMP: No	May-Jun	Chaparral, coastal scrub, cismontane woodland, grassland, vernal pools.	Low-Moderate
<i>Dudleya viscida</i>	sticky dudleya	CNPS 1B.2, HMP: Yes	May-Jun	Coastal scrub, coastal bluff scrub, chaparral.	Low-Moderate
<i>Eryngium aristulatum</i> var. <i>parishii</i>	San Diego button-celery	FE, CE, CNPS 1B.1, HMP: Yes, NE	Apr-Jun	Vernal pools, coastal scrub, grassland.	Low
<i>Eryngium pendletonensis</i>	Pendleton button-celery	CNPS 1B.1, HMP: No	Apr-Jun	Coastal bluff scrub, grassland, vernal pools.	Low
<i>Euphorbia misera</i>	cliff spurge	CNPS 2.2, HMP: Yes	Dec-Aug	Coastal bluff scrub, coastal scrub.	Present within 1-mile radius (CNDDDB 2007).
<i>Ferocactus viridescens</i>	San Diego barrel cactus	CNPS 2.1, HMP: Yes	May-Jun	Chaparral, Diegan coastal scrub, grassland.	Low-Moderate

TABLE 5.2-5
Abbreviated List of Special Status Species Evaluated for the Proposed CECP Site

Scientific Name	Common Name	Status ^a	Season ^b	Primary Habitat ^c	Potential Occurrence in Project Area
<i>Geothallus tuberosus</i>	Campbell's liverwort	CNPS 1B.1, HMP: No	N/A	Coastal scrub, vernal pools.	Low
<i>Hazardia orcuttii</i>	Orcutt's hazardia	FC, CT, CNPS 1B.1, HMP: Yes, NE	Aug-Oct	Chaparral, coastal scrub.	Low-Moderate
<i>Isocoma menziesii</i> var. <i>decumbens</i>	decumbent goldenbush	CNPS 1B.2, HMP: No	Apr-Nov	Coastal scrub.	Low-Moderate
<i>Iva hayesiana</i>	San Diego marsh-elder	CNPS 2.2, HMP: Yes	Apr-Oct	Marshes and swamps, playas.	Moderate
<i>Lasthenia glabrata</i> ssp. <i>coulteri</i>	Coulter's goldfields	CNPS 1B.1, HMP: No	Feb-Jun	Coastal salt marshes, playas, grassland, vernal pools.	Low-Moderate
<i>Lepidium virginicum</i> var. <i>robinsonii</i>	Robinson's pepper-grass	CNPS 1B.2, HMP: No	Jan-Jul	Chaparral, coastal scrub.	Low-Moderate
<i>Lotus nuttallianus</i>	Nuttall's lotus	CNPS 1B.1, HMP: No	Mar-Jun	Coastal dunes, coastal scrub.	Low-Moderate
<i>Muilla clevelandii</i>	San Diego goldenstar	CNPS 1B.1, HMP: Yes, NE	Apr-May	Chaparral, coastal scrub, grassland, vernal pools.	Low-Moderate
<i>Nama stenocarpum</i>	mud nama	CNPS 2.2, HMP: No	Jan-Jul	Marshes and swamps. Lake shores, river banks, intermittently wet areas.	Moderate
<i>Navarretia fossalis</i>	spreading navarretia	FT, CNPS 1B.1, HMP: Yes, NE	Apr-Jun	Vernal pools, chenopod scrub, marshes and swamps, playas.	Low
<i>Nemacaulis denudata</i> var. <i>denudata</i>	coast woolly-heads	CNPS 1B.2, HMP: No	Apr-Sep	Coastal dunes.	Present within 1-mile radius (CNDDDB 2007).
<i>Nemacaulis denudata</i> var. <i>gracilis</i>	slender woolly-heads	CNPS 2.2, HMP: No	Apr-May	Coastal dunes, desert dunes,	Low
<i>Nolina cismontana</i>	chaparral nolina	CNPS 1B.2, HMP: No	May-Jul	Chaparral, coastal scrub.	Moderate
<i>Orcuttia californica</i>	California Orcutt grass	FE, CE, CNPS 1B.1, HMP: Yes, NE	Apr-Aug	Vernal pools.	Low
<i>Phacelia stellaris</i>	Brand's phacelia	FC, CNPS 1B.1, HMP: No	Mar-Jun	Coastal scrub, coastal dunes.	Low-Moderate
<i>Quercus dumosa</i>	Nuttall's scrub oak	CNPS 1B.1, HMP: Yes	Feb-Apr	Closed-cone coniferous forest, chaparral, coastal scrub.	Low
<i>Suaeda esteroa</i>	estuary seablite	CNPS 1B.2, HMP: No	May-Oct	Coastal salt marshes and swamps.	Moderate
<i>Tetracoccus dioicus</i>	Parry's tetracoccus	CNPS 1B.2, HMP: No	Apr-May	Chaparral, coastal scrub.	Low-Moderate

TABLE 5.2-5
Abbreviated List of Special Status Species Evaluated for the Proposed CECP Site

Scientific Name	Common Name	Status ^a	Season ^b	Primary Habitat ^c	Potential Occurrence in Project Area
Insects and Crustacea					
<i>Branchinecta sandiegonensis</i>	San Diego fairy shrimp	FE, HMP: Yes, NE	RES	Endemic to San Diego vernal pools.	Known from a vernal pool within the 1-mile survey area.
<i>Euphydryas editha quino</i>	quino checkerspot butterfly	FE, HMP: No	RES	Open canopy chaparral & coastal sage scrub.	Not Likely
<i>Streptocephalus woottoni</i>	Riverside fairy shrimp	FE, HMP: Yes, NE	RES	Vernal pools, seasonal depressions.	Low-Moderate
Fish					
<i>Eucyclogobius newberryi</i>	tidewater goby	FE, CSC, HMP: No	RES	Brackish water and shallow lagoons.	Present within Agua Hedionda in the 1-mile radius (CNDDDB 2007).
<i>Gila orcuttii</i>	arroyo chub	CSC, HMP: No	RES	Slow moving coastal streams.	Moderate
Amphibians					
<i>Bufo californicus</i>	arroyo toad	FE, CSC, HMP: Yes	RES	Washes or intermittent streams, rivers.	Low-Moderate
<i>Spea (=Scaphiopus) hammondi</i>	western spadefoot	CSC, HMP: No	RES	Breeds in vernal pools, winters in adjacent uplands.	Low
Reptiles					
<i>Aspidoscelis hyperythra</i>	orange-throated whiptail	CSC, HMP: Yes	RES	Coastal scrub, chaparral, and valley-foothill hardwood habitats.	Moderate-High
<i>Crotalus ruber ruber</i>	northern red-diamond rattlesnake	CSC, HMP: No	RES	Chaparral, woodland, grassland, & desert areas.	Moderate-High
<i>Emys (=Clemmys) marmorata pallida</i>	southwestern pond turtle	CSC, HMP: No	RES	Permanent or nearly permanent bodies of fresh water.	Moderate-High
<i>Eumeces skiltonianus interparietalis</i>	Coronado skink	CSC, HMP: No	RES	Grassland, chaparral, pinon-juniper & juniper sage woodland, pine-oak & pine forests.	Low

TABLE 5.2-5
Abbreviated List of Special Status Species Evaluated for the Proposed CECP Site

Scientific Name	Common Name	Status ^a	Season ^b	Primary Habitat ^c	Potential Occurrence in Project Area
<i>Phrynosoma coronatum (blainvillii population)</i>	coast (San Diego) horned lizard	CSC, HMP: Yes	RES	Friable, rocky, or shallow sandy soils in coastal sage scrub and chaparral.	Low
<i>Salvadora hexalepis virgultea</i>	coast patch-nosed snake	CSC, HMP: No	RES	Brushy or shrubby vegetation.	Low
<i>Thamnophis hammondi</i>	two-striped garter snake	CSC, HMP: No	RES	Highly aquatic, found in or near permanent fresh water.	Low-Moderate
Birds					
<i>Accipiter cooperii</i>	Cooper's hawk	CSC, HMP: Yes	RES	Riparian, oak, urban woodlands.	High
<i>Agelaius tricolor</i>	tricolored blackbird	CSC, HMP: Yes	SUMR	(Nesting colony) Requires open water, riparian areas.	Moderate
<i>Aimophila ruficeps canescens</i>	Southern California rufous-crowned sparrow	CSC, HMP: Yes	RES	Coastal sage scrub and chaparral.	Moderate-High
<i>Athene cunicularia</i>	burrowing owl	CSC, HMP: Yes	RES	Grasslands and agricultural areas.	Low
<i>Campylorhynchus brunneicapillus sandiegensis</i>	coastal cactus wren	CSC, HMP: Yes	RES	Coastal sage scrub with cactus patches.	Low-Moderate
<i>Charadrius alexandrinus nivosus</i>	western snowy plover	FT, CSC, HMP: Yes	SUMR	Sandy beaches, salt pond levees & shores of large alkali lakes.	Present within Agua Hedionda in the 1-mile radius (CNDDDB 2007).
<i>Circus cyaneus</i>	northern harrier	CSC, HMP: Yes	RES	Nests in grassland adjacent to coastal salt & fresh-water marsh.	High
<i>Coccyzus americanus occidentalis</i>	western yellow-billed cuckoo	CE, HMP: No	SUMR	Riparian forest.	Not Likely
<i>Dendroica petechia brewsteri</i>	yellow warbler	CSC, HMP: No	SUMR	(Nesting) riparian plant associations.	Low
<i>Elanus leucurus</i>	white-tailed kite	CSC*, HMP: No	RES	Deciduous woodland.	Moderate
<i>Empidonax traillii extimus</i>	southwestern willow flycatcher	FE, HMP: Yes	SUMR	Riparian woodlands.	Not Likely

TABLE 5.2-5
Abbreviated List of Special Status Species Evaluated for the Proposed CECP Site

Scientific Name	Common Name	Status ^a	Season ^b	Primary Habitat ^c	Potential Occurrence in Project Area
<i>Eremophila alpestris actia</i>	California horned lark	CSC, HMP: No	RES	Grasslands, open coastal plains.	Low-Moderate
<i>Falco peregrinus anatum</i>	American peregrine falcon	FD, CE, CSC*, HMP: Yes	RES	Near wetlands, lakes, rivers, or other water.	Moderate-High
<i>Icteria virens</i>	yellow-breasted chat	CSC, HMP: Yes	SUMR	(Nesting) Riparian woodlands.	Low
<i>Ixobrychus exilis</i>	least bittern	CSC, HMP: No	RES	Colonial nester in marshlands.	High
<i>Laterallus jamaicensis coturniculus</i>	California black rail	CT, CSC*, HMP: No	SUMR	Inhabits freshwater and saltwater marshes.	High
<i>Pandion haliaetus</i>	osprey	CSC, HMP: Yes	RES	Ocean shore, bays, fresh-water lakes, and larger streams.	High
<i>Passerculus sandwichensis beldingi</i>	Belding's savannah sparrow	CE, HMP: Yes	RES	Coastal salt marshes.	Present within Agua Hedionda in the 1-mile radius (CNDDDB 2007).
<i>Passerculus sandwichensis rostratus</i>	large-billed savannah sparrow	CSC, HMP: Yes	WNTR	Beaches and marshes.	Low-Moderate
<i>Pelecanus occidentalis californicus</i>	California brown pelican	FE, CE, CSC*, HMP: Yes	RES	Colonial nester on coastal islands just outside the surf line.	Observed in Agua Hedionda during the survey.
<i>Phalacrocorax auritus</i>	double-crested cormorant	CSC, HMP: No	RES	Coastal cliffs, offshore islands, & along lake margins.	High
<i>Plegadis chihi</i>	white-faced ibis	CSC, HMP: Yes	RES	Shallow fresh-water marsh.	Moderate
<i>Polioptila californica californica</i>	coastal California gnatcatcher	FT, CSC, HMP: Yes	RES	Coastal sage scrub.	Present within 1-mile radius (CNDDDB 2007).
<i>Rallus longirostris levipes</i>	light-footed clapper rail	FE, CE, CSC*, HMP: Yes	RES	Salt marshes.	Present within Agua Hedionda in the 1-mile radius (CNDDDB 2007).
<i>Riparia riparia</i>	bank swallow	CT, HMP: No	SUMR	(Nesting) colonial nester; banks/cliffs near water.	Not Likely

TABLE 5.2-5
Abbreviated List of Special Status Species Evaluated for the Proposed CECP Site

Scientific Name	Common Name	Status ^a	Season ^b	Primary Habitat ^c	Potential Occurrence in Project Area
<i>Sterna antillarum browni</i>	California least tern	FE, CE, CSC*, HMP: Yes	SUMR	Colonial breeder on bare or sparsely vegetated, flat substrates: sand beaches, alkali flats, land fills, or paved areas.	Present within Agua Hedionda in the 1-mile radius (CNDDDB 2007).
<i>Sterna elegans</i>	elegant tern	CSC, HMP: Yes	RES	Coastal waters, bays, lagoons, and sandy beaches.	Observed foraging in Agua Hedionda during the survey.
<i>Vireo bellii pusillus</i>	least Bell's vireo	FE, CE, HMP: Yes	SUMR	(Nesting) riparian woodlands.	Low
Mammals					
<i>Chaetodipus californicus femoralis</i>	Dulzura pocket mouse	CSC, HMP: No	RES	Coastal scrub, chaparral & grassland.	Low
<i>Chaetodipus fallax fallax</i>	northwestern San Diego pocket mouse	CSC, HMP: No	RES	Coastal scrub, chaparral, grasslands, sagebrush.	Low-Moderate
<i>Choeronycteris mexicana</i>	Mexican long-tongued bat	CSC, HMP: No	RES	Roosts in relatively well-lit caves, and in & around buildings. Rare visitor.	Low-Moderate
<i>Dipodomys stephensi</i>	Stephens' kangaroo rat	FE, CT, HMP: No	RES	Grasslands and coastal scrub.	Low
<i>Euderma maculatum</i>	spotted bat	CSC, HMP: No	Rare visitor	Feeds over water and along washes. Needs rock crevices in cliffs or caves for roosting.	Low
<i>Eumops perotis californicus</i>	western mastiff bat	CSC, HMP: No	RES	Roosts in crevices in cliff faces, high buildings, trees & tunnels.	Low-Moderate
<i>Lasiurus xanthinus</i>	western yellow bat	HMP: No	RES	Roosts in trees, particularly palms. Forages over water and among trees.	Present within the 1-mile radius (CNDDDB 2007).
<i>Lepus californicus bennettii</i>	San Diego black-tailed jackrabbit	CSC, HMP: No	RES	Sage scrub.	Low- Moderate
<i>Neotoma lepida intermedia</i>	San Diego desert woodrat	CSC, HMP: No	RES	Coastal sage scrub and chaparral.	Moderate-High
<i>Nyctinomops femorosaccus</i>	pocketed free-tailed bat	CSC, HMP: No	RES	Rocky areas with high cliffs.	Present within the 1-mile radius (CNDDDB 2007).

TABLE 5.2-5
Abbreviated List of Special Status Species Evaluated for the Proposed CECP Site

Scientific Name	Common Name	Status ^a	Season ^b	Primary Habitat ^c	Potential Occurrence in Project Area
<i>Perognathus longimembris pacificus</i>	Pacific pocket mouse	FE, CSC, HMP: No	RES	Narrow coastal plains.	Low-Moderate
<i>Taxidea taxus</i>	American badger	CSC, HMP: Yes	RES	Shrub, forest, and herbaceous habitats,	Not Likely

Notes:

^a **Status.**

^b **Season.** Blooming period for plants. Season of use for animals. RES=Resident; SUMR=Summer; WNTR=Winter; rare visitor

^c **Primary Habitat.** Most likely habitat association

Federal Status

FE – federally listed as endangered

FT - federally listed as threatened

FD - federally delisted

State Status

CE = state listed as endangered

CT = state listed as threatened

CR = state rare

CSC = state species of special concern

CSC* = fully protected state species of special concern

California Native Plant Society (CNPS) Status

1A = plants presumed extinct in California

1B = plants rare, threatened, or endangered in California, but more common elsewhere

2 = plants rare, threatened, or endangered in California, but more common elsewhere

Habitat Management Plan (HMP) for Natural Communities in the City of Carlsbad

Yes = covered species

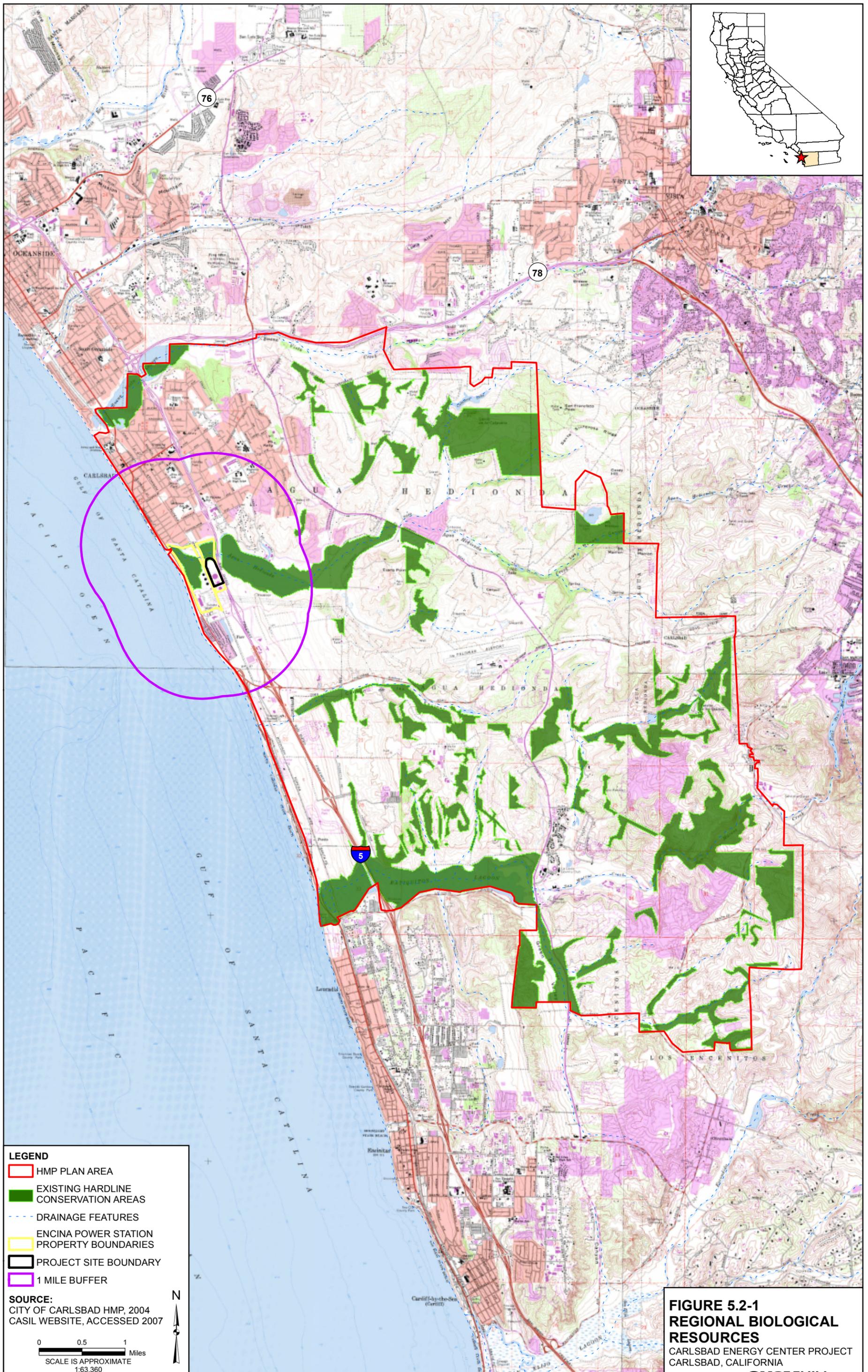
No = not a covered species

NE = narrow endemic species

Sources:

(Las Pulgas Canyon, Morro Hill, Bonsall, Oceanside, San Luis Rey, San Marcos, Encinitas, and Rancho Santa Fe searched) California Department of Fish and Game. Natural Diversity Database Program "Rarefind" (August 2007). California Natural Diversity Database. The Resources Agency, Sacramento.

California Native Plant Society. 2007. Inventory of Rare and Endangered Plants (online 7th edition). California Native Plant Society. Sacramento, CA.



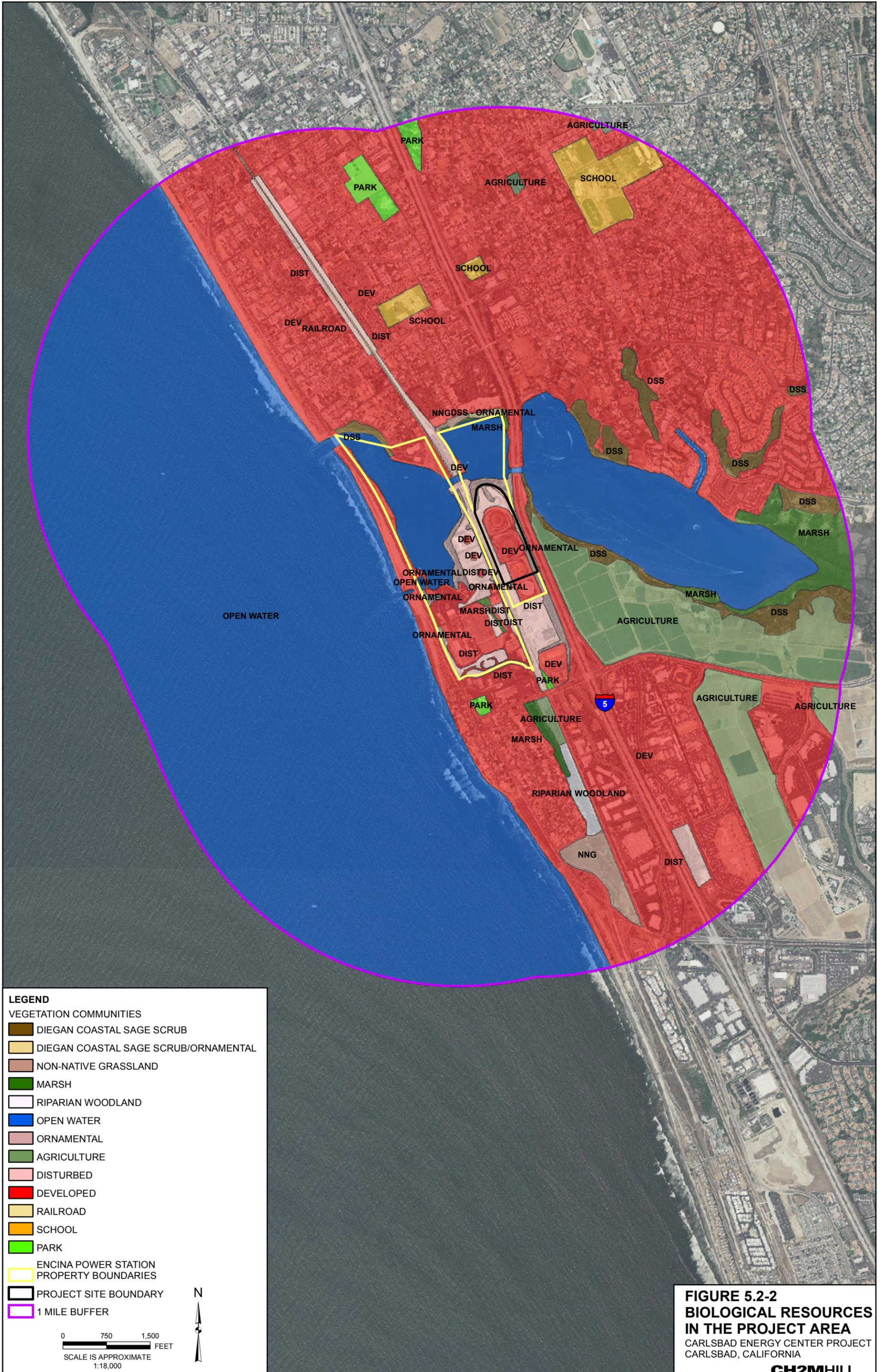
- LEGEND**
- HMP PLAN AREA
 - EXISTING HARDLINE CONSERVATION AREAS
 - DRAINAGE FEATURES
 - ENCINA POWER STATION PROPERTY BOUNDARIES
 - PROJECT SITE BOUNDARY
 - 1 MILE BUFFER

SOURCE:
 CITY OF CARLSBAD HMP, 2004
 CASIL WEBSITE, ACCESSED 2007

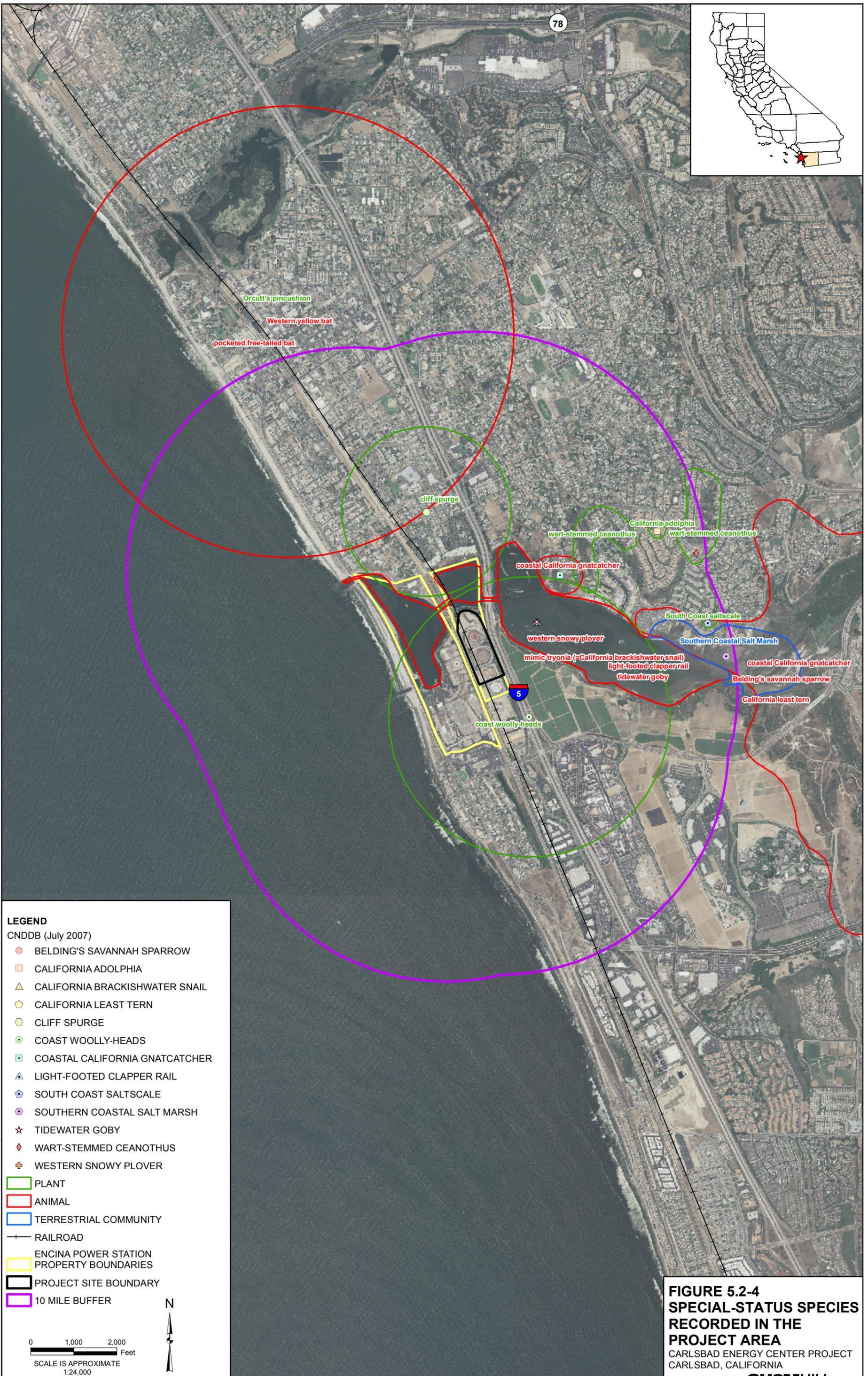
0 0.5 1 Miles
 SCALE IS APPROXIMATE
 1:63,360



**FIGURE 5.2-1
 REGIONAL BIOLOGICAL
 RESOURCES**
 CARLSBAD ENERGY CENTER PROJECT
 CARLSBAD, CALIFORNIA







LEGEND

CNDDDB (July 2007)

- BELDING'S SAVANNAH SPARROW
- CALIFORNIA ADOLPHIA
- ▲ CALIFORNIA BRACKISHWATER SNAIL
- ◊ CALIFORNIA LEAST TERN
- ◇ CLIFF SPURGE
- COAST WOOLLY-HEADS
- COASTAL CALIFORNIA GNATCATCHER
- ▲ LIGHT-FOOTED CLAPPER RAIL
- ◆ SOUTH COAST SALTSCALE
- SOUTHERN COASTAL SALT MARSH
- ☆ TIDEWATER GOBY
- ◇ WART-STEMMED CEANOOTHUS
- ⊕ WESTERN SNOWY PLOVER
- PLANT
- ANIMAL
- TERRESTRIAL COMMUNITY
- RAILROAD
- ENCINA POWER STATION PROPERTY BOUNDARIES
- PROJECT SITE BOUNDARY
- 10 MILE BUFFER

0 1,000 2,000 Feet
SCALE IS APPROXIMATE
1:24,000



**FIGURE 5.2-4
SPECIAL-STATUS SPECIES
RECORDED IN THE
PROJECT AREA**
CARLSBAD ENERGY CENTER PROJECT
CARLSBAD, CALIFORNIA

