Colorado Lagoon Mitigation Bank Prospectus

Biological Resources Survey Report

July 2013

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Acronyms

CCA	California Coastal Act
CCC	California Coastal Commission
CDFG	California Department of Fish & Game
CDFW	California Department of Fish & Wildlife
CDOGGR	California Division of Oil, Gas & Geothermal Resources
CEQA	California Environmental Quality Act
CNNDB	California Natural Diversity Database
CNPS	California Native Plant Society
CPRC	California Public Resource Code
CSULB	California State University, Long Beach
EO	Executive Order
ESA	environmental site assessment
FE	Federally Endangered
FEMA	Federal Emergency Management Agency
FOCL	Friends of Colorado Lagoon
GPS	Global Positioning System
IIRMES	Institute for Integrated Research on Materials, Environment and Society
IUCN	International Union for Conservation of Nature
JDR	Jurisdictional Delineation Report
LBC	City of Long Beach
LCP	Local Coastal Plan
M&N	Moffat & Nichol
MG Zone	Industrial Zone
MHTL	Mean high tide line
NEPA	National Environmental Policy Act
NOAA	National Oceanic and Atmospheric Association
OHWM	Ordinary High Water Mark
RHA	Rivers and Harbors Act
RWQCB	Regional Water Quality Control Board
SCC	California State Coastal Conservancy
SE	State Endangered
SLC	State Lands Commission
USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey

1.0 INTRODUCTION

1.1 Study Objective

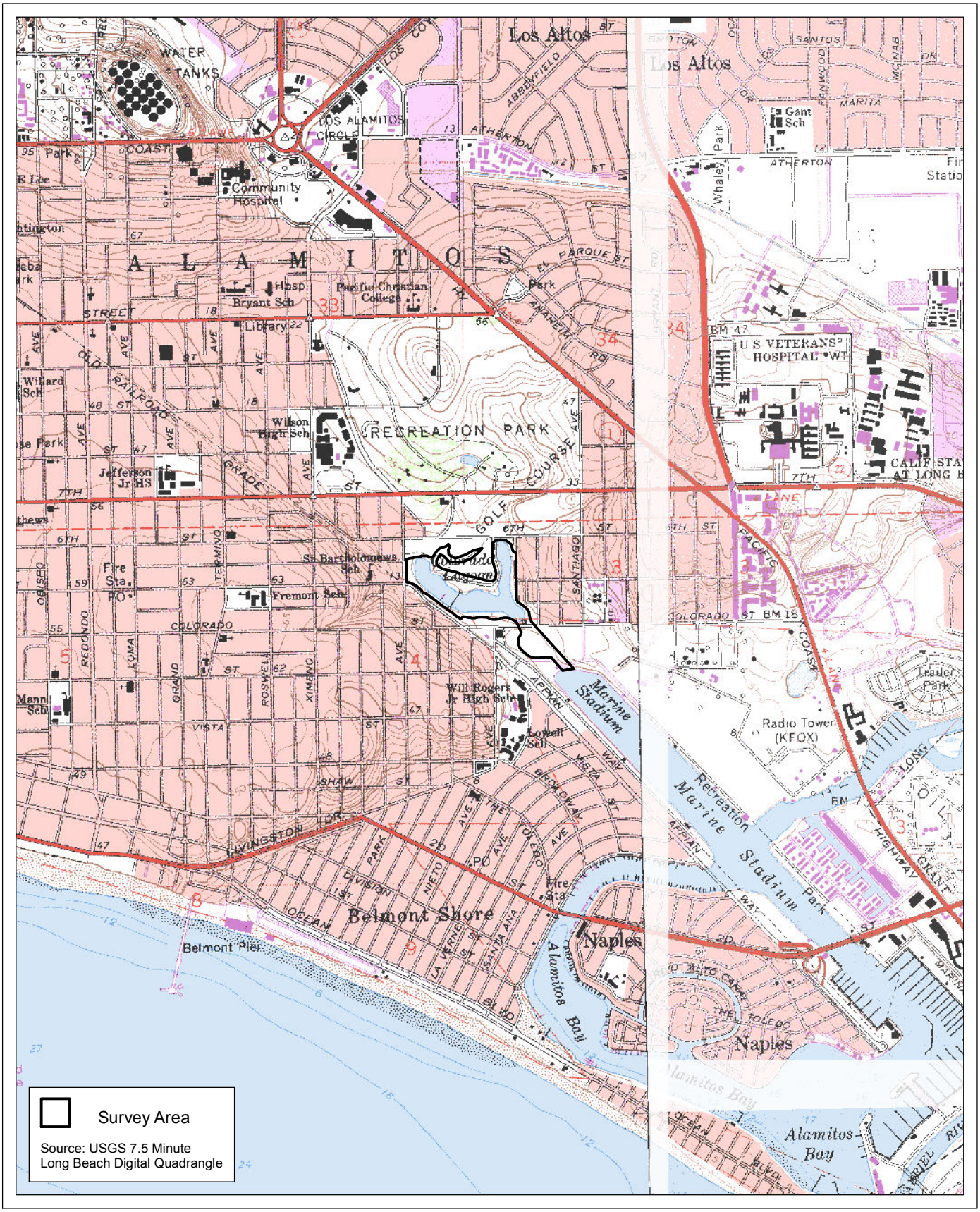
The objective of this study is to inform the City of Long Beach's mitigation bank proposal process by determining the existing biological conditions of 33.22 acres of coastal open space in and around Colorado Lagoon. This report discusses the findings of biological surveys focused on documenting the biotic and abiotic baseline of the proposed Bank Property. The report provides details on: a) the bank's current and historic geographic location and features, including topography, hydrology, soils, and vegetation; b) the current functions and services of aquatic resources; c) an inventory of all existing biological resources, including description of vegetation communities and a complete plant species list and analysis of potential for listed, protected or otherwise considered as species of special concern and/or their habitats, and d) past and present land uses, within the survey area.

1.2 Study Site

From a regional ecosystem perspective, Colorado Lagoon is approximately 1 mile northwest of the Los Cerritos Wetlands Complex and about twenty-one miles southeast of the Ballona Wetlands. The historic Wilmington Lagoon once existed four miles to the east of this project site at the mouth of the Los Angeles River, but these coastal wetlands have disappeared and been replaced by the Ports of Long Beach and Los Angeles.

The bank property is centrally located at Latitude 33.7713; Longitude -118.1326 primarily in section 4 of Township 5 South, and Range 12 West, on the United Stated geological Survey (USGS) Long Beach, California 7.5-minute series topographical quadrangle (**Figure 1**). The bank property survey area encompasses 33.22 acres in southeast Long Beach, California within the County of Los Angeles and is located in a suburban setting. The project area is bounded by 6th Street and Little Recreation Golf Course to the North, Park Avenue and Appian Way to the West, Colorado Street and Eliot Street to the South and Monrovia Avenue and Marina Vista Park to the East (**Figure 2**).

Presently, the tidal water body, commonly called Colorado Lagoon, is connected to Alamitos Bay via a 900-foot box culvert that runs under Marina Vista Park into Marine Stadium. A golf course, parking lots, recreational beaches, parks, roadways and residential areas border the Lagoon. These urban encroachments have marginalized the historic natural habitats. While the culvert was cleared of a three foot deep deposition of marine sediment and biofouling organisms in 2010, it still mutes the tidal range to the Lagoon. Also in 2010, all of the 11 storm drains that formerly emptied directly in the Lagoon were either upgraded or completely diverted. In July 2012, the City of Long Beach completed a dredging project that removed contaminated sediment from the site. Much of the Lagoon's shoreline was re-contoured in order to create more intertidal habitat. This construction project also removed a 33,000 square foot asphalt parking lot and an old bathroom and concrete sidewalks. The other part of the bank site is an area within Marina Vista Park which historically was occupied by natural tidal channel connected to the Colorado Lagoon. Friends of Colorado Lagoon (a local stakeholder group) are in the midst of an effort to re-vegetate several acres of coastal habitat in the western arm of the Lagoon.



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Project Vicinity

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Figure 1. Project Vicnity Map

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Survey Area

N

500 250 0 500

Feet

Tidal Influence

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Figure 2. Bank Property Survey Area

1.3 Land Ownership

The bank property is owned by the California State Lands Commission. The City of Long Beach has a lease agreement with SLC that identifies the City as the day-to-day operations manager for bank site.

1.4 Historical Perspective

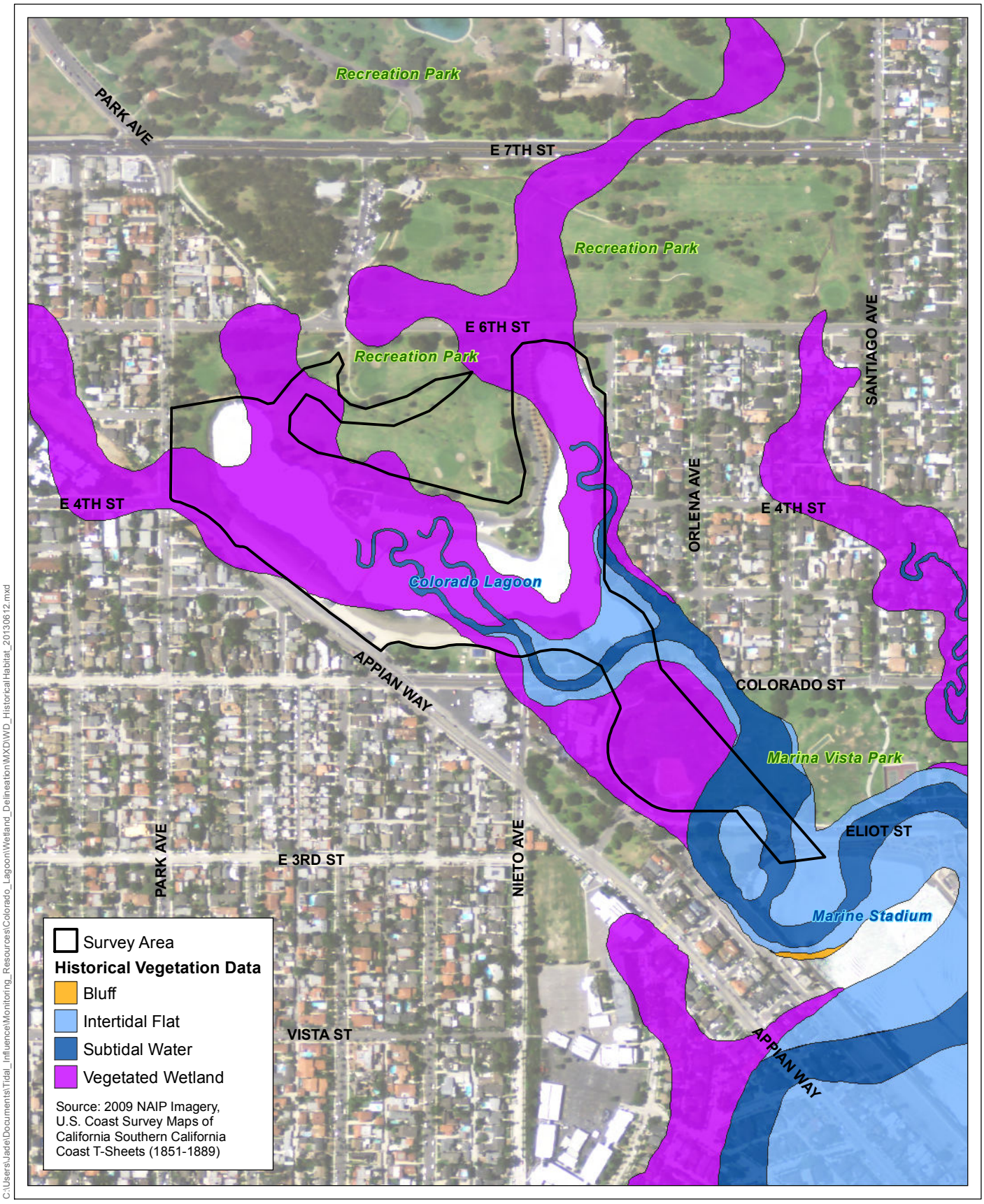
According to the formally known California Department of Fish and Game (CDFG, 1980), "As of 1894, the [Alamitos] Bay, which was actually the San Gabriel River Estuary, covered about 2400 acres and was composed of flats, salt marsh and tidal lagoons." This estuary, including the present location of Colorado Lagoon, was systematically "filled, diked and reshaped" and has been in various states of degradation and ecosystem recovery since then. Before development encroached, the project area was located in the northwestern portion of this historic 2400 acre tidal wetlands complex. Circa 1873, the majority of the study site was southern coastal salt marsh and intertidal flats fed by tidal marine water (**Table 1**)(**Figure 3**).

Table 1. Historic habitat type acreage within the survey area.

Habitat Type	Survey Area Historic Acreage	%
Southern Coastal Salt Marsh	20.92	63.0
Unidentified Upland Habitats	7.69	23.1
Subtidal Marine	2.56	7.7
Intertidal Flat	2.05	6.2
Total	**33.22**	**100.0**

* Habitat acreage data from Grossinger et al., 2011

In 1923, the naturally occurring tidal wetlands within the project boundary were dredged to form the Lagoon and Marine Stadium. Colorado Lagoon has been managed by the City of Long Beach since that time as a multi-use facility that supports several picnic/park areas, a recreational beach, a swimming area, several buildings, and coastal wetland habitats. The Lagoon became the site for the 1932 Los Angeles Olympic U.S. Diving Trails and was separated from Marine Stadium (the site for rowing competitions) by tide gates designed to maintain an adequate water depth during diving events. In the late 1960s, the north end of Marine Stadium was filled in preparation for a never-executed, cross-town freeway. Instead, this filled area became part of Marina Vista Park and the lagoon's connection to the ocean tides was reduced to a 900-foot box culvert that ran under the park.



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Historical Vegetation Data

N

500 250 0 500

Feet

Tidal Influence

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Figure 3. Historical Habitat Types (circa 1873) and Acreage within Survey Area

2.0 METHODOLOGY

2.1 Literature Review and Records Search

A literature review and database records search were conducted, to identify the existence or potential occurrence of special interest biological resources (e.g., plant and animal species) in or within the vicinity of the bank property (**Appendix A**). As part of the restoration project's previous planning and permitting process, several biological studies have been conducted on the Lagoon by other firms (e.g., LSA and Chambers Group). These previous reports and all other data provided by the Friends of the Colorado Lagoon (FOCL) and California State University Long Beach (CSULB) biologists for the survey area were reviewed. In addition to these resources, other special interest species known by Tidal Influence to occur in the general area were also considered. Record searches for special interest species expected to occur within the vicinity of the survey area were conducted in the following electronic databases:

• California Natural Diversity Database (CNDDB) information (i.e., RareFind 3.0.5), which is administered by the California Department of Fish and Wildlife (CDFW). This database covers lists of special interest animal and plant species, as well as special interest natural communities that occur within California.

• California Native Plant Society (CNPS) Electronic Inventory of Rare and Endangered Vascular Plants of California Version 8, which identifies four specific designations or "Lists" of special interest plant species and summarizes regulations that provide for the conservation of special interest plants.

2.2 Field Surveys

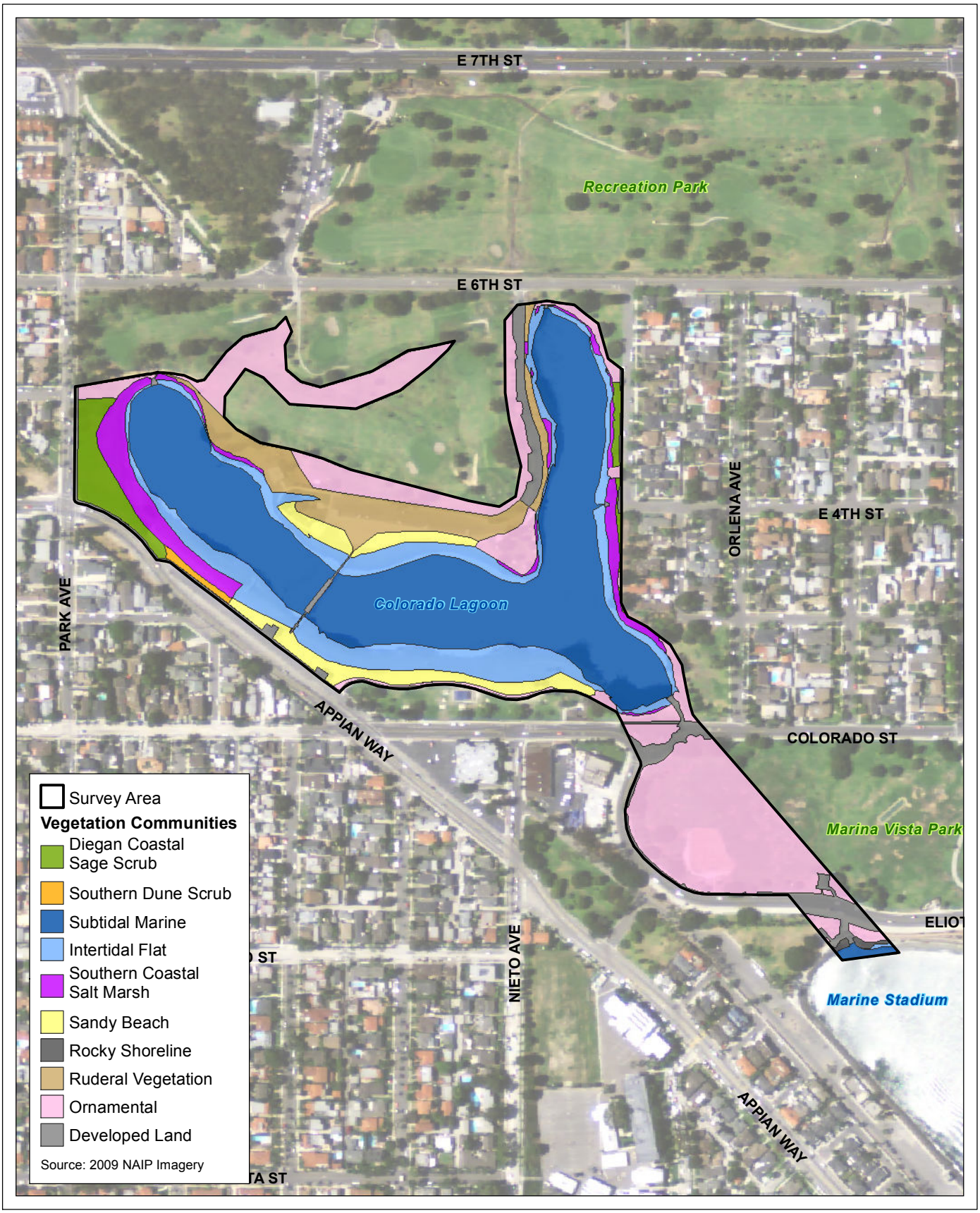
Several focused flora and fauna surveys were completed in April and May of 2013 specifically to document the existing biological resources for this report. These surveys build upon a strong knowledge of Colorado Lagoon as
Tidal Influence staff has been on site several times per week since September 2012 performing informal biological observations as well as formal ecological monitoring as part of the restoration project.

The vegetation communities and habitat types were mapped during the April and May 2013 surveys. Aerial maps were analyzed and utilized in the field for ground-truthing. When applicable, vegetation communities and habitat types were classified in the field according to the identification of established characteristics and vegetation alliances described in Descriptions of the Terrestrial Natural Communities of California (Holland 1986; CDFG 2010). The aerial maps were modified during the ground-truthing and geographic data for habitat boundaries were recorded using a handheld Garmin Oregon 550t Global Positioning System (GPS). The final habitat maps were prepared using ArcGIS 10 software. Previous biological reports on Colorado Lagoon vegetation communities were referenced to delineate habitat types in instances where anomalies existed that could not be defined with established protocols and definitions.

Table 2. Formal habitat assessment survey dates, activity, and personnel conducting field work

Date	Personnel	Activity
April 5, 2013	Eric Zahn, Jade Dean, and Latia Blair	Vegetation, bird, and fish monitoring
April 11, 2013	Zahn, Taylor Parker, Dean	Pre- field analysis of the project area, general reconnaissance, and flora/fauna surveys
April 16, 2013	Zahn, Parker, and Dean	Jurisdictional delineation investigation, habitat mapping and flora/fauna surveys
April 17, 2013	Zahn, Parker, and Dean	Jurisdictional delineation investigation, habitat mapping and flora/fauna surveys
May 7, 2013	Zahn, Dean, and Blair	Vegetation monitoring
May 27-29, 2013	Alex Smith	Invertebrate surveys
May 31, 2013	Dean	Low tide fauna survey and habitat mapping

The presence of special status species and/or their habitat was recorded during each site visit. The scope of this report did not require specific protocol surveys for wildlife species or rare plants. Further details on the methods used to investigate special status species are given in **Section 4**. Lastly, all plant and animal species previously reported or identified during this study's surveys were compiled into a comprehensive Colorado Lagoon Floral and Faunal Database (**Appendix A**).



Existing Vegetation Communities Overview

400 200 0 400 Feet

Tidal Influence

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Figure 4. Current Habitat Types and Acreage within Survey Area

3.0 HABITAT TYPES OF BANK PROPERTY

Eleven habitat types were identified within the project area including southern coastal salt marsh, Diegan coastal sage scrub, southern dune scrub, intertidal flats, rocky shoreline, subtidal marine, eelgrass beds, sandy beach, ornamental, ruderal vegetation, and developed land. Some of the habitat types are artificial, while others are natural. Of these habitat types three of them (southern coastal salt marsh, Diegan coastal sage scrub, and southern dune scrub) represent distinct plant communities according to Holland, 1986.

The following sections describe each habitat type within three categories: 1) subtidal habitat types; 2) intertidal/ wetland habitat types; and 3) upland habitat types. **Figure 4** and **Table 3** display the current acreage and extents for the eleven habitat types observed within the bank property survey area.

Table 3. The current acreage of each habitat type observed with the bank property survey area.

Habitat Type	Survey Area Current Acreage	%
Subtidal Marine (Soft bottom)	11.88	35.8
Ornamental	8.55	25.7
Intertidal Flat	4.40	13.2
Ruderal Vegetation	2.28	6.9
Developed Land	1.81	5.4
Southern Coastal Salt Marsh	1.61	4.8
Sandy Beach	1.48	4.5
Diegan Coastal Sage Scrub	1.04	3.1
Southern Dune Scrub	0.11	0.3
Rocky Shoreline	0.06	0.2
Total	**33.22**	**100.0**

3.1 Subtidal Habitat Types

Unaltered coastal wetlands are influenced by the ocean, creating several marine habitat types. These habitats reflect variations in substrate, elevation, wave action, and tidal exposure. The resources and functions of coastal lagoon ecosystems like Colorado Lagoon is a culmination of resources and functions provided by the marine habitat types listed below.

3.1.1 Soft-bottom Subtidal Marine (approximately 11.88 acres)

General Description: These are areas along the coast that are perpetually under marine water. In coastal embayment's this habitat is generally found at elevations below -1.0 feet MLLW. They usually cover soft bottom substrates that may support a variety of algal species as well as eelgrass beds. Eelgrass beds do not survive long-term exposure and therefore are most often found in shallow subtidal areas to depths where adequate levels of light can penetrate. In southern California this plant community is composed of two species of vascular plant, *Zostera marina* (common eelgrass) and *Zostera pacifica* (Pacific eelgrass) that may grow up to three meters in length. Eelgrass best establishes itself in the muddy or sandy bottoms of shallow, clear, low-energy portions of coastal embayments.

Characteristic Algal and Plant Species: *Ulva* spp., *Ruppia martima* (widgeon grass), and *Zostera marina* (eelgrass).

Site Specific Distribution: This habitat type is the most extensive habitat throughout the bank property survey area. Vast reaches of subtidal habitat exist throughout Colorado Lagoon, Marine Stadium, and Alamitos Bay. According to surveys by Coastal Resources Management, Inc, (2013), ten very small, but healthy patches of eelgrass are located in Colorado Lagoon. Several of the plants were in the seeding stage with viable seeds observed within the reproductive sheaths. Eelgrass was limited in its distribution to the southeastern portion of the Lagoon. Three patches were seen in the central Lagoon swimming area, while six patches were located in the in the vicinity of the culvert connection. One additional small patch was located on the eastern bank of the north arm. More details on eelgrass habitat value are provided in the Colorado Lagoon Subtidal Surveys Report (CRM, 2013).

Ecological Services: The subtidal marine areas within the project area provide suitable foraging for California least tern (*Sterna antillarum browni*) in Colorado Lagoon and Marine Stadium. The Pacific green sea turtle (*Chelonia mydas*) has also been documented in Marine Stadium along with Pacific harbor seals and California sea lions (EDAW 2008). A variety of marine fish, including white sea bass (*Atractoscion nobilis*), California halibut (*Paralichthys californicus*) and Pacific barracuda (*Sphyraena argentea*) that are associated with important commercial fisheries, have been shown to utilize the Lagoon's inshore subtidal marine waters and are potentially seeking habitat for foraging, breeding, and nursery habitat for juvenile populations. Eelgrass beds are a protected and important ecological community in shallow bays and estuaries because of their multiple biological and physical values. This habitat type functions as an important structural environment for both resident and migratory estuarine animal species, offering both refuge from predation and a food source.


Bat ray


Bay pipefish and yellow shore crab


Staghorn Sculpin


California Halibut

3.1.2 Rocky Shoreline (approximately 0.06 acres)

General Description: When found in coastal embayments, this tidal habitat type is most often composed of artificial substrates occurring in the form of seawalls, levees, breakwaters and jetties. Regardless, it is generally stratified into five distinct elevation zones (splash, high tide, mid-tide, low-tide and minus-tide zones) due to

tidal influence (Reish, 1995). The hard substrate supports a variety of red, green, and brown macroalgal species and a variety of mobile and sessile invertebrate organisms.

Rocky Shoreline

Characteristic Algal and Plant Species: *Silvetia compressa*, *Endocladia muricata*, *Ulva intestinalis* (aka *Enteromorpha*), *Ulva lactuca* (sea lettuce), *Gelidium* spp., *Psuedolithophyllum* spp. (crustose coralline algae), *Colpomenia bullosa* (brown bag algae)

Site Specific Distribution: This habitat type is along the shoreline of Marine Stadium. This rip-rap supports a variety of marine organisms including limpets, sea stars, and crabs. These populations appear to be low in diversity, which may be due to human disturbance, heavy predation, or freshwater impulses during the wet season.

Ecological Services: Most rocky shoreline habitat in southern California is disturbed. In its degraded state on Marine Stadium, this habitat type still supports populations of several invertebrate species including *Pisaster ochraceus* (ochre star), *Pachygrapsus crassipes* (striped shore crab) and *Octopus bimaculoides* (two-spot octopus). This habitat also has potential to support populations of *Ostrea lurida* (Olympia oyster) that are the focus of restoration projects regionally. Their populations have been historically reduced regionally and are important for marine ecosystems since they are filter feeders and have been linked to improved water quality (Polson and Zacherl, 2009).

3.2 Intertidal/Wetland Habitat Types

Unaltered coastal wetlands are composed of a mosaic of plant communities, along with typically unvegetated mudflats. These components reflect variations in elevation, salinity, soil moisture and hydrology. The resources and functions of a coastal lagoon ecosystem like Colorado Lagoon is a culmination of resources and functions provided by these habitat types listed below.

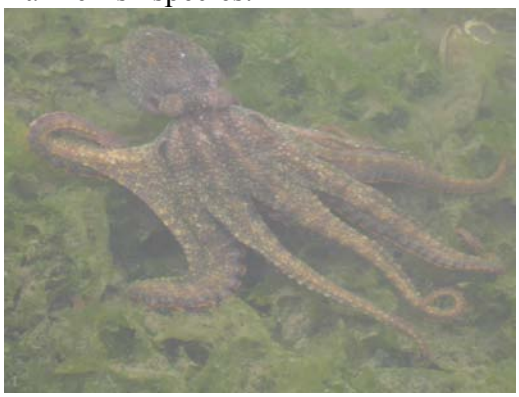
3.2.1 Intertidal Flats (approximately 4.40 acres)

General Description: These are areas along the coast that are intermittently under marine water depending on tidal conditions. In coastal embayment's they are found generally in an elevation range of -1.0 to +3.2 feet MLLW, below the lower marsh zone in tidal basins, channels, and creeks where vascular plants cannot survive. Mudflats are fine grained, while sandflats are course grained. These soft bottom substrates support a variety of algal species as well as eelgrass beds at the lowest reaches.

Characteristic Algal and Plant Species: *Ulva lactuca* (sea lettuce), *Ulva* intestinalis (*Enteromorpha*), and *Ruppia martima* (widgeon grass).

Site Specific Distribution: Intertidal flats are present along the entire perimeter of Colorado Lagoon and in Marine Stadium. Many of the intertidal flats in Colorado Lagoon were recently re-graded and heavily disturbed. The flats in both Colorado Lagoon and Marine Stadium are high in sandy sediment due to the presence of nearby artificial sandy beaches.

Ecological Services: Healthy, nutrient rich, intertidal flats in the form of sand and mudflats, support a wide variety of marine invertebrates (e.g. bivalves, gastropods, annelids, and crustaceans) that are integral to the coastal salt marsh ecosystem as well as shallow subtidal habitat. At low tides, intertidal flats offer a critical foraging habitat for migratory species of sandpipers and other probing bird species, as well as roosting and resting areas for other marine bird communities. When flooded these flats become a foraging source for marine fish species such as California halibut (*Paralichthys californicus*), diamond turbot (*Hypsopsetta guttulata*), and various elasmobranchs (sharks, skates and rays), while providing burrowing habitat for a variety of benthic marine fish species.


Two-Spot Octopus


Striped Sea Hare

3.2.2 Southern Coastal Salt Marsh (approximately 1.61 acres)

General Description: This plant community is found within an elevation range of 3.2 to 7.1 feet MLLW along sheltered inland margins of bays, lagoons, and estuaries subject to regular inundation by sea water. It is dominated by highly productive, herbaceous and suffrutesent, salt tolerant hydrophytes forming moderate to dense cover up to one meter tall. The plant species are usually segregated by elevation with *Spartina foliosa* (Pacific cordgrass) dominating the low marsh, *Salicornia pacifica* (common pickleweed) in middle marsh, and *Arthrocnemum subterminale* (Parish's glasswort) in the upper marsh. Unvegetated intertidal areas, known as salt pannes, often form in the upper marsh where soil salinities may reach as high as 200 ppt.

Characteristic Plant Species:
Lower marsh - *S. foliosa*; Mid-marsh - *S. pacifica, Salicornia bigelovii* (annual pickleweed), *Limonium californicum* (sea-lavender), *Jaumea carnosa* (salty susan), *Triglochin concinna* (arrow-grass), *Batis maritima* (saltwort), *Suaeda esteroa* (estuary sea-blite), *Cuscuta salina* (salt marsh dodder); Upper Marsh - *A. subterminale, Frankenia salina* (alkali heath), *Distichlis spicata* (salt grass), *Atriplex watsonii* (salt scale), *Suaeda calceoliformis* (horned sea-blite), *Lycium californicum* (California boxthorn), *Distichlis littoralis* (shore grass), *Spergularia marina* (sand spurry)


Batis maritima


American Coots in Newly Planted Salt Marsh

Site Specific Distribution: This habitat type occurs along the edges of Colorado Lagoon. Approximately 0.5 acres were restored along the eastern edge in 2010 and another 1 acre was recently planted in the Western Arm. Additionally, several small patches of salt marsh plant community exist in other shoreline locations where human activity is low.

Ecological Services: This is one of the most biologically productive habitat types on the Pacific coast (Zedler, 1984). While this appears to be a plant dominated habitat type, coastal salt marshes provide feeding grounds and rest stops for migratory birds, as well as nursery grounds, foraging habitat, and shelter for marine fisheries (Needles et. al, 2013). Furthermore, a specialized community of invertebrates is obligate to this intertidal habitat type, many of which demonstrate a close relationship with the vegetation. The structure provided by the vegetation community supports a complex food web and certain plant species have even evolved to support nesting habitat for endangered species like the Light-footed Clapper Rail (*Rallus longirostris levipes*) in the lower marsh, and Belding's Savannah Sparrow (*Passerculus sandwichensis beldingi*) in the upper marsh. A variety of terrestrial reptile and mammal species forage in this habitat during low tides (Zedler, 1992).

3.3 Upland Habitat Types

In southern California, unaltered coastal wetlands intergrade with several upland plant communities. Differences in plant communities reflect variations in substrate, elevation, salinity, freshwater exposure, hydrology, and disturbance. Within the bank property, much of the upland area is urbanized, severely disturbed, or recently restored.

3.3.1 Diegan Coastal Sage Scrub (approximately 1.04 acres)

General Description: Naturally found on sites with low moisture availability and steep, xeric slopes. This plant community is composed of low, soft-woody subshrubs, up to 1 meter in height, that most actively grow in winter and early spring. Many plants species are facultatively drought-deciduous. Stem and leaf succulents are present, but less dominant that in Maritime Succulent Scrub.

Characteristic Plant Species: *Artemisia californica* (California sagebrush), *Eriogonum fasciculatum* (California buckwheat), *Galvesia speciosa* (showy island snapdragon), *Isocoma menzeisii* (coast golden bush), *Acmispon glaber* (deerweed), *Malosma laurina* (laurel sumac), *Rhus integrifolia* (lemonade berry), and *Salvia apiana* (white sage).

Site Specific Distribution: This habitat type occurs along the upland edges of Colorado Lagoon. Along the eastern shoreline approximately 0.25 acres (not all falling within the survey area) were restored in 2012 which replaced a widespread invasion of ice plant. Another 1 acre was recently planted in the western arm. This habitat type was not present on site during biological surveys performed by LSA in 2008.


California Poppy with Pollinator


White-lined Sphinx Moth Caterpillar

Ecological Services: The most critical service provided by this plant community is its role as a buffer habitat. The existence of coastal sage scrub between the Lagoon and the surrounding urban areas reduces the impact of edge effects from light and noise pollution. This upland habitat also buffers marine resources from trampling by human recreational activities and provides shelter to terrestrial animals during high tide events. While acting as an urban buffer, this is a relatively biodiverse plant community and provides services to a wide ranging community of wildlife including a variety of insect pollinators, small mammals, reptiles, and upland bird species. When mature, coastal sage scrub provides nesting habitat for the federally threatened California Gnatcatcher (*Polioptila californica*).

3.3.2 Southern Dune Scrub (approximately 0.11 acres)

General Description: A dense coastal scrub community of scattered shrubs, subshrubs, and herbs that often are succulent. The plants are generally less than 1 meter tall (lower profile than coastal sage scrub) and often develop considerable cover. This habitat type is restricted to the coast on stabilized backdune slopes, ridges and flats. In natural conditions it intergrades with southern foredune towards the coast and coastal sage scrub inland.

Characteristic Plant Species: *Ericameria ericoides* (mock heather), *Opuntia littoralis* (coast prickly pear), *Lupinus chamissonis* (coast bush lupine), *Atriplex leucophylla* (beach scale), *Isocoma menziesii* (coast golden bush)


Beach Evening Primrose

Site Specific Distribution: This habitat type exists in a one small area of Colorado Lagoon where plant species representing this community were planted in early 2013. Currently, the plants are still establishing themselves and are not mature. This habitat type was not present on site during biological surveys performed by LSA in 2008.

Ecological Services: Similar to coastal sage scrub, this plant community can act as buffer habitat for marine resources. The presence of vegetation increases the services dramatically from that of sandy beach habitat. When mature, this habitat type supports a diverse community of terrestrial arthropods (Mattoni, Longcore and Novotny, 2000).

3.3.3 Ruderal Vegetation (approximately 2.28 acres)

General Description: Ruderal areas do not possess the characteristics needed to be potentially considered as jurisdictional wetlands and are composed of more than 75% non-native vegetation mixed with less than two native plant species. Depending on soil quality or land uses, these upland areas are often bare or entirely infested by non-native vegetation.

Ruderal Vegetation

Characteristic Plant Species: *Bassia hyssopifolia* (five-hook *Bassia*), *Carpobrotus edulis* (Hottentot-fig), *Salsola tragus* (Russian thistle), *Sonchus asper* (sow thistle), *Cynadon dactylon* (Bermuda grass), *Parapholis incurva* (sickle grass), *Melilotus alba* (white sweet pea)

Site Specific Distribution: Ruderal areas exist within the bank property where regular maintenance of ornamental landscape has not occurred or in areas that were disturbed by the recent restoration project and have not been planted with native vegetation yet.

Ecological Services: The services provided are considerably less than what could be provided by native upland plant communities. However, generalist animals species can be found utilizing these areas for cover and foraging. This vegetation is often cleared as part of maintenance activities to improve aesthetics or to control non-native plant species. Therefore this habitat does not provide dependable and consistent ecological services.

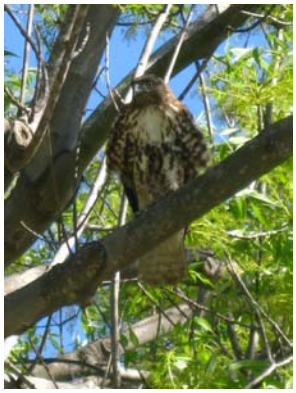
3.3.4 Ornamental (approximately 8.55 acres)

General Description: This habitat type includes park areas used for both passive (e.g. picnicking) and active (e.g. soccer) recreational activities. It also includes areas that have been landscaped with common nursery plants that often are from Mediterranean climates, but are not native to this region. The park areas are dominated by turf grass and scattered trees.

Characteristic Plant Species: The turf areas are generally composed of a mixture of multiple non-native grasses such as *Cynodon dactylon* (Bermuda grass) and *Poa annua* (annual bluegrass) mixed with turf weeds like *Trifolium repens* (white clover) and *Medicago polymorpha* (bur clover). Scattered throughout the project area are mature trees typically used in southern California park landscaping like *Eucalyptus* sp (gum trees), *Pinus canariensis* (Canary Island pine), *Cupaniopsis anacardioides* (carrotwood), *Erythirina caffra* (coast coral tree), *Fraxinus uhdei* (Shamel ash), *Schinus molle* (Peruvian pepper), and *Washingtonia robusta* (Mexican fan palm). Common ornamental Mediterranean landscaping plants include *Phorium* sp. (New Zealand flax) and *Raphiolepis indica* (Indian heath).

Site Specific Description: This is the dominant upland habitat type within the bank property. A significant amount of this habitat type is found in Marina Vista Park. Several other landscaped areas are found bordering Marine Stadium and Colorado Lagoon. A grassy park is located near the central Lagoon in a location commonly referred to as "the point."

Ecological Services: Some of the gum trees along the southeastern portions of the project area are known to support nesting and perching by herons and egrets. Gum trees also provide a seasonal nectar source for small bird species like hummingbirds. While these areas can provide habitat for generalist species, ornamental landscaping is ubiquitous throughout the surrounding area with large expanses of it found throughout the bordering 210 acre Recreation Park.



Red-tailed Hawk

3.3.5 Sandy Beach (approximately 1.48 acres)

General Description: This habitat area is generally devoid of vegetation and naturally found on oceanfront locations between the high tide line and foredunes. This is typically a very dynamic ecosystem that shifts with the waves and wind. Often in southern California, artificial sandy beaches are created on the oceanfront as well as along the shorelines of coastal embayments. These artificial beaches are often actively maintained and groomed.

Sandy Beach During High Tide Event

Characteristic Plant Species: There usually is no vegetation growing on these beaches since they are often frequently groomed by beach rake vehicles. However, during extended periods without grooming certain plant species will become established including: *Camissonia cheiranthifolia* (beach evening primrose), *Parapholis incurva* (sickle grass), *Spergularia marina* (sand spurry), *Suaeda calceoliformis* (horned sea-blite), *Cakile maritima* (sea rocket).

Site Specific Description: Within the bank property, there are two areas located along the north and south shore of the Lagoon that are sandy beaches. The sandy beaches are used by the public for various recreational activities. The northern portion has been re-contoured as part of the recent restoration effort and much of the sand has been displaced. The south beach however continues to be maintained for beach activities.

Ecological Services: During periods of low recreational activity in the winter, these sandy beaches are used as roosting sites for gulls and resting waterfowl or shorebirds. The sandy beach area has a high recreation value, but due to constant use and grooming, there is little habitat value in these areas for native flora or fauna.

3.3.6 Developed Land (approximately 1.81 acres)

This habitat type is present at the Colorado Lagoon on the driveway entrance from East 6th Street, as well as the sidewalks and roadways for Colorado Street and Eliot Street. These non-permeable surfaces are heavily travelled by humans and vehicles and do not support any vegetation. Therefore developed land provides little-to-no ecological services for native flora or fauna.

4.0 SPECIAL STATUS SPECIES REPORT

The bank property is a fragmented habitat area and is not well known for populations of sensitive species. This is understandable considering the site's use as a recreational facility and its history of poor water quality and muted tidal exchange. These and other historic environmental conditions have likely resulted in the local extirpation of many sensitive species typically associated with southern California's coastal wetlands. Previous biological studies at Colorado Lagoon have documented few special status species.

4.1 Methods

To identify sensitive species known or potentially occurring within the bank property survey area, multiple data sources were investigated to augment field surveys. In particular, sensitive species were identified regionally through queries of the California Natural Diversity Data Base (CNDDB, 2013). The CNDDB record search was conducted within the Long Beach Quadrangle. After conducting the CNDDB record search, the list of identified species and recorded occurrences for the region were compiled. To augment CNDDB records, previous biological reports were reviewed (Chambers, 2004) and a list of species potentially occurring within the existing habitats at bank property was prepared. Furthermore, a review of the CNPS Electronic Inventory of Rare and Endangered Vascular Plants of California was conducted (**Table 4**).

Each of the potentially present special status species were analyzed to identify their potential to occur within the bank property survey area. The results of this analysis are summarized in **Table 5 & 6**.

4.2 Special Status Plant Species

Special status plant species include all federal- and state-listed endangered and/or threatened species and those that have been identified by the California Native Plant Society (CNPS) as having a limited distribution in California and throughout their range.

The literature review and surveys resulted in a list of fourteen sensitive plant species that have records of occurrence within the same quadrangle as the survey site. Three of these special status plant species (Chloropyron maritmum ssp. maritimum (salt marsh bird's-beak), *Pentachaeta lyonii* (Lyon's *Pentachaeta*), and *Orcuttia californica* (California Orcutt grass), are federal- and/or state-listed as endangered, threatened, or candidate species. However, none of these species were documented on site during visits or were previously documented in the bank property. Several special status plant species have been reintroduced to Colorado Lagoon through active plant community restoration activities. Those species include *Juncus acutus leopoldi* (spiny rush), *Suaeda taxifolia* (woolly sea-blite), and *Lycium californicum* (California boxthorn).

Table 4. California Native Plant Society Special Interest Plant Species Designations

List	Classification
1A	Presumed Extinct in California
1B	Rare or Endangered in California and Elsewhere
2	Rare or Endangered in California, More Common Elsewhere
3	Need More Information
4	Plants of Limited Distribution

4.3 Special Status Animal Species

Special status animal species include all those federal- and state-listed endangered and/or threatened species and those that have been identified as Species of Special Concern (SSC) by CDFW.

The literature review and surveys resulted in a list of eighteen sensitive animal species that have records of occurrence within the same quadrangle as the bank property and were reasonable to be analyzed for their

potential to occur. A total of six animals that are federal- or state-listed have a potential to occur on the site and of these listed species, only the California least tern, Belding's savannah sparrow, and Pacific green sea turtle have been documented to be present within or near the survey area.

Proper nesting habitat exists on site for the Belding's savannah sparrow and this species has been observed foraging at the study site, however the isolation of this site from other populations in Alamitos Bay and the proliferation of predator perches has kept this state endangered bird from establishing breeding territories in Colorado Lagoon's salt marsh habitat areas. The California least tern is a seasonal visitor to Colorado Lagoon for foraging, but does not nest near or within the survey area. The foraging individuals that are observed during the summer months are likely coming from nesting colonies at the Seal Beach National Wildlife Refuge. The Pacific green sea turtle has been documented throughout Alamitos Bay and the San Gabriel River. While sea turtles cannot traverse the 900-foot culvert from Marine Stadium to Colorado Lagoon, they have potential to be foraging in eelgrass beds throughout Marine Stadium. Unfortunately very little is known about this species' local population size and site fidelity.


Pacific Green Sea Turtle


Wandering Skipper


S-Banded Tiger Beetles

California Brown Pelican

4.4 Summary

Each special status species was categorized based on the following criteria:

Present: Species was observed on the project site at the time of the surveys or recently outside of the survey period.

High: Both a historical record exists of the species within the project site or its immediate vicinity (approximately 5 miles) and the habitat requirements associated with the species occur on the project site;

Moderate: Either a historical record exists for the species within the immediate vicinity of the project site (approximately 5 miles) or the habitat requirements associated with the species occur on the project site;

Low: No records exist of the species occurring within the project site or its immediate vicinity and/or habitats needed to support the species are of poor quality or absent; and

Absent: No records exist of the species occurring within the project site or its immediate vicinity and the habitats needed to support the species are absent.

In addition to the above-listed criteria, potential for occurrence is also based on levels of disturbance to a site, proximity to existing developments, age of historical records, and the amount of development and disturbance that has occurred during the time subsequent to the latest record. The potential for occurrence categorization for this report is based on existing site conditions and does not consider future (post Phase-2 restoration) conditions.

Table 5. Status of known and potentially occurring special status plant species in Colorado Lagoon.

	Special Status Species	Status	Habitat	Potential to Occur On-Site
	Flora			
1	California Boxthorn *(Lycium californicum)*	CNPS list 3 Fed: None State: None	Succulent shrub. Occurs along coastal salt marsh margins, coastal sage scrub, and coastal bluffs up to 500 feet in elevation.	Present: Numerous individuals of this species have been planted along the East Bank of the North Arm and the Western Part of the Western Arm as part of the revegetation.
2	Estuary Sea-Blite *(Suaeda esteroa)*	CNPS list 1B.1 Fed: None State: None	Perennial herb. Occurs in coastal salt marshes and swamps up to 15 feet in elevation.	Present: This species is found extensively within the middle and upper salt marsh zones around the Lagoon.
3	Southwestern Spiny Rush *(Juncus acutus ssp. leopoldii)*	CNPS list 4.2 Fed: None State: None	Perennial herb. Occurs in coastal salt marshes, alkali seeps, and coastal strand habitats up to 1000 feet in elevation.	Present: Southwestern Spiny Rush has been planted throughout the wetland habitat of the Lagoon. Additionally, individuals have been planted as a barrier plant to restrict access in several areas.
4	Woolly Sea-Blite *(Suaeda taxifolia)*	CNPS list 1B.2 Fed: None State: None	Succulent shrub. Occurs along coastal salt marsh margins and coastal bluffs up to 45 feet in elevation.	Present: Several individuals have been planted throughout the habitat and are thriving specimens.
5	Southern Tarplant *(Centromadia parryi ssp. australis)*	CNPS list 1B.1 Fed: None State: None	Annual herb. Occurs in disturbed areas near coastal salt marshes, grasslands, vernal pools and coastal sage scrub up to 1400 feet in elevation.	Moderate: This species has a moderate potential to be present as the habitat is suitable and it enjoys disturbed areas.
6	Coast Woolly Heads *(Nemacaulis denudata var. denudata)*	CNPS list 4.2 Fed: None State: None	Annual herb. Occurs in coastal dunes in sandy soils up to 330 feet in elevation.	Low: This coastal dune species has a low potential to occur due to the lack of suitable habitat, a high degree of disturbance, and the general lack of potential for the species to recruit to the site from nearby source populations.
7	Coulter's Goldfields *(Lasthenia glabrata ssp. coulteri)*	CNPS list 4 Fed: None State: None	Annual herb. Occurs in coastal salt marshes, alkali playas, and vernal pools up to 3000 feet in elevation.	Low: This species has a low potential to be present as the habitat has been disturbed and fragmented for so long.

8	Coulter's Saltbush *(Atriplex coulteri)*	CNPS list 1B.1 Fed: None State: None	Perennial herb. Occurs in alkaline or clay soils, open sites, coastal sage scrub, and coastal bluff scrub up to 1500 feet in elevation.	Low: This species is similar in appearance to several present *Atriplex* species and has a low potential to occur due to the lack of ability to recruit to the site from nearby source populations.
9	Parish's Brittlescale *(Atriplex parishii)*	CNPS list 1B.2 Fed: None State: None	Annual Herb. Occurs in alkali playas and vernal pools up to 1000 feet in elevation.	Low: This species has a very low potential to occur due to lack of suitable habitat, high degree of disturbance, and the general lack of potential for species to recruit to the site from nearby source populations.
10	Prostrate Vernal Pool Navarret (*Navarretia prostrata*)	CNPS list 1B.1 Fed: None State: None	Annual herb. Occurs in coastal sage scrub and wetland-riparian habitats up to 2296 feet in elevation. Minute, slightly purple inflorescence blooms April through July.	Low: This species has a very low potential to occur due to its rarity and the general lack of potential for species to recruit to the site from nearby source populations.
11	Salt Marsh Bird's Beak *(Chloropyron maritimum ssp. maritimum)*	CNPS list 1B.2 Fed: Endangered State: Endangered	Annual herb. Occurs in coastal salt marshes and coastal dunes up to 33 feet in elevation.	Low: This species has low potential to occur within the study area due to habitat fragmentation and disturbance.
12	San Bernardino Aster *(Symphyotrichum defoliatum)*	CNPS list 1B.2 Fed: None State: None	Perennial herb. Occurs in freshwater marshes, coastal sage scrub, and southern oak woodland up to 4921 feet in elevation.	Low: This species has a very low potential to occur due to lack of suitable habitat, high degree of disturbance, and the general lack of potential for species to recruit to the site from nearby source populations.
13	California Orcutt grass *(Orcuttia californica)*	CNPS list 2.2 Fed: Endangered State: Endangered	Annual herb. Occurs in vernal pools up to 2000 feet in elevation.	Absent: This vernal pool species has a low potential to occur in seasonally ponded areas. This species is not expected to occur due to the lack of suitable habitat, a high degree of disturbance and lack of ability to recruit to the site from nearby source populations.
14	Lyon's Pentachaeta (*Pentachaeta lyonii*)	CNPS list 1B.1 Fed: Endangered State: Endangered	Nearly extinct annual herb. Occurs in Chapparal and Valley Grassland habitats. Yellow flower blooms March through August.	Absent: This species has a very low potential to occur due to its rarity and the general lack of potential for species to recruit to the site from nearby source populations.

*Data compiled from CNDDB, 2013 for Long Beach quadrangle, FWS.GOV, CNPS.org and Tidal Influence observations and research

Table 6. Status of known and potentially occurring special status animal species in Colorado Lagoon.

	Special Status Species	Status	Habitat	Potential to Occur On-Site
	Fauna			
1	Belding's Savannah Sparrow *(Passerculus sandwichensis beldingi)*	Fed: None State: Endangered	Obligate to southern coastal salt marshes and nests in the upper marsh zone or in non-tidal marsh areas near tidal regions.	Present: This species has been observed foraging throughout the restored salt marsh habitat along the eastern shoreline.
2	Black Skimmer *(Rynchops niger)*	Fed: None State: SSC	They are found nesting and roosting on open sandy beaches, shell bars with sparse vegetation or on mats os sea wrack in salt marshes. Feed on fish skimmed from the surface of the water.	Present: This species has been documented foraging and has a year-round presence on sandy beach areas in Long Beach
3	California brown pelican *(Pelacanus occidentalis californicus)*	Fed: Delisted State: Delisted (FP)	Colonial nester on coastal islands just outside the surf line. Nests or roosts on coastal islands of small to moderate size which afford immunity from attack by ground-dwelling predators.	Present: California Brown Pelicans regularly forage in the Lagoon's open water habitat and roost on the beaches and infrastructure.
4	California Least Tern *(Sterna antillarum browni)*	Fed: Endangered State: Endangered	Nests along the coast on bare or sparsely vegetated, flat substrates such as sandy beaches, alkali flats, land fills, or paved areas.	Present: This summer migrant has been identified foraging in open water areas and training offspring at Colorado Lagoon.
5	Monarch Butterfly *(Danaus plexippus)*	Fed: None State: None	Winter roosts are located in wind-protected tree groves with nectar and water sources nearby. Eucalyptus. Monterey Pine and Cypress trees are common roosting trees.	Present: FOCL has regularly observed this species during the winter within tall trees.
6	Salt Marsh Wandering Skipper (*Panoquina errans*)	Fed: None State: SSC	Larvae are depedent on on salt grass found in salt marsh and alkali meadow habitats. Adults nectar on salt marsh plant species.	Present: This species is present throughout the Colorado Lagoon within upper marsh and non-tidal stands of its host plant *Distichlis spicata*.

7	Pacific Green Sea Turtle *(Chelonia mydas)*	Fed: Threatened State: None IUCN: Endangered	This circumglobal species is found in tropical seas and to a lesser extent in subtropical waters. Despite its worldwide distribution this marine turtle nests exclusively on tropical sandy beaches.	High: This migratory reptile is a resident in the San Gabriel River and has also been observed throughout Alamitos Bay.
8	Salt Marsh Tiger Beetles *(Cicindella hemorrhagica hemorrhagica)*	Fed: None State: None	This predatory beetle inhabits salt marshes, mudflats and salt pannes where they make burrows in the intertidal zone.	High: This species has been documented on tidal mudflats around the Colorado Lagoon.
9	S-Banded Tiger Beetles *(Cicindella trifasciata sigmoides)*	Fed: None State: None	This predatory beetle inhabits salt marshes, mudflats and salt pannes where they make burrows in the intertidal zone.	High: This species has been documented on tidal mudflats around the Colorado Lagoon.
10	Western Snowy Plover *(Charadrius alexandrinus nivosus)*	Fed: Threatened State: SSC	This species occurs on sandy beaches, salt pond levees and along the shores of large alkali lakes. It needs sandy or gravelly substrates for nesting.	High: This is a regular foraging and loafing species within nearby coastal salt marshes like Los Cerritos Wetlands. This species has not been positively identified making use of habitat at Colorado Lagoon. However, there is a high potential for this species to be present due to correct habitat type.
11	Big Free-tailed Bat *(Nyctinomops macrotis)*	Fed: None State: SSC	Day roosts in caves, crevices, and occasionally hollow trees. Forages in grasslands, shrublands, woodlands, and forest in western North America.	Low: While, sutiable foraging exists in the project area's vicinity, day and night roosting opportunities are limited.
12	Coast Horned Lizard *(Phrynosoma blainvillii)*	Fed: None State: SSC	Occurs in coastal valley, foothill, scrub and riparian habitats. Feeds primarily on the native harvester ant.	Low: There is a low potential for the presence of this reptile because the food source for this species is not abundant due to the urbanization influenced invasion of the Argentine ant.

13	Pacific Pocket Mouse *(Perognathus longimembris pacificus)*	Fed: Endangered State: None	Occupies loose sandy soils supporting sparse coastal sage scrub, non-native grassland, and ruderal habitats.	Low: This species has a low potential to occur due to severe habitat disturbance and fragmentation.
14	Sandy Beach Tiger Beetle *(Cicindela hirticollis gravida)*	Fed: None State: None	Inhabits areas adjacent to non-brackish water along the coast of California from San Francisco bay to northern Mexico. Clean, dry, light-colored sand in the upper zone. Subterranean larvae prefer moist sand not affected by wave action.	Low: FOCL documented use of the area by two other species of Tiger Beetle: C. trifasciata sigmoidea and C. hemorrhagica hemorrhagica. Other species may be present in the areas
15	Silver-haired Bat *(Lasionycteris noctivagans)*	Fed: None State: SSC	Primarily a coastal and montane forest dweller feeding over streams, ponds and open brush. Roosts in hollow trees beneath exfoliating bark and abandoned woodpecker holes. This species needs drinking water.	Low: While, sutiable foraging exists in the project area's vicinity, day and night roosting opportunities are limited.
16	Western Beach Tiger Beetle *(Cicindela latesignata latesignata)*	Fed: None State: None	Inhabits mudflats and beaches in Coastal southern California	Low: FOCL documented use of the area by two other species of Tiger Beetle: *C. trifasciata sigmoidea* and *C. hemorrhagica hemorrhagica*. Other species may be present in the areas
17	Western Tidal-Flat Tiger Beetle *(Cicindela gabbii)*	Fed: None State: None	Inhabits marine shoreline within central California and southern California.	Low: FOCL documented use of the area by two other species of Tiger Beetle: *C. trifasciata sigmoidea* and *C. hemorrhagica hemorrhagica*. Other species may be present in the area.
18	Bank Swallow *(Riparia riparia)*	Fed: None State: Threatened	The Bank Swallow nests in colonies in streamside banks across much of North America.	Absent: Habitat in the area is not suitable for foraging or nesting.

*Data compiled from CNDDB, 2013 for Long Beach quadrangle, FWS.GOV and Tidal Influence observations and research

5.0 SUB-AREA SPECIFIC HABITAT DESCRIPTIONS

This section provides a general description of the bank property broken down into several sub-areas: Colorado Lagoon, Marina Vista Park, Marine Stadium and Recreation Park Golf Course (Table 7). The bank property's topography, hydrology, soils, and vegetation are detailed within each sub-area.

Table 7. Existing habitat type acreage by subareas

	Sub-Areas				
Habitat Types	**Colorado Lagoon**	**Marina Vista Park**	**Marine Stadium**	**Rec Park Golf Course**	**Total**
Subtidal Marine (Soft bottom)	11.77	-	0.11	-	11.88
Ornamental	2.54	4.17	0.17	1.67	8.55
Intertidal Flat	4.38	-	0.02	-	4.4
Ruderal Vegetation	2.28	-	-	-	2.28
Developed Land	1.06	0.48	0.27	-	1.81
Southern Coastal Salt Marsh	1.61	-	-	-	1.61
Sandy Beach	1.48	-	-	-	1.48
Diegan Coastal Sage Scrub	1.04	-	-	-	1.04
Southern Dune Scrub	0.11	-	-	-	0.11
Rocky Shoreline	-	-	0.06	-	0.06
Grand Total	26.27	4.65	0.64	1.67	33.22

5.1 Colorado Lagoon (26.27 acres)

General Description: This subarea encompasses the current extents of Colorado Lagoon which is dominated by subtidal marine habitat (11.77 acres) with a shoreline composed of intertidal flats (4.38 acres) and southern coastal salt marsh (1.61 acres). The total upland area is 8.51 acres. The tidal prism is muted which constrains the low and high tides and therefore limits the extents of salt marsh vegetation. The upland portions of this subarea are used for a variety of recreational activities, while some areas have been set aside for habitat conservation. The recreation facilities include a swimming beach, park areas, and perimeter walking trails. Much of the shoreline's topography in the central lagoon and western arm gently slopes towards the water. Several steep sloping areas exist near the culvert and in the northern arm of the Lagoon, including a small portion of coastal bluff along Monrovia Avenue.

Historically much of this area was full tidal wetlands and intertidal flats, however, the natural geomorphology has been completely altered to give the Lagoon its current shape and subtidal areas. Therefore the soils along the shorelines are composed of a mosaic of fill material.

Restoration Potential: This subarea has been the subject of restoration activities since 2008. Non-native vegetation control, native plant installation, storm drain improvements, tidal connection improvements, and the dredging of contaminated soils have all taken place. There are still portions of this subarea in the central lagoon and northern arm that have a high potential for restoration of intertidal and upland habitats. And, the entire Lagoon has a high potential for restoration /improvement of subtidal habitat.

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Project Sub-Areas

500 250 0 500 Feet

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Figure 5. Extents of Project Sub-Areas

5.2 Marina Vista Park (4.65 acres)

General Description: This City park is composed entirely of ornamental landscaping (4.17 acres), primarily turf grass, and developed land (0.48 acres). It is built on fill material that was placed in a former tidal habitat area in preparation for a proposed cross town freeway project that never came to fruition. Now, the Lagoon's tidal connection runs under this park. Separated from Colorado Lagoon by Colorado Street and separated from Marine Stadium by Eliot Street, the park is used mostly for active recreation activities like soccer and softball. Due to this use, this sub area has a very flat topography. A few small depressions exist where turf does not grow and higher salinity soils are apparent. These areas often collect water from the regular irrigation, but do not qualify as jurisdictional wetland habitat.

Restoration Potential: Since this portion of Marina Vista Park is located on the former connection between Colorado Lagoon and Marine Stadium, there is excellent potential for it to be restored into tidal habitats similar to what once existed. This action would also dramatically enhance the conditions of the Colorado Lagoon subarea.

Marina Vista Park

5.3 Marine Stadium (0.64 acres)

General Description: Just 0.64 acres of this 106-acre marine recreation facility is considered to fall within the bank property survey area where the culvert from Colorado Lagoon connects to Alamitos Bay. This subarea is composed of a mixture of developed land (0.27 acres), intertidal flat (0.02 acres), rocky shoreline (0.06 acres), ornamental landscaping (0.17 acres), and subtidal marine habitat (0.11 acres). This portion of Marine Stadium has a full tidal prism and is off limits to human water contact due to high flow velocities caused by the culvert tidal connection. However, this is a popular recreation fishing location. The intertidal flats and rocky shoreline are found in the small portion of the Marine Stadium Marine Reserve that falls into the survey area. The slopes are relatively steep in topography which makes rip-rap necessary to prevent scouring. The soils tend to be high in sand content due to the influence of artificial beach areas throughout the rest of Marine Stadium. This sub area has nearby eelgrass beds in Marine Stadium.

Restoration Potential: There is limited area for creating habitat, but potential exists to remove the culvert and turn this subarea into the mouth of a tidal channel connection with Colorado Lagoon.

Marine Stadium

5.4 Recreation Park Golf Course (1.67 acres)

General Description: This 1.67 acre portion of Little Recreation Golf Course is adjacent to the western arm of Colorado Lagoon. It is composed entirely of ornamental landscape for the purpose of active recreation. The topography gently slopes towards the Lagoon and much of the hydrology is captured by a vegetated bioswale along the northwest edge of the lagoon-golf course interface. This area is regularly irrigated and mowed.

Restoration Potential: Due to its proximity to the Lagoon there is some potential for intertidal habitat to be created in this subarea. However, this concept may interfere with the site's current land use as a public golf course.

6.0 CONCLUSIONS

The disturbed and urbanized habitat within the bank property survey area offers an enormous potential for restoration of coastal habitats. Ornamental vegetation (8.55 acres), ruderal vegetation (2.28 acres), developed land (1.81 acres) and sandy beach (1.48 acres) possess limited habitat value, yet make up 42% of the land cover within the bank property. An opportunity exists to convert a significant portion of these areas into natural tidal and buffer habitats.

Furthermore, another 36% of the bank property is composed of subtidal marine habitat. An opportunity exists to improve the productivity and functionality of this habitat by improving the tidal connection and restoring shallow subtidal areas suitable for the establishment of extensive eelgrass beds.

If left in its current condition, there is a likelihood that the existing tidal habitats within Colorado Lagoon will be limited in their quality and function due to the existing muted tidal connection. Improvement of the connection would improve tidal inundation frequencies, broaden the existing intertidal habitat areas, and increase the function of existing tidal habitats throughout the Lagoon. It will also provide the opportunity to create new intertidal habitats along currently degraded or non-vegetated shorelines.

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Appendix A

Colorado Lagoon Floral and Faunal Species List

Colorado Lagoon Faunal Species Database

	Common Name	Scientific Name
	INVERTEBRATES	
	Phylum Porifera	
1	White Sponge	*Leucosolenia sp.*
	Phylum Bryzoa	
2	Spaghetti Bryozoan	*Zoobotryon verticillatum*
	Phylum Cnidaria	
	Class Hydrozoa	
3	White Hydroid	*Corymorpha palma*
	Class Scyphozoa	
4	Moon Jelly	*Aurelia aurita*
	Phylum Mollusca	
	Class Gastropoda	
5	California Horn Snail	*Cerithidea californica*
6	Cloudy Bubble Snail	*Bulla gouldiana*
7	File Limpet	*Acmaea limatula*
8	Ribbed Limpet	*Acmaea scabra*
9	California Sea Hare	*Aplysia californica*
10	Striped Sea Hare	*Navanax inermis*
11	Salt Marsh Snail	*Assiminea californica*
12	Rude Barrel-Bubble	*Acteocina inculta*
13	Paper Bubble Shell	*Acteocina carinata*
	Class Bivalvia	
14	Bay Mussel	*Mytilus edulis*
15	Littleneck Clam	*Protothaca staminea*
16	Jack-knife Clam	*Tagelus californicus*
17	Quahog Clam	*Mercenaria mercenaria*
18	Smooth Cockle	*Chione fluctifraga*
19	Wavy Cockle	*Chione undatella*
20	Yellow Cockle	*Laevicardium elatum*
21	Asian Mussel	*Musculista senhousia*
22	Manila Clam	*Venerupis philippinarum*
	Class Cephalopoda	
23	Two-Spotted Octopus	*Octopus bimaculoides*
	Phylum Nemertea	
24	Ribbon Worm	*Rhamphogordius sanguineus*
	Phylum Annelida	
25	Polychaete Worm	*Paranais litoralis*
26	Polychaete Worm	*Pseudopolydora paucibranchiata*

INVERTEBRATES		
	Common Name	**Scientific Name**
27	Polychaete Worm	*Polydora ligni*
28	Polychaete Worm	*Polydora nuchalis*
29	Polychaete Worm	*Streblospio benedicti*
30	Polychaete Worm	*Spiophanes duplex*
31	Polychaete Worm	*Spiophanes sp.*
32	Polychaete Worm	*Spionidae*
33	Polychaete Worm	*Capitella capitata*
34	Polychaete Worm	*Cirraformia spirabrancha*
35	Polychaete Worm	*Nephtyid*
36	Polychaete Worm	*Lysaretidae*
37	Polychaete Worm	*Paraonidae*
38	Polychaete Worm	*Ophelidae*
39	Polychaete Worm	*Eteone californica*
	Phylum Arthropoda	
	Class Arachnida	
40	Western Black Widow	*Latrodectus hesperus*
41	Woodlouse Spider	*Dysdera crocata*
42	Silver-backed garden spider	*Argiope argentata*
	Class Crustacea	
43	Amphipod	*Monocorophium sp.*
44	Amphipod	*Grandiderella japonica*
45	Amphipod	*Gammaridea*
46	Pill Bug	*Armadillidium vulgare*
47	Purple Shore Crab	*Hemigrapsus nudus*
48	Red Ghost Shrimp	*Neotrypaea californiensis*
49	Yellow Shore Crab	*Hemigrapsus oregonensis*
50	Striped Shore Crab	*Pachygrapsus crassipes*
51	Small acorn barnacle	*Chthamalus fissus*
52	Tanaidacean	*Leptochelia dubia*
	Class Insecta	
53	European Honeybee	Apis melifera
54	Tobacco Hornworm	Manduca sexta
55	Insect Larvae	Chironomidae larvae
56	Insect Larvae	Ceratapagonidae larvae
57	Insect Larvae	Poduridae larvae
58	Insect Larvae	Ephydra larvae
59	Insect Larvae	Dolichopodidae larvae
60	Insect Larvae	Staphylinidae larvae
61	White Lined-Sphinx Moth	*Hyles lineata*
62	Pygmy Blue Butterfly	*Brephidium exilis*
63	Western Tiger Swallowtail	*Papilo rutulus*
64	Painted Lady	*Vanessa cardui*
65	Mourning Cloak	*Nymphalis antiopa*

INVERTEBRATES		
	Common Name	**Scientific Name**
66	Flame Skimmer	*Libella saturate*
67	Small Cabbage White	*Pieris rapae*
68	Monarch Butterfly	*Danaus plexippus*
69	S-Banded Tiger Beetle	*Cicindelidia trifasciata sigmoidea*
70	Wet Salts Tiger Beetle	*Cicindelidia hemorrhagica hemorrhagica*
71	Green Fruit Beetle	*Cotinus mutabilis*
72	Seven-spot Ladybird Beetle	*Coccinella septempunctata*
73	European Earwig	*Forficula auricularia*
74	Jerusalem Cricket	*Stenopelmatus sp.*
75	American Cockroach	*Periplaneta americana*
76	Tropical House Cricket	*Gryllodes supplicans*
77	Mexican Bush Katydid	*Scudderia mexicana*
	Phylum Echinodermata	
78	Ochre Star	*Pisaster ochraceus*
	Phylum Chordata	
	Class Tunicata	
79	Tunicate	*Styela montereyensis*
80	Tunicate	*Styela plicata*

Colorado Lagoon Faunal Species Database

	VERTEBRATES	
	Common Name	**Scientific Name**
	Phylum Chordata	
	Class Chondrichthyes	
1	Bat Ray	*Myliobatis californicus*
2	Electric Ray	*Torpedo californica*
3	Gray Smoothhound	*Mustelus californicus*
4	Round Sting Ray	*Urobatis haleri*
5	Shovelnose Guitarfish	*Rhinobatus productus*
6	Thornback Ray	*Raja clavata*
	Class Osteichthyes	
1	Arrow Goby	*Clevelandia ios*
2	Bay Pipe Fish	*Syngnathus griseolineatus*
3	California Halibut	*Paralichthys californicus*
4	California Killifish	*Fundulus parvipinnis*
5	Diamond Turbot	*Hypsopsetta guttulata*
6	Jacksmelt	*Atherinops californiensis*
7	Longjaw Mudsucker	*Gillichthys mirabilis*
8	Pacific Barracuda	*Sphyraena argentea*
9	Shiner Perch	*Cymatogaster aggregata*
10	Staghorn Sculpin	*Leptocottus armatus*
11	Stripped Mullet	*Mugil cephalus*
12	Topsmelt	*Atherinops affinis*
13	White Sea Bass	*Atractoscion nobilis*
14	Yellowfin Croaker	*Umbrina roncador*
	Class Reptilia	
1	Western Fence Lizard	*Sceloporus occidentalis*
2	Southern Alligator Lizard	*Elgaria multicarinata*
	Class Aves	
1	Allen's Hummingbird	*Selasphorus sasin*
2	American Avocet	*Recurvirostra americana*
3	American Coot	*Fulica americana*
4	American Crow	*Corvus brachyrhynchos*
5	American Goldfinch	*Carduelis tristis*
6	American Kestrel	*Falco sparverius*
7	American Pipit	*Anthus rubescens*
8	American White Pelican	*Pelecanus erythrorhynchos*
9	American Widgeon	*Anas americana*
10	Anna's Hummingbird	*Calypte anna*
11	Barn Swallow	*Hirundo rustica*
12	Belding's Savannah Sparrow	*Passerculus sandwichensis beldingi*
13	Belted Kingfisher	*Ceryle alcyon*
14	Black Pheobe	*Sayornis nigricans*
15	Black Skimmer	*Rynchops niger*

VERTEBRATES		
	Common Name	**Scientific Name**
16	Black-bellied Plover	*Pluvialis squatarola*
17	Black-crowned Night-Heron	*Nycticorax nycticorax*
18	Black-necked Stilt	*Himantopus mexicanus*
19	Bonaparte's Gull	*Larus philadelphia*
20	Brewer's Blackbird	*Euphagus cyanocephalus*
21	Bufflehead	*Bucephala albeola*
22	Bushtit	*Psaltriparus minimus*
23	California Brown Pelican	*Pelecanus occidentalis*
24	California Gull	*Larus californicus*
25	California Least Tern	*Sternula antillarum browni*
26	Canada Geese	*Branta canadensis*
27	Caspian Tern	*Hydroprogne caspia*
28	Cassin's Kingbird	*Tyrannus vociferans*
29	Cinnamon Teal	*Anas cyanoptera*
30	Clark's Grebe	*Aechmorphus clarkii*
31	Cliff Swallow	*Petrochelidon pyrrhonota*
32	Common Goldeneye	*Bucephala clangula*
33	Common Loon	*Gavia immer*
34	Common Raven	*Corvus corax*
35	Common Yellowthroat	*Geothlypis trichas*
36	Cooper's Hawk	*Accipter cooperii*
37	Costa's Hummingbird	*Calypte costae*
38	Dark-eyed Junco	*Junco hyemalis*
39	Double-crested Cormorant	*Phalacrocorax auritus*
40	Dunlin	*Calidris alpina*
41	Eared Grebe	*Podiceps nigricollis*
42	European Starling	*Stunus vulgaris*
43	Forster’s Tern	*Sterna forsteri*
44	Gadwall	*Anas strepera*
45	Glaucous-Winged Gull	*Larus glaucescens*
46	Great Blue Heron	*Ardea herodias*
47	Great Egret	*Ardea alba*
48	Greater Scaup	*Aythya marila*
49	Greater Yellowlegs	*Tringa melanoleuca*
50	Great-tailed Grackle	*Quiscalus mexicanus*
51	Green Heron	*Butorides striatus*
52	Green-Winged Teal	*Anas crecca*
53	Heermann’s Gull	*Larus heermanni*
54	Herring Gull	*Larus smithsonianus*
55	Horned Grebe	*Podiceps auritus*
56	House Finch	*Carpodacus mexicanus*
57	House Sparrow	*Passer domesticus*
58	Killdeer	*Charadrius vociferous*
59	Lark Sparrow	*Chondestes grammacus*

VERTEBRATES		
	Common Name	**Scientific Name**
60	Lazuli Bunting	*Passerina amoena*
61	Least Sandpiper	*Calidris minutilla*
62	Least Tern	*Sternula antillarum browni*
63	Lesser Goldfinch	*Carduelis psaltria*
64	Lesser Scaup	*Aythya affinis*
65	Long-billed Curlew	*Numenius americanus*
66	Long-billed Dowitcher	*Limnodromus scolopaceus*
67	Mallard	*Anas platyrhynchos*
68	Marbled Godwit	*Limosa fedoa*
69	Mitred Parakeet	*Aratinga reitrata*
70	Mourning Dove	*Zenaida macroura*
71	Northern Mockingbird	*Mimus polyglottos*
72	Northern Pintail	*Anas acuta*
73	Northern Shoveler	*Anas podiceps*
74	Orange-Crowned Warbler	*Vermivora celata*
75	Osprey	*Pandion haliaetus*
76	Peregrine Falcon	*Falco peregrinus*
77	Pied Billed Grebe	*Podilymbus podiceps*
78	Red-breasted Merganser	*Mergus serrator*
79	Redhead	*Aythya americana*
80	Red-shouldered Hawk	*Buteo lineatus*
81	Red-tailed Hawk	*Buteo jamaicensis*
82	Red-throated Loon	*Gavia stellata*
83	Ring-billed Gull	*Larus delawarensis*
84	Rock Dove (Common Pigeon)	*Columbia livia*
85	Ross's Goose	*Chen rossii*
86	Ruby-crowned Kinglet	*Regulus calendula*
87	Ruddy Duck	*Oxyura jamaicensis*
88	Sanderling	*Calidris alba*
89	Say’s Pheobe	*Sayornis saya*
90	Semipalmated Plover	*Charadrius semipalmatus*
91	Short-billed Dowitcher	*Limnodromus griseus*
92	Snowy Egret	*Egretta thula*
93	Song Sparrow	*Melospizza melodia*
94	Spotted Sandpiper	*Actitis macularia*
95	Surf Scoter	*Melanitta perspicillata*
96	Tropical Kingbird	*Tyrannus melancholicus*
97	Turkey Vulture	*Cathartes aura*
98	Western Bluebird	*Sialia mexicana*
99	Western Grebe	*Aechmorphus occidentalis*
100	Western Gull	*Larus occidentalis*
101	Western Kingbird	*Tyrannus verticalis*
102	Western Meadowlark	*Sturnella neglecta*
103	Western Sandpiper	*Calidris mauri*

VERTEBRATES		
	Common Name	**Scientific Name**
104	Western Scrubjay	*Aphelocoma californica*
105	Wood Duck	*Aix sponsa*
106	Whimbrel	*Numenius phaeopus*
107	White-crowned Sparrow	*Zonotrichia leucophrys*
108	White-faced Ibis	*Plegadis chihi*
109	Willet	*Tringa semipalmatus*
110	Yellow-rumped Warbler	*Dendroica coronata*
	Class Mammalia	
1	Virginia Opossum	*Didelphis virginiana*
2	Eastern Fox Squirrel	*Sciurus niger*
3	Botta's Pocket Gopher	*Thomomys bottae*
4	Domestic Cat	*Felis catus*
5	Domestic Dog	*Canis lupus familiaris*
6	Coyote	*Canis latrans*
7	Striped Skunk	*Mephitis mephitis*
8	Raccoon	*Procyon lotor*
9	House Rat	*Rattus rattus*

Colorado Lagoon Floral Species Database

	Native Plant Species	
	Scientific Name	**Common Name**
1	*Achillea millefolium*	Yarrow
2	*Acmispon glaber*	Deerweed
3	*Agave shawii*	Coastal Agave
4	*Alnus rhombifolia*	White Alder
5	*Ambrosia chamissonis*	Annual Burweed
6	*Ambrosia psilostachya*	Western Ragweed
7	*Anemopsis californica*	Yerba Mansa
8	*Artemisia californica*	California Sagebrush
9	*Arthrocnemum subterminale*	Glasswort
10	*Astragalus trichopodus*	Santa Barbara Milk Vetch
11	*Atriplex watsonii*	Watson’s Salt Bush
12	*Baccharis emoryii*	Emory's Baccharis
13	*Baccharis pilularis*	Coyote Brush
14	*Baccharis salicifolia*	Mulefat
15	*Batis maritima*	Saltwort
16	*Calystegia macrostegia*	Island Morning Glory
17	*Calystegia soldanella*	Beach Morning Glory
18	*Camissonia cheoranthifolia*	Beach Evening Primrose
19	*Ceanothus megacarpus*	Big Pod Ceanothus
20	*Ceanothus spinosus*	Greenbark Ceanothus
21	*Clarkia unguiculata*	Elegant Clarkia
22	*Cleome isomeris*	Bladderpod
23	*Conyza canadensis*	Canadian Horseweed
24	*Coreopsis gigantea*	Giant Coreopsis
25	*Coreopsis maritima*	Sea Dahlia
26	*Cressa truxillensis*	Alkali Weed
27	*Cuscuta salina*	Salt Marsh Dodder
28	*Cylindropuntia prolifera*	Coastal Cholla
29	*Cyperus eragrostis*	Tall Flatsedge
30	*Dichelostemma capitatum*	Blue Dicks
31	*Distichlis littoralis*	Shore Grass
32	*Distichlis spicata*	Salt Grass
33	*Dudleya edulis*	Fingertips
34	*Dudleya pulverulenta*	Chalk Dudleya
35	*Dudleya virens*	Green Liveforever
36	*Eleocharis macrostachya*	Spike Rush
37	*Encelia californica*	California Sunflower
38	*Epilobium canum*	California Fuchsia
39	*Ericameria ericoides*	Mock Heather
40	*Eriogonum cinereum*	Ashyleaf Buckwheat

Native Plant Species		
	Scientific Name	**Common Name**
41	*Eriogonum fasciculatum*	California Buckwheat
42	*Eriogonum gigantea*	St. Catherine's Lace
43	*Eriogonum parvifolium*	Dune Buckwheat
44	*Eschscholzia californica*	California Poppy
45	*Euphorbia misera*	Cliff Spurge
46	*Frageria chiloensis*	Beach Strawberry
47	*Frankenia salina*	Alkali Heath
48	*Galvezia speciosa*	Showy Island Snapdragon
49	*Gilia capitata*	Globe Gilia
50	*Hazardia squarrosa*	Sawtooth Goldenbush
51	*Hesperoyucca whipplei*	Our Lord's Candle
52	*Heteromeles arbutifolia*	Toyon
53	*Iris douglasiana*	Douglas Iris
54	*Isocoma menziesii*	Coast Goldenbush
55	*Jaumea carnosa*	Fleshy Jaumea
56	*Juncus acutus ssp. leopoldii*	Spiny Rush
57	*Lasthenia californica*	Coast Goldfields
58	*Layia platyglossa*	Tidy Tips
59	*Leymus condenstatus*	Giant Rye Grass
60	*Leymus triticoides*	Alkali Rye
61	*Limonium californicum*	Sea Lavender
62	*Linum lewisii*	Blue Flax
63	*Lonicera subspicata*	Chaparral Honeysuckle
64	*Lupinus bicolor*	Minature Lupine
65	*Lupinus chamissonis*	Dune Bush Lupine
66	*Lupinus succulentus*	Arroyo Lupine
67	*Lycium californicum*	California Boxthorn
68	*Malosma laurina*	Laurel Sumac
69	*Marah macrocarpus*	Wild Cucumber
70	*Melica imperfecta*	Coast Melic
71	*Mimulus aurantiacus*	Sticky Monkeyflower Bush
72	*Mirabilis californica*	Wishbone Bush
73	*Muhlenbergia rigens*	Deergrass
74	*Nassella pulchra*	Purple Needle Grass
75	*Nemophila menziesii*	Baby Blue Eyes
76	*Opuntia littoralis*	Coastal Prickly Pear
77	*Pinus torreyana*	Torrey Pine
78	*Platanus racemosa*	Western Sycamore
79	*Populus fremontii*	Fremont Cottonwood
80	*Prunus ilicifolia*	Hollyleaf Cherry
81	*Quercus agrifolia*	Live Coast Oak
82	*Rhamnus californica*	Coffeeberry

Native Plant Species		
	Scientific Name	**Common Name**
83	*Rhamnus crocea*	Spiny Redberry
84	*Rhus integrifolia*	Lemonade Berry
85	*Rhus ovata*	Sugar Bush
86	*Ribes indecorum*	White Flowering Currant
87	*Ribes speciosum*	Fushia Flowering Gooseberry
88	*Rosa californica*	California Rose
89	*Salicornia bigelovii*	Annual Pickleweed
90	*Salicornia pacifica*	Common Pickleweed
91	*Salix gooddingii*	Black Willow
92	*Salix lasiolepis*	Arroyo Willow
93	*Salvia leucophylla*	Purple Sage
94	*Salvia mellifera*	Black Sage
95	*Schoenoplectus robustus*	Salt Marsh Bulrush
96	*Sisyrinchium bellum*	Blue-Eyed grass
97	*Spartina foliosa*	Pacific Cordgrass
98	*Spergularia marina*	Sand Spurry
99	*Suaeda esteroa*	Estuary Sea-blite
100	*Suaeda taxifolia*	Woolly Sea-blite
101	*Sueada calceoliformis*	Horned Sea-blite
102	*Triglochin concinna*	Arrow-grass
103	*Typha domingensis*	Southern Cattail
104	*Umbellularia californica*	California Laurel
105	*Zostera marina*	Eelgrass

Non-Native Plant Species		
	Scientific Name	**Common Name**
1	*Acacia auriculiformis*	Earleaf Acacia
2	*Ailanthus altissma*	Tree of Heaven
3	*Anagallis arvensis*	Scarlet Pimpernel
4	*Asparagus setaceus*	Common Asparagus Fern
5	*Atriplex prostrata*	Fat-hen
6	*Atriplex semibaccata*	Austrailian Salt Bush
7	*Avena barbata*	Slim Oat
8	*Bassia hyssopifolia*	Five-hook Bassia
9	*Bromus diandrus*	Ripgut Brome
10	*Cakile maritima*	Sea Rocket
11	*Callistemon citrinus*	Crimson Bottlebrush
12	*Capsella bursa-pastoris*	Shepherd's Purse
13	*Carpobrotus edulis*	Hottentot-fig
14	*Chenopodium album*	Lamb's Quarters
15	*Cinnamomum camphora*	Camphor Tree
16	*Cotula coronipifolia*	Brass Buttons
17	*Cupaniopsis anacardiodes*	Carrotwoood Tree
18	*Cynodon dactylon*	Bermuda Grass
19	*Ehrharta erecta*	Panic Veldtgrass
20	*Erodium cicutarium*	Common Stork's Bill
21	*Erythirina caffra*	Coast Coral Tree
22	*Eucalyptus citriodara*	Lemon Scented Gum
23	*Eucalyptus ficifolia*	Red Flowering Gum
24	*Eucalyptus globulus*	Blue Gum
25	*Ficus marcophylla*	Moreton Bay Fig
26	*Helminthotheca echiodes*	Bristly Ox Tongue
27	*Hordeum vulgare*	Common Barely
28	*Jacaranda mimosifolia*	Jacaranda
29	*Lagunaria paternsonii*	Cow Itch Tree
30	*Limonium ramosissimum*	Algerian Sea-lavender
31	*Lolium multiflorum*	Italian Ryegrass
32	*Magnolia grandifolia*	Southern Magnolia Tree
33	*Medicago polymorpha*	Bur-clover
34	*Melilotus album*	White Sweet-clover
35	*Melilotus indicus*	Yellow Sweet-clover
36	*Mesembryanthemum nodiflorum*	Slender-leaved Ice Plant
37	*Myoporum laetum*	Lollypop Tree
38	*Nasella tenuissima*	Mexican Feathergrass
39	*Olea europaea*	Olive Tree
40	*Oxalis pes-caprae*	Bermuda Buttercup
41	*Parapholis incurva*	Sickle Grass
42	*Paspalum dilatatum*	Dallis Grass

Non-Native Plant Species		
	Scientific Name	**Common Name**
43	*Pennisetum clandestinum*	Kikuyu Grass
44	*Pennisetum setaceum*	Purple Fountain Grass
45	*Phoenix canariensis*	Canary Island Palm
46	*Phormium sp.*	New Zealand Flax
47	*Pinus canariensis*	Canary Island Pine
48	*Pinus pinaster*	Cluster Pine
49	*Plantago lanceolata*	English Plantain
50	*Plantago major*	Common Plantain
51	*Poa annua*	Annual Blue grass
52	*Polypogon monspeliensis*	Rabbit's Foot Grass
53	*Psidium sp.*	Guava
54	*Psuedognaphallium luteaalbum*	Everlasting Cud Weed
55	*Quercus ilex*	Holly Oak
56	*Raphanus sativus*	Wild Radish
57	*Raphiolepis indica*	Indian Heath
58	*Salsola tragus*	Russian Thistle
59	*Schinis molle*	Peruvian Pepper
60	*Schinus terebinthifolius*	Brazilian Pepper Tree
61	*Sisymbrium irio*	London Rocket
62	*Sonchus asper ssp. asper*	Prickly sow thistle
63	*Sonchus oleraceus*	Sow Thistle
64	*Sporobolus airoides*	Alkali Dropseed
65	*Taraxacum officinale*	Common Dandelion
66	*Tropaeolum majus*	Garden Nasturtium
67	*Ulmus parvifolia*	Chinese Elm
68	*Urtica urens*	Annual Stinging Nettle
69	*Washingtonia robusta*	Mexican Fan Palm
70	*Malva parviflorum*	Cheeseweed

Acronyms

CCA	California Coastal Act
CCC	California Coastal Commission
CDFG	California Department of Fish & Game
CDFW	California Department of Fish & Wildlife
CDOGGR	California Division of Oil, Gas & Geothermal Resources
CEQA	California Environmental Quality Act
CNNDB	California Natural Diversity Database
CNPS	California Native Plant Society
CPRC	California Public Resource Code
CSULB	California State University, Long Beach
EO	Executive Order
ESA	environmental site assessment
FE	Federally Endangered
FEMA	Federal Emergency Management Agency
FOCL	Friends of Colorado Lagoon
GPS	Global Positioning System
IIRMES	Institute for Integrated Research on Materials, Environment and Society
IUCN	International Union for Conservation of Nature
JDR	Jurisdictional Delineation Report
LBC	City of Long Beach
LCP	Local Coastal Plan
M&N	Moffat & Nichol
MG Zone	Industrial Zone
MHTL	Mean high tide line
NEPA	National Environmental Policy Act
NOAA	National Oceanic and Atmospheric Association
OHWM	Ordinary High Water Mark
RHA	Rivers and Harbors Act
RWQCB	Regional Water Quality Control Board
SCC	California State Coastal Conservancy
SE	State Endangered
SLC	State Lands Commission
USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey