OCEAN BEACH COMMUNITY PLAN UPDATE

PROGRAMMATIC ENVIRONMENTAL IMPACT REPORT

BIOLOGICAL TECHNICAL REPORT

Prepared for:

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EXECUTIVE SUMMARY

The Ocean Beach community is located adjacent to biologically important regional habitats such as the San Diego River corridor to the north, the Point Loma peninsula to the south, the Pacific Ocean to the west, and the Famosa Wildlife Preserve to the east. This unique community offers an abundance of resting, foraging, and nesting areas for a diverse assemblage of birds and supports a wide variety of other flora and fauna. The Famosa Wildlife Preserve, San Diego River corridor, and the coastal dunes constitute what mostly remains of the historical salt marsh, intertidal mudflats, and foredunes habitats of the light-footed clapper rail (*Rallus longirostris levipes*), least tern (*Sterna antillarum*), least Bell's vireo (*Vireo bellii pusillus*), and western snowy plover (*Charadrius alexandrinus nivosus*). The coastal bluffs located on the southern edge of the Ocean Beach community support kelp beds and tide pool habitats. These various habitats support a wide variety of federally and state-listed species.

The Ocean Beach Community Planning Area is partially within the Multi-Habitat Planning Area of the City of San Diego. The Famosa Wildlife Preserve and the San Diego River channel and south river bank lie within the Multi-Habitat planning boundaries. The Ocean Beach Community Planning Area is comprised of several vegetation communities. These include beaches, coastal dunes/foredunes, Coastal Sage Scrub, Disturbed/Developed, Freshwater Marsh, Flood Channels, Southern Coastal Bluff Scrub, Southern Coastal Salt Marsh, and Wetlands.

Chambers Group, Inc. was asked to conduct a comprehensive literature review and habitat assessment of the community to provide baseline data in preparation for the Ocean Beach Community Plan Update Programmatic Draft Environmental Impact Report. Chambers Group, Inc. biologists and botanists conducted a biological literature review and field survey in order to determine biological resource protection recommendations for the Ocean Beach Community Plan Update Draft Programmatic Environmental Impact Report. California Natural Diversity Database record searches and nine community-planning documents were reviewed for this process.

According to the California Department of Fish and Game's Natural Diversity Database and the San Diego Natural History Museum, California Native Plant Society Database, the community of Ocean Beach contains records for 39 sensitive plant species, 6 of which are federally listed, and 30 sensitive wildlife species, 4 of which are federally listed.

Minimal impacts to sensitive plant and wildlife species will occur if development of the Ocean Beach community's open spaces is restricted in accordance with all the guidelines as specified in the Ocean Beach Community Plan Update Programmatic Draft Environmental Impact Report and the Multiple Species Conservation Plan Sub Area. According to the Land Use Element of the Ocean Beach Community Plan Update, acceptable uses permitted in open space zones are highly restrictive and already seek to provide for the protection of sensitive biological resources. The potential for disruption to nesting bird species could occur with the increased use of bike paths and footpath improvements made to the Famosa Wildlife Preserve.

The following recommendations for modifications to the Ocean Beach Community Plan Update Programmatic Draft Environmental Impact Report are as follows: preservation of existing habitats and incorporating into the Conservation Element a comprehensive list of appropriate measures directed at reducing the adverse impacts of recreational activities in beaches and fore dunes habitats. The Conservation Element of the Ocean Beach Community Plan Update Programmatic Draft Environmental Impact Report (DEIR) would need to include a detailed list of sensitive species or habitats recommended for protection. Impacting the Famosa Wildlife Preserve with a permanent bike path is not

recommended. Increased use of the beaches and fore dunes habitats should be discouraged, especially during nesting season; and these areas should be included as targeted areas for future restoration or enhancement programs.

SECTION 1.0 – INTRODUCTION

Chambers Group, Inc. (Chambers Group) conducted a comprehensive literature background review to determine if the recommendations set forth within the Ocean Beach Community Plan Update Programmatic EIR would produce significant and adverse impacts to sensitive biological resources located within the community of Ocean Beach, specifically the Famosa Slough and Famosa Channel which comprise the Famosa Wildlife Preserve, the tide pools, and the coastal bluff areas. Chambers Group was asked to coordinate with City of San Diego (City) staff to investigate community-wide biological resources information using existing databases.

1.1. SCOPE OF SERVICES

This study focuses on the Famosa Wildlife preserve and the coastal areas. Some fieldwork was required. This study focuses on whether proposed policies in the Ocean Beach Community Plan would have a significant adverse effect on biological resources. A general description of the natural plant communities and associated sensitive species shall be provided based on existing resources. The potential effects of the Community Plan on sensitive species and the fragmentation of existing habitats will be discussed. If a significant adverse impact is identified, then appropriate mitigation will be described.

1.2. STUDY AREA

The Ocean Beach Community Planning Area (OBCPA) is located adjacent to and within several biologically important regional habitats such as the San Diego River corridor to the north, the Point Loma peninsula to the south, the Pacific Ocean to the west, and the Famosa Wildlife Reserve to the east. The OBCPA encompasses 742 acres, the majority of which are zoned "low-to-medium density – residential." With the exception of three commercially zoned areas, the OBCPA is predominately residential.

The OBCPA does contain areas that are within the Multi-Habitat Planning Area of the City of San Diego. The Famosa Wildlife Preserve and the San Diego River channel and south river bank lie within the planning boundaries. The OBCPA is comprised of several vegetation communities. These include beaches, coastal dunes/foredunes, Coastal Sage Scrub, Disturbed/Developed, Freshwater Marsh, Flood Channels, Southern Coastal Bluff Scrub, Southern Coastal Salt Marsh, and Wetlands, which are known to support a wide variety of species.

The Ocean Beach Precise Plan (OBPP), adopted in 1975, designated the majority of land in Ocean Beach for low- to medium-density residential development, with the remaining areas zoned for higher density residential, commercial uses, and parks. With the exception of three amendments, this document has not been updated since its adoption. A companion document to the OBPP, the Ocean Beach Action Plan (OBAP), was designed to implement the OBPP goals and recommendations. Currently, the City of San Diego is interested in updating its community plans (as per the General Plan Action Plan, July 7, 2009).

The City adopted the Ocean Beach Precise Plan on July 3, 1975. The plan was last updated on February 15, 1991. In order to update the OBPP, a comprehensive biological literature review was conducted to determine whether the proposed recommendations set forth within the Ocean Beach Community Plan Update Programmatic DEIR would result in significant and adverse impacts to sensitive biological resources located within the community of Ocean Beach, specifically within the Famosa Wildlife Preserve and the coastal bluff areas.

SECTION 2.0 – METHODS AND SURVEY LIMITATIONS

2.1 LITERATURE REVIEW

A literature and background review was conducted by examining previous studies from several sources, including, but not limited to, the City of San Diego Multiple Species Conservation Program (MSCP), the City of San Diego General Plan EIR, San Diego Natural History Museum (SDNHM) database, California Native Plant Society (CNPS) database, San Diego Association of Governments (SANDAG) Regional Comprehensive Plan (RCP), DEIR, the San Diego Downtown Community Plan EIR, and earlier work completed by San Diego City staff on the General Plan EIR.

The purpose of this review was to determine data needs for use in the preparation of the Draft Ocean Beach Community Plan Update Programmatic DEIR. Chambers Group determined that additional background data from various sources required review; and these sources included, but were not limited to, the City's MSCP, the City's General Plan EIR, the City's Downtown Community Plan EIR, and earlier work completed by the City's staff on the General Plan EIR. In addition, the following documents were reviewed for consistency with the Ocean Beach Community Plan Update Programmatic DEIR:

- City of San Diego OBPP adopted on July 3, 1975, by the City Council and updated by the City Council September 20, 1983, May 14, 1986, and February 15, 1991
- City of San Diego General Plan (City of San Diego 2008)
- City of San Diego Ocean Beach Precise Plan Action Plan (City of San Diego 1975)
- City of San Diego General Plan Action Plan (GPAP) (City of San Diego 2009)
- City of San Diego Draft Ocean Beach Community Plan (City of San Diego 2011)
- City of San Diego Municipal Code Land Development Code Biological Guidelines (City of San Diego 1997)
- City of San Diego's (MSCP) Subarea Plan (City of San Diego 1995)
- San Diego Association of Governments Regional Comprehensive Plan EIR (San Diego Association of Governments 2004)

2.2 SURVEY METHODS

The potential for sensitive flora and fauna to occur within the OBCPA was identified using data from general field surveys, existing data provided in previous reports, and additional current database searches. Chambers Group botanists, associate biologists, and a field biologist with specialization in salt marsh restoration and marine sciences conducted a general field survey. Biologists and botanists visited the survey site to assess the overall habitat of the Ocean Beach community (see Table 1: Survey Dates, Times, and Weather Conditions, below).

Table 1: Survey Dates, Times, and Weather Conditions

Date	Survey Time	Weather Conditions
August 5, 2011	1300-1700	70˚ to 75˚ F, winds 0 to 5 mph, 30 percent cloud cover
January 4, 2012	0800-1300	78˚ to 81˚ F, winds 2 to 5 mph, 0 percent cloud cover
January 5, 2012	0950-1400	81˚ to 77˚ F, winds 0 to 5 mph, 0 percent cloud cover

Site photographs depicting sensitive habitats found in the Ocean Beach Community are included in Appendix A. Chambers Group biologists examined the level of impacts that could occur to biological resources based on the recommendations in the Ocean Beach Community Plan Update Programmatic DEIR. A general field survey was conducted, as many plant species were not in the blooming period when botanists were onsite to survey the areas; therefore, presence/absence surveys would not be recommended until the blooming periods occurred. Additionally, historical data was already acquired that allowed for a significant reduction in determining baseline data for the site. Impact assessments in accordance with California Environmental Quality Act (CEQA) were based upon the City's Significance Determination Thresholds. A survey map, which includes location of sample points and areas visited, is included as Appendix B.

2.3 SURVEY LIMITATIONS

Habitats were surveyed to determine suitability for sensitive species. Focused surveys, as well as presence/absence surveys, were not conducted. Based on data provided by previous surveys, wildlife agencies, and California Natural Diversity Database (CNDDB) records, biologists and botanists surveyed habitats with known suitability of sensitive species. Due to the time of year of the general field surveys, sensitive plant species were not in bloom, and not all populations were identified. Blooming periods were identified for sensitive flora, and additional surveys would be required in order to conduct focused plant surveys for state- and federal-listed species known to occur in the OBCPA. Additional surveys may be required to identify the location of suitable restoration sites that may support sensitive fauna.

SECTION 3.0 – SURVEY RESULTS

3.1 PHYSICAL CHARACTERISTICS

The Ocean Beach Community Planning Area (OBCPA) is adjacent to or in several biologically important regional habitats such as the San Diego River corridor to the north, the Pacific Ocean to the west, and the Famosa Wildlife Preserve to the east. The OBCPA maintains a medium-density residential/urban growth pattern with areas of limited open space. OBCPA consists of three commercial zones and several residential areas. The following sensitive habitats occur within or are adjacent to the OBCPA: the coastal bluffs, coastal dunes/foredunes, Famosa Wildlife Preserve, and the San Diego River.

The OBCPA is bordered to the north by the San Diego River Flood Channel, to the west by the Pacific Ocean, and to the south and east by the peninsula of Point Loma. The northern boundary of the Ocean Beach community is comprised of flat lands converted from marshlands to residential and commercial spaces. Major regional roadways converge in the northern section of the community and give way to recreational open spaces as the area progresses west towards the Pacific Ocean and the terminus of the San Diego River. To the east, the landscape is comprised of low- to medium-density residential and commercial areas that give way to marshlands and wetlands to the far east of the community boundary. To the south, the landscape remains predominately residential, and urban mixed uses give way to the tide pools and ocean cliffs along the western edge of the southern section of the community.

The San Diego River corridor and foredunes provide habitat for several federally listed endangered and threatened species: the endangered California least tern (*Sterna antillarum browni*), light-footed clapper rail (*Rallus longirostris levipes*), California brown pelican (*Pelecanus occidentalis californicus*) which is now de-listed, the threatened western snowy plover (*Charadrius alexandrinus levipes*), and salt marsh bird's-beak (*Cordylanthus maritimus* ssp. *maritimus*). Of these species, the California least tern, light-footed clapper rail, and snowy plover all nest along the San Diego River corridor and foredunes. Four of the federally listed endangered species supported by these biologically important regional habitats, including salt marsh bird's-beak, California least tern, light-footed clapper rail, and California brown pelican, are also listed as endangered by the state of California. The salt marsh habitat within the Famosa Wildlife Preserve also supports the Belding's savannah sparrow (*Passerculus sandwichensis beldingi*), another species listed by the state as endangered. Today, these areas provide nesting habitat for several species of ground-nesting birds, including the light-footed clapper rail, California least tern, horned lark (*Eremophila alpestris actia*), and killdeer (*Charadrius vociferous*).

Western snowy plovers and California gnatcatcher (*Polioptila californica*) also nested here in the past; however, no snowy plover nests have been observed based on previous database records. Suitable habitat for California gnatcatcher is marginal. Depending upon the goals that are ultimately selected as the proposed plan update, the following permits and/or approvals may be required to implement the final OBCPA objectives and strategies:

- California Fish and Wildlife (CDFW, formerly California Fish and Game)- Section 1600-1603 regulates activities that could potentially impact hydrology and/or water quality as a result of construction of the proposed project;

- U.S. Fish and Wildlife Service (USFWS) – project-level internal Section 7 consultations, as appropriate under the authorities of the Endangered Species Act (ESA), prior to the implementation of any actions proposed in the OBCPA that may affect federally listed endangered or threatened species;

- U.S. Army Corps of Engineers (USACE) – Clean Water Act 404 Permit and Rivers and Harbors Act Section 10 Permits for wetland restoration projects;

- California Coastal Commission – Concurrence with the Service's Consistency Determination for the OBCPA. (This involves a determination that the OBCPA is consistent to the maximum extent practicable with the California Coastal Management Program [Section 307 of the Coastal Zone Management Act]);

- Regional Water Quality Control Board – 401 Certification for wetland restoration projects and possibly a discharge permit for breaching the waterways; and

- City of San Diego – Encroachment Permit and/or other approvals, which would be required if restoration is proposed on properties owned by the City of San Diego.

3.2 BIOLOGICAL RESOURCES

The County of San Diego (County) contains a substantial number of rare, threatened, and endangered plant and wildlife species, as well as a high percentage of special status communities. The San Diego region, which encompasses the City and County of San Diego, has been identified as a "biodiversity hot spot." The San Diego region has a varied landscape with several special status natural communities occurring within the region. Special status natural communities are areas of limited distribution statewide or within a county or region that are often vulnerable to environmental effects. Wetlands and riparian communities are considered special status natural communities due to their limited distribution in California. Within the City, these special status natural communities are referred to as environmentally sensitive lands. Special status communities are also highly likely to support sensitive plant and animal species.

Sensitive biological resources are defined by the City of San Diego Municipal Code as:

- Lands that have been included in the Multi-Habitat Planning Area (MHPA) as identified in the City of San Diego Multiple Species Conservation Program (MSCP) Subarea Plan (City of San Diego 1997);

- Wetlands (as defined by the Municipal Code, Section 113.0103);

- Lands outside the MHPA that contain Tier I Habitats, Tier II Habitats, Tier IIIA Habitats, or Tier IIIB Habitats as identified in the Biology Guidelines (July 2002 or current edition) of the Land Development manual;

- Lands supporting species or subspecies listed as rare, endangered, or threatened;

- Lands containing habitats with narrow endemic species, as listed in the Biology Guidelines of the Land Development manual; and

- Lands containing habitats of covered species, as listed in the Biology Guidelines of the Land Development manual.

For projects within the City of San Diego or carried out by the City of San Diego which may affect sensitive biological resources, potential impacts to such sensitive biological resources must be assessed. The following criteria and information are provided for guidance during this process.

3.2.1 Coastal Habitats, Waterways, and Wetlands

Waterways and wetlands within the OBCPA provide vital habitat for numerous sensitive species. Efforts to provide for the continued restoration of waterways and wetlands within the City have become a top priority in many communities, including Ocean Beach. Important waterways and adjacent sensitive habitats in the OBCPA include beaches, foredunes, coastal bluffs, the Famosa Wildlife Preserve, the San Diego River, and tide pools. The following sections contain brief descriptions of these habitat types.

Beaches

Beach habitats are comprised of sandy deposits with marginal plant growth and are found along the adjacent Pacific Ocean coastline in the OBCPA. These habitats are vital to the California grunion (*Leuresthes tenuis*), a California species of special concern, which uses beach areas for spawning grounds from late February to early September each year. Beach habitats also provide foraging grounds for the federally threatened western snowy plover, which searches the dry sand just above the high tide zone for small amphipods and insects. Beach habitats also provide nesting habitat for the federally endangered California least tern.

Coastal Bluffs

The coastal bluffs along the Pacific Ocean shoreline of Ocean Beach serve as an important biological resource area. The coastal bluffs extend from the Ocean Beach Pier south toward the tip of the Point Loma peninsula. Tide pools, ample shoreline, and scenic vistas mark this habitat. The coastal bluffs are home to a wide variety of highly adapted plant and animal species.

Coastal Dunes/Foredunes

Coastal dunes/foredunes habitats consist of large areas of sand dunes with vast areas of sand-swept lands. Foredunes reach further inland than the coastal dunes. Both types of habitat support wintering and/or breeding sites for bird species such as California least tern and western snowy plover.

Famosa Wildlife Preserve

The Famosa Wildlife Preserve in the eastern portion of the OBCPA consists of a 25-acre southern portion and a 12-acre channel portion. The Famosa Channel is fed by urban off floodwaters of the San Diego River and Famosa Slough. The Famosa Wildlife Preserve is the combined area of the slough and channel, which empties into the San Diego River via a concrete culvert.

The Famosa Wildlife Preserve is a functioning wetland comprised of freshwater, brackish, and salt marsh habitats. The biologically sensitive wetlands are an important feature of the OBCPA due to the abundance of wildlife and plant species that these habitats can support. The San Diego River Channel and a variety of freshwater sources, including storm water runoff, feed the Famosa Wildlife Preserve waters.

San Diego River

The San Diego River has its headwaters in the Cuyamaca Mountains, a group of mountains belonging to the Peninsular Ranges. The San Diego River flows southwest from the Cuyamaca Mountains in the Cleveland National Forest toward the OBCPA, terminating in the Pacific Ocean. The San Diego River

demarcates the northern OBCPA boundary and is a significant, biologically sensitive feature of the Ocean Beach community.

Tide Pools

Tide pools are pools of water left on rocky shores when tides retreat. Tide pools can be found any where in the intertidal zone but most occur in the low intertidal (the zone that is only uncovered during the lowest tides. The most accessible tide pools in Ocean Beach occur around the Ocean Beach Pier, where they are visited by many beach-goers. Just south of the pier at the end of the beach, tide pools are exposed during all but the highest tides, and during low tides tide pools extend under and immediately north of the pier. Smaller, less accessible tide pools occur intermittently along the base of the cliffs south of the beach, especially at low tides. These are less accessible but are still visited frequently. In addition to disturbance from foot traffic, disturbances to tide pools include pollutant runoff from the City and litter from the beach. Corallina, surf grass, seaweeds, and other algae are common in the tide pools. Lower tides expose sea palms. Common wildlife found in Ocean Beach tide pools includes barnacles, limpets, snails, anemones, sea stars, hermit crabs, and small fish.

Clam Beds

Clam beds are an example of a large, macrofaunal community where clams live in densities of 20 clams per square meter (CDFW 2001). Clam beds are large communities of clams that are found along the California coast within sandy and muddy bottoms in sandy beaches, bays and estuaries (CDFW 2001). An example of a commonly found clam in southern California is the razor clam (*Siliqua patula*; Washington Department of Fish and Game 2012). Clam beds can be found ranging from shallow depths in the intertidal zone to depths of approximately 50 meters in the ocean. Clams are suspension feeders, eating primarily suspended particulate organic matter such as phytoplankton, detritus material, and drift-seaweed such as kelp wrack. Clams reach sexual maturity in their third year and reproduce throughout the year, with peak reproduction occurring in February and April. They can grow up to about 25 cm in length and can live up to 17 years but usually live between 3 to 8 years. They begin life in a free-swimming larval stage, followed by an inactive stage where they settle at the bottom of the intertidal zone and stay the rest of their life. As they age, they grow larger and slowly move to deeper water from their original settling location (CDFW 2001). Overall, clam beds are an economically important food source for humans since clams are harvested in large abundance; but they are also a crucial source of food for shorebirds (Dugan et al. 2003).

Kelp Wrack

Kelp wrack, also known as macrophyte wrack and allocthonous input, is drift-seaweed that is derived from kelp forests and rocky reefs. It is a source of carbon and organic matter that settles in the intertidal zones of sandy beaches and is utilized by invertebrates (Dugan et al. 2003). It is a vital food supply to the inhabitants of the sandy beach environment and is believed to provide 40 percent of the food for these organisms. This drift seaweed (kelp wrack) washes ashore and settles on beaches (Dugan 2011). It provides not only food but is also important habitat for many macrofaunal communities in sandy beach environments. Decomposing kelp wrack on the beach provides important nutrients for beach life, including macroinvertabrates such as clams, and important foraging territory for shorebirds. Grooming beaches (as is done in Ocean Beach) to remove kelp wrack removes this nutrient source and, when heavy equipment is used, can crush bird nests, grunion eggs, etc. (lifeguard trucks regularly drive on Ocean Beach and may have the same impact). Ungroomed beaches in southern California exhibit much greater biodiversity than groomed beaches and provide recommendations for managers to remove litter

by hand, leaving kelp wrack, or designate no-grooming zones. Kelp is regularly washed ashore on Ocean Beach, indicating that subtidal kelp beds may occur along the shore.

Intertidal Zone

The intertidal zone is the shore area within the tidal range. This zone gets exposed to a wide extreme of conditions. Habitat for a wide variety of plants and animals occurs in these locations. The existence and amount of kelp in the intertidal zone is directly linked to the abundance, species richness, and biomass of invertebrates that depend on it. Shore environments with high amounts of kelp wrack has a greater abundance, species richness, and biomass of sandy beach invertebrates. In addition, within the trophic level scheme, shorebird densities are also indirectly linked to kelp wrack, since the amount of kelp wrack is directly linked to sandy beach invertebrates, which are an important food source for shorebirds (Dugan et al. 2003).

- Sandy Beach Invertebrates

Sandy beach invertebrate species in southern California such as clams, crabs, and oysters inhabit the intertidal zone, which is defined as an area where the sea meets the land. Invertebrates inhabiting this zone are generalist feeders that can tolerate a wide-array of severe physical conditions such as strong wave action and coarse sand composition.

Invertebrates inhabiting sandy beaches are affected by seasonal changes such as high and low tide variability and deposition and erosion cycles of the shore. Sandy beach invertebrates can survive harsh and variable conditions; however, they have been adversely affected by anthropogenic actions such development on their habitat and from cleansing of beaches in which their food (seaweed drift) is removed. With anthropogenic and natural sources affecting these species, it has been found that protected sandy beaches have a much higher diversity and density of sandy beach invertebrates versus unprotected beaches (Dexter 1992). Furthermore, sandy beach invertebrates are very important prey for shorebirds such as the western snowy plover. An example of an important sandy beach invertebrate is the clam, which lives in clam beds in intertidal zones.

- Eelgrass

Eelgrass (*Zostera marina*) is a marine plant that grows at depths below the low tide line and into the navigational channels. This true marine grass forms meadows that attract many invertebrates and fishes that use the vegetation as foraging and nursery habitat.

- Surfgrass

Surfgrass is a grass-like aquatic plant of the genus *Phyllospadix* (family Potamogetonaceae) living on rocky ocean shores and having narrow linear basal leaves and small dioecious flowers borne on the side of a flattened spadix. Surfgrass occurs in the rocky intertidal zone south of the Ocean Beach Pier. In southern California surf grass is adversely affected by a range of natural events and anthropogenic activities (e.g., increases in nutrient loading, polluted waste from sewage and industrial discharges, and boating and fishing).

3.3 HISTORICAL DEVELOPMENT OF WATERWAYS AND WETLANDS

The Famosa Wildlife Preserve was once part of the historic False Bay wetlands, which were converted into Mission Bay. The increased development in the OBCPA over time affected the Famosa Wildlife Preserve. The Famosa Wildlife Preserve (Preserve), which once connected to a larger wetland system, became isolated by construction infrastructure projects. The Famosa Wildlife Preserve has seen development from exploratory oil drilling in the 1930s to road widening projects in the 1970s.

3.3.1 Famosa Wildlife Preserve Habitat Management

The land encompassing the Famosa Wildlife Preserve was purchased by the City in September 1990 and is currently managed by the City's Parks and Recreation Department. Today, the Famosa Wildlife Preserve comprises a functioning 37-acre wetland habitat. More than 180 avian species have been historically observed at the Famosa Wildlife Preserve.

The Famosa Wildlife Preserve has suffered greatly from increased urbanization along the City's coastal habitats. Numerous habitat restoration projects, such as the San Diego River Foundation's site cleanups and native planting efforts, are assisting in restoring the native habitats along the river. These restoration efforts are critical to maintaining a healthy ecosystem.

3.3.2 Famosa Wildlife Preserve Restoration

Currently, the Famosa Slough (Slough) consists of a 25-acre southern portion and a 12-acre channel portion, which account for the Famosa Wildlife Preserve. The Famosa Wildlife Preserve is owned by the City of San Diego and managed as a wetland preserve by the San Diego Parks and Recreation Department with the help of the Friends of Famosa Slough. With the support of the California Coastal Conservancy, an Enhancement Plan was developed and published in 1993. Enhancements completed include the creation of three water treatment ponds in 2000 that have improved the water quality that flows into the Slough by capturing sediment, trash, and nutrients from street runoff. In 2003, a single sediment pond was created along the southeast side of the Slough. This pond collects sediment from the adjoining watershed. More recently, in 2005, restoration along West Point Loma Boulevard has included terracing, removal of construction rubble, and creation of berms. This work has restored 2.2 acres of wetland. Continued preservation and community support should be a focal point in the community plan update.

3.3.3 Wetland Restoration

In the community of Ocean Beach, public groups such as the organization known as The Friends of San Diego River Mouth have assisted with beach clean-ups and wetland restoration, mainly concentrating on where the San Diego River meets the Pacific Ocean. The group has completed tasks such as maintaining trails, removing non-native invasive plants and trash, and planting native species.

3.3.4 Coastal Erosion

The long, sandy beach area of the community has significant sand erosion, which is due in part to the two waterways leading out to the Pacific Ocean: the Mission Bay and San Diego River jetties. These jetties block the southward migration of sand. Sand replenishment programs have at times in the past been implemented by the regional planning agency, and it is recommended that periodic replenishment should continue in times outside grunion spawning and sensitive bird breeding seasons.

Coastal bluff erosion is also occurring between the Ocean Beach Pier and Adair Street. These coastal bluffs, which also include several street-end beaches, are part of the coastal environment. Coastal bluff erosion is proceeding at a sporadic rate, with certain areas experiencing more coastal bluff erosion than others. The rate of erosion is a major factor for the City and County when considering development proposals for structures along the coastal bluffs, as well as emergency permits for revetments to save structures determined to be in imminent danger from coastal bluff collapse.

3.4 BOTANICAL RESOURCES – FLORA

A wide variety of plant life occurs in the OBCPA. Native and non-native plant species provide a wide variety of habitat for wildlife species. Mature landscaping trees in the OBCPA provide suitable roosting sites for raptors. Native vegetation occurs in the open space portions of the OBCPA and is home to numerous passerines. Historical records of botanical surveys are included as Appendix E.

3.4.1 Vegetation Communities

The OBCPA is comprised of seven different vegetation communities and habitat types. An additional non-sensitive vegetation community, Ornamental Landscaping, has not been included in this report. Each vegetation community is described by the dominant plant species present within that area. The location within the OBCPA where this community can be found is also described below. Habitat types are noted using the Holland (1986) system of nomenclature that identifies the habitat by code. Habitat descriptions were developed into a preliminary, floristic classification of vegetation communities within the OBCPA using existing resources. Photographic representation of vegetation communities was captured and can be seen in Appendix A. With this preliminary classification, the habitats described below are known to occur in the OBCPA.

Coastal Sage Scrub

Coastal Sage Scrub (Holland Code 32510) is identified as a series of medium-density, low-growing shrubs comprised of mainly drought-deciduous species. The dominant species present onsite include, but are not limited to, the following species: California sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum*), laurel sumac (*Malosma laurina*), prickly pear cactus (*Opuntia* spp.), white sage (*Salvia apiana*), and broom baccharis (*Bacharris emoryi*) (Holland 1986). This habitat is found along the existing Famosa Wildlife Preserve trail.

Disturbed or Developed

Disturbed or Developed land refers to surface areas that have been graded, resulting in bare ground or ground devoid of native plant cover.

Freshwater Marsh

Freshwater Marsh (Holland Code 52000) is dominated by perennial, emergent species (Holland 1986). This type of habitat can be found along the San Diego River and the Famosa Wildlife Preserve Slough. Indicator species of this habitat type include pickleweed (*Salicornia* spp.), alkali heath (*Frankenia salina*), and cord grass (*Spartina foliosa*).

Flood Channel

This type of habitat is commonly found in urban channels and storm drain areas in the OBCPA. The flood channels within the OBCPA were dominated by non-native species including: eucalyptus trees (*Eucalyptus* spp.), giant reed (*Arundo donax*), salt cedar (*Tamarix ramosissima*), and non-native grasses (*Bromus* spp.).

Southern Coastal Bluff Scrub

Southern Coastal Bluff Scrub (Holland Code 35210) can be defined as a series of low, prostrate shrubs that are localized along the coastline (Holland 1986). This habitat type can also be found along the coastal bluffs at the northern border of the Peninsula Community Planning Area. Dominant species present within this habitat type in the OBCPA include sticky dudleya (*Dudleya viscida*) and Shaw's agave (*Agave shawii*).

Southern Coastal Salt Marsh

Southern Coastal Salt Marsh (Holland 52120) can be found in the coastal areas near the San Diego River. Species indicative of this habitat type include arrow grass (*Triglochin concinna*), pickleweed, and spiny rush (*Juncus acutus*).) Southern Coastal Salt Marsh is a wetland vegetation type dominated by perennial emergent species that are regularly inundated by tidal saltwater (Holland 1986). This vegetation type is found at three sites in the study area with slightly different flora: two sites at Famosa Slough Wetland Preserve and one at the east end of the Ocean Beach Dog Beach.

The Famosa Slough has historically been disturbed by in-fill, development, and invasion by non-native species (Friends of the Famosa Slough 2012). The primary water source for the Famosa Slough is the San Diego River. Direct water flow from the San Diego River has been impeded by the Interstate 8 freeway, and the Slough currently receives water through flap valves. The water continues under West Point Loma Boulevard via a culvert. This divides the Slough into two areas.

In the last 15 years, the Slough has benefited from restoration efforts by the Friends of Famosa Slough. Non-native vegetation that dominated the landscape has been mostly replaced by native plants provided by the conservation group. Other conservation efforts include invasive species removal and the developments of treatment ponds to catch urban runoff. Despite these efforts, the area continues to be invaded by non-native species, polluted by runoff and litter, and subjected to trampling by humans and pets.

At the portion of Famosa Slough north of West Point Loma, the salt marsh borders the emergent marsh along the east boundary of the channel. The portion south of West Point Loma is larger and bordered by non-native vegetation and southern willow scrub. Characteristic species onsite include rush (*Juncus* sp.), Pacific swampfire (*Salicornia virginica*), saltwort (*Batis maritima*), shoregrass (*Monanthochloe littoralis*), and alkali heath.

The second location for this habitat is at Dog Beach. The salt marsh occurs on a sand bar within the mouth of the San Diego River channel. A rock channel directs the San Diego River into the Pacific Ocean. On top of the southern berm is a paved recreational trail.

The area continues to be disturbed by invasive species, polluted runoff, litter, development, and trampling by humans and pets. Characteristic species at this site include Pacific swampfire, saltwort,

California cordgrass, California sealavender (*Limonium californicum*), and woolly seablite (*Suaeda taxifolia*).

Vernal Pools

Vernal pools are found in many areas within the City of San Diego and in the MHPA; however, no vernal pools were observed in the community of Ocean Beach. A field survey conducted by a Chambers Group botanist on January 5, 2012, determined the absence of vernal pools within the Ocean Beach community. All direct impacts to vernal pools are significant and cumulatively significant. Impacts to vernal pools may be mitigated in accordance with the criteria in the Biology Guidelines.

Wetlands

A wetland (Holland Codes 11200 and 52440) is an area that contains soils which are hydric in nature and permanently or seasonally saturated with moisture. Wetland areas may contain shallow ponds or large waterways and may include a network of marshes. Wetlands may contain freshwater, salt water, or a combination of both (Holland 1986). The Famosa Wildlife Preserve is a functioning wetland known to support species such as the California brown pelican.

Wetland Buffers

Wetland buffers are ecologically productive zones of native vegetation that surround the wetland from adjacent areas that have been transformed for human use. Wetland buffers are essential in the protection of the biological, chemical, and physical properties of a functioning wetland and its ecological value (Castelle et al. 1994). These buffers provide rich habitat that aquatic animals use for cover, to feed and nest in, and to rear their young in because they provide vegetation, safety, and shade (Castelle et al. 1992). In addition, wetland buffers are extremely important in protecting wetlands from adverse anthropogenic and natural impacts such as human foot-traffic and extreme water fluctuations from storms (Castelle et al. 1994). The soil, vegetation, roots, and filtration capabilities within wetland buffers act as natural barriers that protect, limit, and shield wetlands from erosion, stormwater runoff, pollutant loadings, and noise disturbances, all of which have the ability to harm and disrupt the lives of many organisms that inhabit wetlands (Castelle et al. 1992; Castelle et al. 1994). Wetland buffers are essential in maintaining and protecting wetland habitat because they limit and shield wetlands from a wide array of negative impacts that would otherwise lead to their loss and degradation. Wetland buffers are important to maintain and achieve a no net loss of wetland functions and values.

3.5 ZOOLOGICAL RESOURCES – FAUNA

The OBCPA is known to support a wide variety of wildlife species, both terrestrial and aquatic. The OBCPA provides suitable habitat for several vertebrate species. Areas that support vertebrate species include the Famosa Wildlife Preserve, the salt marshes south of the San Diego River, the San Diego River flood channel, community parks, and beaches.

Locations indicated as exhibiting higher concentrations and/or a higher diversity of wildlife include the Famosa Wildlife Preserve and the coastal beaches and salt marshes. Evidence of birds, mammals, amphibians, herpetological vertebrates, and invertebrates has been observed in these locations. Signs of inhabitation of these areas include direct observation, scat, prints, vocalization and calls, as well as historical data and records completed by previous agencies and supporting environmental groups such as the Friends of the Famosa Slough. Raptors are known to hunt in the areas of the Famosa Wildlife

Preserve due to the suitability for wildlife such as rabbits and small mammals as well as other birds. In addition, raptors are known to occupy the community park of Robb Field. A merlin (*Falco columbarius*) was detected foraging in Robb Field during a habitat assessment survey. Osprey (*Pandion haliaetus*) nests have been detected and observed in Robb Field for a number of years. New material was observed in a nest during a habitat assessment, which would indicate that osprey would potentially be nesting in this location again in 2012.

The state and federally protected light-footed clapper rail resides in the low marsh *Spartina* habitat, and the California state-protected Belding's savannah sparrow nests among mid-marsh (*Salicornia virginica*) habitat. The presence of these species indicates that the marsh is continuing to perform natural ecosystem functions. Special status passerine species such as Belding's savannah sparrow, a year-round resident of the OBCPA, are reliant on salt marshes comprised of primarily pickleweed (Zembal and Hoffman 2002). This bird nests on or near the ground, concealed by pickleweed, shore grass, and or saltwort, in the upper marsh zone that is infrequently flooded by the tide (Unitt 2004). The light-footed clapper rail and the Belding's savannah sparrow are two birds included in the ESA that make their home in California marshes, including the Famosa Wildlife Preserve and along the San Diego River corridor.

3.5.1 Rare, Threatened, Endangered, Endemic and/or Sensitive Species, or MSCP-Covered Species

The following information is a list of abbreviations used to help determine the significance of biological sensitive resources potentially occurring on the Project site.

CNPS

List 1A	=	Plants presumed extinct in California.
List 1B	=	Plants rare and endangered in California and throughout their range.
List 2	=	Plants rare, threatened or endangered in California but more common elsewhere in their range.
List 3	=	Plants which we need more information; a review list.
List 4	=	Plants of limited distribution; a watch list.

CNPS Extensions

0.1	=	Seriously endangered in California (greater than 80 percent of occurrences threatened/high degree and immediacy of threat).
0.2	=	Fairly endangered in California (20-80 percent occurrences threatened).
0.3	=	Not very endangered in California (less than 20 percent of occurrences threatened).

Federal

FE	=	Federally listed; Endangered
FT	=	Federally listed; Threatened
FC	=	Federal Candidate for listing
FPT	=	Federal Proposed listing as Threatened

State

ST	=	State listed; Threatened

SE	=	State listed; Endangered
RARE	=	State-listed; Rare (Listed "Rare" animals have been re-designated as Threatened, but Rare plants have retained the Rare designation.)
SSC	=	State Species of Special Concern
WL	=	CDFW Watch List

Areas known to support rare, threatened, or endangered species include the Famosa Wildlife Preserve, tide pools, coastal beaches, salt marshes, and the San Diego River Flood Channel.

3.5.2 Rare and Sensitive Invertebrates

Low quantities of rare or endangered invertebrates such as the San Diego fairy shrimp (*Branchinecta sandiegonensis*) are found in the OBCPA. Pest species may occur in the Famosa Slough portion of the Famosa Wildlife Preserve, as this area has the majority of stagnant, brackish waters. Invasive invertebrates such as mosquitoes are an issue in the OBCPA. In order to reduce incidences of West Nile virus, which is transferred by mosquitoes, it is recommended that the water flow be monitored along with seasonal larval dips.

3.5.3 Rare and Sensitive Flora

According to CDFW's Natural Diversity Database (CDFW 2011) and the CNPS Electronic Inventory (CNPS 2011), the following 13 plant species have a high likelihood of occurring within the OBCPA:

- beach golden aster (*Heterotheca sessiliflora* ssp. *sessiliflora*), CNPS 1B.1
- coast woolly-heads (*Nemacaulis denudata* var. *denudata*), CNPS 1B.2
- Coulter's goldfields (*Lasthenia glabrata* ssp.*coulteri*), CNPS 1B.1
- Coulter's saltbush (*Atriplex coulteri*), CNPS 1B.2
- Davidson's saltscale (*Atriplex serenana* var. *davidsonii*), CNPS 1B.2
- estuary sea-blite (*Suaeda esteroa*), CNPS 1B.2
- Nuttall's lotus (*Lotus nuttallianus*), CNPS 1B.1, MSCP-covered
- Orcutt's yellow pincushion (*Chaenactis glabriuscula* var. *orcuttiana*), CNPS 1B.1
- Palmer's frankenia (*Frankenia palmeri*), CNPS 2.1
- salt marsh bird's-beak, FE, CNPS 1B.2, MSCP-covered
- short-lobed broomrape (*Orobanche parishii brachyloba*), CNPS 4.2
- south coast saltscale (*Atriplex pacifica*), CNPS 1B.2
- sticky dudleya, CNPS 1B.2, MSCP-covered

According to CDFW's Natural Diversity Database (CDFW 2011) and the CNPS Electronic Inventory (CNPS 2011), the following 26 plant species have a moderate to low likelihood of occurring within the OBCPA due to suitable habitats not historically present within the OBCPA:

- aphanisma (*Aphanisma blitoides*), CNPS 1B.2, MSCP-covered
- Brand's star phacelia (*Phacelia stellaris*), F Candidate, CNPS 1B.1
- bottle liverwort (*Sphaerocarpos drewei*), CNPS 1B.1
- California adolphia (*Adolphia californica*), CNPS 2.1
- Campbell's liverwort (*Geothallus tuberosus*), CNPS 1B.1
- chaparral ragwort (*Senecio aphanactis*), CNPS 2.2
- cliff spurge (*Euphorbia misera*), CNPS 2.2
- coastal dunes milk vetch (*Astragalus tener* var. *titi*), FE, CNPS 1B.1, MSCP-covered

- golden-spined cereus (*Bergerocactus emoryi*), CNPS 2.2
- Mexican flannelbush (*Fremontodendron mexicanum*), FE, CNPS1B.1
- Nuttall's scrub oak (*Quercus dumosa*), CNPS 1B.1
- long-spined spineflower (*Chorizanthe polygonoides* var. *longispina*), CNPS 1B.2
- Orcutt's spineflower (*Chorizanthe orcuttiana*), FE,CNPS 1B.1
- Otay Mesa mint (*Pogogyne nudiuscula*), FE,CNPS 1B.1, MSCP-covered
- oil neststraw (*Stylocline citroleum*), CNPS 1B.1
- Robinson's pepper-grass (*Lepidium virginicum* var. *robinsonii*), CNPS 1B.2
- San Diego barrel cactus (*Ferocactus viridescens*), CNPS 2.2, MSCP-covered
- San Diego sand aster (*Corethrogyne filaginifolia* var. *incana*), CNPS 1B.1
- sand-loving wallflower (*Erysimum ammophilum*), CNPS 1B.2, MSCP-covered
- San Diego goldenstar (*Bloomeria clevelandii*), CNPS 1B.1
- sea dahlia (*Leptosyne maritima*), CNPS 2.2
- Shaw's agave, CNPS 2.1, MSCP-covered
- slender cottonheads (*Nemacaulis denudata* var. *gracilis*), CNPS 2.2
- snake cholla (*Opuntia californica* var. *californica*), CNPS 1B.1, MSCP-covered
- variegated dudleya (*Dudleya variegata*), CNPS 1B.2, MSCP-covered
- wart-stemmed ceanothus (*Ceanothus verrucosus*), CNPS 2.2, MSCP-covered

3.5.4 Special Status Flora with a High Likelihood of Occurrence

Federal- and state-listed, endemic or rare flora found within or having a high potential to occur within the OBCPA have been listed below with a general special status species description.

Beach Golden Aster, CNPS 1B.1

A member of the sunflower family (Asteraceae) found on coastal beaches below 10 m. Perennial from taproot, 10 to 130 cm tall. Flowers arranged in radiate heads, involucre bellshaped, receptacle naked. Corolla lobes yellow and sparsely hairy. Inflorescence flat topped. Plant bristly to wooly, glandular above. Leaves cauline, oblanceolate to ovate, hairy, reduced and glandular above. Distinguished from other subspecies by leaves with 1 mm hairs (rather than 2 mm), green upper leaves with wavy margins and heads subtended by large, leaf-like bracts.

Coast Woolly-Heads, CNPS 1B.2

A member of the buckwheat family (Polygonaceae) found on coastal beaches below 100 m. An annual, prostrate to decumbent, 4 to 40 cm tall, woolly. Leaves basal, 5 to 80 mm, linear to oblanceolate. Inflorescence opens with long wiry branches. Flowers clustered in involucres, subtended by many woolly, oblanceolate bracts. Flowers very small, greenish white to dark red. Distinguished from other subspecies by more flowers per involucre (12 to 30), involucral bracts generally red with white wool, outer perianth lobes widely ovate.

Coulter's Goldfields, CNPS 1B.1

A member of the sunflower family found in saline places and vernal pools below 1,000 m. An annual less than 60 cm tall. Flowers arranged in radiate heads, involucre hemispheric, phyllaries fused. Heads solitary or arranged in cymes. Corollas yellow. Leaves 4 to 15 cm, linear to awl-shaped, hairless. Fruit round or barely flattened. Distinguished from other subspecies by wart-like hairs on fruit.

Coulter's Saltbush, CNPS 1B.2

A member of the goosefoot family (Chenopodiaceae) found in open coastal shrublands with alkaline or clay soils below 50 m. A many-branched, mat-like perennial less than 50 cm tall. Leaves 7-20 mm, narrowly elliptic to ovate, thin, and gray scaly, generally opposite. Plant monoecious (flowers unisexual, male and female on separate structures). Male flowers inconspicuous in small clusters. Female flowers surrounded by two bracts. Bracts in fruit 2-3 mm, fused to middle, obovate with sharply dentate margins.

Davidson's Saltscale, CNPS 1B.2

A member of the goosefoot family found on coastal bluffs below 200 m. A mat-like annual 30 to 100 cm tall, stems ascending to erect. Leaves 10 to 20 mm, subsessile, elliptic to lanceolate with dentate margins, greenish and sparsely scaly above. Plant monoecious (flowers unisexual, male and female on separate structures). Male flowers in terminal clusters. Female flowers in axillary clusters, each flower surrounded by two bracts. Bracts in fruit 2 to 3.5 mm, fused to middle, round to wedge-shaped, toothed at tip. Distinguished from other subspecies by spheric male flower clusters and 3 faint veins on fruit bracts.

Estuary Sea-Blite, CNPS 1B.2

A member of the goosefoot family found in coastal salt marshes below 5 m. A perennial or subshrub 10 to 60 cm tall. Decumbent to erect with branches ascending. Upper leaves less than 60 mm, sessile, overlapping, green or reddish, linear-lanceolate. Inflorescence of sessile clusters in branched spikes with leaf-like bracts. Flowers small, calyx lobes hooded and keeled but lacking horns or wings.

Orcutt's Yellow Pincushion, CNPS 1B.1

An annual in the sunflower family, less than 30 cm tall, found on coastal dunes and bluffs below 100 m. Flowers arranged in discoid heads with a hemispheric involucre. Corollas bright to deep yellow, enlarged and bilateral in outer flowers. Distinguished from other subspecies by pappus scales in 1 series, spreading stems, and fleshy 2-pinnately lobed basal leaves.

Nuttall's lotus, CNPS 1B.1, MSCP-covered

*Recognized as *Acmispon prostrates* in the Jepson Manual 2nd ed. 2012

A member of the Legume family (Fabaceae) found on beaches, in coastal scrub, and in urban weedy areas below 30 m. An annual with stems prostrate to ascending. Leaves pinnately or palmately compound, widely spaced, with gland-like stipules. Leaflets 3 to 6 per leaf, 4 to 10 mm, oblanceolate to obovate. Inflourescence a cluster of 3 to 8 flowers on a long stem (1 to 3 cm). Flowers 3 to 7 mm, bilateral, pea-shaped, yellow, generally with red tips and edges. Fruit an indehiscent pod, widely spreading or reflexed, exserted from calyx, narrow and curved with a tapered beak. Two seeds per fruit.

Palmer's frankenia, CNPS 2.1

A member of the frankenia family (Frankeniaceae) found in alkali flats, coastal marshes, and dunes below 450 m. A shrub, 10 to 100 cm in diameter with decumbent stems, nodes swollen and often rooting. Leaves 4-ranked or clustered, 2 to 7 mm long, less than 1 mm wide, margins tightly rolled under

so that lower surface is obscured. Flowers axillary, petals 4 to 7, white to pink, stamens generally 4, style branched. Fruit a capsule.

Salt Marsh Bird's-Beak, FE, CNPS 1B.2, MSCP-covered

*recognized as *Chloropyron maritimum* ssp*. maritimum* by the Jepson Manual 2nd ed. 2012

A member of the broomrape family (Orobanchaceae) found in coastal salt marshes below 10 m. An annual, green root-parasite 10 to 40 cm tall, many branched, decumbent to ascending. Gray-green, often purple tinged, short-hairy, salt-encrusted. Leaves 5 to 25 mm, oblong to lanceolate, not lobed. Inflorescence a spike, 20 to 150 mm long. Flowers bilateral; upper lip beak-like, enclosing anthers and style; lower lip pouch-like; cream with brownish or purplish lips; puberulent. Distinguished from other subspecies by notched inner bract, much-branched stem, and upper branches that are longer than the central inflorescence spike.

Short-Lobed Broomrape, CNPS 4.2

A member of the broomrape family found in sandy soil near the ocean, below 300 m. A root parasite lacking photosynthetic tissue and associated with shrubs such as *Isocoma menziesii.* Plant 5 to 18 cm tall, yellowish white with an unbranched, stout stem lacking leaves. Inflorescence of long, raceme-like units, generally more than 20 flowers per plant. Narrowly ovate bracts with more than 5 conspicuous, parallel veins. Flowers bilateral with upper 2 lobes erect, lower 3 spreading. Corollas buff to pinkish, 15 to 24 mm, lobes rounded, veins reddish. Anthers generally hairless. Distinguished from other subspecies by slightly smaller flowers and differing range.

South Coast Saltscale, CNPS 1B.2

A member of the goosefoot family found on bluffs in shrublands below 100 m. A mat-like annual, generally 10 to 30 cm tall. Leaves 4 to 18 mm, elliptic to oblanceolate, gray to white scaly below, greenish above. Plant monoecious (flowers unisexual, male and female on separate structures). Male flowers in terminal spikes. Female flowers in axillary clusters, each flower surrounded by two bracts. Bracts in fruit 1 to 1.5 mm, fused to middle, obovate to round, margins smooth, tip truncate with 3 to 5 minute teeth.

Sticky Dudleya, CNPS 1B.2, MSCP-covered

A member of the stonecrop family (Crassulaceae) found on bluffs and rocky cliffs below 450 m. A perennial succulent on a short, branched stem, leaves arranged in a basal rosette. Leaves 6 to 15 cm long, linear, elliptic in cross-section, pointed. Surface of leaves sticky, appearing oily, with a resinous odor. Flowers 5-petaled, white, red-lined. Fruits are ascending follicles.

3.5.5 Rare and Sensitive Fauna

According to CDFW's Natural Diversity Database (CDFW 2011), the following 13 wildlife species have a high likelihood of occurring within the OBCPA:

- American peregrine falcon (*Falco peregrinus anatum*), No listing, MSCP-covered
- Belding's savannah sparrow, MSCP-covered
- osprey, CDFW Second Priority SSC
- California black rail (*Laterallus jamaicensis coturniculus*), CT

- California brown pelican, No listing, MSCP-covered
- California grunion, No listing
- California least tern, FE, CE, MSCP-covered
- least Bell's vireo, MSCP-covered
- light-footed clapper rail, MSCP-covered
- orange-throated whiptail (*Aspidoscelis hyperythra*), SSC, MSCP-covered
- San Diego coast horned lizard (*Phrynosoma coronatum blainvillii*), SSC, MSCP-covered
- southern California rufous-crowned sparrow (*Aimophila ruficeps cancescens*), MSCP-covered
- western snowy plover, FE, SSC, MSCP-covered

According to the CDFW's Natural Diversity Database (CDFW 2011), the following 21 wildlife species have a moderate to low likelihood of occurring within the OBCPA:

- big free-tailed bat (*Nyctinomops macrotis*), SSC
- burrowing owl (*Athene cunicularia*), SSC, MSCP-coveredCalifornia horned lark, SSC
- coastal cactus wren (*Campylorhynchus brunneicapillus sandiegensis*), SSC, MSCP-covered
- coastal California gnatcatcher (*Polioptila californica californica*), FT, SSC, MSCP-covered
- green turtle (*Chelonia mydas*), FT
- globose dune beetle (*Coelus globosus*), No Listing
- hoary bat (*Lasiurus cinereus*), No listing
- Melitta bee (*Melitta californica*), No Listing
- Mexican long-tongued bat (*Choeronycteris mexicana*), SSC
- northwestern San Diego pocket mouse (*Chaetodipus fallax fallax*), SSC
- pocketed free-tailed bat (*Nyctinomops femorosaccus*), SSC
- San Diego black-tailed jackrabbit (*Lepus californicus bennettii*), SSC
- San Diego desert woodrat (*Neotoma lepida intermedia*), SSC
- sandy beach tiger beetle (*Cicindela hirticollis gravida*), No Listing
- silver-haired bat (*Lasionycteris noctivagans*), No Listing
- wandering (saltmarsh) skipper (*Panoquina errans*), No Listing, MSCP-covered
- western mastiff bat (*Eumops perotis*), SSC
- western red bat (*Lasiurus blossevillii*), SSC
- western yellow bat (*Lasiurus xanthinus*), SSC
- western beach tiger beetle (*Cicindela latesignata*), CE
- western tidal-flat tiger beetle (*Cicindela gabbii*), No Listing

3.5.6 Special Status Species with a High Likelihood of Occurrence

Federal- and state-listed, endemic or rare species found within or having a high potential to occur within the OBCPA have been listed below along with a general special status species description.

American Peregrine Falcon

The American peregrine falcon is a large bird that is no longer listed due to recovery of its population. It is the size of a crow, has a dark head and a notched beak, and has a wingspan of up to 1 meter in length. It is found is San Diego County, where it frequently visits open bodies of water and forages in open space. This bird preys on other birds, mammals, and fish. It perches on cliffs and ledges and breeds near wetlands. It breeds from early March to late August, hollowing and scraping out areas on cliffs to lay its eggs, and also may nest under human structures. Peregrine falcons lay 3 to 7 eggs per brood and incubate the eggs for about 32 days (Polite and Pratt).

Belding's Savannah Sparrow

The Belding's savannah sparrow is a small songbird listed as endangered by the CDFW. It is brown and beige in color, with streaks on its head and face, and darker in color than other sparrows (CDFW 1987). Its diet consists of grass, seeds, and insects, which it mainly eats during the breeding season (Dobkin [a]). This bird resides yearlong in southern California in coastal saltmarsh and grasslands habitats. In San Diego, this bird can be found in lagoons, river mouths and edges, moist grasslands, mudflats, wetlands, and estuaries such as the Tijuana Slough National Wildlife Refuge. A habitat requirement for this species is the presence of dense vegetation, especially pickleweed, where it resides, takes cover, and nests (Zembal and Hoffman 2010). Breeding occurs between April and July, with 2 to 6 eggs laid per brood, with a 10- to 13-day incubation period and a 7- to 14-day fledging period. The female is the primary caretaker for the brood. Nests are usually made in hollows on the ground or a few inches off the ground in dense pickleweed habitat (Dobkin [a]). Belding's savannah sparrow breeds semi-colonially in small territories and forages quite a distance from nests (Zembal and Hoffman 2010).

California Black Rail

The California black rail is a tiny bird listed as threatened by the CDFW and a Species of Concern by the USFWS. This bird is the size of a sparrow and is rarely seen. It inhabits the southern coast of California but spends very little time there during the winter. Its habitats include saline brackish water, fresh and saltwater wetlands, tidal emergent wetlands, and tidal sloughs. It takes cover in marshes and wetland areas with dense pickleweed vegetation. Its diet includes insects and arthropods that it forages for in the muddy ground. It nests in dense pickleweed vegetation near upper areas of tidal flushing in wetlands and marshes. It makes deep nests in the ground and nests between March and June, depositing on average six eggs per brood (Harvey 1999). The state-threatened California black rail builds its nests within tidal marshes either on the ground underneath or elevated in pickleweed (Unitt 2004). The loss and degradation of San Diego's wetlands, water pollution, and an increase in predators have led to the decline of this species. San Diego Bay was the first known nesting locale of the species; however, this small, secretive bird has been recorded only as a vagrant in recent decades (Unitt 2004).

California Brown Pelican

The California brown pelican is a large bird that has recently been delisted from the endangered species list because its population size has recovered. This large, gray-brown bird has a white head and a large, thick bill. This bird is common in southern California from June to October and less common from April to May. It is found along the southern California coast and is usually found within estuaries or marine sub-tidal zones, near wharfs, or out in the pelagic waters. The diet of the brown pelican is almost exclusively fish, and it forages by diving deep into the water for its food. Usually foraging occurs in the morning and later afternoon. These birds rest and take cover either on the water, on sandy beaches, or on rocks. This species nests exclusively on islands from March to early August. They nest in colonies and make their nests on rocks or undisturbed ground and on slopes with brush. Their nests are made of small mounds of sticks. They nest and lay their eggs between March and April. They lay an average of three eggs per brood with a four-week incubation period where the young are cared for by both the female and male parents (Granholm [a]).

California Grunion

California grunion is a California Species of Special Concern that uses beach areas for spawning grounds from late February to early September each year. On predictable nights just after high tide, the grunion

beach themselves; and the female digs her tail into the sand to lay eggs if a male is present. The male fertilizes the eggs with his milt, and the eggs are deposited just below the surface of the sand until deposits of sand cover the eggs. The eggs will remain beneath the sand until they hatch in approximately 10 days or until a high tide dislodges them, at which time the grunion emerge.

California Least Tern

The federally endangered California least tern establishes nesting colonies on areas where the habitat includes sandy soils near the ocean, lagoons, and bays. Their nests are shallow scrapes lined with shells or other debris (CDFW 2009). In San Diego, breeding has been recorded as early as mid-May and typically extends into early August (Unitt 2004). The California least tern is not a wintering resident of San Diego, generally arriving in early April and leaving in September. The area of the OBCPA is a known breeding area for California least tern (Unitt 2004). Least terns forage in the bays and estuaries near their colonies (Unitt 2004).

Least Bell's Vireo

The least Bell's vireo is a state- and federally listed endangered bird found in coastal southern California areas during the summer (Gaines). The least Bell's vireo is a small, migratory songbird ranging in size from 11.5 to 12.5 cm with short round wings, a straight bill, and gray feathers (USFWS). They inhabit areas of San Diego near the edges of riparian deserts and in wildlife refuges such as the San Diego Bay National Wildlife Refuge and the Tijuana Slough National Wildlife Refuge (USFWS). They prefer habitat that has dense thickets of willow and low shrubs that they use for nesting and taking cover (Gaines). Usually they inhabit areas near water and are also found in areas that are intermittently wet near low and dense thickets. Their diet consists primarily of insects and sometimes fruit. This bird primarily resides and nests in willow, cottonwood, baccharis, and other low-lying shrubs. The least Bell's vireo migrates north to California where it begins breeding from May to June. The nests are made on willow branches, shrubs, or other small trees that usually range from 0.6 to 3.0 m in height. On average least Bell's vireos lay 4 eggs per brood, with an incubation period of 14 days and a fledging period of 11 to 12 days. Both sexes care for the nest and brood (Gaines).

Light-Footed Clapper Rail

The population of state- and federally endangered light-footed clapper rail is beginning to recover since intensive breeding and protection programs were started in the 1990s. Wetlands receive added benefit from efforts to protect and conserve the light-footed clapper rail, as this species requires productive habitats, providing spillover benefits for increased protection and maintenance of biodiversity. Increased cordgrass-dominated, low marsh habitat will benefit the population of light-footed clapper rails along the San Diego River corridor to the foredunes and the Famosa Wildlife Preserve.

Light-footed clapper rails have been observed in the San Diego River corridor adjacent to the foredunes and identified in Famosa Wildlife Preserve as a result of successful restoration efforts. The Famosa Wildlife Preserve and San Diego River corridor represent critical habitat for the endangered light-footed clapper rail. Local loss of breeding population has been associated with loss of salt marsh habitat, more specifically, cordgrass, the only vegetation in which clapper rails nest.

Although the Famosa Wildlife Preserve is relatively small, it provides critical habitat for the endangered light-footed clapper rail. The Preserve faces unique challenges due to its urban location. This includes not only natural predators, such as raptors, raccoons, and reptiles, but also human-introduced predators

such as domestic cats and rats. Development has been shown to contribute to invasions of marsh habitats by prey species and can be expected to occur at the Preserve. The impact of these predators on the endangered, ground-dwelling clapper rails can be significant, as natural predators will not keep these intruders away. One native marsh predator that commonly preys on marsh birds and eggs is the raccoon, whose presence has increased due to the lack of its natural predators, particularly coyotes. Human development throughout the San Diego area has reduced and even eliminated populations of dominant, terrestrial predators that control the mesopredators of marsh birds and mammals. The loss of natural buffers against disturbances (predators, noise, pollution, and debris) will continue to be an issue as urban density increases around these habitats.

Orange-Throated Whiptail

The orange-throated whiptail is a small lizard with stripes going down its body, a yellow head, and size ranging from 5 to 7 cm in length. This lizard is common in San Diego, especially where morning fog occurs. It inhabits chaparral, coastal scrub, foothill hardwood, and low-level coastal habitats. The orange-throated whiptail is very active and forages for its prey on the ground under debris, rocks, and logs. Its diet includes arthropods, primarily termites. It prefers sandy and rocky areas but takes cover in dense vegetation. It lays its eggs in loose soil during its breeding season from April through July. It deposits two to three eggs per brood, and these eggs usually hatch between August and early September (Morey 2000b).

Osprey

The osprey is a large bird considered a sensitive species by the CDFW. It is an uncommon winter visitor in southern California and breeds primarily in northern California, depending on the locations of its prey (Polite). The osprey has long, sharp toes; a brown back; and long, narrow wings (USFWS 2011). This bird inhabits areas next to large bodies of water because it needs open, clear water for foraging. It primarily preys on fish but also preys on birds, reptiles, and amphibians. The osprey takes cover and nests in large trees and open forests; however, a good majority of its time is spent foraging in rivers, bays, lakes, and estuaries. Ospreys build their nests with sticks on trees, cliffs, manufactured structures, and sometimes on the ground near a body of water. On average, they build their nests at around 41 m in height in a colonial setting. They breed from March to September, laying one to four eggs per brood and taking five months to raise their young (USFWS 2011).

San Diego Coast Horned Lizard

The coast horned lizard is a species of concern on the state and federal level. It inhabits southern California coastal and mountainous areas, specifically in riparian, grassland, chaparral, coastal sage and pine-cypress habitats. The lizard forages on ground in open areas and near shrubs, primarily eating ants and other insects. It camouflages itself well with rocks and vegetation and can be found burrowing in loose soil under rocks and logs in sandy areas and floodplains. This lizard is diurnal; however, it is inactive during fall and winter. Its breeding season in California is from late May through June. The female lays 13 eggs per brood that take approximately 2 months to hatch. The nests can be found in small burrows in loose soil (Morey 2000a).

Southern California Rufous-Crowned Sparrow

The southern California rufous-crowned sparrow is a small bird considered a Species of Special Concern by the CDFW and a Species of Concern by the USFWS. This small, brown and gray, secretive bird resides

in dry areas of southern California in mixed chaparral and Coastal Sage Scrub habitats. It frequents steep hillsides and grassy slopes that contain rock assemblages and shrubs so it can take cover. It is a ground forager, feeding primarily on insects and also on seeds and grasses. The southern California rufous-crowned sparrow is not a migratory bird. It breeds from mid-March to mid-June, where it hides its nests in the ground, usually at the base of shrubs and grasses and sometimes in a shrub. The female lays two to five eggs per brood and incubates the eggs; however, both sexes care for the brood (Dobkin [b]).

Western Snowy Plover

The federally threatened western snowy plover ground-nests on beaches, dunes, and mud or salt flats and is among San Diego's most threatened bird species. The bird nests in a shallow scrape often lined with small bits of debris or vegetation. The breeding period for western snowy plover in San Diego County extends from early March to late July (Unitt 2004), although courtship has been observed as early as February and as late as September (USFWS 2001). The bird forages primarily on invertebrates in wet or dry sand and is known as a winter resident within the OBCPA.

According to Unitt (2004), breeding has declined along all known historic breeding locations, which occur to the north and south of the OBCPA. Suitable habitat and potential breeding areas do occur within the OBCPA. The decline of western snowy plover is attributed to human harassment and direct destruction of nest sites as well as the loss of suitable breeding habitat. Human activities are major contributors to the overall snowy plover population decline (USFWS 2001). As a ground-nesting species, the eggs and young are especially vulnerable to predation and disturbance.

3.5.7 Other Special Status Shorebirds and Marsh Birds

Other special status shorebirds use the marshes, dunes, and beaches for forage and nesting. Many species overwinter in the OBCPA. Section 7 of the ESA (§1536) requires federal agencies to consult with USFWS or National Marine Fisheries Service (NMFS) to ensure that federal actions are not likely to be detrimental to the existence or recovery of listed species or that actions will result in "destruction or adverse modification" of their critical habitat. Within the context of wetlands, NMFS or USFWS would have to be consulted if a Clean Water Act (CWA) 404 permit were issued that could affect any listed species with critical habitat on the wetland area under permit. Under Section 10 of the ESA, a non-federal permittee can apply for an exception to the "take" (take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or engage in any such activity) prohibition for scientific purposes to aid the species recovery, or for "incidental take," when the project or activity does not involve a federal action. With federal permittees, an exemption from the "take" prohibition requires the development of a Habitat Conservation Plan with the USFWS or NMFS.

3.5.8 Historic Sensitive Fauna Accounts

A large-scale survey was conducted to provide information on the numbers of breeding and wintering snowy plovers along the Pacific U.S. coast at sites important for the recovery of the western snowy plover. The data from these surveys is published in the Recovery Plan for the Pacific Coast Population of the Western Snowy Plover (*Charadrius alexandrines nivosus*) Volume 2: Appendices, prepared by the USFWS. Ocean Beach in San Diego was one of these locations. The results from this survey found that for adult breeding numbers, none were observed before the year 2000 (surveyed from years 1994 thru 1997 by Abby Powell from USGS), and between the years 2000 and 2005 they were not surveyed. For wintering numbers: before the year 2000 (surveyed from 1985 through 1997 by the Volunteers from Point Reyes Bird Observatory), a total of 2 to 57 wintering western snowy plovers were identified. These

numbers represent the maximum annual count between November 1 and February 28. In addition, from 1994 through 1998, 10 to 70 wintering western snowy plovers were surveyed by intensive monitoring by Abby Powell from USGS. From 2000 to 2005 a total of zero to 81 wintering western snowy plovers were identified near the river channels, surveyed by Volunteers from Point Reyes Bird Observatory. The management potential for this site is 0, which means that no breeding adults use this site, and therefore this site primarily supports wintering and/or migrating western snowy plovers.

SECTION 4.0 – PROJECT IMPACT ANALYSIS

The goal of this project impact analysis is to identify all the potential impacts of proposed projects in a community in the City of San Diego. In compliance with CEQA, sensitive biological resources and other significant biological resources would be evaluated in a report, which would evaluate the significance and quantify/qualify the impacts. Impact assessments would need to address direct impacts. The City of San Diego's Significance Determination Guidelines (Biological Resources, page 11, July 2002 or as amended) under CEQA (City of San Diego 2002) should be used as a reference. The proposed area of impact by the project to each resource must be presented in both a graphic and tabular form. In addition, this section of the proposed project's report shall contain a discussion of the following: The report should evaluate the significance and quantify/qualify impacts. Impact assessments need to include analysis of direct Impacts (e.g., grading, Zone I brush management), indirect (e.g., lighting, noise, edge effects, sediment loading, etc.) and cumulative impacts, if appropriate.

4.1 SIGNIFICANCE THRESHOLDS

The determination of whether a project may have a significant effect on the environment calls for careful judgment on the part of the agency involved, based to the extent possible on scientific and factual data. An ironclad definition of a significant impact is not possible because the significance of an activity may vary with the setting. For example, an activity which is not significant in an urban area may be significant in a rural area (CEQA Guidelines Section 15064).

Impacts to biological resources are assessed by City staff through the CEQA review process and through review of the project's consistency with the Environmentally Sensitive Lands (ESL) regulations, the Biology Guidelines (July 2002), and with the City's MSCP Subarea Plan. Before a determination of the significance of an impact can be made, the presence and nature of the biological resources must be established. The purpose of these Significance Determination Thresholds (also known as Guidelines) is to assist City of San Diego staff, project proponents, and the public in determining whether, based on substantial evidence; a project may have a significant effect on the environment under Section 21082.2 of the California Environmental Quality Act, and therefore require mitigation. These Guidelines are not intended to be stand-alone policies and are to be used in conjunction with commonly accepted professional standards, judgments, and practices. These Guidelines should be updated when necessary in response to changes in CEQA, case law, and refinement of recognized scientific analysis of impact thresholds. The City of San Diego has been using these thresholds since 1991 and has provided regular updates. Section 15064.7 of the CEQA Guidelines encourages public agencies to develop and publish such analytical tools. These thresholds include information on 19 environmental issues as listed in, and to be used in conjunction with, the Initial Study Checklist. They provide technical guidance in evaluating the potential significance of a project's environmental impacts and provide a consistent and objective basis for determining the level of impacts. They also recognize that the level of impacts depends upon a multitude of factors such as project setting, design, construction, etc.

State of California Public Resources Code, Division 13. http://www.leginfo.ca.gov/calaw.html

According to CEQA Statutes at Section 21082.2:

- The lead agency shall determine whether a project may have a significant effect on the environment based on substantial evidence in light of the whole record.

- The existence of public controversy over the environmental effects of a project shall not require the preparation of an environmental impact report if substantial evidence is present in light of the whole record before the agency that the project may have a significant effect on the environment.

- Argument, speculation, unsubstantiated opinion or narrative, evidence that is clearly inaccurate or erroneous, or evidence of social or economic impacts which do not contribute to or are not caused by physical impacts on the environment is not substantial evidence. Substantial evidence shall include facts, reasonable assumptions predicted upon facts, and expert opinion supported by facts.

- If substantial evidence is present in light of the whole record before the lead agency that a project may have a significant effect on the environment, an environmental impact report shall be prepared.

- Statements in an environmental impact report and comments with respect to an environmental impact report shall not be deemed determinative of whether the project may have a significant effect on the environment.

This key decision as to whether a project may have a significant effect must be based on substantial evidence in the record. Section 15384 of the CEQA Guidelines defines "substantial evidence" as:

- Substantial evidence as used in these guidelines means enough relevant information and reasonable inferences from this information that a fair argument can be made to support a conclusion, even though other conclusions might also be reached. Whether a fair argument can be made that the project may have a significant effect on the environment is to be determined by examining the whole record before the lead agency. Argument, speculation, unsubstantiated opinion or narrative, evidence which is clearly erroneous or inaccurate, or evidence of social or economic impacts which do not contribute to or are not caused by physical impacts on the environment does not constitute substantial evidence.

- Substantial evidence shall include facts, reasonable assumptions predicted upon facts, and expert opinion supported by facts. In most instances, the evidence in the record provides a clear link to the decision to prepare an EIR, Mitigated Negative Declaration, or Negative Declaration. However, according to the CEQA Guidelines in marginal cases where it is not clear whether substantial evidence exists that a project would have a significant effect on the environment, the Lead Agency is guided by Section 15064 (7(g) of the CEQA Guidelines:

  After application of the principles set forth above in Section 15064(f), and in marginal cases where it is not clear whether substantial evidence is present that a project may have a significant effect on the environment, the Lead Agency shall be guided by the following principle: If disagreement exists among expert opinions supported by facts over the significance of an effect on the environment, the Lead Agency shall treat the effect as significant and shall prepare an EIR.

4.2 INITIAL STUDY CHECKLIST QUESTIONS

The following are taken from the City's Initial Study Checklist and provide guidance to determine potential significance to Biological Resources: *Would the proposal result in:*

- A substantial adverse impact, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in the MSCP or other local or regional plans, policies, or regulations, or by the CDFW or USFWS?

- A substantial adverse impact on any Tier I Habitats, Tier II Habitats, Tier IIIA Habitats, or Tier IIIB Habitats as identified in the Biology Guidelines of the Land Development manual or other sensitive natural community identified in local or regional plans, policies, regulations, or by the CDFW or USFWS?

- A substantial adverse impact on wetlands (including, but not limited to, marsh, vernal pool, riparian, etc.) through direct removal, filling, hydrological interruption, or other means?

- Substantial interference with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, including linkages identified in the MSCP Plan, or impedes the use of native wildlife nursery sites?

- A conflict with the provisions of an adopted Habitat Conservation Plan, Natural Conservation Community Plan, or other approved local, regional, or state habitat conservation plan, either within the MSCP plan area or in the surrounding region?

- An introduction of land use within an area adjacent to the MHPA that would result in adverse edge effects?

- A conflict with any local policies or ordinances protecting biological resources?

- An introduction of invasive species of plants into a natural open space area?

4.3 SIGNIFICANCE THRESHOLD DETERMINATION STEPS

The following significance threshold determination steps were taken from the City of San Diego's significance threshold determination standards. The two steps summarize the procedure for collecting the necessary information.

Step1:
Determine the extent of the biological resources and values present on the site. The analyst needs to visit the site and review existing biological information such as MSCP vegetation maps. If any evidence is observed that the site supports significant biological resources, a survey and a letter report are necessary. A factor in making the determination is whether the site has been illegally graded or grubbed. In some cases, it is appropriate to consider the biological values on the site before a disturbance such as grading or fire. In general, if the site has been legally graded or is characterized by ruderal species; it is not included in the City's MHPA. If it does not support wetlands or Tier I, II, or III habitat, it probably does not support significant biological resources. The presence of trash and debris on a site does not indicate a lack of biological habitat. In addition, lack of vegetation due to fire, clearing of vegetation for brush management (Zone 2 is impact-neutral), unauthorized off-road vehicle use, or other uses also does not preclude the presence of potential habitat.

An affirmative answer to any of the following questions indicates that significant biological resources MAY be present:

- The site does not support a vegetation community identified in Table 2 or 3 (Tier I, II, IIIA, or IIIB) of the Biology Guidelines (July 2002); however, wildlife species listed as threatened or endangered or other protected species may use the site (e.g., California least terns on dredge spoil, wildlife using agricultural land as a wildlife corridor, etc.).

- The site has been identified as part of the MHPA by the City's MSCP Subarea Plan B.

- The site supports or could support (e.g., in different seasons/rainfall conditions, etc.) Tier II, IIIA, and B vegetation communities (such as grassland, chaparral, coastal sage scrub, etc.), or the CEQA determination of significant impacts may be based on what was on the site (e.g., if illegal grading or vegetation removal occurred, etc.), as appropriate.

- The site contains or comes within 100 feet of a natural or manufactured drainage (determine whether it is vegetated with wetland vegetation).

- The site occurs within the 100-year flood plain established by the Federal Emergency Management Agency (FEMA) or the Flood Plain Fringe (FPF)/ Flood Way (FW) zones.

Step 2:
Based on Step 1, if significant biological resources are present, then a survey to determine the nature and extent of the biological resources on the site is warranted (City of San Diego Guidelines for Conducting Biology Surveys, revised 2002). The survey should identify which biological resources are present on the site, its immediately surrounding area, and the number and extent of each type. As appropriate and when relevant to the biological resources found onsite, the survey should also discuss the nature and quality of the biological resources in the immediate vicinity of the project site.

The significance and/or sensitivity of the resource can be determined at this stage; however, a resource may be more vulnerable to some kinds of development than to others. Sensitivity and/or significance of impacts are, therefore, more appropriately considered in the context of the proposed project, as discussed below.

4.4 BIOLOGY SIGNIFICANCE DETERMINATION

4.4.1 Direct Impacts

The direct, indirect, and cumulative impacts of a project must be analyzed for significance. The first step in making the determination is to identify the nature of the impact and the extent and degree of direct impacts to biological resources. A direct impact is a physical change in the environment, which is caused by and immediately related to the project. An example of a direct physical change in the environment is the removal of vegetation due to brushing, grubbing, grading, trenching, and excavating.

In order to determine the extent of impacts, the acreage of each habitat type to be lost should be quantified. In the case of upland, the land should be categorized into one of the four Tier categories (I through IV) listed on Table 3 of the Biology Guidelines (July 2002). A natural wetland should be categorized as indicated on Table 2 of the Biology Guidelines (July 2002). In addition, the boundaries of the MHPA should be determined; and any proposed encroachment should be quantified. Where possible, the extent or number of individuals of sensitive, threatened, rare, or endangered species to be taken or harassed should also be quantified. In order to determine the degree of the impact,

fragmentation of habitat, loss of foraging area for sensitive species, and other factors should be considered.

The City's permit to "take" covered species under the MSCP is based on the concept that 90 percent of lands within the MHPA will be preserved. Any encroachment into the MHPA (in excess of the allowable encroachment by a project) would be considered significant and require a boundary adjustment which would include a habitat equivalency assessment to ensure that what will be added to the MHPA is at least equivalent to what would be removed.

In addition, lands containing Tier I, II, IIIa, and IIIb (see Table 3 of City's Biology Guidelines [July 2002]) and all wetlands (see Table 2 of City's Biology Guidelines [July 2002]) are considered sensitive and declining habitats. As such, impacts to these resources would be considered significant.

Lands designated as Tier IV would not be considered to have significant habitat value, and impacts would not be considered significant. The following uses would be considered significant:

- Impacts to individual sensitive species, without regard to impacts to habitat, may also be considered significant based upon the rarity and extent of impacts.

- Impacts to state- or federally listed species and all narrow endemics (see the City's Biology Guidelines [July 2002]) should be considered significant. Certain species covered by the MSCP (see page 26 of the Biology Guidelines [July 2002]) and other species not covered by the MSCP may be considered significant on a case-by-case basis, taking into consideration all pertinent information regarding distribution, rarity, and the level of habitat conservation afforded by the MSCP.

The following uses would not be considered significant impacts:

- Total upland impacts (Tiers I through IIIB) less than 0.1 acre are not considered significant and do not require mitigation. See Section 4.4.3 (Cumulative Impacts) relative to native grasslands.

- Impacts to non-native grasslands totaling less than 1.0 acre and completely surrounded by existing urban developments are not considered significant and do not require mitigation.

- Total wetland impacts that would be less than 0.01 acre are not considered significant and do not require mitigation; however, this would not apply to vernal pools or wetlands within the coastal zones.

- Brush management Zone 2 thinning activities, while having the potential to adversely affect biological resources, are not considered potentially significant inside the MHPA or, to the extent that non-covered species are not impacted, outside the MHPA because of the implementation of the MSCP. Brush management Zone 2 thinning outside the MHPA, which affects non-covered species, is potentially significant.

- Brush management not conducted in accordance with brush management regulations, regardless of where it is located, is also potentially significant.

- Mitigation is not required for impacts to non-native grassland habitat when impacted for the purpose of wetland or other native habitat creation.

- Habitat mitigation is not required for impacts to manufactured slopes or areas that have been planted with native species for the purpose of erosion control. For example, in order to qualify for this exception, substantiation of previous permits and mitigation must be provided.

- Noise mitigation, however, may be required for significant noise impacts to certain avian species during their breeding season, depending upon the location of the slope (such as adjacent to an MHPA) and what birds may be present in the area, such as the California gnatcatcher, least Bell's vireo, southern willow flycatcher, least tern, cactus wren, tricolored blackbird, or western snowy plover. If these avian species (except for the California gnatcatcher) are present, then mitigation will be required if construction or operational noise levels would exceed 60 decibel(A), or the existing ambient noise level if already above 60 db(A) during the breeding season. For California gnatcatcher-occupied habitat within the MHPA, construction or operational noise levels exceeding 60 db(A), or exceeding the existing ambient noise level if already above 60 db(A), during the breeding season, is considered significant. There are no noise restrictions for the gnatcatcher outside the MHPA anytime of the year.

- In addition, inside the MHPA, impact avoidance areas are required for Cooper's hawk (*Accipiter cooperii)*, northern harrier (*Circus cyaneus*), golden eagle, *(Aquila chrysaetos*) burrowing owl (*Athene cunicularia*), and southwestern pond turtle *(Emys marmorata).* See Biology Guidelines, Section II, A. 2 and 4. and Section 9.12 of the Implementing Agreement.

- Removal/control of non-native plants is not considered to constitute a significant habitat impact for which compensatory habitat acquisition, preservation, or creation for the area impacted is required. Mitigation for indirect impacts such as erosion control or offsite infestation by non-native species may be needed.

4.4.2 Indirect Impacts

CEQA Guidelines §15064(d) provides the following guidance regarding identification of direct versus indirect impacts: In evaluating the significance of the environmental effect of a project, the Lead Agency shall consider direct physical changes in the environment which may be caused by the project and reasonably foreseeable indirect physical changes in the environment which may be caused by the project.

"An indirect impact is a physical change in the environment which is not immediately related to the project but which is caused indirectly by the project. If a direct impact in turn causes another physical change in the environment, then the secondary change is an indirect impact. For example, the dust from heavy equipment that would result from grading for a sewage treatment plant could settle on nearby vegetation and interfere with photosynthetic processes; and the construction equipment noise levels could interrupt reproductive behavior within adjacent sensitive avian breeding habitats during the breeding season.

An indirect physical change is to be considered only if that change is a reasonably foreseeable impact which may be caused by the project. A change which is speculative or unlikely to occur is not reasonably foreseeable.

Depending on the circumstances, indirect impacts of a project may be as significant as the direct impacts of the project. In general, however, indirect impacts are easier to mitigate than direct ones. Some

impacts may be considered indirect impacts in some circumstances and direct impacts under other circumstances. Indirect impacts include, but are not limited to, the following impacts:

- The introduction of urban meso-predators into a biological system;
- The introduction of urban runoff into a biological system;
- The introduction of invasive exotic plant species into a biological system;
- Noise and lighting impacts (note: both construction/demolition and operational phases of the project must be considered);
- Alteration of a dynamic portion of a system, such as stream flow characteristics or fire cycles;
- Loss of a wetland buffer that includes no environmentally sensitive lands".

4.4.3 Cumulative Impacts

"The MSCP was designed to compensate for the regional loss of biological resources throughout the region. Projects that conform with the MSCP as specified by the Subarea Plan and implementing ordinances (i.e. July 2002 Biology Guidelines and ESL Regulations) are not expected to result in a significant cumulative impact for those biological resources adequately covered by the MSCP. These resources include the vegetation communities identified as Tier I through IV (see City's July 2002 Biology Guidelines and the MSCP covered species list) (see Appendix A of the City of San Diego's MSCP Subarea Plan).

Direct impacts to perennial native grasslands that are greater than 0.1 acre are significant and cumulatively significant. Direct impacts to this habitat type are mitigated via Tier I per Biology Guidelines. Cumulative impacts may be mitigated only via creation at a 1:1 ratio or greater, with the feasibility of creation to be evaluated on a case-by-case basis.

Impacts to species covered by the MSCP (see Appendix A of MSCP Subarea Plan) would not generally be considered cumulatively significant, provided the project is in full compliance with the MSCP and its implementing regulations. Impacts to state- or federal-listed species not covered by the MSCP may be considered cumulatively significant. Each situation will be evaluated on a case-by-case basis.

It is expected that many other sensitive species not analyzed for coverage under the MSCP will be adequately conserved through the MSCP's habitat-based mitigation plan. A rare circumstance may arise, however, where impacts to a particular species may still result in a cumulatively significant impact. The project-level biological survey report would identify those species and describe why a cumulative impact still exists in light of the level of habitat protection provided by the MSCP. Depending on the size of the impact, the salt marsh daisy, found in salt pannes, and the little mousetail (*Myosurus minimus*), found in vernal pools, would be examples of non-covered species that might be considered rare enough to conclude cumulatively significant impacts".

4.5 CITY OF SAN DIEGO MULTIPLE SPECIES CONSERVATION PLAN

The City of San Diego's MSCP Subarea Plan (Subarea Plan) has been prepared pursuant to the general outline developed by the USFWS and the CDFW (herein referred to as the "wildlife agencies") to meet the requirements of the California Natural Communities Conservation Planning (NCCP) Act of 1992. The

Subarea Plan forms the basis for the implementing agreement, which is the contract between the City and the wildlife agencies that ensures implementation of the Subarea Plan and thereby allows the City to issue "take permits" at the local level. This Subarea Plan is also consistent with the MSCP plan and qualifies as a stand-alone document to implement the City's portion of the MSCP preserve.

The City of San Diego MHPA was developed by the City in cooperation with the wildlife agencies, property owners, developers, and environmental groups. The Preserve Design Criteria contained in the MSCP and the City Council-adopted criteria for the creation of the MHPA were used as guides in the development of the City's MHPA. The MHPA delineates core biological resource areas and a corridor targeted for conservation and represents a "hard line" preserve in which boundaries have been specifically determined. Within the MHPA, limited development may occur.

Examples of environmentally sensitive lands with sensitive biological resources are included within the MHPA as identified in the City's MSCP Subarea Plan (City of San Diego 1995). In addition, other lands outside the MHPA, that contain wetlands and vegetation communities classifiable as Tier I, II, IIIA, or IIIB and that contain habitat for the following types of species — rare, endangered, threatened, or narrow endemic species — are also considered environmentally sensitive. Lands within the City are under the jurisdiction of the City's MSCP and are proposed in a conservation policy by one of the following five methods:

- Conserving existing public lands;
- Restricting land use on property within the MSCP through zoning regulations;
- Imposing open space exactions directed toward building the Multiple Species Conservation Plan on new development outside the MSCP;
- Maintaining open space areas previously set aside; or
- Acquiring private lands for public use.

4.5.1 The City of San Diego's MSCP Subarea Plan Goals

The City of San Diego's MSCP Subarea Plan is an outline developed in cooperation with the USFWS and the CDFW to meet the requirements outlined in the MSCP SUBAREA PLAN.

The MSCP SUBAREA PLAN was developed as a method to allow the City to issue "take permits" at the local level and ensure the implementation of the Subarea Plan. The Subarea Plan outlines the following guidelines:

- Native vegetation is to be restored along the San Diego River corridor as a condition for future development proposals.
- The full range of native plant communities is to be enhanced and restored in strategic locations and where areas of functional wildlife connections to adjoining habitat exist in order to provide habitat for wildlife and sensitive species.
- All proposed utility lines and development for such would be designed to avoid intrusion into sensitive habitats and constructed to minimize environmental impacts. All temporary

construction areas, roads (unless already established), staging areas, and access roads must also not disturb existing habitats when possible.

- Flood control should be limited. All flood plains should remain in their natural condition and configuration in order to preserve ecological processes. No manufactured constraints to creeks, tributaries, or river flows should be allowed in flood plains. River, stream, and channel banks shall remain natural and only stabilized where necessary using appropriate native planting which will not deter wildlife mobility.

- No invasive non-native plant species should be introduced.

- Fencing will be used where necessary to achieve conservation goals.

- Lighting shall be designed to avoid detrimental effects on wildlife.

4.5.2 City of San Diego's MSCP Subarea Plan Species

The City of San Diego MHPA was developed by the City in cooperation with the wildlife agencies, property owners, developers, and environmental groups. Species covered under the City of San Diego's MSCP Subarea Plan Species were included in the sensitive species list. All applicable measures should be taken to protect species covered under the MSCP when conducting any development projects in the Ocean Beach community.

4.5.3 City of San Diego Multiple Habitat Planning Area

The Preserve Design Criteria contained in the MSCP plan and the City Council-adopted criteria for the creation of the MHPA were used as guides in the development of the City's MHPA. City of San Diego Multiple Habitat Planning Area Boundaries of MHPA lands within the OBCPA are located within the San Diego River Channel south bank and coastal beach at Dog Beach and the entirety of the Famosa Wildlife Preserve. The MHPA delineates core biological resource areas and a corridor targeted for conservation and represents a "hard line" preserve in which boundaries have been specifically determined. Within the MHPA, limited development may occur.

1.2.1 City of San Diego Multiple Habitat Planning Area Land Use Adjacency Guidelines

The City of San Diego MHPA was developed by the City; and, as such, specific land use adjacency guidelines do exist. Consultation of the guidelines is necessary to make a determination of impacts from a proposed project. A full list of guidelines is available in Section 5.0 - Mitigation and Monitoring Requirements.

4.6 OCEAN BEACH COMMUNITY PLANNING ELEMENTS

The Ocean Beach Community Plan Update Programmatic DEIR contains the following eight planning elements: conservation, economic prosperity, historic preservation, land use, mobility, public facilities, recreation, and urban design. Brief descriptions of the eight community planning elements are outlined below:

4.6.1 Conservation Element

The Conservation planning element contains specific policies related to development in a sustainable manner, open space preservation, coastal resource protection, water resource management, urban runoff management, air quality, biological diversity, wetlands, energy independence, urban forestry, mineral production, agricultural resources, and environmental education.

4.6.2 Economic Prosperity Element

The Economic Prosperity element provides for the following key goals: a diverse, innovative, competitive, entrepreneurial, and sustainable local economy. The General Plan also acknowledges the emergence of an increasingly large and lucrative segment of San Diego's tourism industry known as cultural heritage tourism. Benefits associated with cultural heritage tourism, in addition to being a good source of revenue for the community, include strengthening local identity and pride.

4.6.3 Historic Preservation Element

The Historic Preservation element goals intend to preserve, protect, restore, and rehabilitate historical and cultural resources throughout the City. It is also the intent of the element to improve the quality of the built environment and to encourage appreciation for the City's history and culture, thereby maintaining the character and identity of the individual communities that contribute to the City's economic vitality through historic preservation. The Historic elements overarching goals include identifying and preserving historical resources and educating citizens about the benefits of and incentives for historic preservation.

4.6.4 Land Use Element

The Land Use element contains policies to guide future growth and development into sustainable development patterns while emphasizing the diversity of the City's distinctive communities. A balanced mixture of land uses is encouraged, with housing for all income levels. Finally, the City's General Plan encourages broad public outreach and participation in the planning process.

4.6.5 Mobility Element

Ocean Beach is an urbanized community with a wide range of transportation options. The Mobility planning element looks at the continued improvements in mass transit and the development of transit-oriented development patterns.

4.6.6 Public Facilities Element

The purpose of the Public Facilities element would be to provide for the public facilities and services needed to serve the existing population and future growth. This element includes specific policies regarding public facilities financing; public facilities and services prioritization; evaluation of growth, facilities, and services; fire-rescue; police services; wastewater and stormwater disposal; lifeguard rescue services; water infrastructure; waste management; libraries, schools, and information infrastructure; public utilities; regional facilities; and healthcare services and facilities.

4.6.7 Recreation Element

The purpose of the Recreation planning element is to adhere to the recreational goals of the community. The Ocean Beach Recreation element includes specific policies and recommendations addressing park and recreation needs, preservation, accessibility, open space lands, and resource-based parks. These policies and recommendations, along with the General Plan Guidelines, provide a comprehensive parks strategy intended to accommodate the community for the next 20 years.

4.6.8 Urban Design Element

The Urban Design planning element guides the physical development toward a desired form and image consistent with the planning goals of the City. Specific policies address general urban design, distinctive neighborhoods and residential design, mixed-use villages and commercial areas, office and business park development, public spaces and civic architecture, and public art and cultural amenities.

4.7 CUMULATIVE IMPACTS

Projects that conform to the MSCP would not result in significant cumulative impacts; however, a rare circumstance could occur where impacts to a particular species not covered by the MSCP (e.g., little mousetail, salt marsh daisy) may still result in a cumulative/significant impact. In this case, the report would identify those species and describe why a cumulative impact still exists regardless of the habitat-level protection provided by the MSCP.

SECTION 5.0 – MITIGATION AND MONITORING REQUIREMENTS

"The City of San Diego's mitigation and monitoring requirements consist of three elements:

- Mitigation Element Protection
- Notice Element
- Management Element

Creation of vernal pools in historically non-vernal pool areas is not acceptable. All wetland impacts must have an identified wetlands mitigation site and, in addition, an accompanying conceptual revegetation plan. One component of the wetland mitigation effort (at a minimum 1:1 ratio) must consist of wetland creation or wetland restoration. The remaining balance of the mitigation may occur as wetland enhancement. An evaluation should be undertaken of the physical or biological features used by flora and fauna on the property and their relative importance (City of San Diego Biological Resources, Page 11, July 2002 or as amended).

Requirements for mitigation and monitoring include an evaluation of the physical and biological relationship of the property to surrounding or contiguous habitats and relationships to the MHPA. The evaluation should discuss whether the proposed project would disrupt the integrity or continuity of an important habitat, (i.e., disruption of a wildlife corridor and/or an extensive riparian woodland, etc.). The percentage (or acreage) of plant communities and habitats to be removed or reasonably anticipated to be removed or modified should be included in tabular form by the proposed development. The project submittal should discuss likely subsequent impacts for phased and staged development even if they are not a part of the project. The following items should be addressed for a project submittal:

- A determination of significance must be done per the City of San Diego's Significance Determination Guidelines (Biological Resources, Page 11, July 2002 or as amended).
- The anticipated loss of sensitive plant and animal habitat, populations, or individuals must be quantified.
- The local and regional significance of this loss must be defined, where possible.
- Anticipated indirect impacts from project implementation on- and offsite should be discussed and evaluated.

The following consistency issues should be discussed with the MSCP:

- How the project will provide for the long-term viability of wildlife and sensitive habitats.
- Whether or not the project lies within or adjacent to the MHPA.
- Description of any relevant MHPA Guidelines.
- Assessment of compliance with the planning policies and guidelines (is the project an allowed use within the MHPA?).
- Applicable land use adjacency guidelines (as shown on Page 48, the MSCP Subarea Plan).
- Identification of any appropriate management issues per Section 1.5, MSCP Subarea Plan.

- Assessment of any special conditions of coverage applicable to the species affected by the project.

- Discussion of any boundary adjustments to the MHPA. If proposed, these should be evaluated for functional equivalency per Sections 1.1.1 and 5.4.2 of the MSCP Subarea Plan.

- Whether or not the project is located on the least sensitive portion of the site (see Page 5, Biology Guidelines)".

5.1 MITIGATION FRAMEWORK

"The following measures are currently applied to projects that affect biological resources. As each future project is reviewed under CEQA, additional specificity may be required with respect to mitigation measures identified below. These measures may be updated periodically in response to changes in federal and state laws and new/improved scientific methods.

- Development projects shall be designed to minimize or eliminate impacts to natural habitats and known sensitive resources consistent with the City's Biology Guidelines, MSCP Subarea Plan, and the ESL ordinance.

- Biological mitigation for upland impacts shall be in accordance with the City's Biology Guidelines, Table 3.3.4 as illustrated below in Table 2. Prior to the commencement of any construction-related activity onsite (including earthwork and fencing) and/or the preconstruction meeting, mitigation for direct impacts to Tier I, Tier II, Tier IIIA, and Tier IIIB shall be assured to the satisfaction of the Development Services Department Environmental Review Manager (ERM) through preservation of upland habitats in conformance with the City's Biology Guidelines, MSCP, and ESL Regulations. Mitigation for upland habitats may include onsite preservation, onsite enhancement/restoration; payment into the Habitat Acquisition Fund; acquisition/dedication of habitat inside or outside the MHPA; or other mitigation as approved by the ERM, MSCP staff, and the City's Parks and Recreation Department.

- Development projects shall provide for continued wildlife movement through wildlife corridors as identified in the MSCP Subarea Plan or as identified through project-level analysis. Mitigation may include, but is not limited to, provision of appropriately-sized bridges, culverts, or other openings to allow wildlife movement."

Table 2: Mitigation Framework

UPLAND MITIGATION RATIOS		
TIER	**HABITAT TYPE**	**MITIGATION RATIOS**
TIER 1 (rare uplands)	Southern Foredunes Torrey Pines Forest Coastal Bluff Scrub Maritime Succulent Scrub Maritime Chaparral Scrub Oak Chaparral Native Grassland Oak Woodlands	Location of Preservation Location of Impact: Inside* — Inside 2:1, Outside 3:1; Outside — Inside 1:1, Outside 2:1
TIER II (uncommon uplands)	Coastal Sage Scrub (CSS) CSS/Chaparral	Location of Preservation Location of Impact: Inside* — Inside 1:1, Outside 2:1; Outside — Inside 1:1, Outside 1.5:1
TIER III A: (common uplands)	Mixed Chaparral Chamise Chaparral	Location of Preservation Location of Impact: Inside* — Inside 2:1, Outside 3:1; Outside — Inside 1:1, Outside 2:1
TIER III B: (common uplands)	Non-Native Grasslands	Location of Preservation Location of Impact: Inside* — Inside 1:1, Outside 1.5:1; Outside — Inside 0.5:1, Outside 1:1

For all Tier I impacts, the mitigation could (1) occur within the MHPA portion of Tier I (in Tier) or (2) occur outside the MHPA within the affected habitat type (in-kind).

For impacts to Tier II, IIIA, and IIIB habitats, the mitigation could (1) occur within the MHPA portion of Tiers I through III (out-of-kind) or (2) occur outside the MHPA within the affected habitat type (in-kind).

5.2 MULTIPLE HABITAT PLANNING AREA LAND USE ADJACENCY GUIDELINES

The City of San Diego MHPA was developed by the City in cooperation with the wildlife agencies, property owners, developers, and environmental groups. The Preserve Design Criteria contained in the MSCP plan and the City Council-adopted criteria for the creation of the MHPA were used as guides in the development of the City's MHPA. The MHPA delineates core biological resource areas and a corridor targeted for conservation and represents a "hard line" preserve in which boundaries have been specifically determined. Within the MHPA, limited development may occur.

5.2.1 Multiple Habitat Planning Area Land Use Agency Guidelines

"For all projects adjacent to the MHPA, the development shall conform to all applicable MHPA Land Use Adjacency Guidelines (Section 1.4.3) of the MSCP Subarea Plan. In particular, lighting, drainage, landscaping, grading, access, and noise must not adversely affect the MHPA. Prior to issuance of any authorization to proceed, the following shall occur:

- Lighting should be directed away from the MHPA and shielded, if necessary; and a note shall be included on the plans to the satisfaction of the Environmental Review Manager (ERM).

- Drainage should be directed away from the MHPA; or, if that is not possible, it must not drain directly into the MHPA. Instead, runoff should flow into sedimentation basins, grassy swales, or mechanical trapping devices prior to draining into the MHPA. Drainage shall be shown on the site plan and reviewed to the satisfaction of the City Engineer.

- The landscape plan shall be reviewed and approved by the ERM to ensure that no invasive non-native plant species shall be planted in or adjacent to the MHPA.

- All manufactured slopes must be included within the development footprint for projects within or adjacent to the MHPA.

- All brush management areas shall be shown on the site plan, reviewed, and approved by the ERM. Zone 1-brush management areas must be included within the development footprint and outside the MHPA. Brush management Zone 2 may be permitted within the MHPA (considered impact-neutral) but cannot be used as mitigation. Any vegetation clearing will be done to minimize impacts to covered species and will follow the City standards.

- Access to the MHPA, if any, should be directed to minimize impacts; and, if necessary, barriers will be used to direct access to appropriate locations and shall be shown on the site plan and reviewed and approved by the ERM.

- Construction noise as it effects sensitive avian species: the construction of projects will be scheduled to avoid impacts to wildlife (e.g., avoid the breeding season for sensitive species) to the extent practicable. If avoidance of construction during the breeding season is not feasible, project-specific review shall define specific mitigation measures, such as berms and sound walls, which would reduce construction and operational noise impacts".

5.3 SENSITIVE AVIAN SPECIES

The following guidelines are applicable to sensitive species:

- If project grading is proposed during the raptor-breeding season (February 1 through September 15), the project biologist shall conduct a pre-grading survey for active raptor nests within 300 feet of the development area and submit a letter report to Mitigation Monitoring Coordination (MMC) prior to the preconstruction meeting.

- If active raptor nests are detected, the report shall include mitigation in conformance with the City's Biology Guidelines (i.e. appropriate buffers, monitoring schedules, etc.) to the satisfaction of the City's ERM. Mitigation requirements determined by the project biologist and the ERM shall be incorporated into the project's Biological Construction Monitoring Exhibit (BCME) and monitoring results incorporated into the final biological construction monitoring report.

- If no nesting raptors are detected during the pre-grading survey, no mitigation is required.

5.4 WETLAND IMPACTS

As part of the project-specific environmental review pursuant to CEQA, all unavoidable wetlands impacts (both temporary and permanent) would need to be analyzed; and mitigation would be required in accordance with Table 3.3-4 of the Biology Guidelines. Mitigation must be based on the impacted type of wetland habitat and must prevent any net loss of wetland functions and values of the impacted wetland.

The following provides operational definitions of the four types of activities that constitute wetland mitigation under the ESL regulations:

5.4.1 Wetland Creation

Wetland creation is an activity that results in the formation of new wetlands in an upland area. An example is excavation of uplands adjacent to existing wetlands and the establishment of native wetland vegetation.

5.4.2 Wetland Restoration

Wetland restoration is an activity that re-establishes the habitat functions of a former wetland. An example is the excavation of agricultural fill from historic wetlands and the re-establishment of native wetland vegetation.

5.4.3 Wetland Enhancement

Wetland enhancement is an activity that improves the self-sustaining habitat functions of an existing wetland. An example is removal of exotic species from existing riparian habitat.

5.4.4 Wetland Acquisition

Wetland acquisition is an activity resulting in wetland habitat being bought or obtained through the purchase of offsite credits.

Wetland enhancement and wetland acquisition focus on the preservation or the improvement of existing wetland habitat and function and do not result in an increase in wetland area; therefore, a net loss of wetland may result. As such, acquisition and/or enhancement of existing wetlands may be considered as partial mitigation only for any balance of the remaining mitigation requirement after restoration or creation if wetland acreage is provided at a minimum of a 1:1 ratio. For permanent wetland, impacts that are unavoidable and minimized to the maximum extent feasible, mitigation must consist of creation of new, in-kind habitat to the fullest extent possible and at the appropriate ratios. In addition, unavoidable impacts to wetlands located within the Coastal Overlay Zone must be mitigated onsite, if feasible. If onsite mitigation is not feasible, then at least a portion of the mitigation must occur within the same watershed. All mitigation for unavoidable wetland impacts within the Coastal Overlay Zone must occur within the Coastal Overlay Zone.

The City's Biology Guidelines and MSCP Subarea Plan require that impacts to wetlands, including vernal pools, shall be avoided and that a sufficient wetland buffer shall be maintained, as appropriate, to protect resource functions/values. For vernal pools, this includes avoidance of the watershed necessary for the continued viability of the ponding area. Where wetland impacts are unavoidable, (determined case-by-case), they shall be minimized to the maximum extent practicable and fully mitigated for per the Biology Guidelines. The biology report shall include an analysis of onsite wetlands (including City, state, and federal jurisdiction analysis) and, if present, include project alternatives that fully/substantially avoid wetland impacts. Detailed evidence supporting why there is no feasible, less environmentally damaging location or alternative to avoid any impacts must be provided for City staff review, as well as a mitigation plan that specifically identifies how the project is to compensate for any unavoidable impacts. A conceptual mitigation program (which includes identification of the mitigation site) must be approved by the City staff prior to the release of the draft environmental document. Avoidance is the first requirement; mitigation can only be used for impacts clearly demonstrated to be unavoidable. Disturbance to native vegetation shall be limited to the extent practicable, revegetation with native plants shall occur where appropriate, and construction staging areas shall be located in previously disturbed areas.

5.4.5 Resource Agency Permitting

Prior to the commencement of any construction-related activities for projects impacting onsite wetland habitat (including earthwork and fencing), the applicant shall provide evidence of the following to the ERM prior to any construction activity:

- Compliance with USACE Section 404 nationwide permit;
- Compliance with the Regional Water Quality Control Board Section 401 Water Quality Certification;
- Compliance with the CDFW Section 1601/1603 Streambed Alteration Agreement; and
- Evidence shall include either copies of permits issued, letter of resolutions issued by the responsible agency documenting compliance, or other evidence documenting compliance and deemed acceptable by the ADD of Land Development Review (LDR).

5.5 REVIEWER RECOMMENDATIONS FOR THE EIGHT ELEMENTS OF THE OCEAN BEACH COMMUNITY PLAN UPDATE PROGRAMMATIC DEIR

If implemented, the reviewer recommendations for each of the eight planning elements would result in lower impacts to wildlife species. The following reviewer recommendations are outlined pertaining to each Ocean Beach Community Planning Update Element:

5.5.1 Conservation Element

- The potential fragmentation of existing habitats and the appropriate mitigation measures directed at reducing significant adverse impacts of the Community Plan upon sensitive species or habitats should be outlined in the Ocean Beach Community Plan Update Programmatic DEIR Conservation Element.

- Greater emphasis on providing for opportunities to restore and rehabilitate the natural open space areas is recommended.

- During rain events, stormwater and flood control channels overflow and run into the Famosa Wildlife Preserve Slough, and thus the San Diego River, causing environmental degradation and habitat disturbances. Urban runoff that contains contaminants such as heavy metals and sediment reduce the ability of wetlands to filter contaminants. Urban runoff results in nutrient-deficient water, which can lead to algal blooms and, in turn, affect fish populations and harm the overall function of the ecosystem. Stormwater runoff should be minimized by means of wetland restoration; native wetland obligate species planted in and along the channel will reduce erosion and allow for an alternative means of water treatment.

- A water quality sampling program should be outlined in the conservation element. This is necessary to capture sufficient data to predict and reduce impacts by means of analyzing water quality data. The data would be used with an adaptive management approach to prevent the depressed functionality of the waterways and wetlands.

- Special status species such as the western snowy plover are known to historically and would potentially nest in the coastal dunes of the OBCPA if potential, secure habitat were available. Conservation efforts should be made available under this planning element to protect nesting western snowy plover. Human use and the type of use should be restricted in areas where suitable plover habitat occurs in order to create refuges for potentially nesting birds. Elevated hiking/biking paths could be strategically placed and seasonally closed to protect potential breeding western snowy plovers. Since the western snowy plover species is a known wintering species in the OBCPA, it is presumed that enhancement of the potential breeding areas would encourage wintering residents to remain and breed.

- California least terns are known to nest on the sandy dunes and flats in the OBCPA. As with western snowy plover, control of human disturbance is vital to the success of nesting colonies. Because the bird is a colonial nester, access to established colonies can be controlled with fencing. The fencing would minimize predation and disturbance by pedestrian traffic. In addition, recommendations for the control of invasive weeds would maintain open, sandy areas to further encourage nesting bird colonies. As noted by Unitt (2004), least tern adults have a high degree of fidelity to colonies where they have established themselves; and they will return to nest at the same location with each season if habitat is favorable. According to CDFW (2009),

San Diego County had the highest success rate in California of monitored nesting least tern colonies. It is recommended that both bicycle and human traffic be limited in areas of occupied nesting sites. Lighting may affect nesting birds and therefore should be evaluated in these areas as well. Furthermore, increased silt runoff should be curtailed to maintain the sandy soil composition of the OBCPA.

- The restoration of tidal salt marshes comprised of pickleweed would provide suitable habitat for the California black rail should any still be present within the OBCPA. As with the other ground-nesting birds, special precautionary measures should be taken to ensure the greatest success of this rare bird as possible. Other special status bird species such as Belding's savannah sparrow also require salt marshes for foraging and nesting. Restoration of the tidal salt marshes is also highly likely to benefit Belding's savannah sparrow.

- Areas of potential grunion spawning should be preserved and monitored, including the policing of "take" with a valid fishing license. Beaches should be closed when "take" is not legal. In addition, increases to pollution runoff should be minimized.

- Special attention should be paid in the conservation-planning element to provide protection measures for restoring and enhancing suitable habitat for sensitive species known to occur within one mile of the OBCPA.

5.5.2 Economic Prosperity Element

- Increased visitation to the OBCPA would result in greater environmental impacts to natural areas; if feasible, a balanced approach to increased tourism would provide for preservation of existing vegetation and wildlife viewing.

5.5.3 Historic Preservation Planning Element

- The Famosa Wildlife Preserve areas are popular recreational areas. Historic preservation of these areas should incorporate all current biological data to reduce potential land use conflicts with nesting bird species.

5.5.4 Land Use Element

- Sensitive bird species such as the coastal California gnatcatcher prefer to nest in Coastal Sage Scrub. Vegetation removal should be limited to outside the breeding season for this species, and limits should be placed on removal of this habitat type for nonessential uses. The breeding season for coastal California gnatcatcher is from March 15 through August 31.

- Orcutt's spineflower is a federally endangered plant species believed to be declining in San Diego County due to urbanization, recreational activities, trampling, and habitat fragmentation. This species occurs on roadsides and trails in loose, sandy soils. When observed, this species should be monitored and protected.

- The Famosa Wildlife Preserve should be incorporated into the San Diego River Park program to add greater funding opportunities for protecting these open spaces.

- Development of the Dog Beach park equivalency area should not encroach into the dune habitat located immediately north of the bike path near its end. This area provides important habitat for

nesting birds and has the potential to support rare and sensitive plant species such as the federally protected coastal dunes milk-vetch. Fencing or elevated trails should be used to restrict access to this area and prevent trampling of both the flora and fauna of the dunes.

5.5.5 Mobility Element

- A survey for special status species is recommended before developing or enlarging any paths in the Famosa Wildlife Preserve. Native vegetation should be preserved, and paths should utilize disturbed areas wherever possible. Non-native plants should be removed to prevent their spread. Where feasible and preferable, recycled decking may be used to prevent the trampling of plants and rutting of areas.

- Construction and retrofitting bike and pedestrian paths should take advantage of opportunities to install native landscaping and bio-filters (a filtration system that uses organic materials to capture and filter pollutants) to improve habitat connectivity and quality of storm water.

5.5.6 Public Facilities Element

- Any new development and upgrades of existing facilities should utilize permeable materials and incorporate bio-filters.

- Increased street lighting has the potential to disturb wildlife in the beach, slough, bluffs, and river areas. Bird populations, including parrots and barn owls, roost in street trees that could be impacted by increased lighting. Therefore, new light installations, especially near natural areas, should evaluate means of reducing light penetration into natural areas.

5.5.7 Recreation Element

- Development of the five acres adjacent to Robb Field, identified as a park equivalency, should utilize permeable materials and incorporate bio-filters to improve runoff quality.

- The trail and other development at the Famosa Wildlife Preserve should not result in a decrease in native vegetation, as the corridor containing the existing path is narrow and bordered by some of the only Coastal Sage Scrub vegetation in the OBCPA. Development should utilize existing disturbed areas. Permeable materials should be used for the trail surface in order to reduce runoff into the Slough.

- Acquisition and development of new parks and open space areas should include restoring native vegetation and increasing connectivity between natural areas, with the idea that wildlife species will travel short distances through urban areas if they can move between habitat patches.

5.5.8 Urban Design Element

- Street trees in the OBCPA provide habitat for wildlife, including songbirds, feral parrots, and barn owls. Urban forestry efforts can double as habitat creation and connectivity enhancement by using native species and installing bird boxes and raptor platforms on mature trees. Landscaping and bio-filters should also utilize native drought-tolerant species.

SECTION 6.0 – DISCUSSION AND CONCLUSION

The Ocean Beach Community Plan Update Programmatic DEIR outlines several means to support and enhance biological elements of the OBCPA. According to the CDFW's Natural Diversity Database, the community of Ocean Beach contains records for 39 sensitive plant species, 6 of which are federally listed, and 30 sensitive wildlife species, 4 of which are federally listed. A comprehensive list of sensitive species that could potentially occur in the OBCPA should be included in the Ocean Beach Community Plan Update Programmatic DEIR. Sandy beach invertebrate species that have the potential to occur in OBCPA include clams, crabs, oysters, and tiger beetles. Habitats that support these species should be further identified for educational purposes. Kelp wrack (kelp and other seaweed washed up on beach) is an important food source for invertebrates and an important foraging area for shorebirds, including the snowy plover. Decomposing kelp wrack is an important nutrient source for many sensitive species. Areas with kelp wrack should be identified for the public for the purpose of further preserving this biological resource. Clams are a crucial food source for many shore birds. Clam beds may occur in the mud flats around the mouth of the San Diego River.

6.1 OCEAN BEACH RECOMMENDATIONS

6.1.1 Famosa Slough

Three sensitive species, golden club (*Bergerocactus emoryi*), California boxthorn (*Lycium californicum*), and Shaw's agave were observed within the Famosa Slough Wildlife Preserve. These individuals were planted as part of the effort to restore the area to native habitat. CNDDB records show that many rare plant species were once found in the Ocean Beach area. Because restoration efforts in the Preserve have been so successful, the habitat quality has been much improved, and re-introduction of more sensitive plant species should be considered.

The potential for naturally occurring sensitive species to be present in the Preserve is moderate to high, particularly within the southern coastal salt marsh. A focused plant survey is recommended for the salt marsh during the regular blooming period for sensitive species likely to occur here; however, dialogue with the Friends of Famosa Slough will be necessary, as distinguishing planted individuals from naturally occurring ones could be challenging.

The mudflats within the slough should be considered as candidates for vernal pool restoration. Although no clear vegetation rings indicate that vernal pools currently exist, seasonal ponding from rainwater input and the appearance of clay soils indicate that more research into the qualities of the area is warranted.

Several habitats within the Famosa Slough are moderately to heavily invaded by non-native plant species. The Coastal Sage Scrub in the northern portion is heavily invaded, and the Southern Willow Scrub is moderately invaded by several non-native species. Trampling by humans and dogs, upstream water pollution, and encroachment of non-natives from neighboring areas propagates this problem.

Removal of non-native species within the Slough should continue, and native plant buffers should be developed in order to separate heavily invaded areas outside the Slough from habitats within the Slough. This would include planting a buffer between the freeway and marsh and strengthening the existing buffer between the apartments to the east and the marsh.

Signs indicating that pets should be on a leash, trash disposal units, and plastic bag dispensers for pet waste should be placed at entrances and strategic areas along the trails.

Trail entrances should be limited within the Southern Willow Scrub so that only one access point exists from the road, and access from the apartments to the west is fenced. Where appropriate, rope fences should be installed to act as a visual reminder that pets are not allowed in the marsh areas throughout the Slough.

6.1.2 Dog Beach

A naturally occurring population of salt marsh bird's-beak, which is recorded in CNDDB, was observed within the southern coastal marsh. Salt marsh bird's-beak is an annual herb that is federally endangered and a CNPS 1B.2 species. The survey took place outside the species blooming period (May through October); however, the identification of last year's individuals were confirmed by several Chambers Group botanists. It is recommended that a focused plant survey be performed within the blooming period for this species and for others that have a high potential of occurring in this habitat.

The dunes have a moderate potential for sensitive species, and it is recommended that they also be surveyed for sensitive species during the blooming period.

The sand dunes are a small area that includes an ecotone between the dunes and salt marsh. Much of the dune habitat is in good condition, with patches of moderately to highly disturbed habitat, especially in the ecotone. Because the sand dune patch is small and because this type of habitat has been much diminished in southern California by coastal development, preserving and restoring the Dog Beach dunes should be a priority. Invasive species monitoring and removal should be on-going. This area should also be considered for re-introduction of sensitive dune species that once occurred in this or similar areas.

Because the saltmarsh and dune/salt marsh ecotone are near a heavily used recreational section of the beach, trampling by dogs and humans has impacted the area. Though the area provides good quality habitat of a type, it is treated by fragmentation resulting from multiple trails crisscrossing the vegetation. These habitats are also impacted by trash, much of it washed down from upstream, and encroachment by non-native species.

It is recommended that a fence be placed around the existing dunes and marsh that will exclude dogs from entering the habitat unaccompanied. The area may be accessible by the public, but it is recommended that trails be limited to a single clearly marked path through the sensitive habitats with one entrance and one exit. Though dogs are allowed off-leash elsewhere on the beach, signs indicating that pets should be on a leash may be considered for this area in order to reduce trampling. Trash disposal units and plastic bag dispensers for pet waste should be placed at entrances and strategic areas along the trails. Informational signs can be placed on the fence or along the existing paved bike trail. Rope fence should be installed where sensitive resources have been identified to deter foot traffic.

6.1.3 Cliffs

The cliff area is completely invaded by ice plant with few other plant species present, most of which are non-native. This is likely a consequence of the development uphill and the possible use of ice plant as an erosion deterrent. This area has a low potential for sensitive species occurrence. It is recommended that this area be restored to reflect the native flora that previously existed there. This would include

removing the non-natives and planting native flora. Several appropriate species have been documented in CNDDB records as occurring in this area, and this could serve as a guide for restoration efforts. Great care would have to be taken to deter erosion. A makeshift walkway currently exists along the base of the cliff, often little more than a ledge. Improving this walkway could provide an overhead view of the tide pools and a platform to enjoy the native plants on the cliff's side. Informational panels could be placed along the walkway for public education.

6.1.4 Plant Surveys

This habitat assessment highlighted the need for focused plant surveys in the study area.

It is recommended that focused plant surveys be conducted in Southern Coastal Salt Marsh and sand dune habitats due to moderate to high potential for sensitive plant species to occur. The following plants have a high potential to occur within the southern coastal marsh habitats, and it is recommended that focused surveyed be conducted within their regular blooming periods: Coulter's goldenfields, estuary sea-blite, and salt marsh bird's-beak.

The following plants have a high potential to occur within the sand dune habitat, and it is recommended that focused surveyed be conducted within their regular blooming periods: Orcutt's pincushion, beach golden aster, Coulter's saltbush, south coast saltscale, Nuttall's lotus, Palmer's frankenia, short-lobed broomrape, and coast woolly-heads.

SECTION 7.0 – ACKNOWLEDGMENTS AND BIBLIOGRAPHY

7.1 ACKNOWLEDGMENTS

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John Kanlund, Chambers Group, Inc.	Associate Biologist/Biological Lead
Kimberly Hoyt Chambers Group, Inc.	Associate Biologist/Marine Reviewer
Ivy Watson, Chambers Group, Inc.	Associate Botanist

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APPENDIX A – SITE PHOTOGRAPHS

APPENDIX A – SITE PHOTOGRAPHS

Photo 1: Beach and Coastal Dune/Fore dunes habitats found in the OBCPA at Dog Park.

Photo 2: Coastal Sage Scrub and Disturbed habitats found in the OBCPA at the Famosa Slough Trail.

Photo 3: Freshwater Marsh habitat found in Famosa Channel/Slough, OBCPA, City of San Diego, California.

Photo 4: Non-native Species Dominated Flood Channel habitat found at the San Diego River and Famosa Channel outlet, OBCPA, City of San Diego, California.

Photo 5: Southern Coastal Bluff Scrub, OBCPA, City of San Diego, California.

Photo 6: Southern Coastal Salt Marsh, OBCPA, City of San Diego, California.

Photo 7: Southern Coastal Salt Marsh, OBCPA, City of San Diego, California.

Photo 8: Southern Coastal Salt Marsh along the San Diego River, OBCPA, City of San Diego, California.

Photo 9: Native Vegetation, OBCPA, City of San Diego, California.

Photo 10: Wetlands, Famosa Channel, OBCPA, City of San Diego, California.

Photo 11: Osprey nest, OBCPA, City of San Diego, California.

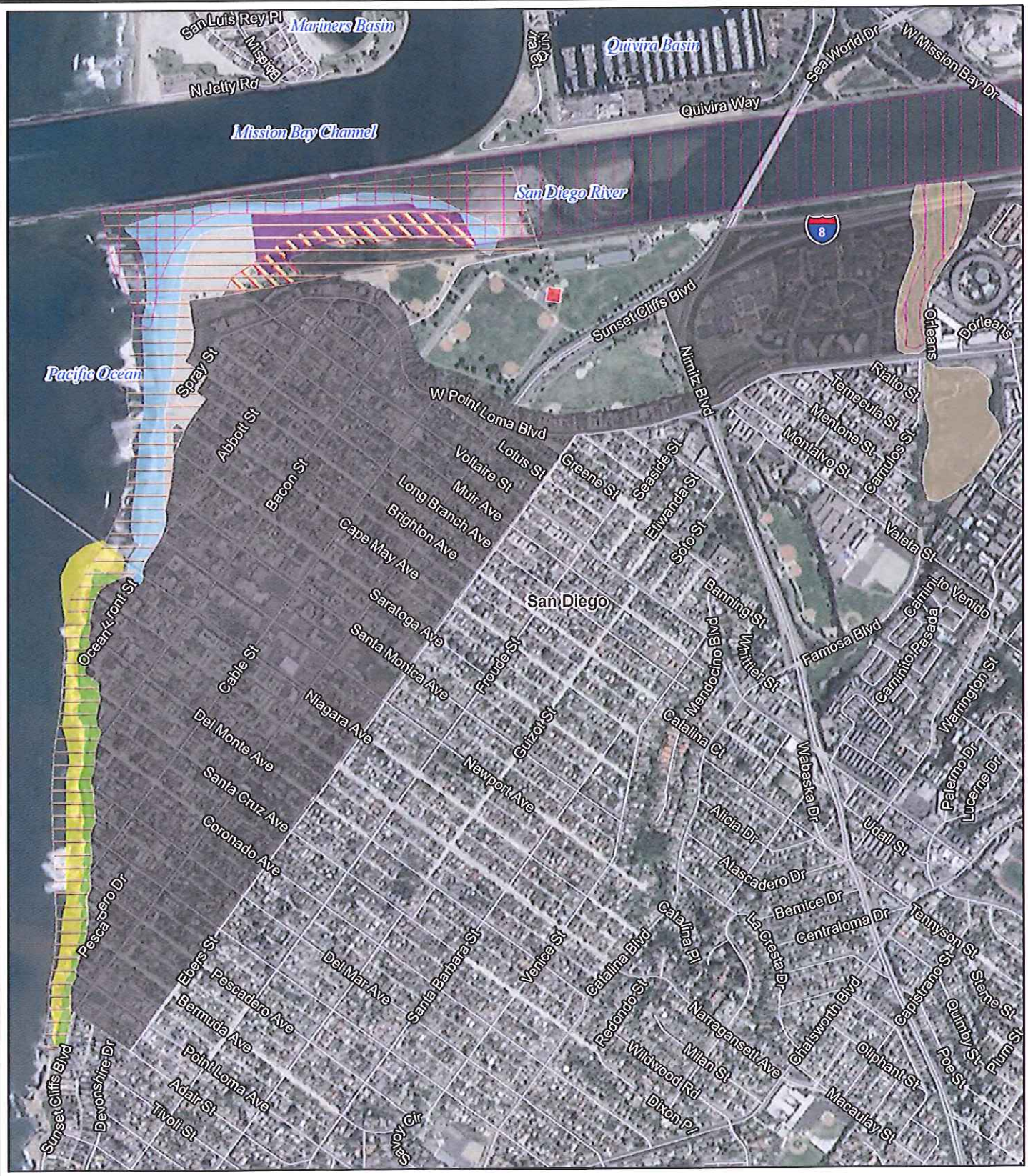
Photo 12: Coastal Bluffs, OBCPA, City of San Diego, California.

Photo 13: Grunion spawning habitat San Diego River Channel habitat found in the OBCPA.

Photo 14: Tide pool habitat found in the OBCPA.

Photo 15: Salt Marsh Estuary habitat for light-footed clapper rail found in the OBCPA.

APPENDIX B – SURVEY MAP



Legend

- Dune Habitat
- Potential Grunion Spawning Habitat
- Tide Pools along Bluffs
- Coastal Bluffs
- Famosa Slough
- Least Tern Foraging Habitat
- Least Tern Nesting Area
- Osprey Nesting Area
- Potential Snowy Plover Habitat
- Community Planning Area

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Project Location Map
Biological Resources and Community Planning Area Map

10-19-11

Chambers Group Inc.

APPENDIX C – DEFINITIONS

APPENDIX C: DEFINITIONS

BCME- Biological Construction Monitoring Exhibit
CDFW- California Department of Fish and Wildlife
CEQA- California Environmental Quality Act
CNDDB- California Natural Diversity Database
CNPS- California Native Plant Society
CWA- Clean Water Act
DEIR- Draft Environmental Impact Report
EIR- Environmental Impact Report
ERM- Environmental Review Manager
ESA- Endangered Species Act
ESL- Environmentally Sensitive Lands Regulations, Land Development Code
FC- Federal Candidate for listing
FE- Federally listed; Endangered
FEMA- Federal Emergency Management Agency
FPF- Flood Plain Fringe
FPT- Federal Proposed listing as Threatened
FT- Federally listed; Threatened
FW- Flood Way
GIS - Geographic Information System
GPAP- General Plan Action Plan
LDR- Land Development Review
MHPA - Multiple Habitat Planning Area (90% Preserve Area of the MSCP)
MMC- Mitigation Monitoring Coordination
MMRP- Mitigation Monitoring Reporting Program
MSCP- Multiple Species Conservation Program
NAD- North American Datum
NCCP- Natural Communities Conservation Planning
NMFS- National Marine Fisheries Service
OBAP- Ocean Beach Action Plan
OBPP- Ocean Beach Precise Plan
OBCPA- Ocean Beach Community Planning Area
RARE- State-listed; Rare (Listed "Rare" animals have been re-designated as Threatened, but Rare plants have retained the Rare designation.)
Regulating Agencies: Those governmental agencies with discretionary power to issue permits. i.e., U.S. Army Corps of Engineers; California Department of Fish and Wildlife; City of San Diego, Development Services Department).
RCP- Regional Comprehensive Plan
RUIS- Regional Urban Information System - now known as **SANGIS** - San Diego GIS
SANDAG- San Diego Association of Governments
SANGIS- San Diego Geographic Information System
SDNHM- San Diego Natural History Museum
SE- State listed, Endangered
SSC- State Species of Special Concern
ST- State listed; Threatened
USACE- U.S. Army Corps of Engineers
USFWS- United States Fish & Wildlife Service

WL- CDFW Watch List

www.sangis.org. - City of San Diego's web site which includes the MHPA mapping.

APPENDIX D – HISTORIC BOTANICAL RECORDS

APPENDIX D: HISTORICAL BOTANICAL RECORDS OBSERVED IN OBCPA

***Records from San Diego Natural History Museum database**

Collection date	Species	Method of Identification	Listing Status
Aizoaceae			
Mar 13, 2006	baby sun rose *Aptenia cordifolia*	Herbarium specimen	NN
Mar 13, 2006	sea fig *Carpobrotus chilensis*	Herbarium specimen	CAL-IPC moderate
Mar 13, 2006	iceplant *Carpobrotus edulis*	Herbarium specimen	CAL-IPC high
Apr 24, 2006	rosy iceplant *Drosanthemum floribundum*	Herbarium specimen	NN
Amaranthaceae			
Jul 02, 2007	Parish's glasswort *Arthrocnemum subterminale*	Herbarium specimen	
Feb 24, 2007	fat-hen *Atriplex prostrata*	Herbarium specimen	
Jul 14, 2007	Virginia glasswort *Salicornia depressa*	Herbarium specimen	
Jul 08, 2006	woolly seablite *Suaeda taxifolia*	Herbarium specimen	CNPS 4.2
Anacardiaceae			
Nov 1928	laurel sumac *Malosma laurina*	Herbarium specimen	
Nov 16, 2007	lemonade berry *Rhus integrifolia*	Herbarium specimen	
Apiaceae			
Jun 20, 2005	celery *Apium graveolens*	Herbarium specimen	NN
Jun 27, 2005	fennel *Foeniculum vulgare*	Herbarium specimen	Cal-IPC high
1930	shiny lomatium *Lomatium lucidum*	Herbarium specimen	
Apr 1930	shepherd's needle *Scandix pecten-veneris*	Herbarium specimen	NN
Asparagaceae			
Mar 18, 2007	African asparagus fern *Asparagus asparagoides*	Herbarium specimen	Cal-IPC moderate

APPENDIX D: HISTORICAL BOTANICAL RECORDS OBSERVED IN OBCPA

***Records from San Diego Natural History Museum database**

Collection date	Species	Method of Identification	Listing Status
Asteraceae			
Jun 15, 1935	beach bur *Ambrosia chamissonis*	Herbarium specimen	
Jun 15, 1935	California sagebrush *Artemisia californica*	Herbarium specimen	
Jun 20, 2005	San Diego sagewort *Artemisia palmeri*	Herbarium specimen	CNPS 4.2
Mar 11, 2006	mulefat *Baccharis salicifolia*	Herbarium specimen	
Jun 15, 1935	yellow pincushion *Chaenactis glabriuscula*	Herbarium specimen	
Jun 15, 1935	flax-leaved horseweed *Conyza bonariensis*	Herbarium specimen	NN
Sep 09, 2006	Canadian horseweed *Conyza canadensis*	Herbarium specimen	
Jun 15, 1935	clustered tarweed *Deinandra fasciculata*	Herbarium specimen	
Jun 15, 1935	golden yarrow *Eriophyllum confertiflorum*	Herbarium specimen	
Mar 10, 2008	crown daisy *Glebionis coronaria*	Herbarium specimen	NN
Aug 1928	sawtooth goldenbush *Hazardia squarrosa*	Herbarium specimen	
Apr 24, 2006	Crete weed *Hedypnois cretica*	Herbarium specimen	NN
Sep 09, 2006	Menzies' goldenbush *Isocoma menziesii*	Herbarium specimen	
Jun 27, 2005	San Diego marsh elder *Iva hayesiana*	Herbarium specimen	CNPS 2.2
Jun 27, 2005	marsh jaumea *Jaumea carnosa*	Herbarium specimen	
Apr 21, 1894	California goldfields *Lasthenia californica*	Herbarium specimen	
Feb 07, 1885	*Leptosyne californica*	Herbarium specimen	
Jun 15, 1935	common sandaster *Lessingia filaginifolia*	Herbarium specimen	

APPENDIX D: HISTORICAL BOTANICAL RECORDS OBSERVED IN OBCPA

***Records from San Diego Natural History Museum database**

Collection date	Species	Method of Identification	Listing Status
Jun 15, 1935	osmadenia *Osmadenia tenella*	Herbarium specimen	
Jun 27, 2005	common sowthistle *Sonchus oleraceus*	Herbarium specimen	NN
Oct 24, 2005	eastern annual saltmarsh aster *Symphyotrichum subulatum*	Herbarium specimen	
Apr 24, 2001	saltwort *Volutaria muricata*	Herbarium specimen	NN
Bataceae			
Jun 24, 2007	*Batis maritima*	Herbarium specimen	
Boraginaceae			
Mar 08, 2008	*Amsinckia menziesii*	Herbarium specimen	
Apr 1882	seaside fiddleneck *Amsinckia spectabilis*	Herbarium specimen	
Brassicaceae			
Apr 26, 1934	America searocket *Cakile edentula*	Herbarium specimen	NN
Jul 05, 2006	European searocket *Cakile maritima*	Herbarium specimen	Cal-IPC limited
Feb 28, 2008	shepherd's purse *Capsella bursa-pastoris*	Herbarium specimen	NN
Jun 1927	shaggyfruit pepperweed *Lepidium lasiocarpum*	Herbarium specimen	
Jun 27, 2005	sweet alyssum *Lobularia maritima*	Herbarium specimen	Cal-IPC limited
Jun 15, 1935	wild radish *Raphanus sativus*	Herbarium specimen	Cal-IPC limited
Cactaceae			
Apr 16, 2006	Nopal tapon *Opuntia robusta*	Herbarium specimen	NN
Caryophyllaceae			
Jun 15, 1935	sandcarpet *Cardionema ramosissimum*	Herbarium specimen	
Jan 1928	corn spurry *Spergula arvensis*	Herbarium specimen	NN

APPENDIX D: HISTORICAL BOTANICAL RECORDS OBSERVED IN OBCPA

***Records from San Diego Natural History Museum database**

Collection date	Species	Method of Identification	Listing Status
Mar 29, 2007	salt marsh sand spurry *Spergularia salina*	Herbarium specimen	
Mar 08, 2008	common chickweed *Stellaria neglecta*	Herbarium specimen	NN
Chenopodiaceae			
Jun 15, 1935	California saltbush *Atriplex californica*	Herbarium specimen	
Jun 22, 1936	*Suaeda torreyana*	Herbarium specimen	
Commelinaceae			
Jun 20, 2005	dayflower *Commelina benghalensis*	Herbarium specimen	noxious weed (USDA)
Convolvulaceae			
Apr 24, 2006	island morning glory *Calystegia macrostegia*	Herbarium specimen	
Jul 11, 2006	alkali weed *Cressa truxillensis*	Herbarium specimen	
Jun 15, 1935	California dodder *Cuscuta californica*	Herbarium specimen	
Jun 27, 2005	goldenthread *Cuscuta salina*	Herbarium specimen	
Crassulaceae			
Jun 15, 1935	fingertips *Dudleya edulis*	Herbarium specimen	
Jun 15, 1935	laceleaf liveforever *Dudleya lanceolata*	Herbarium specimen	
Cyperaceae			
Jun 27, 2005	alkali bulrush *Bolboschoenus maritimus*	Herbarium specimen	
Jun 20, 2005	tall flatsedge *Cyperus eragrostis*	Herbarium specimen	
Jul 11, 2009	spikerush *Eleocharis sp.*	Herbarium specimen	
Jul 08, 2006	chairmaker's bulrush *Schoenoplectus americanus*	Herbarium specimen	
Jul 13, 2005	California bulrush *Schoenoplectus californicus*	Herbarium specimen	

APPENDIX D: HISTORICAL BOTANICAL RECORDS OBSERVED IN OBCPA

***Records from San Diego Natural History Museum database**

Collection date	Species	Method of Identification	Listing Status
Ericaceae			
Jun 15, 1935	mission manzanita *Xylococcus bicolor*	Herbarium specimen	
Euphorbiaceae			
Jun 15, 1935	California croton *Croton californicus*	Herbarium specimen	
Apr 16, 2006	creeping spurge *Chamaesyce serpens*	Herbarium specimen	
Jan 04, 2007	petty spurge *Euphorbia peplus*	Herbarium specimen	NN
Fabaceae			
Nov 16, 2007	cyclops acacia *Acacia cyclops*	Herbarium specimen	NN
Jun 15, 1935	Nuttall's lotus *Lotus nuttallianus*	Herbarium specimen	CNPS 1B.1
Jun 15, 1935	deerweed *Lotus scoparius*	Herbarium specimen	
Jun 20, 2005	annual yellow sweetclover *Melilotus indicus*	Herbarium specimen	NN
Jan 01, 2007	spring vetch *Vicia sativa*	Herbarium specimen	NN
Frankeniaceae			
Apr 24, 2007	alkali seaheath *Frankenia salina*	Herbarium specimen	
Gentianaceae			
Jul 1929	charming centaury *Zeltnera venusta*	Herbarium specimen	
Geraniaceae			
Mar 10, 2008	longbeak stork's bill *Erodium botrys*	Herbarium specimen	NN
Heliotropaceae			
Jul 13, 2005	salt heliotrope *Heliotropium curassavicum*	Herbarium specimen	
Hydrophyllaceae			
Apr 1880	San Diego fiestaflower *Pholistoma racemosum*	Herbarium specimen	

APPENDIX D: HISTORICAL BOTANICAL RECORDS OBSERVED IN OBCPA

***Records from San Diego Natural History Museum database**

Collection date	Species	Method of Identification	Listing Status
Iridaceae			
May 13, 2006	blue eyed grass *Sisyrinchium bellum*	Herbarium specimen	
Juncaceae			
Apr 03, 2007	spiny rush *Juncus acutus*	Herbarium specimen	
Jan 01, 2007	toad rush *Juncus bufonius*	Herbarium specimen	
Juncaginaceae			
Mar 18, 2007	seaside arrowgrass *Triglochin maritima*	Herbarium specimen	
Lamiaceae			
Jun 15, 1935	black sage *Salvia mellifera*	Herbarium specimen	
Liliaceae			
Jun 15, 1935	Weed's mariposa lily *Calochortus weedii*	Herbarium specimen	
Malvaceae			
Mar 10, 2008	cheeseweed *Malva parviflora*	Herbarium specimen	NN
Nyctaginaceae			
Jun 15, 1935	pink sand verbena *Abronia umbellata*	Herbarium specimen	
Oleaceae			
Feb 23, 1967	*Phillyrea angustifolia*	Herbarium specimen	
Onagraceae			
Jul 05, 2006	California sun cup *Camissonia bistorta*	Herbarium specimen	
Jun 20, 2005	fringed willowherb *Epilobium ciliatum*	Herbarium specimen	
Jun 27, 2005	Hooker's evening primrose *Oenothera elata*	Herbarium specimen	
Jul 05, 2006	Mexican evening primrose *Oenothera speciosa*	Herbarium specimen	NN

APPENDIX D: HISTORICAL BOTANICAL RECORDS OBSERVED IN OBCPA

***Records from San Diego Natural History Museum database**

Collection date	Species	Method of Identification	Listing Status
Orobanchaceae			
Jun 15, 1935	wooly Indian paintbrush *Castilleja foliolosa*	Herbarium specimen	
Jun 15, 1935	rigid bird's beak *Cordylanthus rigidus*	Herbarium specimen	
Oxalidaceae			
Mar 10, 2008	Bermuda buttercup *Oxalis pes-caprae*	Herbarium specimen	Cal-IPC moderate
Papaveraceae			
Jun 27, 2005	California poppy *Eschscholzia californica*	Herbarium specimen	
Feb 1911	wind poppy *Stylomecon heterophylla*	Herbarium specimen	
Plantaginaceae			
1928	Nuttall's snapdragon *Antirrhinum nuttallianum*	Herbarium specimen	
Jun 27, 2005	sharpleaf cancerwort *Kickxia elatine*	Herbarium specimen	NN
Plumbaginaceae			
Jul 08, 2006	California sealavender *Limonium californicum*	Herbarium specimen	
Poaceae			
Apr 11, 2007	Water beard grass *Agrostis viridis*	Herbarium specimen	NN
Apr 11, 2007	rescuegrass *Bromus catharticus*	Herbarium specimen	NN
Jun 20, 2005	ripgut brome *Bromus diandrus*	Herbarium specimen	Cal-IPC moderate
Jun 27, 2005	Bermuda grass *Cynodon dactylon*	Herbarium specimen	Cal-IPC moderate
May 12, 2007	salt grass *Distichlis spicata*	Herbarium specimen	
Apr 11, 2007	upright veldt grass *Ehrharta erecta*	Herbarium specimen	Cal-IPC moderate
Jan 14, 2006	foxtail barley *Hordeum murinum*	Herbarium specimen	Cal-IPC moderate

APPENDIX D: HISTORICAL BOTANICAL RECORDS OBSERVED IN OBCPA

***Records from San Diego Natural History Museum database**

Collection date	Species	Method of Identification	Listing Status
Jul 02, 2007	shore grass *Monanthochloe littoralis*	Herbarium specimen	
May 13, 2006	sickle grass *Parapholis incurva*	Herbarium specimen	NN
Apr 11, 2007	smilo grass *Piptatherum miliaceum*	Herbarium specimen	Cal-IPC limited
Mar 29, 2007	ditch beard grass *Polypogon interruptus*	Herbarium specimen	NN
Jun 27, 2005	annual beard grass *Polypogon monspeliensis*	Herbarium specimen	Cal-IPC limited
Jun 20, 2005	marsh bristlegrass *Setaria parviflora*	Herbarium specimen	
Jul 08, 2006	yellow bristlegrass *Setaria pumila*	Herbarium specimen	NN
Jul 09, 2007	California cordgrass *Spartina foliosa*	Herbarium specimen	
Polemoniaceae			
Jun 15, 1935	hooked pincushionplant *Navarretia hamata*	Herbarium specimen	
Polygonaceae			
Jun 15, 1935	fringed spineflower *Chorizanthe fimbriata*	Herbarium specimen	
Oct 24, 2005	California buckwheat *Eriogonum fasciculatum*	Herbarium specimen	
Jun 1927	sea cliff buckwheat *Eriogonum parvifolium*	Herbarium specimen	
Jun 20, 2005	*Polygonum arenastrum*	Herbarium specimen	NN
Jun 27, 2005	curly dock *Rumex crispus*	Herbarium specimen	Cal-IPC limited
Primulaceae			
Jun 20, 2005	scarlet pimpernel *Anagallis arvensis*	Herbarium specimen	NN
Ranunculaceae			
Mar 15, 1897	few flowered clematis *Clematis pauciflora*	Herbarium specimen	

APPENDIX D: HISTORICAL BOTANICAL RECORDS OBSERVED IN OBCPA

***Records from San Diego Natural History Museum database**

Collection date	Species	Method of Identification	Listing Status
Rosaceae			
Jun 15, 1935	chamise *Adenostoma fasciculatum*	Herbarium specimen	
Apr 24, 2006	California blackberry *Rubus ursinus*	Herbarium specimen	
Rubiaceae			
March 1930	rough bedstraw *Galium tricornutum*	Herbarium specimen	
Salicaceae			
Mar 11, 2006	Goodding's willow *Salix gooddingii*	Herbarium specimen	
Mar 11, 2006	arroyo willow *Salix lasiolepis*	Herbarium specimen	
Saururaceae			
Jul 08, 2006	yerba mansa *Anemopsis californica*	Herbarium specimen	
Scrophulariaceae			
Nov 16, 2007	lollypop tree *Myoporum laetum*	Herbarium specimen	Cal-IPC moderate
Solanaceae			
Jun 22, 1936	wild petunia *Calibrachoa parviflora*	Herbarium specimen	
Tropaeolaceae			
Jun 27, 2005	garden nasturtium *Tropaeolum majus*	Herbarium specimen	NN
Typhaceae			
Jun 27, 2005	southern cattail *Typha domingensis*	Herbarium specimen	
Urticaceae			
Jul 05, 2006	dwarf nettle *Urtica urens*	Herbarium specimen	NN

NN Non-Native

Cal-IPC Listed by the California Invasive Plant Council as an invasive non-native plant that threatens wildlands; impact ranked as **limited**, **moderate**, or **high**

Noxious Weed Listed by the USDA as a noxious weed
CNPS Listed by the California Native Plant Society as a rare or endangered plant (also called the

California Rare Plant Rank
MSCP covered Species covered by San Diego's Multiple Species Conservation Program

Note: none of the plants shown here are listed as threatened or endangered at the state or federal levels

APPENDIX E – FLORA OBSERVED

APPENDIX E: FLORA OBSERVED

Scientific names assigned according to the Jepson Manual 1993

Scientific name	Common Name	Habitats	Longittude/Latitude
Abronia maritima	red sand verbena	6	
Agave shawii +	Shaw's agave	3	32.752429 117.228269 32.752429 117.228647
Ambrosia chamissonis	beach-bur	6	
Artemisia californica	California sagebrush	2, 3	
Artemisia douglasiana	mugwort	3	
*Atriplex semibaccata**	Australian saltbush	6	
Atriplex spp.	saltbush	3, 4, 6	
Baccharis pilularis	coyote bush	3	
Baccharis salicifolia	mulefat	2, 3, 4	
Batis maritima	saltwort	1, 2	
Bergerocactus emoryi +	golden club	3	32.752351 117.228864
*Bromus diandrus**	ripgut	2, 3, 4	
*Bromus madritensis**	foxtail chess	2, 3, 4	
Cakile maritima	sea rocket	6	
Camissonia cheiranthifolia ssp. suffruticosa	beach evening primrose	6	
*Carpobrotus edulis**	iceplant	2	
*Chenopodium murale**	nettle-leaf goosefoot	6	
*Chrysanthemum coronarium**	crown daisy	6	
Conyza canadensis	horseweed	2	
Cordylanthus maritimum ssp. maritimum	salt-marsh bird beak	1	32.755274 117.248772
Cuscuta salina	dodder	1	
*Cynodon dactylon**	Bermuda grass	2, 3, 4	
*Dimorphotheca sinuata**	cape marigold	1	
Distichlis spicata	saltgrass	1, 2, 3, 4, 6	
Dudleya edulis	ladyfingers	3	
Encelia californica	California brittlebush	2, 3	
Epilobium canum	California fuchsia	3	
Eriogonum fasciculatum	California buckwheat	2, 3	
Eriogonum parvifolium	seacliff buckwheat	2, 3	
*Erodium cicutarium**	red-stem filaree	1, 2, 3, 4	
Frankenia salina	alkali heath	1	
Fremontodendron californicum	flannel bush	3	
Heteromeles arbutifolia	toyon	3	

APPENDIX E: FLORA OBSERVED

Scientific names assigned according to the Jepson Manual 1993

Scientific name	Common Name	Habitats	Longittude/Latitude
Heterotheca grandiflora	telegraph weed	2, 6	
Isocoma menziesii	coastal goldenbush	2, 3	
Isomeris arborea	bladderpod	3	
Juncus spp.	rush	1	
Limonium californicum	California sea lavender	2, 6	
*Lolium multiflorum**	Italian rye grass	2, 3	
Lycium californicum+	California boxthorn	3	
*Malva parviflora**	cheese weed	1, 2, 3, 4, 6	
Marah macrocarpa	wild cucumber	3	
Monanthochloe littoralis	shoregrass	1	
Opuntia spp.	prickly pear	3	
*Oxalis per-caprae**	Bermuda buttercup	2, 3	
Platanus racemosa	Western sycamore	3	
Quercus agrifolia	coast live oak	3, 4	
*Raphanus sativus**	wild radish	2, 3, 6	
Rhus integrifolia	lemonade berry	3	
Rubus ursinus	California blackberry	4	
Salicornia virginica	pickleweed	1, 2, 7	
Salix lasiolepis	arroyo willow	4	
*Salsola tragus**	Russian thistle	1, 2, 3, 4, 6	
Sambucus mexicana	Mexican elderberry	3	
Scirpus spp.	bulrush	1	
*Sonchus spp. **	sowthistle	2, 3	
Spartina foliosa	California cordgrass	5, 7	
*Stipa miliacea var. miliacea**	smilo grass	6	
Suaeda taxifolia	seablite	1, 3	
Typha latifolia	common cattail	5	
Viguiera laciniata	San Diego sunflower	3	
Yucca schidigera	Mojave yucca	3	

Note: Numbers in habitat column correspond with habitat types as follows: (1) Southern Coastal Marsh, (2) Disturbed, (3) Coastal Sage Scrub, (4) Southern Willow Scrub, (5) Freshwater Emergent Marsh, (6) Sand Dunes, (7) Mudflats with pickleweed and spartina.
The symbol (*) indicates a non-native species

APPENDIX E: FLORA OBSERVED

Scientific names assigned according to the Jepson Manual 1993

Scientific name	Common Name	Habitats	Longittude/Latitude
The symbol (+) indicates a planted sensitive species, not all planted species are marked Species in **bold** are sensitive species. GPS points are shown for sensitive points. Points represent individual plant species with the exception of *Chloropyron maritimum* ssp. *maritimum* which is a population with 5ft radius around the point.			

APPENDIX F – FAUNA OBSERVED

APPENDIX F: FAUNA OBSERVED

Site	Species	Method of Identification	Listing Status
Famosa Wildlife Preserve			
	rock pigeon *Columba livia*	Recorded by Friends of the Famosa Slough	
	mourning dove *Zenaida macroura*	Recorded by Friends of the Famosa Slough	
	white-winged dove *Zenaida asiatica*	Recorded by Friends of the Famosa Slough	
	Vaux's swift *Aeronautes saxatalis*	Recorded by Friends of the Famosa Slough	SSC
	white-throated swift *Aeronautes saxatalis*	Recorded by Friends of the Famosa Slough	
	black-chinned hummingbird *Archilochus alexandri*	Recorded by Friends of the Famosa Slough	
	Anna's hummingbird *Calypte anna*	Recorded by Friends of the Famosa Slough	
	Rufous hummingbird *Selasphorus rufus*	Recorded by Friends of the Famosa Slough	
	Allen's hummingbird *Selasphorus sasin*	Recorded by Friends of the Famosa Slough	
	belted kingfisher *Ceryle alcyon*	Recorded by Friends of the Famosa Slough	
	northern flicker *Colaptes auratus*	Recorded by Friends of the Famosa Slough	
	western wood pewee *Contopus sordidulus*	Recorded by Friends of the Famosa Slough	
	Pacific-slope flycatcher *Empidonax difficilis*	Recorded by Friends of the Famosa Slough	
	black phoebe *Sayornis nigricans*	Recorded by Friends of the Famosa Slough	
	Say's phoebe *Sayornis saya*	Recorded by Friends of the Famosa Slough	

APPENDIX F: FAUNA OBSERVED

Site	Species	Method of Identification	Listing Status
	ash-throated flycatcher *Myiarchus cinerascens*	Recorded by Friends of the Famosa Slough	
	tropical kingbird *Tyrannus melancholicus*	Recorded by Friends of the Famosa Slough	
	Cassin's kingbird *Tyrannus vociferans*	Recorded by Friends of the Famosa Slough	
	western kingbird *Tyrannus verticalis*	Recorded by Friends of the Famosa Slough	
	loggerhead shrike *Lanius ludovicianus*	Recorded by Friends of the Famosa Slough	SSC
	Bell's vireo *Vireo bellii*	Recorded by Friends of the Famosa Slough	IUCN Near Threatened
	plumbeous vireo *Vireo plumbeus*	Recorded by Friends of the Famosa Slough	
	Hutton's vireo *Vireo huttoni*	Recorded by Friends of the Famosa Slough	
	Cassin's vireo *Vireo cassinii*	Recorded by Friends of the Famosa Slough	
	warbling vireo *Vireo gilvus*	Recorded by Friends of the Famosa Slough	
	western scrub jay *Aphelocoma californica*	Recorded by Friends of the Famosa Slough	
	American crow *Corvus brachyrhynchos*	Recorded by Friends of the Famosa Slough	
	common raven *Corvus corax*	Recorded by Friends of the Famosa Slough	
	horned lark *Eremophila alpestris*	Recorded by Friends of the Famosa Slough	
	tree swallow *Tachycineta bicolor*	Recorded by Friends of the Famosa Slough	

APPENDIX F: FAUNA OBSERVED

Site	Species	Method of Identification	Listing Status
	violet-green swallow *Tachycineta thalassina*	Recorded by Friends of the Famosa Slough	
	northern rough-winged swallow *Stelgidopteryx serripennis*	Recorded by Friends of the Famosa Slough	
	cliff swallow *Petrochelidon pyrrhonota*	Recorded by Friends of the Famosa Slough	
	barn swallow *Hirundo rustica*	Recorded by Friends of the Famosa Slough	
	bushtit *Psaltriparus minimus*	Recorded by Friends of the Famosa Slough	
	Bewick's wren *Thryomanes bewickii*	Recorded by Friends of the Famosa Slough	
	house wren *Troglodytes aedon*	Recorded by Friends of the Famosa Slough	
	marsh wren *Cistothorus palustris*	Recorded by Friends of the Famosa Slough	
	ruby-crowned kinglet *Regulus calendula*	Recorded by Friends of the Famosa Slough	
	hermit thrush *Catharus guttatus*	Recorded by Friends of the Famosa Slough	
	American robin *Turdus migratorius*	Recorded by Friends of the Famosa Slough	
	northern mockingbird *Mimus polyglottos*	Recorded by Friends of the Famosa Slough	
	European starling *Sturnus vulgaris*	Recorded by Friends of the Famosa Slough	
	American pipit *Anthus rubescens*	Recorded by Friends of the Famosa Slough	
	cedar waxwing *Bombycilla cedrorum*	Recorded by Friends of the Famosa Slough	
	phainopepla *Phainopepla nitens*	Recorded by Friends of the Famosa Slough	

APPENDIX F: FAUNA OBSERVED

Site	Species	Method of Identification	Listing Status
	orange-crowned warbler *Vermivora celata*	Recorded by Friends of the Famosa Slough	
	Nashville warbler *Vermivora ruficapilla*	Recorded by Friends of the Famosa Slough	
	yellow warbler *Dendroica petechia*	Recorded by Friends of the Famosa Slough	SSC
	yellow-rumped warbler *Dendroica coronata*	Recorded by Friends of the Famosa Slough	
	black-throated gray warbler Dendroica *nigrescens*	Recorded by Friends of the Famosa Slough	
	Townsend's warbler *Dendroica townsendi*	Recorded by Friends of the Famosa Slough	
	palm warbler *Dendroica palmarum*	Recorded by Friends of the Famosa Slough	
	summer tanager Piranga *rubra*	Recorded by Friends of the Famosa Slough	
	western tanager *Piranga ludoviciana*	Recorded by Friends of the Famosa Slough	
	California towhee *Pipilo crissalis*	Recorded by Friends of the Famosa Slough	
	Belding's savannah sparrow *Passerculus sandwichensis beldingi*	Recorded by Friends of the Famosa Slough	SE
	golden-crowned sparrow *Zonotrichia atricapilla*	Recorded by Friends of the Famosa Slough	
	fox sparrow *Passerella iliaca*	Recorded by Friends of the Famosa Slough	
	song sparrow *Melospiza melodia*	Recorded by Friends of the Famosa Slough	
	Lincoln's sparrow *Melospiza lincolnii*	Recorded by Friends of the Famosa Slough	

APPENDIX F: FAUNA OBSERVED

Site	Species	Method of Identification	Listing Status
	white-crowned sparrow *Zonotrichia leucophrys*	Recorded by Friends of the Famosa Slough	
	black-headed grosbeak *Pheucticus melanocephalus*	Recorded by Friends of the Famosa Slough	
	blue grosbeak *Passerina caerulea*	Recorded by Friends of the Famosa Slough	
	lazuli bunting *Passerina amoena*	Recorded by Friends of the Famosa Slough	
	dark-eyed junco *Junco hyemalis*	Recorded by Friends of the Famosa Slough	
	western meadowlark *Sturnella neglecta*	Recorded by Friends of the Famosa Slough	
	brown-headed cowbird *Molothrus ater*	Recorded by Friends of the Famosa Slough	
	red-winged blackbird *Agelaius phoeniceus*	Recorded by Friends of the Famosa Slough	
	tri-colored blackbird *Agelaius tricolor*	Recorded by Friends of the Famosa Slough	SSC
	Brewer's blackbird *Euphagus cyanocephalus*	Recorded by Friends of the Famosa Slough	
	hooded oriole *Icterus cucullatus*	Recorded by Friends of the Famosa Slough	
	Bullock's oriole *Icterus bullockii*	Recorded by Friends of the Famosa Slough	
	house finch *Carpodacus mexicanus*	Recorded by Friends of the Famosa Slough	
	pine siskin *Carduelis pinus*	Recorded by Friends of the Famosa Slough	
	lesser goldfinch *Carduelis psaltria*	Recorded by Friends of the Famosa Slough	
	American goldfinch *Carduelis tristis*	Recorded by Friends of the Famosa Slough	

APPENDIX F: FAUNA OBSERVED

Site	Species	Method of Identification	Listing Status
	house sparrow *Carpodacus mexicanus*	Recorded by Friends of the Famosa Slough	
	orange bishop *Euplectes franciscanus*	Recorded by Friends of the Famosa Slough	
	brant *Branta bernicla*	Recorded by Friends of the Famosa Slough	SSC
	gadwall *Anas strepera*	Recorded by Friends of the Famosa Slough	
	Eurasian widgeon *Anas penelope*	Recorded by Friends of the Famosa Slough	
	American widgeon *Anas americana*	Recorded by Friends of the Famosa Slough	
	mallard *Anas platyrhynchos*	Recorded by Friends of the Famosa Slough	
	blue-winged teal *Anas discors*	Recorded by Friends of the Famosa Slough	
	cinnamon teal *Anas cyanoptera*	Recorded by Friends of the Famosa Slough	
	northern shoveler *Anas clypeata*	Recorded by Friends of the Famosa Slough	
	northern pintail *Anas acuta*	Recorded by Friends of the Famosa Slough	
	green-winged teal *Anas crecca*	Recorded by Friends of the Famosa Slough	
	redhead *Aythya americana*	Recorded by Friends of the Famosa Slough	SSC
	ring-necked duck *Aythya collaris*	Recorded by Friends of the Famosa Slough	
	tufted duck *Aythya fuligula*	Recorded by Friends of the Famosa Slough	
	greater scaup *Aythya marila*	Recorded by Friends of the Famosa Slough	

APPENDIX F: FAUNA OBSERVED

Site	Species	Method of Identification	Listing Status
	lesser scaup *Aythya affinis*	Recorded by Friends of the Famosa Slough	
	surf scoter *Melanitta perspicillata*	Recorded by Friends of the Famosa Slough	
	bufflehead *Bucephala albeola*	Recorded by Friends of the Famosa Slough	
	common goldeneye *Bucephala clangula*	Recorded by Friends of the Famosa Slough	
	hooded merganser *Lophodytes cucullatus*	Recorded by Friends of the Famosa Slough	
	red-breasted merganser *Mergus serrator*	Recorded by Friends of the Famosa Slough	
	ruddy duck *Oxyura jamaicensis*	Recorded by Friends of the Famosa Slough	
	red-throated loon *Gavia stellata*	Recorded by Friends of the Famosa Slough	
	common loon *Gavia immer*	Recorded by Friends of the Famosa Slough	
	pied-billed grebe *Podilymbus podiceps*	Recorded by Friends of the Famosa Slough	
	horned grebe *Podiceps auritus*	Recorded by Friends of the Famosa Slough	
	eared grebe *Podiceps nigricollis*	Recorded by Friends of the Famosa Slough	
	western grebe *Aechmophorus occidentalis*	Recorded by Friends of the Famosa Slough	
	Clark's grebe *Aechmophorus clarkii*	Recorded by Friends of the Famosa Slough	
	American white pelican *Pelecanus erythrorhynchos*	Recorded by Friends of the Famosa Slough	SSC
	brown pelican *Pelecanus occidentalis*	Recorded by Friends of the Famosa Slough	

APPENDIX F: FAUNA OBSERVED

Site	Species	Method of Identification	Listing Status
	double-crested cormorant *Phalacrocorax auritus*	Recorded by Friends of the Famosa Slough	
	American bittern *Botaurus lentiginosus*	Recorded by Friends of the Famosa Slough	
	least bittern *Ixobrychus exilis*	Recorded by Friends of the Famosa Slough	SSC
	great blue heron *Ardea herodias*	Recorded by Friends of the Famosa Slough	
	great egret *Aredea alba*	Recorded by Friends of the Famosa Slough	
	snowy egret *Egretta thula*	Recorded by Friends of the Famosa Slough	
	little blue heron *Egretta caerulea*	Recorded by Friends of the Famosa Slough	
	tricolored heron *Egretta tricolor*	Recorded by Friends of the Famosa Slough	
	reddish egret *Egretta rufescens*	Recorded by Friends of the Famosa Slough	
	cattle egret *Bubulcus ibis*	Recorded by Friends of the Famosa Slough	
	green heron *Butorides virescens*	Recorded by Friends of the Famosa Slough	
	black-crowned night-heron *Nycticorax nycticorax*	Recorded by Friends of the Famosa Slough	
	yellow-crowned night-heron *Nyctanassa violacea*	Recorded by Friends of the Famosa Slough	
	white-faced ibis *Plegadis chihi*	Recorded by Friends of the Famosa Slough	
	osprey *Pandion haliaetus*	Recorded by Friends of the Famosa Slough and by direct observation during field survey	

APPENDIX F: FAUNA OBSERVED

Site	Species	Method of Identification	Listing Status
	white-tailed kite *Elanus leucurus*	Recorded by Friends of the Famosa Slough	
	northern harrier *Circus cyaneus*	Recorded by Friends of the Famosa Slough	SSC
	sharp-shinned hawk *Accipiter striatus*	Recorded by Friends of the Famosa Slough	
	Cooper's hawk *Accipiter cooperii*	Recorded by Friends of the Famosa Slough	
	red-shouldered hawk *Buteo lineatus*	Recorded by Friends of the Famosa Slough and by direct observation during field survey	
	red-tailed hawk *Buteo jamaicensis*	Recorded by Friends of the Famosa Slough And during field survey	
	American kestrel *Falco sparverius*	Recorded by Friends of the Famosa Slough and during field survey	
	merlin *Falco columarius*	Recorded by Friends of the Famosa Slough	
	peregrine falcon *Falco peregrinus*	Recorded by Friends of the Famosa Slough	delisted
	prairie falcon *Falco mexicanus*	Recorded by Friends of the Famosa Slough	
	light-footed clapper rail *Rallus longirostris levipes*	Recorded by Friends of the Famosa Slough	SE, FE
	Virginia rail *Rallus limicola*	Recorded by Friends of the Famosa Slough and during field survey	
	sora *Porzana carolina*	Recorded by Friends of the Famosa Slough and during field survey	
	American coot *Fulica americana*	Recorded by Friends of the Famosa Slough	
	black-bellied plover *Pluvialis squatarola*	Recorded by Friends of the Famosa Slough	

APPENDIX F: FAUNA OBSERVED

Site	Species	Method of Identification	Listing Status
	snowy plover *Charadrius alexandrinus*	Recorded by Friends of the Famosa Slough	FT
	semipalmated plover *Charadrius semipalmatus*	Recorded by Friends of the Famosa Slough	
	killdeer *Charadrius vociferus*	Recorded by Friends of the Famosa Slough and during field survey	
	black-necked stilt *Himantopus mexicanus*	Recorded by Friends of the Famosa Slough and during field survey	
	American avocet *Recurvirostra americana*	Recorded by Friends of the Famosa Slough and during field survey	
	spotted sandpiper *Actitis macularia*	Recorded by Friends of the Famosa Slough	
	solitary sandpiper *Tringa solitaria*	Recorded by Friends of the Famosa Slough	
	greater yellowlegs *Tringa melanoleuca*	Recorded by Friends of the Famosa Slough and during field survey	
	willet *Catoptrophorus semipalmatus*	Recorded by Friends of the Famosa Slough	
	lesser yellowlegs *Tringa flavipes*	Recorded by Friends of the Famosa Slough and during field survey	
	whimbrel *Numenius phaeopus*	Recorded by Friends of the Famosa Slough	
	long-billed curlew *Numenius americanus*	Recorded by Friends of the Famosa Slough	
	marbled godwit *Limosa fedoa*	Recorded by Friends of the Famosa Slough	
	Bar-tailed Godwit *Limosa lapponica*	Recorded by Friends of the Famosa Slough	
	ruddy turnstone *Arenaria interpres*	Recorded by Friends of the Famosa Slough	

APPENDIX F: FAUNA OBSERVED

Site	Species	Method of Identification	Listing Status
	black turnstone *Arenaria melanocephala*	Recorded by Friends of the Famosa Slough	
	red knot *Calidris canutus*	Recorded by Friends of the Famosa Slough	
	sanderling *Calidris alba*	Recorded by Friends of the Famosa Slough	
	western sandpiper *Calidris mauri*	Recorded by Friends of the Famosa Slough and during field survey	
	least sandpiper *Calidris minutilla*	Recorded by Friends of the Famosa Slough	
	Baird's sandpiper *Calidris bairdii*	Recorded by Friends of the Famosa Slough	
	pectoral sandpiper *Calidris melanotos*	Recorded by Friends of the Famosa Slough	
	dunlin *Calidris alpina*	Recorded by Friends of the Famosa Slough	
	stilt sandpiper *Calidris himantopus*	Recorded by Friends of the Famosa Slough	
	short-billed dowitcher *Limnodromus griseus*	Recorded by Friends of the Famosa Slough	
	long-billed dowitcher *Limnodromus scolopaceus*	Recorded by Friends of the Famosa Slough	
	Wilson's snipe *Gallinago delicata*	Recorded by Friends of the Famosa Slough	
	Wilson's phalarope *Phalaropus tricolor*	Recorded by Friends of the Famosa Slough	
	red-necked phalarope, *Phalaropus lobatus*	Recorded by Friends of the Famosa Slough	
	Bonaparte's gull *Larus philadelphia*	Recorded by Friends of the Famosa Slough	
	mew gull *Larus canus*	Recorded by Friends of the Famosa Slough	

APPENDIX F: FAUNA OBSERVED

Site	Species	Method of Identification	Listing Status
	Herrmann's gull *Larus heermanni*	Recorded by Friends of the Famosa Slough	
	ring-billed gull *Larus delawarensis*	Recorded by Friends of the Famosa Slough	
	western gull *Larus occidentalis*	Recorded by Friends of the Famosa Slough	
	California gull *Larus californicus*	Recorded by Friends of the Famosa Slough	
	herring gull *Larus argentatus*	Recorded by Friends of the Famosa Slough	
	Thayer's gull *Larus thayeri*	Recorded by Friends of the Famosa Slough	
	glaucous-winged gull *Larus glaucescens*	Recorded by Friends of the Famosa Slough	
	black tern *Chlidonias niger*	Recorded by Friends of the Famosa Slough and during field survey	SSC
	common tern *Sterna hirundo*	Recorded by Friends of the Famosa Slough	
	Foster's tern *Sterna forsteri*	Recorded by Friends of the Famosa Slough and by direct observation during field survey	
	royal tern *Sterna maxima*	Recorded by Friends of the Famosa Slough	
	elegant tern *Sterna elegans*	Recorded by Friends of the Famosa Slough	IUCN Near Threatened
	California least tern *Sterna antillarium browni*	Recorded by Friends of the Famosa Slough	FE, SE
	Caspian tern *Sterna caspia*	Recorded by Friends of the Famosa Slough	
	black skimmer *Rynchops niger*	Recorded by Friends of the Famosa Slough	SSC

APPENDIX F: FAUNA OBSERVED

Site	Species	Method of Identification	Listing Status
	parasitic jaeger *Stercorarius parasiticus*	Recorded by Friends of the Famosa Slough	
San Diego River Channel			
	merlin *Falco columarius*	Direct Observation	IUCN
	osprey *Pandion haliaetus*	Direct Observation	SSC Nesting
	red tailed hawk	Direct Observation	
	song sparrows	Direct Observation	
	American coot	Direct Observation	
Beaches and Fore dunes			
	horned lark	Direct Observation	
	western gull	Direct Observation	
	killdeer	Direct Observation	
	black necked stilt	Direct Observation	
	snowy egret	Direct Observation	
	double-crested cormorant	Direct Observation	
	dowitcher	Direct Observation	
	American avocet	Direct Observation	
Tidepool			
	western gull *Larus occidentalis*	Direct Observation	
	Crabs spp.	Historical Record	

APPENDIX G – DOCUMENT PREPARERS AND SURVEYORS RESUMES

KIMBERLY HOYT
Associate Biologist

HIGHLIGHTS

Education

M.S. Biology, University of California, San Diego; 2009.

B.S. Biochemistry and Cell Biology, University of California, San Diego; 2007.

Study Abroad, Marine Biology and Terrestrial Ecology, University of Queensland,

Australia; 2006.

KEY STRENGTHS:
San Diego flora; biological monitoring; strong communication skills.

Training

- **DT:** Desert Tortoise Monitoring. (workshop/training) Bullets

Permits and Specialties:
FTHL: Flat Tail Horned Lizard Permitted.

QBC: Quino Checkerspotted Butterfly (passed exam need 40 hours observation).

Professional Experience

A biologist experienced with conducting biological surveys, habitat assessments, and focused surveys for federal- and state-listed species and California special concern species. Experience evaluating environmental factors affecting wetland ecosystems on an ecotoxicological, molecular biological, and biochemical level in field and laboratory. Working knowledge in central and southern California biota and have conducted focused surveys for sensitive plant species in San Diego County. Have performed biological and construction monitoring for sensitive species.

Project Experience

Project: 20112 SDG&E Wood to Steel Pole Replacement: Associate Biologist/ Biological monitor. The project involves the complete replacement of wood poles on specific transmission power tie-lines with new directly embedded tubular steel poles. This will reduce the possibility of power lines becoming disabled in the event of a fire, thereby increasing the safety and reliability of SDG&E's network of electrical transmission lines in San Diego County. Chambers Group and I are providing post-activity survey reports, verification survey reports, post-construction survey reports, and biological constuction monitoring during the course of this project.

Project: 20239 Sunrise Powerlink Biological monitor. The Sunrise Powerlink proposed action is the issuance of a right-of-way (ROW) permit by the Bureau of Land Management (BLM) and a Special Use Authorization by the United States Forest Service (USFS) to San Diego Gas & Electric (SDG&E) to facilitate the construction and Operations and Maintenance (O&M) of the Project through Federal lands in accordance with the Federal Land Policy Management Act of 1976 (43 U.S.C. 1761). The Project includes the proposed transmission line ROW, the ESSR, and related facilities, as identified in the Final Environmental Impact Report/Environmental Impact Statement (EIR/EIS) for the project prepared by the California Public Utilities Commission (CPUC), as the lead State agency under California Environmental Quality Act (CEQA), and the BLM as the lead Federal agency under National Environmental Policy Act (NEPA), and issued in October 2008. Chambers Group is providing ongoing biological monitoring support for all field activities. I am currently serving as a biological monitor on the Project for a number of surveying firms, including Finley Engineering, Nolte Engineering, Project Design Consultants, Par, and others. I ensure that sensitive biological resources remain non-impacted by project activities.

Project: 20262 San Francisquito Bridge #519 Replacement Associate Biologist. I conducted preliminary habitat assessment, vegetation mapping, and Jurisdictional Delineation on two bridge sites in the Angeles NF.

Project: Kimball Substation Construction Monitoring Associate Biologist / Biological monitor. Chambers Group provided biological resources services in support of Southern California Edison's permit application to the USFS for existing and proposed utility Right-of-Ways (ROW) within the Chino Hills in eastern Los Angeles County. I ensured that sensitive biological resources remain non-impacted by project activities.

Project: Environmental Services for the Digital 395 Broadband Project, Southern California and Nevada – California Broadband Cooperative (CBC) Associate Biologist. Chambers Group is preparing the Joint NEPA/CEQA document for the approximate 583-mile broadband project as part of the Broadband Technology Opportunities Program (BTOP) funded by the American Recover and Reinvest
ment Act (ARRA). The lead Federal agency is the Department of Commerce National Telecommunication and Information Administration and the State lead agency is the California Public Utilities Commission. The project extends from Barstow, CA to Reno, NV and traverses San Bernardino, Kern, Inyo, and Mono Counties in California and Douglas, Carson City, and Washoe Counties in Nevada. In addition to the joint environmental document, Chambers Group conducted biological and cultural surveys of the route, prepared an air quality analysis, a hazardous site analysis, conducted Section 7 and Section 106 consultations, and consulted with various Federal and State agencies, including the BLM, USFS (Inyo and Humboldt Toiyabe NF), CSLC, CDFG, as well as Native American tribes. I conducted focused plant surveys for sensitive species and determined Jurisdictional Delineation.

Project: Kendall Frost Reserve/Northern Wildlife Preserve Sea Level Rise Planning Document. Marine Biologist. Scripps Institution of Oceanography (SIO) provided a document that examined the phenomenon of sea level rise, and its possible consequences for a southern California wetland, the UCSD Kendall-Frost Mission Bay Marsh Reserve and Northern Wildlife Preserve (KFR). Sea level is expected to rise by 50 to 140 cm by 2100. SIO conducted several days of field measurements, GIS mapping, literature reviews, and scenario assessments. The document first introduces sea level rise scenarios for southern California, relevant climate patterns, and KFR resources. It then provides detailed consideration of the hydrology, sediments, vegetation, and fauna of the KFR and their likely responses to sea level rise. I collected field measurements on the flora density, cover, canopy structure, substrate, and site characteristics. I used this information to provide GIS mapping of vegetation zones.

Project: Levels of Metals from Salt Marsh Plants from Southern California, USA. Biologist. Scripps Institution of Oceanography at the University of California, San Diego, permitted by USFWS and California State Parks Environmental Services, launched a multifaceted scientific study on the bioavailability and bioaccumulation of metals in four San Diego County salt marshes; Kendal-Frost Reserve, Los Peñasquitos Lagoon, San Diego Bay's Sweetwater Marsh National Wildlife Refuge, and Tijuana Estuary. This multi-year project supported a study of the vegetative habitat and the watersheds that impacted the immediate vicinity of study sites. The project required extensive knowledge of San Diego flora and accurate data collecting techniques. I, as the principle biologist, collected data on plant species diversity, cover, canopy structure, substrate, and site characteristics using point-intercept and quadrat sampling.

Project: Scripps Oceanography Project to Study Sediments and Ecosystem Restoration in Venice Lagoon. Associate Biologist. Scripps Institution of Oceanography at the University of California, San Diego, in conjunction with Italy's Venice Water Authority, Consorzio Venezia Nuova and Thetis SPA, launched a multifaceted scientific program aimed at providing fundamental information about the effects of sediment translocation in Venice lagoon, a vital facet of the historic city of Venice, Italy. A team of scientists with SIOSED (Scripps Institution of Oceanography SEDiment research group) will dissect and analyze key elements of Venice lagoon's sediment through a program integrating geochemical, physical, microbial, toxicological and ecological science. This multidisciplinary approach, the project's leaders say, will provide valuable data about the lagoon and the dynamics involved in sediment movement. I conducted analysis of sediment samples for pathogens.

REU Research Experience for Undergraduate (laboratory of Roland Lamberson) 2005
Humboldt State University, Arcata

Linux mathematical computation - Water Diversions: Computer simulation of naturally occurring environmental factors to determine how entrainment affects the long-term fish population.

Volunteer: Kendall Frost Reserve. Salt marsh Preserve in Mission Bay removing mangrove..

Leadership

President – City College Students for Diversity in Science
Student Representative – SEEDS, Strategy for Ecological Education Development and Sustainability.

Publications: Hoyt, Kimberly; Deheyn D. Dimitri. (thesis). **"Bioavailability of metals to common plants from salt marshes in Southern California".**

Chuck Briscoe, Matthias Cape, Ben Grupe, Aaron Hartman, Kimberly Hoyt, Chris Knight, Elizabeth Latham, Mike Navarro, Kim Roeland, Cali Turner, Nellie Warner, Eric Wilkins. (2009). **"Kendall Frost Reserve/Northern Wildlife Preserve Sea Level Rise Planning Document".**

Member

ESA (Ecological Society of America)
AWIS (Association for Women in Science)
SEEDS (Strategies for Ecology Education, Development and Sustainability

JOHN KANLUND
Associate Biologist

HIGHLIGHTS

Education
- B.E.S. Bachelor of Environmental Studies, University of Nevada
- Urban Regional Planning Minor, California Polytechnic University

Registrations/Certifications
- Materials Chemistry
- BLM Flat-tailed Horned Lizard authorization to take, possess and transport, 2011
- CDFG Rare Plant Collecting Permit

Workshops/Trainings
- Vernal Pool indicator species and Invertebrates
- Raptors of San Diego

Professional Experience

Mr. Kanlund has over five years of experience in biological and hydrological monitoring and more than one year of experience as a regional Urban Planner. His areas of expertise include avian monitoring, bat monitoring, biological assessments, the Clean Water Act, desert tortoise monitoring, habitat restoration monitoring, fish and amphibian monitoring, forest and rural township preservation planning, water quality monitoring using remote sensor technology, wetland restoration and well water quality sampling. From 2005 to 2008 he worked in a management capacity for U.S. Bureau of Reclamation, Clark County (Nevada) Government and Clatsop County Land Use Planning. Mr. Kanlund has worked for a number of years in southern California providing environmental surveys for local agencies. Within San Diego County, Mr. Kanlund has provided biological services for a variety of private and public companies and utilities.

Project Experience

DEFENSE

Broad Beach Biological Monitoring, Malibu. Biological Monitor. Mr. Kanlund provided onsite biological monitoring of California grunion during the predicted grunion runs identified by CDFG. All grunion and spawning events observed were recorded and mapped. An email summary of monitoring results was provided immediately after each event and prior to commencement of construction activities.

Camp Pendleton Area 26 Well Installation Project. Biological Monitor. Construction of three wells and associated structures took place in an area with suitable habitat for three endangered species: arroyo toad, least Bell's vireo, and southwestern willow flycatcher. Mr. Kanlund conducted biological monitoring, wildlife relocation, environmental training, and assisted with arroyo toad surveys.

Camp Pendleton Area 52 Well Installation Project. Biological Monitor. Construction of a well and associated structures took place in an area with suitable habitat for three endangered species: arroyo toad, least Bell's vireo, and southwestern willow flycatcher. Mr. Kanlund conducted biological monitoring, wildlife relocation, environmental training, and assisted with arroyo toad surveys.

ENERGY

Cleveland National Forest Master Use Permit. Associate Biologist. Mr. Kanlund identified sensitive flora of San Diego County. The project consisted of botanists recording rare and sensitive species in the existing ROW of tie-lines and circuits for SDG&E.

Sunrise Powerlink. Biological Monitor/Surveyor. Mr. Kanlund supported the engineering and construction management team. He was responsible for preconstruction and construction field surveys, contractor coordination, and construction monitoring and reporting. The proposed action is the issuance of a ROW permit by the BLM and a Special Use Authorization by the USFS to SDG&E to facilitate the construction and O&M of the Project through federal lands in accordance with the Federal Land Policy Management Act of 1976 (43 U.S.C. 1761). CPUC is the lead State agency under CEQA, and the BLM as the lead Federal agency under NEPA. The entire project will traverse approximately 120 miles between the El Centro area of Imperial County

and southwestern San Diego County, in southern California. The proposed ROW for the project crosses federal lands (BLM, USFS, and Department of Defense) for about 77 miles of its length.

Silverado Solar Project. Associate Biologist. Mr. Kanlund performed rare plant field assessments and surveys for solar sites.

SDG&E Wood to Steel Pole Replacement. Associate Biologist/Project Manager. Mr. Kanlund was responsible for project coordination, reporting, agency meetings, project management, biological monitoring and reporting and contractor training. The project involves both the complete replacement of wood poles on specific transmission power tie-lines with new directly embedded tubular steel poles and relocating the existing lines to lessen the impact on the Cleveland National Forest.

Wood to Steel Pole Replacement TL 6914. Associate Biologist/Field Manager. Mr. Kanlund provided daily biological monitoring, scheduling, weekly reporting, site assessments, breeding bird surveys, wildlife relocation, post-construction surveys, environmental trainings, and data management.

TieLine 6952 Reconductor. Associate Biologist/Field Manager. Mr. Kanlund provided daily biological monitoring, weekly reporting, site assessments, breeding bird surveys, wildlife relocation, environmental trainings, post-construction surveys, and data management.

Wood to Steel Pole Replacement TL 685. Associate Biologist/Field Manager/Project Manager. Mr. Kanlund provided daily biological monitoring, weekly reporting, site assessments, breeding bird surveys, wildlife relocation, environmental trainings, preconstruction verification surveys, post construction surveys, management meetings, invoicing, scheduling, and data management.

Wood to Steel Pole Replacement TL 649. Associate Biologist/Project Manager. Mr. Kanlund performed site assessments, vernal pool survey, water constraints surveys, and biological literature reviews.

PUBLIC WORKS

Ocean Beach Community Plan Update. Associate Biologist. Mr. Kanlund provided a biological literature review, document preparation, and completed the biological technical report for the EIR.

Beacon/Devore Repair Project-Permitting. Associate Biologist. Mr. Kanlund's responsibilities included the biological assessment, jurisdictional delineation, habitat evaluation, and vegetation mapping of the site and subsequent report. This project involved the replacement of existing fiber-optic cable in undeveloped or rural area of San Bernardino County.

WATER RESOURCES

San Dieguito Wetlands Restoration. Associate Biologist. Mr. Kanlund conducted grunion surveys for the San Dieguito Lagoon Project Site. Thousands of grunion, during hundreds of spawning events, were identified and their GPS locations recorded and mapped.

Santa Cruz Water Department Beltz Well #12. Environmental Planning, Associate Biologist. Mr. Kanlund conducted a background literature review and biological assessment for a City and County of Santa Cruz well replacement project.

San Gabriel Canyon Sediment Management Plan. Biological Surveyor. Mr. Kanlund assisted the survey crew for Santa Ana sucker fish under permitted biologists. Fish were surveyed using an electrofisher, seine nets, and dip nets. The fish were identified, measured, counted, and released back into the river at the completion of the survey. Activities were in support of the 2006 sediment removal activities at the San Gabriel Reservoir in Los Angeles County for LACDPW.

Fremont Valley System Well. Environmental Planning, Associate Biologist. Mr. Kanlund conducted a background literature review and biological assessment of a Sam Bernardino County well replacement project. He compiled desert tortoise and burrowing survey methods for planning staff.

Southern Nevada Water Authority, Las Vegas Wash Coordination Committee. Biological Surveyor. Mr. Kanlund's responsibilities included conducting environmental monitoring programs, conducting water quality analysis, and designing drought-tolerant landscapes for educational outreach. He also conducted biological surveys, botanical surveys, and fish and amphibian monitoring surveys and monitoring programs.

Wetlands Restoration Project, Clark County, NV. Biological Surveyor/Biological Lead. Mr. Kanlund's responsibilities included mosquito larval monitoring, tamarisk removal programs, educational outreach programs, and amphibian monitoring programs.

Bostick Weir Wetlands Restoration Project, Clark County, NV. Biological Surveyor/Biological Lead/Landscape Restoration Project Manager. Mr. Kanlund designed a drought-tolerant native vegetation demonstration garden. He provided on site management including managing project budgets, collecting native seeds for use in restoration, installing native plants, monitoring native vegetation success rates, and conducting enhancement programs and educational outreach.

Pittman Wash Project, Henderson, NV. Biological Monitor. Mr. Kanlund developed a water quality monitoring program and a baseline biological study of wetlands of Henderson, NV. The three species identified through the Demonstration Wetland project were planted in both cells: California bulrush, hardstem bulrush, and Olney's bulrush.

City of Henderson, Demonstration Wetlands Project. Biological Surveyor. Mr. Kanlund provided project coordination with environmental survey teams and multiple regulatory agencies. The wetland is located in a 6-acre pond and contains 3 unvegetated loafing islands and 11 submerged islands that are planted with bulrush. The design left approximately 80 percent of the surface area devoted to open water, which encouraged water quality improvements while also providing mosquito control. Studies were conducted within the pond to quantify the impact the wetland has on water quality. Hydrologists collected extensive water quality data on a monthly to bimonthly basis, monitoring water chemistry at the inflow, outflow, and select sites within the wetland. Biologists conducted bird surveys on a regular basis to help quantify the habitat value of the wetland and to determine whether bird use might be negatively impacting the wetland's nutrient and bacteria removal efficiency. They also monitored the vegetation in the spring and fall, assessing plant growth and cover and analyzing tissue samples for nutrients and select contaminants of concern.

Ocean Institute, Dana Point, Orange County, CA. Teaching Assistant Marine Wildlife Study (Docent). Mr. Kanlund assisted in a classroom setting, educating public groups on marine wildlife conservation. His duties included providing assistance in animal enclosures, fielding questions and identifying conservation concerns, and discussing marine wildlife conservation status.

Las Vegas Valley Water District/Southern Nevada Water Authority, Water Conservation Program. Mr. Kanlund's responsibilities included creating and providing aerial maps for environmental staff for conservation programs using Arc View 3.0 and Arc GIS 9.2.

Stormwater Sampling, San Diego County. Water Sampling Monitor. Mr. Kanlund assisted with establishment of standard operating procedures for execution of storm water sampling during rain event. He provided analysis of collection sites, assisted with the produced collection site guides for each of the assigned sites, and assisted in the production of a storm water sampling training guide.

MAYA MAZON
Assistant Biologist

HIGHLIGHTS

Education
- M.S., Biology, California State University, Fullerton
- B.S., Biology California State University, Fullerton

Registrations/Certifications
- USFWS 10(a)(1)(a) permit for Quino checkerspot butterfly: TE23332-0
- California Resident Scientific Collecting Permit: 801259-03

Professional Experience

Ms. Mazon has four years experience in environmental consulting and biological resource surveys. She has conducted numerous focused sensitive plant surveys and complete floristic surveys in San Diego, Los Angeles and Imperial counties. She has been involved with several projects requiring specific mitigation measures due to the presence of sensitive species such as: arroyo toad, western spadefoot toad, coastal California gnatcatcher, least Bell's vireo, southwestern willow flycatcher, desert tortoise, Quino checkerspot butterfly and Stephens' kangaroo rat. She has also conducted jurisdictional delineations and written delineation reports. She has managed projects and interacts effectively with clients and subcontractors.

Project Experience

ENERGY/POWER

Cleveland National Forest Master Use Permit. Botanist/Quino Checkerspot Butterfly Biologist. Ms. Mazon conducted focused plant surveys for sensitive species as well as a complete floristic survey per USFWS survey protocols and USFS requirements. Species observed during surveys included but were not limited to San Diego thornmint, Dunn's mariposa lily, Parish's meadowfoam, and Tecate cypress. She assisted with reports, summarizing results and recommendations for limiting/avoiding impacts to sensitive species. She also conducted USFWS protocol surveys for the federally endangered Quino checkerspot butterfly.

SDG&E Wood to Steel Pole Replacement. Field Manager / Boilogical Monitor.

Tieline 6904, Alpine Substation to Loveland Substation, Alpine, CA. Mitigation measures enacted for Quino checkerspot butterfly.

Tieline 6952, Penasquitos Substation to North City West Substation, Carmel Valley, CA. Mitigation measures enacted for western spadefoot toad, coast horned lizard, and coastal California gnatcatcher.

Tieline 685, Warner Springs Substation to Santa Ysabel Substation, Warner Springs/Santa Ysabel, CA. Mitigation measures enacted for Stephens' kangaroo rat.

Circuit 442, Cleveland National Forest, San Diego, CA. Mitigation measures proposed for golden eagle, peregrine falcon, and San Diego horned lizard.

Tieline 626, Cleveland National Forest, San Diego, CA. Mitigation measures proposed for southwestern pond turtle, golden eagles, delicate clarkia, Tecate tarplant, and Ramona horkelia.

SDG&E Sunrise Powerlink Project. Biological Monitor/QCB Biologist. Pre-construction field surveys, contractor coordination, and monitoring were conducted to identify sensitive resources: flora, fauna, potential habitat, and water resources to support the engineering and construction management team for the project. Construction monitoring began in 2010. Ms. Mazon's construction responsibilities included monitoring construction crews for mitigation requirements and reporting biological resources to SDG&E and CNDDB. Monitoring within Quino checkerspot butterfly habitat was also conducted.

Silverado Solar Project. Botanist. Ms. Mazon surveyed the proposed worksites for sensitive plant species and also characterized the plant community and completed vegetation mapping of the area. The dominant species for each community was identified. When sensitive species were identified a GPS point was taken and the number of species counted. This information was pooled with information from fellow biologists.

Chevron Lucerne Valley Solar. Botanist. A focused plant survey was conducted for sensitive species and to identify populations of non-native invasive weeds on a proposed solar photovoltaic generating station site. The focused plant survey was conducted to document the presence or absence of federal and/or state threatened, endangered, and/or otherwise sensitive plant species within the site boundary. The non-native invasive weed mapping effort identified areas containing non-native invasive vegetation on the site. Ms. Mazon identified both sensitive plant species and non-native noxious weeds. Upon identification a GPS point was taken and the total number of species recorded.

Lancaster Phase I Environmental Assessment, Chevron Energy Solutions. Botanist. A biological reconnaissance survey was conducted on the 2.5-acre site in the City of Lancaster. The survey was to assess the presence or potential of presence of sensitive species onsite and to make recommendations regarding permitting requirements and focused surveys that may be required by regulatory agencies. The vegetation communities were mapped, the plant and animal species onsite were documented, site photographs were taken, and the habitat was surveyed for potential to support sensitive species. Ms. Mazon documented any drainage features that had potential to be under Federal or California State jurisdiction.

WATER RESOURCES

Salton Sea SCH Wetland Delineation, sub to Dudek. Assistant Biologist. Ms. Mazon assisted with delineation of water resources and wetland habitat per protocol for the proposed project areas. Each area was surveyed for indicator wetland plant species, hydrology, and connectivity to the Salton Sea. Waterways were characterized by type (drainage, irrigation ditch, etc.), the plant community was identified, and standard delineation measurements were taken. For suspected wetland areas, wetland vegetation and hydrology characteristics were noted; and boundaries of the wetland were determined by soil pit analysis. Ms. Mazon assisted with report writing by mapping information and relaying field information to the project lead and also assisted with QA/QC.

SDG&E Wood to Steel Pole Replacement TL 637. Associate Biologist. Ms. Mazon conducted jurisdictional delineation for the 13-mile long transmission line spanning from Ramona to Santa Ysabel in San Diego County. Ms. Mazon mapped and delineated wetlands and waterways to determine permitting requirements and engineering changes. A report was written summarizing analysis findings and recommendations for sensitive resource avoidance.

DEFENSE

Camp Pendleton Area 52 Well Replacement Project. Project Manager. Ms. Mazon fulfilled scheduling, staffing, budget, and mitigation measures. Construction took place in an area with suitable habitat for three endangered species: arroyo toad, least Bell's vireo, and southwestern willow flycatcher. Exclosure fences were inspected daily, and repairs were suggested. Ms. Mazon performed clearance surveys for arroyo toads and performed daily compliance monitoring. Night presence/absence surveys were also conducted as needed.

Camp Pendleton Water and Wastewater System. Assistant Biologist. Ms. Mazon conducted biological site evaluations and habitat assessments and provided construction monitoring during design, construction, and operation phases.

TELECOMMUNICATIONS

AT&T Fiber Optic Cable Installation, Las Vegas to Victorville. Assistant Biologist. Ms. Mazon provided construction monitoring in accordance with project permits for the protection of the desert tortoise. She provided environmental awareness training for all individuals involved with the project.

GOVERNMENT WORK

United States Geological Survey, San Diego, San Diego County, CA. Field Technician. Ms. Mazon conducted vegetation surveys for herpetological and entomological post-fire recovery projects. She taught staff plant identification of San Diego flora.

United States Geological Survey, Sequoia and Kings Canyon Office. Field Crew Leader. Ms. Mazon led a team conducting vegetation surveys in San Diego County for post-fire recovery of native flora. She coordinated orders remotely between the USGS office and field crew. She completed administrative tasks (i.e. tracked and completed crew's timesheets, booked camping accommodations, tracked finances, etc.). She collected and digitized data in Microsoft Access. She scouted and established new sites for future surveys.

IVY WATSON
Associate Biologist

HIGHLIGHTS

Education
- B.S., Natural Resource Planning and Interpretation, Humboldt State University

Professional Experience

Ms. Watson is knowledgeable of southern California biota and has experience conducting biological reconnaissance-level surveys, habitat assessments, and focused surveys for federal- and state-listed species, California special-concern species, and other sensitive species. She has also performed monitoring of construction activities for environmental permit and mitigation compliance and performed literature reviews, field surveys, and report preparation for proposed projects. She has acted as a field manager for biological monitors and the point of contact for clients and construction contractors.

Project Experience

ENERGY

Silverado Solar Project. Associate Biologist. Ms. Watson conducted biological surveys for proposed solar sites in Los Angeles County, including a protocol-level focused survey for sensitive plant species.

SDG&E Sunrise Powerlink Environmental Consulting. Environmental Monitor, Biologist. Ms. Watson conducted monitoring for environmental permit and mitigation compliance for construction of a new transmission line in San Diego and Imperial counties. She contributed to the biological review and report preparation for proposed new project locations.

Cleveland National Forest Master Use Permit. Biologist. Ms. Watson conducted focused plant surveys for sensitive species per USFWS survey protocols and USFS requirements.

SDG&E Wood to Steel Pole Replacement, TL 685. Biological Field Manager, Biological Monitor, Biologist. Ms. Watson acted as biological field manager for tie-line pole replacement and reconductoring project from Santa Ysabel to Warner Springs in San Diego County, including coordination of biological monitoring, mitigation implementation, nesting bird surveys, reviewing and submitting change requests, and acting as point of contact for client and construction crews. She performed post-construction survey and report preparation. Challenges included Stephens' kangaroo rat habitat, nesting raptors, sensitive plant populations, and complex mitigation measures.

SDG&E Wood to Steel Pole Replacement, TL 637. Biologist. Ms. Watson performed the preconstruction survey and literature review for sensitive species and habitats for the tie-line pole replacement and reconductoring project from Ramona to Santa Ysabel in San Diego County. Ms. Watson prepared reports and recommendations for environmental permit compliance. She also performed nesting bird surveys. Challenges included California gnatcatcher, Quino checkerspot butterfly, and San Diego fairy shrimp habitats and sensitive plant populations.

SDG&E Wood to Steel Pole Replacement, Circuit 442. Biologist. Ms. Watson performed the preconstruction survey and literature review for sensitive species and habitats. She also prepared reports and recommendations for environmental permit compliance. The project involved tie-line pole replacement and reconductoring from Corte Madera to Los Pinos peak in Cleveland National Forest, San Diego County.

WATER RESOURCES

Salton Sea SCH Wetland Delineation. Biologist. Ms. Watson conducted jurisdictional wetland delineation and

wetland mapping in support of proposed restoration projects in a wildlife refuge. She assessed flora, soils, and hydrology for wetland indicators.

San Dieguito Wetlands Restoration. Biologist. Ms. Watson conducted point counts for a survey of grunion spawning activity in the San Dieguito wetlands restoration area in Del Mar.

RESEARCH

U.S. Geological Survey Post Fire Recovery Vegetation Sampling. Biologist. Ms. Watson collected data on diversity, density, and cover for the plant species occurring within each plot. This multi-year project evaluated the impact of changing fire intervals on the recovery of vegetation in San Diego chaparral. Plots measuring 20 by 50 meters with nested subplots were established on sites representing a range of fire histories. The project required extensive knowledge of San Diego flora and accurate data-collecting techniques.

APPENDIX H – VEGETATION MAP

Ocean Beach Community Planning

Vegetation Communities Map

 Version Date: 12/26/2012

Vegetation Community

- 1. Sand Dunes (10.47 Acres)
- 2. Beach (39.0 Acres)
- 3. Southern Coastal Salt Marsh (17.26 Acres)
- 4. Disturbed (1.65 Acres)
- 5. Riparian (8.64 Acres)
- 6. Wetland (17.19 Acres)
- 7. Landscape Ornamental (8.58 Acres)
- 8. Bare Ground (3.32 Acres)
- 9. Non-native (ice plant) (8.10 Acres)
- 10. Developed (8.44 Acres)
- 11. Non-native (ornamental mix) (7.78 Acres)
- 12. Coastal Sage Scrub (3.45 Acres)
- 13. Southern Coastal Bluff Scrub (0.41 Acres)

N

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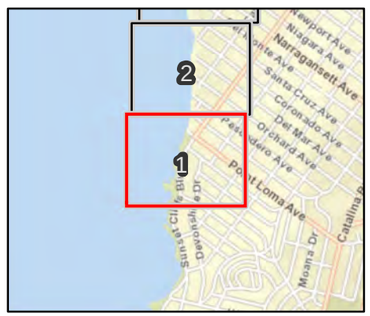
Feet



CHAMBERS GROUP

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Ocean Beach Community Planning
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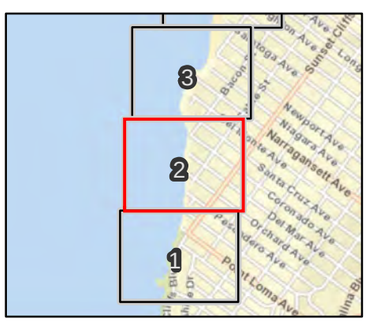

CHAMBERS GROUP

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Vegetation Communities Map

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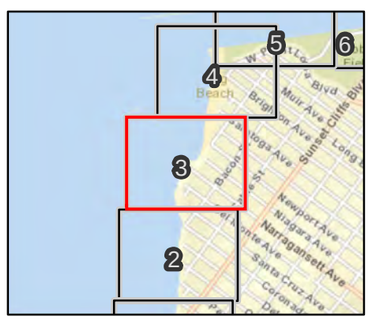

CHAMBERS GROUP

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Ocean Beach Community Planning

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- 6. Wetland (17.19 Acres)
- 7. Landscape Ornamental (8.58 Acres)
- 8. Bare Ground (3.32 Acres)
- 9. Non-native (ice plant) (8.10 Acres)
- 10. Developed (8.44 Acres)
- 11. Non-native (ornamental mix) (7.78 Acres)
- 12. Coastal Sage Scrub (3.45 Acres)
- 13. Southern Coastal Bluff Scrub (0.41 Acres)

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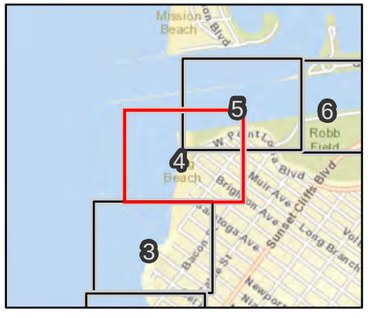
Feet



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Ocean Beach Community Planning

Vegetation Communities Map

Version Date: 12/26/2012

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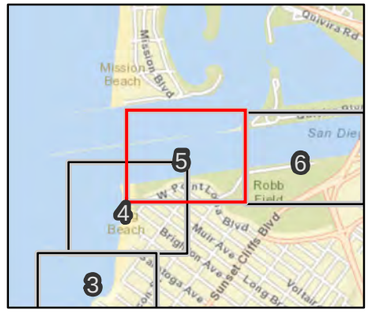

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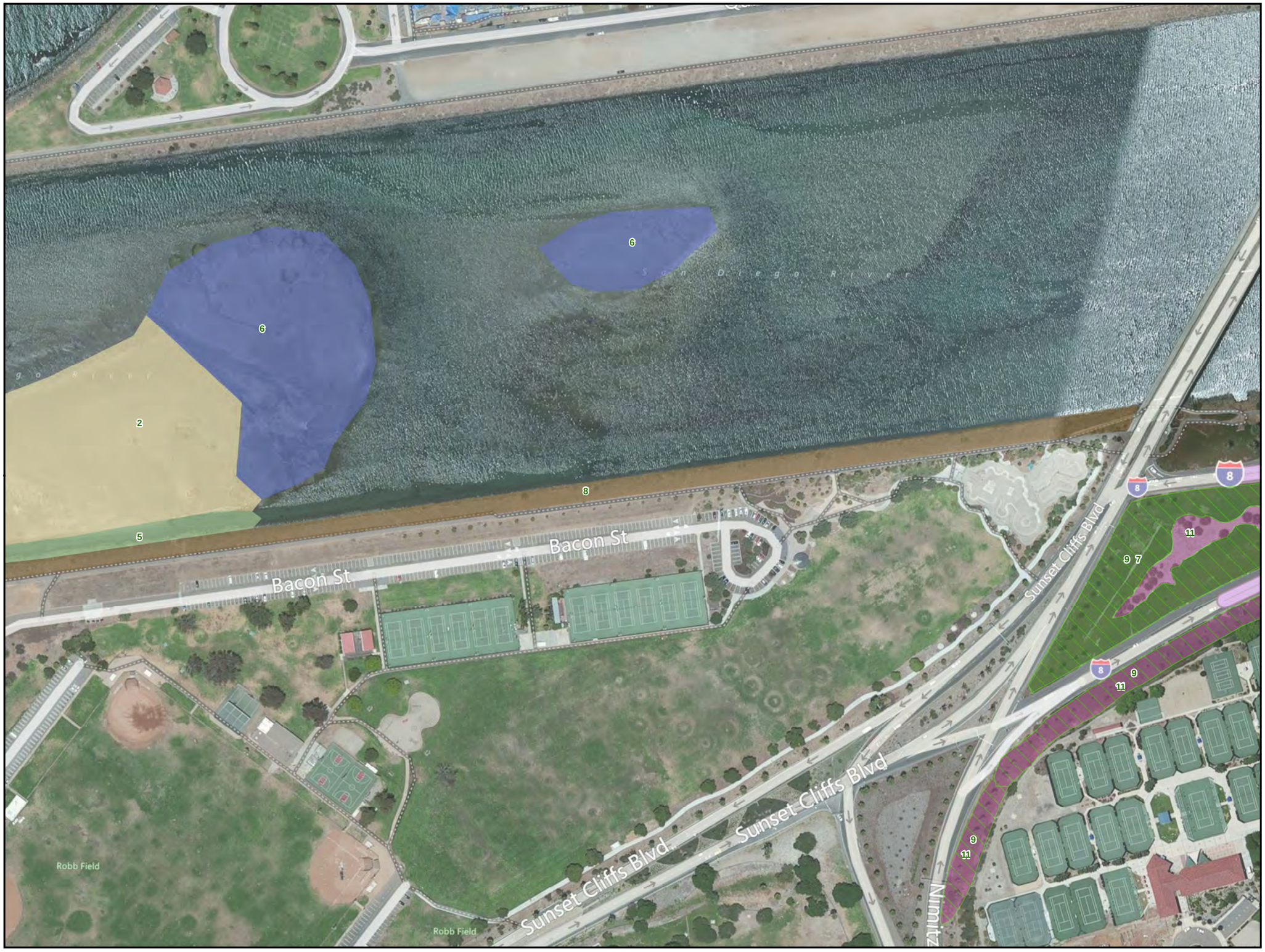

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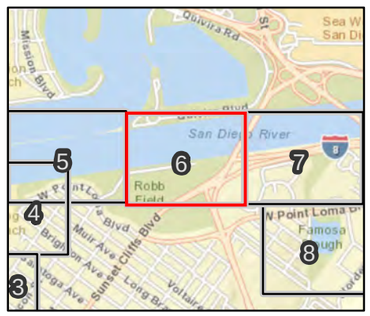

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