

**Appendix D Biological Resources Assessment and
Wetland Delineation**

Appendices

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Biological Resources Assessment
and
Wetland Delineation
Southeast Area Development and Improvement Plan

SUBMITTED TO



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September 2015
Rev. January 2016

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EXECUTIVE SUMMARY

On behalf of the City of Long Beach, VCS Environmental (VCS), in association with Coastal Resources Management, Inc., and Hamilton Biological, has prepared this Biological Resources Assessment and Wetland Delineation for the update to the Specific Plan for the Southeast Area Development Improvement Plan (SEADIP). The Study Area, which encompasses the entire SEADIP Planning Area, is at the southeast edge of the City of Long Beach, California, within Los Angeles County and bordering Orange County (Figure ES-1). The Planning Area generally consists of the area south of 7th Street, east of Bellflower Street, south of Colorado Street, east of the Long Beach Marine Stadium and Alamitos Bay docks, and north and west of the Long Beach city boundary. The Los Cerritos Channel and San Gabriel River are included in the Study Area (Figure ES-2). The SEADIP Study Area encompasses approximately 1,400 acres with Residential, Commercial, Public/Institution, Parks and Recreation, Utilities, and Open Space land use designations. Most of the SEADIP Study Area is a part of the Local Coastal Program, as required by the California Coastal Act.

SEADIP provides for a total community of residential, business, and light industrial uses integrated by an extensive system of parks, open space, and trails. The SEADIP Specific Plan guides development within the planning area and applies development standards relative to building orientation and size, as well as land use, zoning, wetland resources, and infrastructure, among other things. In support of the Specific Plan, VCS conducted an analysis of biological resources associated with the SEADIP Planning Area and this report is intended to satisfy the biological resource needs of the California Environmental Quality Act (CEQA). This report documents the results of past and recent surveys and research and the potential impacts to biological resources.

Land Cover Types/Vegetative Communities

Six land cover types (three plant communities and three non-vegetated cover types) were observed and mapped within the SEADIP Study Area. Acreage of land cover types are provided in Table ES-1.

Table ES-1. Community/Land Cover Types within the Study Area

Community or Land Cover Type	Approx. Acreage
Developed	920
Park Land	82
Undeveloped, Wetland	175
Undeveloped, Upland	75
Open Water	168
Mineral Extraction	55
Total Acreage	1,475

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Legend

 Study Area



Approximate Project Location

Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP,

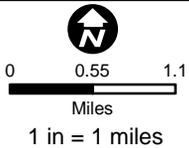
Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

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VCS Environmental
949.489.2700

Map Created:
September 17, 2015



Data Source: Placeworks;
City of Long Beach
1977 SEADIP Boundary;
ESRI
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SEADIP
Project Location Map
FIGURE ES-1

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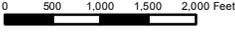


Source: Esri, DigitalGlobe,
GeoEye, i-cubed, Earthstar

Prepared By:

 VCS Environmental

Map Created:
 September 10, 2015



 1 in = 2,000 ft

Data Source: Placeworks;
 City of Long Beach
 1977 SEADIP Boundary;
 ESRI

SEADIP
 Study Area

FIGURE ES-2

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Special Status Plants

Plant species listed as endangered, threatened, candidate, or state rare pursuant to the Federal or California Endangered Species Acts (FESA; CESA) observed within the Study Area are listed in Table ES-2; the status of the listing of each species is also provided. Consultation under the FESA and CESA are required for potential impacts to listed species; the California Native Plant Society created the California Rare Plant Ranks (CRPR) in an effort to categorize degrees of concern. CNPS, Rare Plant Program. 2015.

Table ES-2. Special Status Plant Species Found within the Study Area

Scientific Name	Common Name	Status
<i>Astragalus pycnostachyus</i> var. <i>lanosissimus</i>	Ventura Marsh Milk-vetch	CNPS list 1B.1 Federal: Endangered State: Endangered
<i>Atriplex coulteri</i>	Coulter's Saltbush	CNPS list 1B.1
<i>Atriplex parishii</i>	Parish's Brittlescale	CNPS list 1B.2
<i>Atriplex serenana</i> var. <i>daviesii</i>	Davidson's saltscale	CNPS list 1B.1
<i>Calystegia sepium</i> ssp. <i>binghamiae</i>	Santa Barbara Morning-glory	CNPS list 1B.2
<i>Camissonia lewisii</i>	Lewis' Evening Primrose	CNPS list 1B.1
<i>Centromadia parryi</i> ssp. <i>australis</i>	Southern Tarplant	CNPS list 1B.1
<i>Chloropyron maritimum</i> ssp. <i>maritimum</i>	Salt Marsh Birds Beak	CNPS list 1B.2 Federal: Endangered State: Endangered
<i>Juncus acutus</i> ssp. <i>leopoldii</i>	Southwestern Spiny Rush	CNPS list 4B.2
<i>Lasthenia glabrata</i> ssp. <i>coulteri</i>	Coulter's Goldfields	CNPS list 4
<i>Lycium californicum</i>	California Boxthorn	CNPS list 3
<i>Nama stenocarpum</i>	Mud Nama	CNPS list 1B.1
<i>Nasturtium gambelii</i>	Gambel's Watercress	CNPS list 1B.1 Federal: Endangered State: Endangered
<i>Nemacaulis denudata</i> var. <i>denudata</i>	Coast Woolly Heads	CNPS list 4.2
<i>Orcuttia californica</i>	California Orcutt grass	CNPS list 2.2 Federal: Endangered State: Endangered
<i>Sagittaria sanfordii</i>	Sanford's arrowhead	CNPS list 2.2
<i>Sidalcea neomexicana</i>	Salt Spring Checkerbloom	CNPS list 1B.2
<i>Suaeda esteroa</i>	Estuary Seablite	CNPS list 1B.1
<i>Suaeda taxifolia</i>	Woolly Seablite	CNPS list 1B.2
<i>Symphyotrichum defoliatum</i>	San Bernardino Aster	CNPS list 1B.2
<i>Zoserta marina</i>	Eelgrass	NMFS Habitat of Particular Concern

Source: *Tidal Influence (2012)*; Data compiled from CNNDDB, 2012 for Seal Beach and Los Alamitos quadrangle and from LCWA Habitat Assessment.

California Rare Plant Rank

- 1A = Extirpated in California, rare or extinct elsewhere
- 1B = Rare, threatened, or endangered in California and elsewhere
- 2A = Rare in California, but not elsewhere; Presumed extirpated or extinct in California
- 2B = Rare in California, but not elsewhere; Rare, threatened, or endangered
- SX = All California sites are extirpated
- S1 = Critically imperiled
- S2 = Imperiled
- S3 = Vulnerable
- S4 = Apparently secure in California

Threat Ranks

- 0.1-Seriously threatened in California
- 0.2-Moderately threatened in California
- 0.3-Not very threatened in California

Special Status Wildlife

Wildlife species listed as endangered, threatened, candidate, or state rare pursuant to FESA or CESA have been observed within the SEADIP Planning Area Study Area. These species are listed in Table ES-3.

Table ES-3. Special Status Wildlife Species Found within the SEADIP Planning Area

Scientific Name	Common Name	Status
<i>Agelaius tricolor</i>	Tricolored Blackbird	State: SSC
<i>Asio flammeus</i>	Short-eared Owl	State: WL
<i>Athene cunicularia</i>	Burrowing Owl	State: SSC
<i>Charadrius alexandrinus nivosus</i>	Western Snowy Plover	State: SSC Federal: Threatened
<i>Chelonia mydas</i>	Pacific Green Sea Turtle	Federal: Threatened IVCN: Endangered
<i>Cicindella trifasciata sigmoides</i>	Salt Marsh Tiger Beetles	--
<i>Circus cyaneus</i>	Northern Harrier	State: SSC
<i>Coccyzus americanus occidentalis</i>	W. Yellow-billed Cuckoo	State: SSC Federal: Candidate
<i>Empidonox trailii extimus</i>	Southwestern Willow Flycatcher	State: Threatened Federal: Endangered
<i>Emys marmorata</i>	Western Pond Turtle	State: SSC Federal: SSC
<i>Eucyclobobius newberryi</i>	Tidewater Goby	State: Endangered Federal: Endangered
<i>Eumops perotis californicus</i>	Western Mastiff Bat	State: SSC
<i>Icteria virens</i>	Yellow-Breasted Chat	State: SSC
<i>Lanius ludovicianus</i>	Loggerhead Shrike	State: SSC
<i>Lasiurus xanthinus</i>	Western Yellow Bat	State: SSC
<i>Microtus californicus stephensi</i>	South Coast Marsh Vole	State: SSC
<i>Panoquina errans</i>	Salt Marsh Wandering Skipper	State: SSC

Scientific Name	Common Name	Status
<i>Passerculus sandwichensis beldingi</i>	Belding's Savannah Sparrow	State: Endangered
<i>Phrynosoma blainvillii</i>	Pacific Pocket Mouse	Federal: Endangered
<i>Perognathus longimembris pacificus</i>	Coast Horned Lizard	State: SSC
<i>Polioptila californica californica</i>	Coastal California Gnatcatcher	State: SSC Federal: Threatened
<i>Rallus longirostris levipes</i>	Light-footed Clapper Rail	State: Endangered Federal: Endangered
<i>Rynchops niger</i>	Black Skimmer	State: SSC
<i>Sorex ornatus salicornicus</i>	Southern California Saltmarsh Shrew	State: SSC
<i>Sterna antillarum browni</i>	California Least Tern	State: Endangered Federal: Endangered
<i>Vireo bellii pusillus</i>	Least Bell's Vireo	State: Endangered Federal: Endangered

Source: Tidal Influence (2012)

SSC: Species of Special Concern

- S1 = Critically imperiled
- S2 = Imperiled
- S3 = Vulnerable
- S4 = Apparently secure in California

Critical Habitat/Essential Fish Habitat

The USFWS's online service for information regarding Threatened and Endangered Species Final Critical Habitat designation within California was reviewed to determine if any critical habitat has been designated within the Study Area. The U.S. Fish and Wildlife Service has not designated critical habitat in the Study Area for any species listed as threatened or endangered. Essential Fish Habitat (EFH), which is regulated by the National Oceanic and Atmospheric Administration's National Marine Fisheries Service and includes bay, estuarine, and eelgrass habitats (Habitats of Particular Concern (HAPC)). Due to the presence of endangered green sea turtles, eelgrass, which is a food source for green turtles, is considered a HAPC for this species. The San Gabriel River is likely considered EFH because of the presence of green sea turtles that are becoming more commonly observed there, in Alamitos Bay, and the Anaheim Bay/Sunset Harbor/Huntington Harbor complex.

Jurisdictional Waters

Several formal wetland delineations have been conducted in the SEADIP Study Area, documenting the conditions and identifying jurisdictional Waters of the United States (U.S.) regulated by the United States Army Corps of Engineers (Corps) and the Regional Water Quality Control Board (RWQCB). The SEADIP Study Area also contains jurisdictional Waters of the State regulated by the California Department of Fish and Wildlife (CDFW) and the California Coastal Commission (Coastal Commission). Approximately 176 acres of potentially jurisdictional wetland is found within the SEADIP Study Area. Based on past reports, permit applications, and general observations, the approximate acreage of wetlands outside of public

parks is listed in Table ES-4; the table references the Subareas found in the existing PD-1. Figure ES-3 shows the locations of the Subareas within the PD-1 boundary.

VCS was unable to conduct site visits to confirm the presence or absence of wetlands on Subareas 19. Subarea 19 is under the jurisdiction of the California Energy Commission and thus redevelopment of the electrical generator does not require City of State approvals.

Table ES-4. Approximate Acreage of Wetland Area in SEADIP Planning Area

PD-1 Subarea	Ownership	Assumed Wetland Acreage
11b	Alamitos Bay Partnership*	0.95
11a, 33	Synergy	115.47
25	City of Long Beach	22.57
26	LCWA/Bryant	21.14
27	LCWA/Bryant/State Lands Commission	10.72
28	County of Orange	2.70
29	Marina Shores	0.41
30	City of Long Beach (San Gabriel River)	1.45
TOTAL		~175

* Potential wetland impact

Source: VCS Environmental; Glenn Lukos Associates (2014); AECOM (2010); Tidal Influence (2012); LSA (2009); Huffman-Broadway Group, Inc. (2008); Endemic Environmental Services, Inc. (2015).



Prepared By:



VCS Environmental
949.489.2700

Source Date:
April, 2014

Data Source: Southeast Area Development and Improvement Plan Update
Cooperative Habitat Restoration and Development Planning Opportunities & Constraints (VCS, 2014)

SEADIP
SEADIP (PD-1) Subareas
FIGURE ES-3

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Regional Connectivity/Wildlife Movement

The San Gabriel River is a corridor servicing the Pacific green sea turtle and numerous species of fish and waterfowl. The Pacific Flyway is a major north-south flyway for migratory birds in America, extending from Alaska to Patagonia. Migratory birds travel on an annual migration, with some or all of this distance both in spring and in fall. The Los Cerritos Wetlands are part of this migration path, providing food and resting sources; some species seek breeding grounds within the Study Area.

Recognized wildlife corridors have not been designated within the SEADIP Planning Area. The remaining open space provides a connection between habitats. Based on the species known to utilize the Study Area, birds (resident and migratory) are the most common wildlife to utilize the various types of habitats throughout the Study Area. Urban wildlife uses the open space for travel within the Study Area. Seal Beach National Wildlife Refuge (SBNWR) encompasses 911 acres of remnant saltwater marsh in the Anaheim Bay estuary and is located outside the Planning Area. This large wildlife refuge works in concert with the Los Cerritos Wetland Complex to provide a corridor across the landscape from the ocean to the eastern portion of the Planning Area.

Buffers

Wetland buffers have been recommended. The “Procedural Guidance for The Review of Wetland Projects in California's Coastal Zone,” developed by the Coastal Commission, recommends 100-foot buffers to protect wetlands from adjacent new development. Buffer width may be modified, depending on the type and intensity of the development. Buffers are also needed near buildings to ensure safe passage by migrating and local birds. Creating bird-friendly buildings and spaces consistent with a new City ordinance would reduce bird fatalities.

Conclusion

The current planning effort has resulted in focused consideration as to the future of the remaining wetlands within the SEADIP Planning Area. While the final decisions regarding the future of the wetlands are still in flux, it is anticipated that the majority of the wetlands and potential wetlands within the SEADIP Planning Area are to be protected in perpetuity from development.

The Los Cerritos Wetland Authority does not intend to allow development that is inconsistent with wetland preservation on its property. Synergy Oil, owners of approximately 115.5 acres of wetland in addition to ongoing oil operations, is in the process of developing a wetland mitigation bank on its property. As part of consolidating its oil extraction operations, however, Synergy anticipates impacting a small, isolated wetland on the Lyons property commonly known as the Pumpkin Patch. The City of Long Beach, which owns Marketplace Marsh, is also contemplating the establishment of a wetland mitigation bank on its parcel and, if it proceeds with this approach, would not allow development inconsistent with the banking operation or existing oil extraction operations on its property. These properties (Los Cerritos Wetland Authority lands; Synergy; Alamitos Bay Partnership; Bryant; and Marketplace Marsh) comprise the majority of the undeveloped wetlands in the SEADIP Planning Area identified in this report. The Alamitos Bay Partnership wetlands identified in this report are anticipated to potentially undergo some

form of development. It is estimated that if the Alamos Bay Partnership properties were developed, direct impacts to wetland would total approximately 1 acre.

The research and observations made to complete this report have concluded that the SEADIP Study Area contains approximately 175 acres of wetland habitats. Based on the existing reports and field observations, the existing wetland habitats have been impacted to various degrees, resulting in degraded wetland functions and values in most areas. Steamshovel Slough is the area of the highest habitat value, but all the wetlands and buffers are valuable in their current state for potential restoration and enhancement.

Avoidance, minimization, and mitigation measures have been identified to ensure the project does not result in significant impacts to biological resources. These measures include modifying building materials to avoid reflective surfaces, limiting uses within buffers, and setting up a Wetland Monitoring Fund which will fund the long-term management of publically-owned wetlands in the SEADIP Planning Area.

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APPENDICES

Appendix A Reports Prepared by VCS Environmental

Appendix B Compendia

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1 INTRODUCTION

This Biological Resources Assessment and Wetland Delineation has been prepared for PlaceWorks by VCS Environmental (VCS), in association with Coastal Resources Management, Inc. and Hamilton Biological, for the update to the Specific Plan for the Southeast Area Development Improvement Plan (SEADIP). The Study Area encompasses the entire SEADIP Planning Area located at the southeast edge of the City of Long Beach, California, within Los Angeles County and bordering Orange County (Figure 1). The SEADIP Study Area encompasses approximately 1,475 acres with existing Residential, Commercial, Public/Institution, Parks and Recreation, Utilities, and Open Space land use designations. Most of the area is a part of the Local Coastal Program, as required by the California Coastal Act. In support of the Specific Plan, VCS conducted an analysis of biological resources associated with the SEADIP Planning Area.

This report is intended to satisfy the biological resource requirements of the California Environmental Quality Act (CEQA) process, and provides a discussion of existing conditions, an assessment of the potential presence of sensitive biological resources, and an analysis of the potential impacts to those resources from SEADIP implementation. This report provides a summary of the biological resources present within the SEADIP area including plant communities, potential jurisdictional waters, and the potential occurrence of listed and special plant and wildlife species; additionally, this report identifies and analyzes the potential biological significance of development in view of federal, state, and local laws and regulations.

While general biological resources are identified, the focus of this assessment is on those resources considered to be sensitive. The report also recommends, as appropriate, Best Management Practices (BMPs), avoidance and protection, and mitigation measures to reduce or avoid potential impacts. This report was prepared based upon results of a literature review, historical aerial photography, previously-prepared wetland delineations, personal communications with knowledgeable individuals, and field surveys.

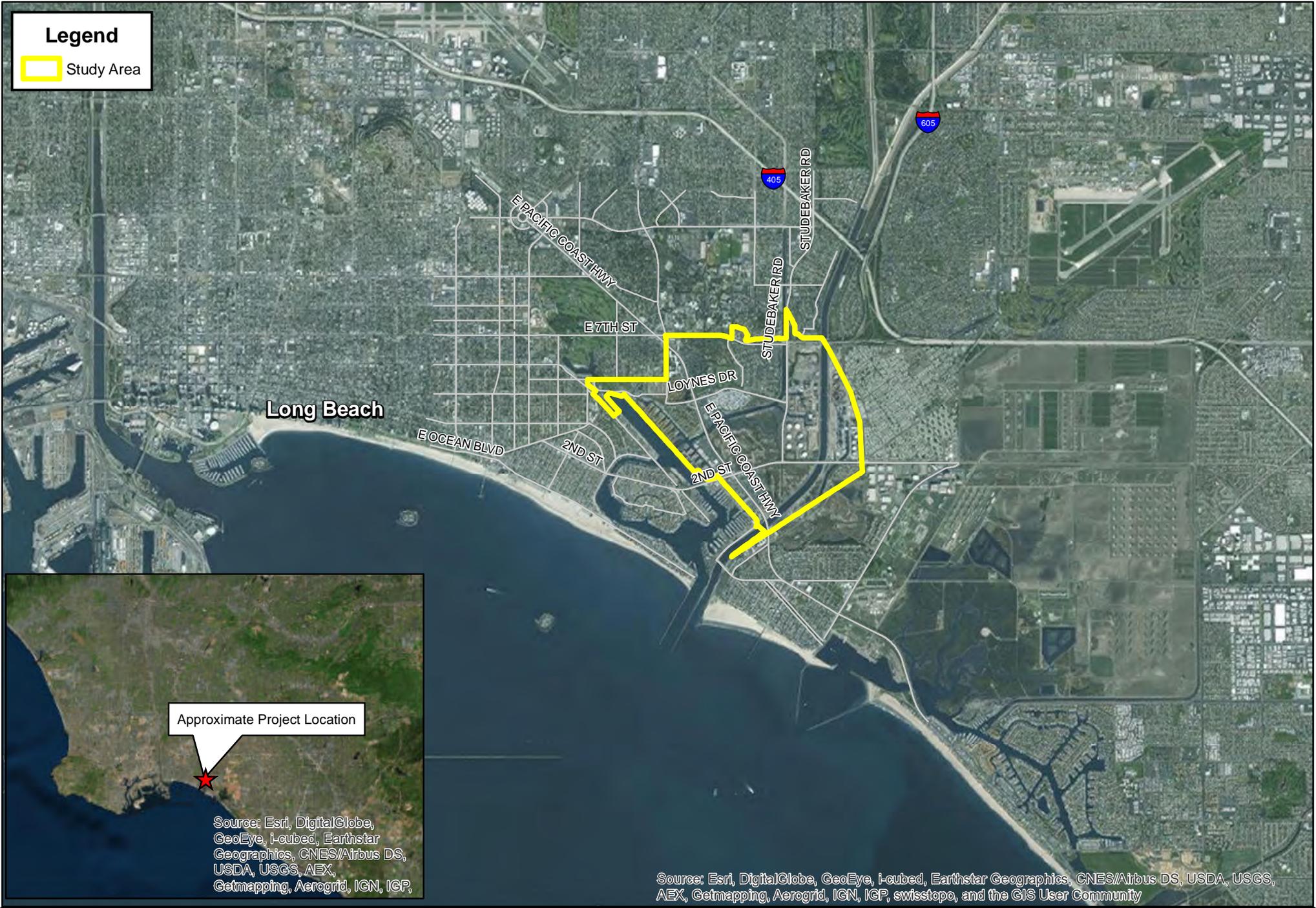
1.1 Project Location

The SEADIP Study Area (Planning Area or Study Area) is located in the City of Long Beach, Los Angeles County, California. The Study Area generally consists of the area located south of 7th Street, east of Bellflower Street, south of Colorado Street, east of the Long Beach Marine Stadium and Alamitos Bay docks, and north and west of the Long Beach city boundary. The Los Cerritos Channel and San Gabriel River are included in the Study Area (Figure 1). The Study Area is located within the United States Geological Survey (USGS) 7.5-Minute Topographic Map Los Alamitos Quadrangle, within Township 5S, Range 12W, Sections 2, 3, 5 and 11 (Figure 2). Wetlands, commercial and residential development, major roadways, and the San Gabriel River dominate the area.

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Legend

 Study Area



Approximate Project Location

Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP,

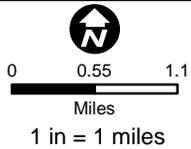
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Map Created:
September 17, 2015



Data Source: Placeworks;
City of Long Beach
1977 SEADIP Boundary;
ESRI

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SEADIP
Project Location Map

FIGURE 1

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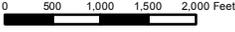


Source: Esri, DigitalGlobe,
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 1 in = 2,000 ft

Data Source: Placeworks;
 City of Long Beach
 1977 SEADIP Boundary;
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SEADIP
 Study Area

FIGURE 2

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1.2 Project Description

SEADIP provides for a total community of residential, business and light industrial uses integrated by an extensive system of parks, open space, and trails. The SEADIP Specific Plan guides the development within the planning area and applies development standards relative to building orientation and size, and land use; zoning; wetland resources; circulation and transportation; and infrastructure, among other things. The Specific Plan would comprehensively review and update the SEADIP “PD-1” Ordinance approved in 1977 and would establish a framework within which to guide future development in this area. The SEADIP project also includes an update to the City's Local Coastal Plan and adoption of an updated Land Use Plan.

For this Habitat Assessment and Wetland Delineation Report, the primary areas of focus are the undeveloped wetland areas within the City limits. While not an official designation, the “Los Cerritos Wetlands Complex” is the term coined by the Los Cerritos Wetlands Authority (LCWA) to describe the assemblage of the remaining natural areas subject to tidal influence, and falls within the Cities of Long Beach and Seal Beach in Los Angeles and Orange Counties (See Figure 3). The “Los Cerritos Wetlands Complex” properties are held by eleven landowners, including the City, and support numerous oil leases. For purposes of this report, however, the “SEADIP Wetland Complex” is comprised of the property owned by Synergy, Inc., the City of Long Beach, and the LCWA, and excludes private property (with the exception of Synergy). See Figure 3.

1.3 Historical Ecology and Landscape Change of the San Gabriel River and Floodplain

Historical ecology can be a valuable tool to help understand the mechanisms of past decline provide templates for future restoration, and provide context for making decisions about allocation of scarce resources (SCCWRP 2007).

Despite the dynamic nature of the San Gabriel River floodplain, a review of maps and written oral histories suggest a consistent and identifiable pattern of floodplain structure (Figure 4). The upper floodplain area (below the base of the foothills) was a broad alluvial fan with highly braided channels, alternating bars, islands, and inset benches. As the river flowed toward the Whittier Narrows area it encountered fault zones and subsurface impervious layers that forced ground water to the surface. Consequently, this area supported a mosaic of riparian and wetland habitats, including willow woodlands, wet meadows, perennial freshwater wetlands, streams, and significant riparian area. Below Whittier Narrows, the river meandered dramatically across the valley floor; at times the San Gabriel and Los Angeles River floodplains were indistinguishable (SCCWRP 2007).

As the river approached the San Gabriel/Los Angeles River estuary, seasonal inundation caused by the narrow estuary inlet and a series of barrier beaches supported a broad expanse of alkali meadow wetlands at the transition zone between the floodplain and the estuary (Figure 5; SCCWRP 2007).

Development of the San Gabriel River watershed has resulted in extensive wetland losses. Palustrine wetlands have been particularly impacted, with most of the perennial and intermittent ponds and marshes no longer present. Of particular note is the loss of the vast alkali meadows, which were once the most common type of wetland in the lower watershed, but are now totally absent from the landscape. Channelization and other flood control measures have resulted in conversion of the meandering and braided channel systems to linear flood control conduits. Similarly, the complex of seasonal floodplain wetlands has been almost entirely lost (SCCWRP 2007).

The boundary between the southern San Gabriel River floodplain and the San Gabriel/Los Angeles River estuary was a dynamic zone that changed on both annual and interannual cycles. Like many estuaries along the Southern California coastline, the San Gabriel/Los Angeles River estuary was connected to the ocean through a narrow inlet. A series of low sand dunes, sand spits, and barrier beaches created systems that were alternately impounded and open to the ocean, referred to by 19th century observers as lagoons, bays, sloughs, lakes, and river mouths. Following storms, these areas could be impounded for several miles upstream. Vast alkali flats produced by the combination of routine inundation with seawater followed by evaporative drying and persistent shallow ground water surrounded the estuarine/tidal wetlands (Figure 5; SCCWRP 2007).

Legend

-  SEADIP Boundary
-  SEADIP Wetland Complex Boundary
-  Los Cerritos Wetland Complex Boundary (LCWA)
-  Areas Outside SEADIP Planning Area



Image courtesy of USGS Image courtesy of LAR-IAC Earthstar Geographics SIO © 2015 Microsoft Corporation , Source: Esri, DigitalGlobe, GeoEye, I-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community, Image courtesy of USGS Image courtesy of LAR-IAC Earthstar Geographics SIO © 2015 Microsoft Corporation © 2015 HERE © AND



Prepared By:



VCS Environmental
949.489.2700

Map Created:
September 10, 2015



0 500 1,000 1,500 2,000
Feet
1 in = 2,000 ft

Data Source: Placemarks;
City of Long Beach
1977 SEADIP
Boundary;
ESRI
D-29

SEADIP
"Los Cerritos Wetland Complex" &
"SEADIP Wetland Complex" Boundaries
FIGURE 3

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San Gabriel River Historic Wetlands



Prepared By:



VCS Environmental

Map Date: February 2007

Data Source: Historical Ecology and Landscape Change of the San Gabriel River and Floodplain, SCCWRP Technical Report #499 (2007)

SEADIP
Historical Overlay of San Gabriel River

FIGURE 4

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San Gabriel River Tidal Fringe



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Source Date:
February 2007

Data Source: Historical Ecology and Landscape Change of the San Gabriel River and Floodplain, SCCWRP Technical Report #499 (2007)

D-33

SEADIP
Historic Overlay of Long Beach Wetlands

FIGURE 5

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2 REGULATORY CONTEXT

The following is a list of the key local, state, and federal laws and regulations that apply to protecting plant communities, plants, wildlife, and water quality from impacts from projects and which may be relevant and applicable to SEADIP.

2.1 City of Long Beach Planning Framework

2.1.1 Southeast Area Development Improvement Plan

The existing SEADIP zoning emphasizes the need to protect and restore wetlands and the importance of buffers between development and sensitive habitats. However, changes in regulatory requirements and further refinement of the restoration opportunities in the planning area require updates to the plan and ordinance to allow for a new generation of development while proactively enhancing the natural resources remaining within the SEADIP study area.

Key provisions of the SEADIP relative to biological resources include:

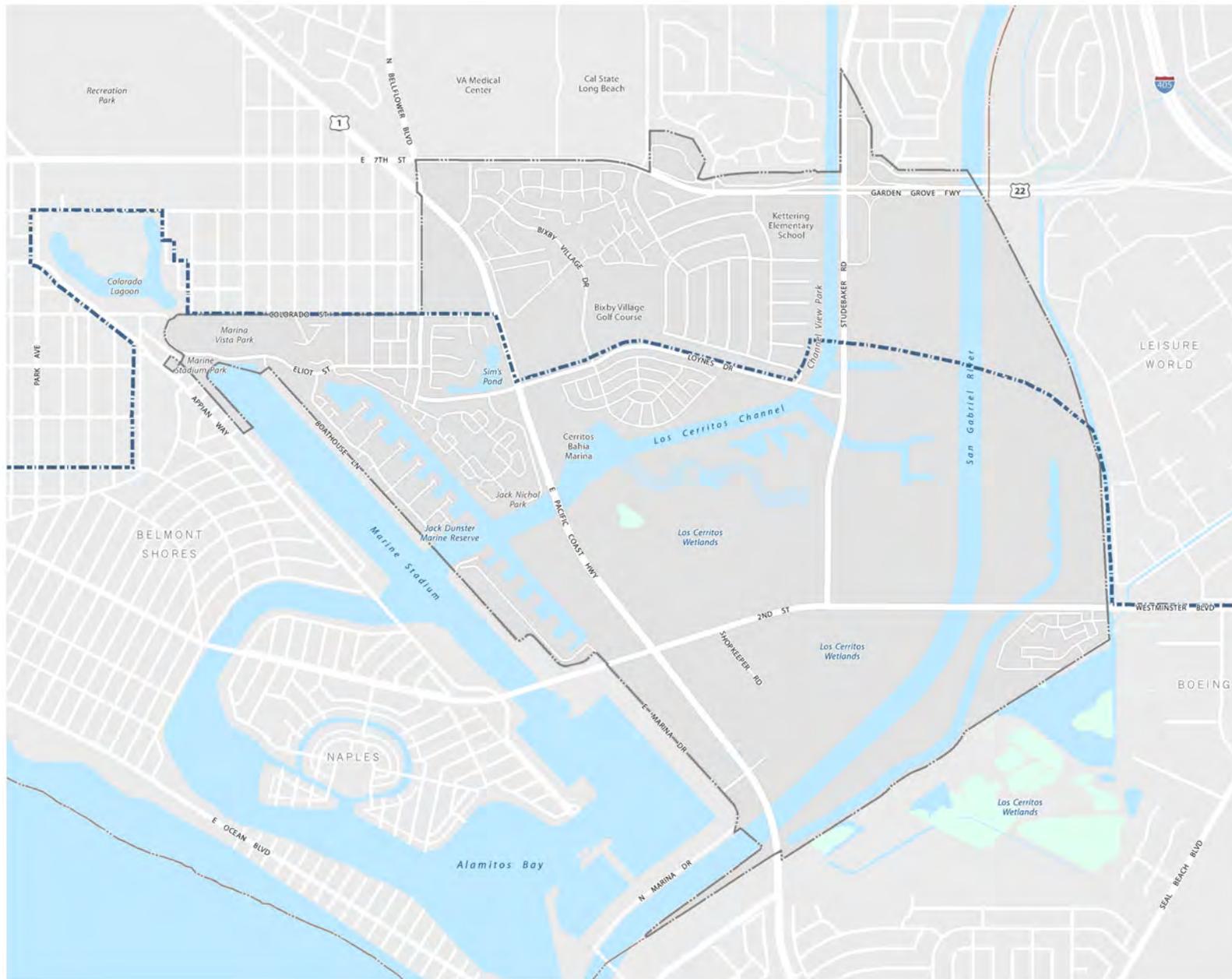
- Identifies responsibility for the construction and maintenance of wetlands and buffers.
- Sets the standards for wetland restoration and defines the exceptions to this standard.
- Requires the wetlands to be separated from urban developments by buffers (buffers are treated as a part of the adjacent urban development).

2.1.2 Local Coastal Plan

A large portion of the Study Area falls within the State’s coastal zone and thus under the requirements of the California Coastal Act, which requires the City to adopt a Local Coastal Program. The Planning Area is a stand-alone section of the City’s LCP, which was certified by the Coastal Commission in 1980. The portion of the Study Area within the coastal zone is shown on Figure 6. The LCP specifies appropriate location, type, and scale of new or changed uses of land and water, and includes a land use plan (LUP) and measures to implement the plan (such as zoning ordinances). One of the goals of the Specific Plan is to include the entire SEADIP area in the LCP, which requires certification of the wetland delineations, among other things, by the Coastal Commission.

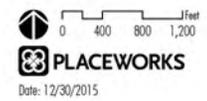
The 1980 LCP contains a Resources Management Plan (RMP), which applies to five “waterlands” in the Coastal Zone of the Long Beach—Alamitos Bay, Marine Stadium, Colorado Lagoon, Los Cerritos Wetlands, and Sims’ Pond. The RMP was prepared by Staff of the City Planning and Building Department for approval by the City Planning Commission, the City’s Counsel, and the State Coastal Commission. The RMP is an implementation plan, the overall thrust of which is to improve and assure public access to coastal and tide-waterland amenities, to improve and maintain water quality, to seek and establish a harmony between public use of waterlands and private use of surrounding urban areas, and to protect and enhance the viability of environmentally sensitive areas.

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**California Coastal Commission
Jurisdictional Boundary**

- Coastal Zone Boundary
- Specific Plan Boundary
- City Boundary



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2.2 State Laws and Regulations

2.1.3 California Environmental Quality Act ([CEQA]; Public Resources Code 211000-21177; CCR, Title 14, Division 6, Chapter 3, Sections 15000-15387)

Rare or endangered plants are defined in CEQA Guidelines Section 15380(b) and (d), and potential impacts to these species must be analyzed under CEQA. Species that may meet the definition of rare or endangered include the following:

- Species considered by CNPS and CDFW to be “rare, threatened or endangered in California” (California Rare Plant Rank [CRPR] 1A, 1B and 2) (CNPS 2012). A majority of the CRPR 3 and CRPR 4 plant species generally do not qualify for protection under CESA and NPPA.
- Species that may warrant consideration on the basis of local significance or recent biological information.
- Some species included on the CNDDDB Special Plants, Bryophytes, and Lichens List (CDFW 2011h).
- Considered a locally significant species, that is, a species that is not rare from a statewide perspective but is rare or uncommon in a local context such as within a county or region (CEQA §15125 (I)) or is so designated in local or regional plans, policies, or ordinances (CEQA Guidelines, Appendix G). Examples include a species at the outer limits of its known range or a species occurring on an uncommon soil type.

2.1.4 Porter-Cologne (California Water Code Section 13000 et seq.)

Under the 1969 Porter-Cologne Water Quality Control Act [Porter-Cologne]), the RWQCB is authorized to regulate any activity that would result in discharges of waste and fill material to waters of the state (including saline waters), “isolated” waters and/or wetlands (e.g., vernal pools and seeps), and groundwater within the boundaries of the state. The RWQCB also adopts and implements water quality control plans (basin plans) that recognize and are designed to maintain the unique characteristics of each region with regard to natural water quality, actual and potential beneficial uses, maintaining water quality, and addressing the water quality problems of that region. Designated beneficial uses of State Waters that may be protected against quality degradation includes preservation and enhancement of fish, wildlife, designated biological habitats of special significance, and other aquatic resources or preserves.

2.1.5 Keene-Nejedly Wetlands Preservation Act

Pursuant to the Keene-Nejedly Wetlands Preservation Act (Act), the California state legislature recognizes that the remaining wetlands of the state are of increasingly critical economic, aesthetic, and scientific value to the people of California, and that the need exists for an affirmative and sustained public policy and program directed at their preservation, restoration, and enhancement so that wetlands will continue in perpetuity to meet the needs of the people. This Act allows both CDFW and the California Department of Parks and Recreation to acquire interests in real property to protect, preserve, and restore wetlands. Additionally, both departments can enter into operating agreements with cities, counties, and districts for the management and control of wetlands.

2.1.6 California Fish and Game Code

The California Fish and Game Code (FGC) contains several provisions relevant to the SEADIP plan and to the analysis of potential impacts. Special status plants and animals are found within the SEADIP Planning Area, and therefore are regulated by the FGC. Specific provisions of the FGC relevant to this project include:

- California Endangered Species Act (CESA) – Sections 2050 et seq.
- Lake and Streambed Alteration Program – Sections 1600-1616
- Raptors, Migratory Birds, and Habit – Section 2503.5
- Fully Protected Species – Sections 3511, 4700, 5050, and 5515
- Birds, Birds of Prey and their Eggs – Section 3503
- Migratory Birds – FGC section 3513
- Nongame Birds – FGC section 3800(a)
- Native Plant Protection Act (NPPA) – Section 1900-1913

2.1.7 California Coastal Act (California Public Resources Code, Div. 20)

The Coastal Commission and the City currently have jurisdiction over those portions of the SEADIP area within the certified LCP, as depicted on Figure 6. Where development occurs outside of the certified areas but within the Coastal Zone, the Coastal Commission has jurisdiction and could exercise its discretion to override planning decisions made by the City. The Coastal Commission has encouraged the City to determine the extent of wetlands present in the SEADIP Planning Area and the potential or lack of potential for development of wetland parcels as part of an update to the LCP and Land Use Plan (LUP). The City must comply with the entirety of the Coastal Act, the extracted sections listed below are representative requirements of the California Coastal Act that relate to the SEADIP Planning Area.

Section 30001.5 of the Coastal Act states the basic goals for the state coastal zone:

- Protect, maintain, and, where feasible, enhance and restore the overall quality of the coastal zone environment and its natural and artificial resources.
- Assure orderly, balanced utilization and conservation of these coastal resources while taking into account the social and economic needs of the people of the state.
- Maximize public access to and along the coast and maximize public recreational opportunities in the coastal zone consistent with sound resources conservation principles and constitutional protected rights of private property owners.
- Assure priority for coastal-dependent development over other development on the coast.
- Encourage state and local initiatives and cooperation in preparing procedures to implement coordinated planning and development for mutually beneficial uses (including educational uses) and the coastal zone.

The SEADIP area is partially in the coastal zone and therefore the Specific Plan is required to comply with the provisions of the California Coastal Act. The Coastal Act requires that the City adopt a Local Coastal

Program (LCP), which is a basic planning tool used by local governments to guide development in the coastal zone. In addition to the approval of the new Specific Plan for the SEADIP area, the LCP and Land Use Plan (LUP) for this area would also be approved by the Coastal Commission.

The Coastal Act provides policies regarding public access, recreation, marine environment, land resources, development, and industrial development. These policies, which will be applied to the planning process for the new Specific Plan, are briefly described below.

§30230 Marine resources: maintenance

Requires marine resources to be maintained, enhanced, and, where feasible, restored. Special protection is to be given to areas and species of special biological or economic significance.

§30213 Biological productivity; waste water

Control of runoff and prevention of ground water depletion is required to maintain the biological productivity and the quality of aquatic resources appropriate for optimum populations of marine organisms and the protection of human health. This section encourages waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.

§30233 Diking, filling or dredging

The diking, filling, or dredging of open coastal waters, wetlands, etc. is limited to:

- New or expanded coastal-dependent industrial facilities.
- Maintaining existing, or restoring previously dredged depth in existing navigational channels, mooring areas, and boat launching ramps.
- In wetland areas only, entrance channels for new or expanding boating facilities.
- In a degraded wetland, identified by the Department of Fish and Game pursuant to subdivision (b) of Section 30411, for boating facilities.
- In open coastal waters, new or expanded boating facilities.
- Incidental public service purposes, including, but not limited to, burying cables and pipes or inspections of piers and maintenance of existing intake and outfall lines.
- Mineral extraction.
- Restoration purposes.
- Nature study, aquaculture, or similar resource-dependent activities.

§30240 Environmentally sensitive habitat areas: adjacent developments

Environmentally sensitive habitat areas are to be protected against any significant disruption of habitat values, and only uses dependent on such resources shall be allowed within such areas. Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas are to be sited and designed to be compatible with the continuance of such habitat areas.

§30250 Location; existing developed area

This section, found in Article 7, requires that new residential, commercial, or industrial development will be located within, contiguous with, or in close proximity to, existing developed areas able to accommodate it or, where such areas are not able to accommodate it, in other areas with adequate public services and where it will not have significant adverse effects, either individually or cumulatively, on coastal resources. This section limits the location of new hazardous industrial development away from existing developed areas, and requires visitor-serving facilities that cannot feasibly be located in existing developed areas to be located in existing isolated developments or at selected points of attraction for visitors. Article 7 of the Coastal Act also addresses scenic and visual qualities, maintenance and enhancement of public access, and minimization of adverse impacts.

§30260 Location or expansion

Coastal-dependent industrial facilities are encouraged to locate or expand within existing sites. However, where new or expanded coastal-dependent industrial facilities cannot feasibly be accommodated consistent with other policies of this division, they may nonetheless be permitted in accordance with this section and Sections 30261 and 30262 if (1) alternative locations are infeasible or more environmentally damaging; (2) to do otherwise would adversely affect the public welfare; and (3) adverse environmental effects are mitigated to the maximum extent feasible.

2.1.8 California Rivers and Mountains Conservancy

While it is not a regulatory body, the Los Cerritos Wetlands Authority (LCWA) is a major planning and funding entity for the restoration of the “Los Cerritos Wetlands Complex.” In February 2006, a joint powers agreement was adopted by the California Rivers and Mountains Conservancy, State Coastal Conservancy, City of Long Beach, and City of Seal Beach establishing the LCWA. The portion of the Los Cerritos Wetlands Complex within the SEADIP Planning Area, as envisioned by the LCWA, is comprised of the LCW/Synergy property, the Marketplace Marsh, the LCWA Phase I property, and the adjoining properties under private ownership. Figure 7 depicts the “Los Cerritos Wetlands Complex” boundaries as defined by the LCWA. The purpose of the LCWA is to develop a comprehensive program of acquisition, protection, conservation, restoration, maintenance, operation, and environmental enhancement of the Los Cerritos Wetlands consistent with the goals of flood protection, habitat protection and restoration, and improved water supply, water quality, groundwater recharge, and water conservation.

As a participant in the joint powers agreement, the City of Long Beach has been supportive of the goals of the LCWA. This document relies on past and on-going research and observations provided by the LCWA. The Conceptual Restoration Plan is a shared vision of the wetlands within the SEAIP Planning Area, recognizing that funding for the acquisition of private property has not been obtained.



Prepared By:



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Source Date:
April, 2014

Data Source: Southeast Area Development and Improvement Plan Update
Cooperative Habitat Restoration and Development Planning Opportunities & Constraints (VCS, 2014)

SEADIP
SEADIP (PD-1) Subareas
FIGURE 7

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2.3 Federal Laws and Regulations

Federal oversight, including the issuance of permits, is not triggered by the SEADIP Specific Plan. However, compliance with the federal laws and regulations described below would be required for individual developments prior to impacting jurisdictional aquatic resources.

2.1.1 NEPA

Environmental reviews for development projects that require a permit from the U.S. Army Corps of Engineers (USACE) to impact aquatic resources and/or receive federal funding will also need to comply with the National Environmental Policy Act (NEPA). NEPA is essentially the federal equivalent in nature and purpose to CEQA.

2.1.2 Clean Water Act (CWA) Sections 404 and 401

Pursuant to Section 404 of the CWA, USACE is authorized to regulate any activity that would result in the discharge of dredged or fill material into jurisdictional Waters of the United States. USACE, with oversight by the U.S. Environmental Protection Agency (USEPA), has the principal authority to issue CWA Section 404 Permits. Pursuant to Section 401 of the CWA, RWQCB certifies that any discharge into jurisdictional Waters of the United States will comply with state water quality standards. RWQCB, as delegated by USEPA, has the principal authority to issue a CWA Section 401 Water Quality Certification or Waiver.

2.1.3 Federal Endangered Species Act (16 U.S.C. Section 1531, et seq.)

The primary federal law protecting threatened and endangered species is the Federal Endangered Species Act (FESA). This act and later amendments provide for the conservation of endangered and threatened species and the ecosystems upon which they depend. Under Section 7 of this act, federal agencies are required to consult with the U.S. Fish and Wildlife Service (USFWS) and the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries Service) to ensure that they are not undertaking, funding, permitting, or authorizing actions likely to jeopardize the continued existence of listed species or destroy or adversely modify designated critical habitat. Federally listed species are found within the SEADIP Planning Area (see Tables 4.7-1 and 4.7-2).

2.1.4 Migratory Bird Treaty Act (16 U.S. Section 703)

Raptors and all migratory bird species, whether listed or not, also receive protection under the Migratory Bird Treaty Act (MBTA) of 1918. The MBTA prohibits individuals to kill, take, possess or sell any migratory bird, bird parts (including nests and eggs) except in accordance with regulations prescribed by the Secretary of the Interior Department.

2.1.5 Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C. Section 1801-1884)

The Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA) is the primary law governing marine fisheries management in U.S. federal waters. First passed in 1976, the Magnuson-Stevens Act fosters long-term biological and economic sustainability of our nation's marine fisheries out

to 200 nautical miles from shore. Regional Fishery Management Councils (FMCs) are charged with developing and recommending fishery management plans, both to restore depleted stocks and manage healthy stocks. The National Marine Fisheries Service (NMFS) aids the Secretary of Commerce, who evaluates, approves, and implements the Councils' FMPs. The MSFCMA protects identified Essential Fish Habitat (EFH). Essential fish habitat is the habitat necessary for managed fish to complete their life cycle, thus contributing to a fishery that can be harvested sustainably. EFH applies to each life stage of approximately 1,000 managed species. Within EFH, the Habitat Areas of Special Concern (HAPC) are identified. HAPCs are considered high priority areas for conservation, management, or research because they are rare, sensitive, stressed by development, or important to ecosystem function. The HAPC designation does not necessarily mean additional protections or restrictions upon an area, but they help to prioritize and focus conservation efforts.

3 METHODS

3.1 Literature Review

The Study Area has been the subject of several specific habitat assessment efforts in the past few years. These previous reports were examined and the results have been incorporated into this assessment. Areas not studied previously were examined by biologists to the extent possible to include an analysis of biological resources not found in earlier reports. The following surveys and studies prepared for the properties within the Study Area were significantly relied upon:

- Tidal Influence, August 2012. Los Cerritos Wetlands Conceptual Restoration Plan, Habitat Assessment Report. Prepared for the Los Cerritos Wetlands Authority and Moffatt & Nichol.
- Moffatt & Nichol, et al., July 2012. Los Cerritos Wetlands Conceptual Restoration Plan, Opportunities and Constraints Report. Prepared for the Los Cerritos Wetlands Authority.
- Everest International, February 2012. Los Cerritos Wetlands Conceptual Restoration Plan, Watershed Impacts Report. Prepared for the Los Cerritos Wetlands Authority and Moffatt & Nichol.
- AECOM Technical Services, Inc., April 2011. Jurisdictional Delineation Report for Waters of the U.S. and State of California, Marketplace Marsh, Long Beach, California. Prepared for Los Cerritos Wetlands Authority.
- Glenn Lukos Associates, October 2007. Vegetation Mapping of Los Cerritos Wetlands.
- Bryant Property
- Alamitos Bay Partnership

In addition to these biological studies, the SEADIP PD-1 and City of Long Beach General Plan, and past applications to the Coastal Commission and to the City of Long Beach were also reviewed to understand the permit restrictions and applicant descriptions of existing conditions in those areas.

Available literature and databases were reviewed regarding sensitive habitats and special status plant and wildlife species. Special status plant and wildlife species that have the potential to occur within the immediate region of the Los Cerritos Wetlands Complex were identified. Several agencies, including the USFWS, CDFW, and CNPS publish lists of particular taxa (species and subspecies) and the associated level of protection or concern associated with each. Reviewed and consulted literature and databases focused on Long Beach, California, and included the following sources listed below:

- The CNDDDB, a CDFW species account database that inventories status and locations of rare plants and wildlife in California, was used to identify any sensitive plant communities and special status plants and wildlife that may exist within a five-mile radius of the Planning Area. CNDDDB records are generally used as a starting point when determining what special status species, if any, may occur in a particular area. However, these records may be old and incorrectly mapped, and do not represent all the special status species that could be in that particular area.
- The USFWS list of endangered and threatened species for Los Angeles County.

- Pertinent maps, scientific literature, websites, regional flora and fauna field guides, and consultation with local experts.

An inventory of sensitive habitats, and special status plants and wildlife was derived from the literature review and additional studies. The literature review and the query of the CNDDDB for reported locations of special status species helped to identify the known locations of the special status species in the region and assisted in identifying the potential for on-site occurrence of such species. The literature review provided a baseline from which to inventory the biological resources potentially occurring within the SEADIP area. The inventory list of special status plant and wildlife species was not exhaustive of all species that might be of concern for the property, but it provided a wide range of species that are representative of the various habitats in the Planning Area.

The USFWS's online service for information regarding Threatened and Endangered Species Final Critical Habitat designation within California was reviewed to determine if any critical habitat has been designated within the SEADIP Planning Area. The U.S. Fish and Wildlife Service has not designated critical habitat in the Planning Area for any plant or animal species listed as threatened or endangered.

3.2 Field Review

Field visits were conducted by Lennie Rae Cooke of VCS Environmental, with Rick Ware, Marine Resources Management, Inc. and Robert Hamilton, Hamilton Biological. Field visits confirmed observations made in reports identified in this Assessment as well as to survey areas not earlier surveyed. The reports prepared by Rick Ware and Robert Hamilton are found in Appendix A. One area was not accessible to VCS: the AES Industrial property (PD-1 Subarea 19). Subarea designations have not been carried forward in this project, however a map showing the previously-designated subareas is shown on Figure 7. AES, as an electrical generator, is regulated by the California Energy Commission, which supersedes local and state laws (e.g., the California Coastal Act, SEADIP, etc.). The manmade open water channels on this property have been determined to be jurisdictional waters, however, any redevelopment of the AES electrical generator does not require Coastal Commission or City approval.

Given the amount of survey data available from LCWA, University of California, Long Beach, volunteer organizations, and regional research organizations such as the Southern California Wetlands Restoration Project (SCWRP), focused surveys were deemed to be unnecessary to understand the distribution for species such as Belding's Savannah Sparrow (*Passerculus sandwichensis beldingi*) for this report.

4 EXISTING CONDITIONS

4.1 General Description of the SEADIP Planning Area

The approximately 1,475-acre SEADIP Planning Area is comprised of several different land covers and vegetative communities. The vegetative communities are defined below, shown on Figure 8 and listed in Table 4.1-1.

Table 4.1-1. Acreage of Vegetative Communities or Land Cover Types within the SEADIP Planning Area

Community or Land Cover Type	Approx. Acreage
Developed	920
Park Land	82
Undeveloped, Wetland	175
Undeveloped, Upland	75
Open Water	168
Mineral Extraction	55
Total Acreage	1,475

Undeveloped, Wetland comprises approximately 12 percent of the Planning Area and is the area described as the Los Cerritos Wetland Complex and the undeveloped lands in proximity of the Complex that maintains the characteristics of a wetland. This community includes the Synergy property, the Marketplace Marsh, the LCWA Wetlands, and wetlands found on other private properties. Sims' Pond, a freshwater wetland under the protection of the City's Parks, Recreation, and Marine Department, is not included in this land cover type.

Park Land comprises close to 6 percent of the Planning Area and is defined as City-managed habitat that supports both native and non-native species. The acreage in this land cover type includes Sims' Pond Park, Jack Dunster Marine Biological Reserve, Marina Vista Park, Will Rogers Mini Park, Channel View Park, and Jack Nichol Park, and Bixby Golf Course.¹ The majority of the plants in this land cover type are either common ornamentals or marine species. The Bixby Golf Course, for example, provides limited habitat (ponds, grasses), and the Jack Dunster Marine Biological Reserve supports sub-tidal, intertidal, and upland plant species.

Open Water comprises approximately 11 percent of the Planning Area and is habitat that is always under water. In the SEADIP Planning Area, Open Water habitats include the San Gabriel River, El Cerrito Channel, Steamshovel Slough, Bahia Marina, Haynes Cooling Channel, and the open water resources found in the Spinnaker Bay and Marina Pacifica developments.

¹ These parks are shown on the existing PD-1 Subarea Map (Figure 7): Sims Pond, Subarea 4a; Jack Dunster Marine Biological Reserve, along Marine Stadium; Marina Vista Park, Subarea 32; Will Rogers Mini Park, Subarea 32; Channel View Park, Subarea 20; Jack Nichol Park, Subarea 31; and Bixby Golf Course, Subarea 22b.

Undeveloped, Upland comprises approximately 5 percent of the Planning Area and is all land within the Los Cerritos Wetlands Complex that does not exhibit wetland vegetation. Another Undeveloped, Upland area is found in the northeast section of the Planning Area, and is designated as easement for the California Department of Transportation.

Mineral Extraction comprises approximately 4 percent of the Planning Area and, like the Developed land cover type, does not describe a vegetative community. This land cover type typically refers to the areas dedicated to oil extraction development (pumps, access roads, and accessory buildings). These areas are found within the Los Cerritos Wetlands Complex and therefore are described in this report.

The Developed land cover type comprises approximately 62 percent of the Planning Area. Most of the Developed land in the Planning Area consists of residential neighborhoods, public parks, and other areas characterized by man-made roads and structures, punctuated with exotic landscaping. These areas are disturbed or no longer natural as a result of the development-related activities. Developed areas also include ornamental landscaping (predominately non-native trees and shrubs) and grass lawns. Landscaped and ornamental vegetation is a human-influenced assemblage of plant species and experiences ongoing disturbances by maintenance activities and irrigation. Figure 8 depicts the locations and acreages of the land covers described in this section.

4.2 Undeveloped, Wetland

The “Los Cerritos Wetland Complex” is comprised of several properties, three of which together comprise the largest portion of the undeveloped wetlands: Marketplace Marsh, the Synergy property, and LCWA Wetlands (Figure 3).

4.2.1 Marketplace Marsh

The Marketplace Marsh is currently owned by the City of Long Beach and was previously acquired during a Real Estate Exchange Agreement made with LCW Partners, LLC, also known as Berger/Dean Properties, on April 28, 2010. Subsequently, the City of Long Beach entered into a Surface Use Release Agreement and Grant of Easements with LCW Oil Operations, LLC, on June 3, 2010, to specify the rights and responsibilities relating to use of the site, including mineral rights and oil and gas operations.

In 2012, AECOM prepared a Jurisdictional Delineation Report (JDR) as requested by the LCWA for the Marketplace Marsh parcel located at the southeast corner of 2nd Street/Westminster Avenue and Shopkeeper Road in Long Beach, California, within the Los Cerritos Wetlands Complex (Figure 9). The JDR reported that within the Marketplace Marsh, approximately 21.80 acres of potential jurisdictional Waters of the United States and state were formally delineated. Of these approximately 21.80 acres of delineated aquatic features, approximately 19.90 acres are potential jurisdictional waters of the U.S., and are composed of vegetated wetlands in the form of:

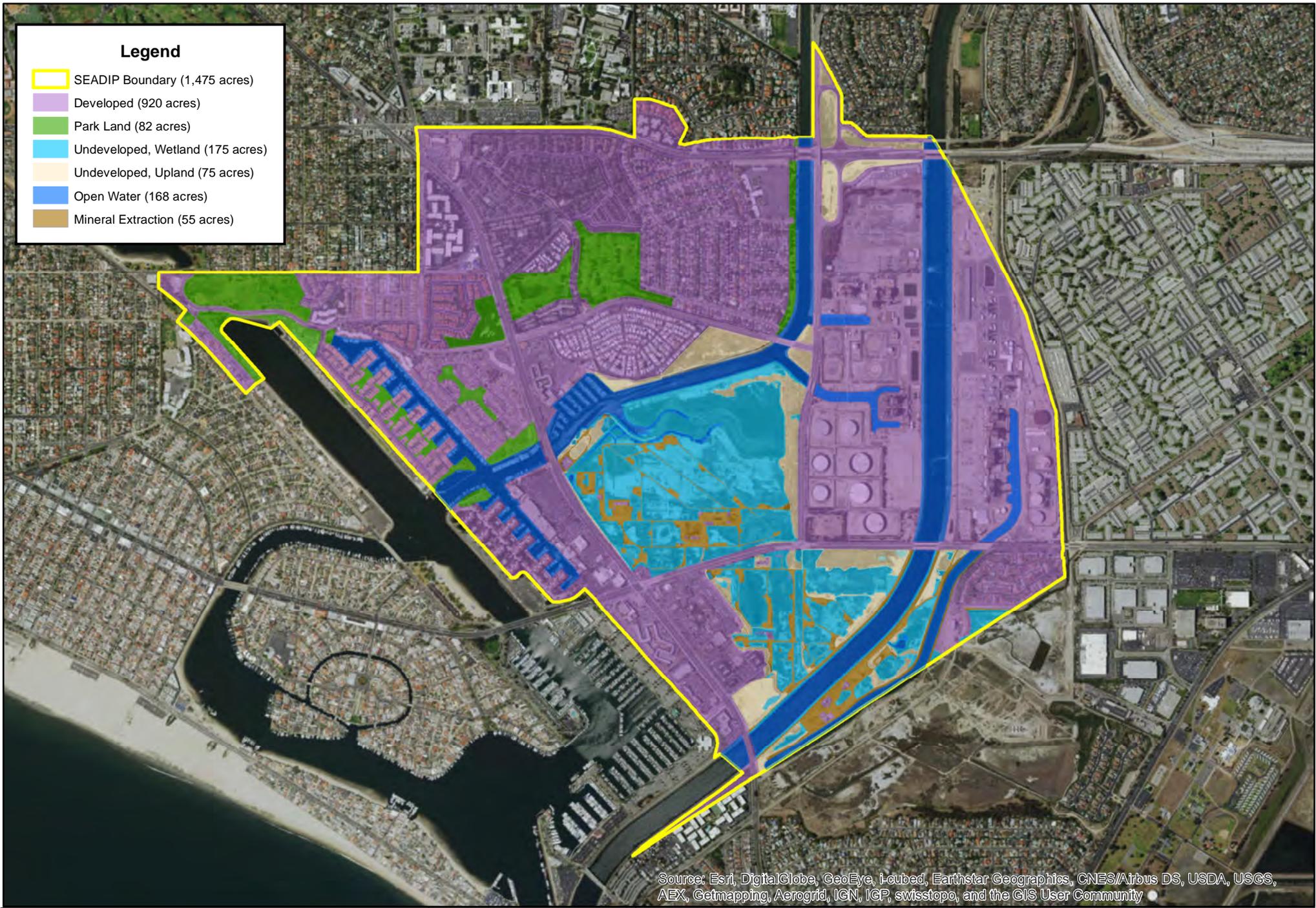
- Southern brackish marsh – 12.39 acres
- Southern coastal saltmarsh – 6.00 acres
- Mulefat scrub – 1.27 acres
- Southern willow scrub – 0.24 acre (the southern coastal salt marsh is composed of two components or salt marsh zones: middle coastal salt marsh [1.51 acres] and high coastal salt marsh [4.49 acres])

Approximately 1.90 acres of potential jurisdictional waters of the state exclusively have been formally delineated within the Marketplace Marsh, and are composed of:

- Constructed earthen basin bank/disturbed wetlands – 1.75 acres
- Mulefat scrub – 0.15 acre

All wetland communities occurring within the Marketplace Marsh were considered as degraded and disturbed at the time of the AECOM report. VCS biologists have confirmed that these degraded conditions persist.

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Legend

- SEADIP Boundary (1,475 acres)
- Developed (920 acres)
- Park Land (82 acres)
- Undeveloped, Wetland (175 acres)
- Undeveloped, Upland (75 acres)
- Open Water (168 acres)
- Mineral Extraction (55 acres)

Source: Esri, DigitalGlobe, GeoEye, I-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Prepared By:



VCS Environmental
949.489.2700

Map Created:
September 10, 2015



0 500 1,000 1,500 2,000
Feet
1 in = 2,000 ft

Data Source: Placeworks;
City of Long Beach
1977 SEADIP Boundary;
Moffat & Nichol;
ESRI

D-53

SEADIP
Vegetation and Land Cover Types

FIGURE 8

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Prepared By:

 VCS Environmental

Map Created: 09/10/2015

0 25 50 100 150 200 250
 Feet
 1 in = 250 ft

Data Source: AECOM (2010)
 ESRI

SEADIP
 Marketplace Marsh Delineation

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4.2.1.1 Marketplace Marsh Vegetation

Plant species observed within the Marketplace Marsh listed in Table 4.2-1 below and can be seen in Figure 10.

Table 4.2-1. Plant Species Observed within Marketplace Marsh

Scientific Name	Common Name
<i>Amblyopappus pusillus</i>	Pineapple Weed
<i>Ambrosia psilostachya</i>	Western Ragweed
<i>Anagallis arvensis</i>	Scarlet Pimpernel
<i>Anemopsis californica</i>	Yerba Mansa
<i>Apium graveolens</i>	Wild Celery
<i>Arthrocnemum subterminale</i>	Parish's Glasswort
<i>Atriplex patula</i>	Fat Hen
<i>Atriplex semibaccata</i>	Australian Saltbush
<i>Azolla filiculoides</i>	Water Fern
<i>Baccharis emoryi</i>	Emory's Baccharis
<i>Baccharis salicifolia</i>	Mulefat
<i>Baccharis sarothroides</i>	Desertbroom
<i>Bassia hyssopifolia</i>	Five-hook Bassia
<i>Centromadia</i> sp.	Tarplant
<i>Conyza canadensis</i>	Canadian Horseweed
<i>Cressa truxillensis</i>	Alkali Weed
<i>Cynodon dactylon</i>	Bermuda Grass
<i>Cyperus involucratus</i>	Umbrella Papyrus
<i>Distichlis spicata</i>	Salt Grass
<i>Frankenia salina</i>	Alkali Heath
<i>Heliotropium curassavicum</i>	Salt Heliotrope
<i>Isocoma menziesii</i> var. <i>vernonioides</i>	Coastal Goldenbush
<i>Juncus</i> sp.	Rush
<i>Lactuca serriola</i>	Prickly Lettuce
<i>Leymus triticoides</i>	Beardless Wild Rye
<i>Limonium californicum</i>	Marsh Rosemary
<i>Lolium multiflorum</i>	Italian Ryegrass
<i>Malvella leprosa</i>	Alkali Mallow
<i>Monanthochloe littoralis</i>	Shoregrass
<i>Nicotiana glauca</i>	Tree Tobacco
<i>Parapholis incurva</i>	Sicklegrass
<i>Picris echioides</i>	Ox Tongue
<i>Plantago coronopus</i>	Buckhorn Plantain
<i>Plantago lanceolata</i>	Narrowleaf Plantain

Scientific Name	Common Name
<i>Pluchea odorata</i>	Salt Marsh Fleabane
<i>Polypogon monspeliensis</i>	Rabbitsfoot Grass
<i>Rumex crispus</i>	Curly Dock
<i>Salix gooddingii</i>	Goodding's Black Willow
<i>Salix laevigatab</i>	Red Willow
<i>Salix lasiolepis</i>	Arroyo Willow
<i>Sarcocornia pacificac</i>	Pacific Pickleweed
<i>Schoenoplectus americanus</i>	Chairmaker's Bulrush
<i>Schoenoplectus californicus</i>	California Bulrush
<i>Schoenoplectus robustus</i>	Alkali Bulrush
<i>Solanum americanum</i>	White Nightshade
<i>Solanum douglasii</i>	Douglas Nightshade
<i>Sonchus asper</i>	Spiney-leaf Sow Thistle
<i>Tamarix ramosissima</i>	Mediterranean Tamarisk
<i>Typha domingensis</i>	Southern Cattail
<i>Typha latifolia</i>	Broadleaf Cattail
<i>Urtica urens</i>	Dwarf Nettle
<i>Xanthium strumarium</i>	Cocklebur

Source: AECOM (2010); Tidal Influence (2012)



Legend

- Survey Area
- Adjacent Private Parcel Supporting Wetlands
- Development
- Mulefat Scrub
- Ruderal Uplands
- Ruderal Wetlands
- Salt Flat
- Southern Coastal Brackish Marsh
- Southern Coastal Salt Marsh
- Southern Willow Scrub
- Vegetation Free Zone
- alkali meadow

Source: Esri, DigitalGlobe, GeoEye, I-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Prepared By:



VCS Environmental

Map Created: 09/10/2015



 1 in = 250 ft

Data Source: San Gabriel & Lower Los Angeles Rivers and Mountains Conservancy
ESRI

SEADIP
Marketplace Marsh Vegetation

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4.2.1.2 Marketplace Marsh Wildlife

The Marketplace Marsh is adjacent to the LCWA property and is regionally important due to its proximity to ecologically significant areas such as the Seal Beach National Wildlife and Bolsa Chica Wetlands. Additionally, the Marketplace Marsh presents a local habitat corridor that can be used for cover and food between the surrounding urban uplands; it can also be considered as presenting a high function for bird-use, and local habitat interspersed and local wildlife movement. However, these wetlands and wetland basins do not support regional connectivity for large mammals. Wildlife observed within the Marketplace Marsh are listed Table 4.2-2.

Table 4.2-2. Animal Species Observed within Marketplace Marsh

Scientific Name	Common Name
<i>Ardea alba</i>	Great Egret
<i>Agelaius phoeniceus</i>	Red-winged Blackbird
<i>Egretta thula</i>	Snowy Egret
<i>Accipiter cooperii</i>	Cooper’s Hawk
<i>Anas clypeata</i>	Northern Shoveler
<i>Ardea herodias</i>	Great Blue Heron
<i>Carpodacus mexicanus</i>	House Finch
<i>Charadrius vociferus</i>	Killdeer
<i>Fulica americana</i>	American Coot
<i>Himantopus mexicanus</i>	Black-necked Stilt
<i>Pandion haliaetus</i>	Osprey
<i>Sayornis nigricans</i>	Black Phoebe
<i>Tringa melanoleuca</i>	Greater Yellowlegs
<i>Tyrannus vociferans</i>	Cassin’s Kingbird

Source: AECOM (2010); Tidal Influence (2012)

4.2.1.3 Marketplace Marsh Values Assessment

In their 2012 Jurisdictional Delineation Report, AECOM included a qualitative assessment of the functions and values (or services) of the wetland system occurring within the Marketplace Marsh. AECOM concluded that the Marketplace Marsh Wetlands provided some functions, but, due to landscape context and/or past disturbances, is functioning below potential functional capacity for recharge/water supply, flood protection, water quality, aesthetics, and recreational purposes. Marketplace Marsh was found to have medium value (the system is functioning but, due to site-specific factors and/or disturbance, is not functioning at potential functional capacity) for cultural and habitat attributes.

The runoff from Marketplace Center to the Marketplace Marsh maintains this freshwater wetland. Continuing to receive runoff is vital to the perpetuation of the freshwater wetland. The current 25-foot buffer is Ruderal Upland, and provides minimal water quality treatment. In addition, a City-maintained

road currently exists adjacent to the Ruderal Upland buffer. Because the most important function for a buffer in this area is water quality treatment, a 25-foot densely-vegetated buffer accepting pre-treated runoff before entering the wetland is recommended.

4.2.2 Synergy

4.2.2.1 Description of Existing Conditions at Synergy

The Resources Management Plan, which is a part of the LCP, describes the Los Cerritos Wetlands (lying within PD-1 Areas 33 and 11a) as “lying south of the Los Cerritos Flood Control Channel and separated from it by a narrow strip of dry land created with fill during the dredging and stabilization of the Los Cerritos Channel bed” more than 60 years ago. At the time of the 1977 SEADIP, the formal boundaries of the Los Cerritos Wetlands were not known. Recently, the property changed ownership. The new owners, Synergy, have been pursuing the development of a wetland mitigation bank on the property. The mitigation bank would essentially be an “overlay” on the property, and oil extraction operations would continue. The existing slough and mud flat would be enhanced and protected and, as individual wells are removed from operation, additional wetland would be restored or created in those locations.

The mudflat and its central tidal channel is the core of the Los Cerritos Wetlands. Twice daily with the ebb and flood of tides, the mudflat is exposed in varying degrees, but with fairly regular surface and drainage patterns. Generally, the exposed mudflats are clean and sandy, with diverse flora and fauna populations. The mudflats generally do not exhibit indicators of pollution.

It is likely that the central mudflat and tidal channel have not changed since its origin. Even before the San Gabriel River in 1867 switched from the Rio Hondo and Los Angeles River and other channels emptying into San Pedro near Rattlesnake Island, the Los Cerritos Wetlands was shown on maps as a lagoon or slough or tidal flat or sometime estuary of Los Coyotes Creek, Mud Creek, or Bouton Creek. After the San Gabriel River adopted a streambed terminating in Alamitos Bay, the River by-passed the Los Cerritos Wetlands, while they remained tidal flats. Maps of survey in 1923 indicate that a dike along the southerly bank of the present-day Wetlands (which are oriented west-east, the west end opening into Los Cerritos Flood Control Channel) is likely part of the dike that forms the highland south rim of the Wetlands today.

The Wetlands supports dominant stands of cordgrass and of two species of pickleweed which furnish the proper micro-environments for algae and juvenile fish and crustaceans; and provide the microenvironments for nesting of certain birds, such as Belding’s Savannah Sparrow, a federally-listed endangered species. (LCWA 2012). At the invertebrate and microscopic levels, the wealth and diversity of species, despite the twice daily foraging by shore birds, is characteristic of a long-standing healthy mudflat-estuarine ecosystem. Figure 11 shows the wetlands delineation provided by Glenn Lukos Associates.



Source: DigitalGlobe, Inc. (March 1, 2009, March 2011); and AECOM (January 2011).

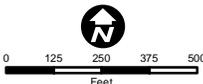
Source: Esri, DigitalGlobe, GeoEye, I-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Prepared By:



Map Created: 09/10/2015

VCS Environmental



0 125 250 375 500
Feet
1 in = 500 ft

Data Source: Moffat & Nichol
Glenn Lukos Associates
ESRI

SEADIP
Synergy Wetlands Delineation

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4.2.2.2 Synergy Vegetation

Table 4.2-3 below lists the vegetation identified by Tidal Influence (2012). Glenn Lukos Associates also provided the vegetation mapping, shown in Figure 12. These wetlands, and in particular Steamshovel Slough within the property, provide extensive opportunity to preserve and enhance the existing degraded wetlands. Steamshovel Slough has the highest habitat value in the Los Cerritos Wetlands Complex. This remnant channel is a geomorphological relic that supports intact and biodiverse salt marsh habitat that is the exemplary model of what much of Los Cerritos Wetlands looked like 150 years ago (Tidal Influence 2012).

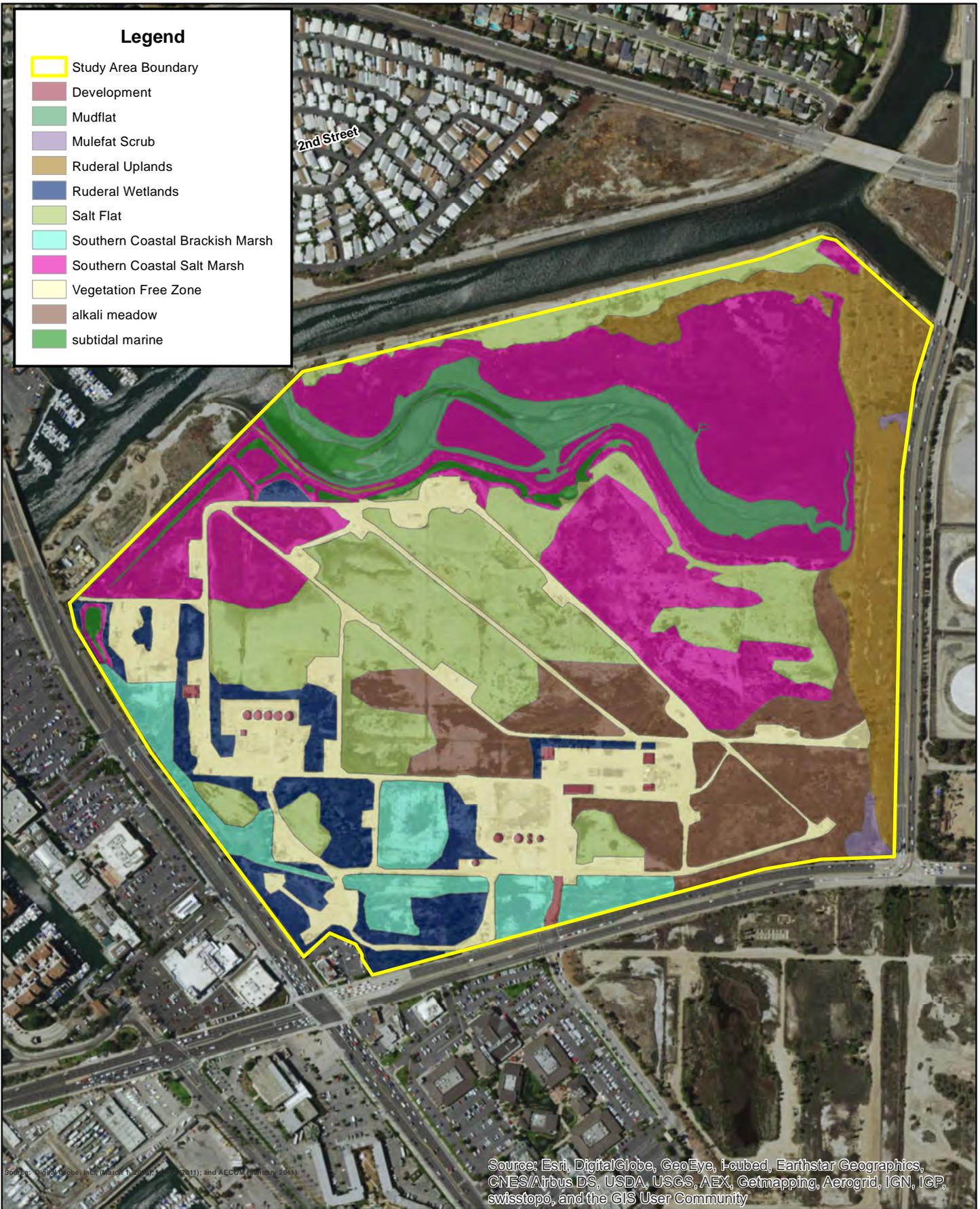
Steamshovel Slough contains all three of the marsh zones including dense stands of Pacific cordgrass and several large salt pannes. The Slough drains completely at low tides, exposing extensive intertidal mudflat habitat as well as eelgrass beds near the mouth. The portion of the Los Cerritos Channel that is included in this subarea is known to support eelgrass beds that sometimes attracts foraging fishes, sea lions and other marine mammals. The Channel’s mostly rubble and fill material are vegetated by salt marsh plants. Sensitive plant species found in the Synergy wetlands are shown in Table 4.2-3. Common vegetation of the habitat types are indistinguishable from the species found elsewhere in the Los Cerritos Wetland Complex (see Table 4.2-1 and Table 4.2-3).

Table 4.2-3. Special Status Plant Species Observed at the Synergy Property

Scientific Name	Common Name
<i>Lycium californicum</i>	California Boxthorn
<i>Suaeda taxifolia</i>	Woolly Seablite
<i>Lasthenia glabrata</i> ssp. <i>coulteri</i>	Coulter's Gold Fields
<i>Suaeda esteroa</i>	Estuary Seablite
<i>Camissonia lewisii</i>	Lewis' Primrose
<i>Centromadia parryi</i> ssp. <i>australis</i>	Southern Tarplant
<i>Juncus acutus</i> ssp. <i>leopoldii</i>	Southwestern Spiny Rush

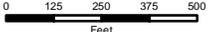
Source: Glenn Lukos Associates (2014); Tidal Influence (2012)

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Prepared By:

 VCS Environmental
 Map Created: 09/10/2015



 1 in = 500 ft

Data Source: Moffat & Nichol
 Glenn Lukos Associates
 ESRI

SEADIP
 Synergy Wetlands Vegetation

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4.2.2.3 Synergy Wildlife

Table 4.2-4 lists the wildlife identified by LCWA in its Habitat Assessment Report (Tidal Influence 2012). This area hosts a sizeable breeding population of Belding’s Savannah Sparrows, acts as a training ground for least tern fledglings, is a major migratory waterfowl and shorebird bird refuge, and provides excellent conditions for future establishment of endangered salt marsh birds beak and light-footed clapper rail populations. Sensitive wildlife species found in the Synergy wetlands are shown in Table 4.2-4. Common wildlife is indistinguishable from the species found elsewhere in the Los Cerritos Wetland Complex (see Table 4.2-2 and Table 4.2-4).

Table 4.2-4. Special Status Wildlife Species Observed at the Synergy Property

Scientific Name	Common Name
<i>Passerculus sandwichensis beldingi</i>	Belding’s Savannah Sparrow
<i>Athene cuicularia</i>	Burrowing Owl
<i>Sterna antillarum browni</i>	California Least Tern
<i>Chelonia mydas</i>	Pacific Green Sea Turtle
<i>Panoquina errans</i>	Salt Marsh Wandering Skipper

Source: Glenn Lukos Associates (2014); Tidal Influence (2012)

While there are a number of special status species in the SEADIP Planning Area, Belding’s Savannah Sparrow holds particular fascination for the public. The Belding’s Savannah Sparrow (*Passerculus sandwichensis beldingi*; Belding’s) is listed as endangered by the State of California and is one of few species of birds that reside year-round in the coastal salt marshes of Southern California, and at the Synergy property. Over 75 percent of the coastal wetland habitats within this range have been lost or highly degraded (Zembal and Hoffman 2010) and the remainder suffer from the effects of increasing human populations. Belding’s are ecologically associated with dense pickleweed; breeding territories can be very small and they nest within a larger block of habitat, all of which may appear generally suitable. They can be difficult to count accurately since they are secretive and forage throughout a marsh, often well away from nesting sites.

Los Cerritos Marsh, including the Steamshovel Slough, was surveyed on April 9, 2010 (Zembal and Hoffman 2010). A Belding’s nest with two hatchlings was discovered in shoregrass, *Monanthochloe littoralis*, in the narrow far western reach of the Slough. This survey documented 23 territories detected in the main marsh, compared to 26 found in 2006. Tidally-deposited trash is problematic but dealt with through regular clean-up. Access to the marsh is easy and there are signs of human and dog encroachment.

4.2.2.4 Values Assessment at Synergy

Given the diverse nature of the vegetation, the biological productivity is high, furnishing food not only for the shore birds and migratory birds, but also organic detritus borne on tidal flushes as food for the benthic and pelagic (open water) ecosystem of Alamitos Bay. The Bay, in turn, is a spawning ground and protective

niche for young fish that later migrate to the near-shore and off-shore ecosystems, supporting commercial and sports fishing along the south coast of California—a resource of economic and recreational value to the people of the State generally.

The wetlands are protected from nearby oil extraction operations by dikes, roads, and other constraints. Due to the on-going oil extraction operations within the Los Cerritos Wetlands, there is a potential for significant impacts resulting from wetland restoration efforts. For example, on the south side behind dikes lie active quarry extraction operations and old sumps, chemical dumps, accumulated runoffs, and other detritus from decades of oil operations. In addition, geotechnical conditions across the site complicate efforts to consolidate pumping operations. (Tidal Influences 2009)

4.2.3 LCWA Wetlands

4.2.3.1 Description of Existing Conditions at LCWA Wetlands

The LCWA's Habitat Assessment Report (Tidal Influence 2012) was prepared in support of the Los Cerritos Wetlands Conceptual Restoration Plan to determine the existing biological conditions of the entire 500-acre Los Cerritos Wetlands Complex (see Figure 13 for LCWA Wetland delineation). The report investigates the habitat types and special status species that are present throughout the Complex, as well as providing additional insight on invasive species, wildlife corridors, and land uses. The information provided in this report, which focuses solely on the wetlands within the control of LCWA, is taken from the LCWA Habitat Assessment Report. Tidal Influence (2012) describes the following habitat types within the Complex.



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4.2.3.2 Vegetation Observed at LCWA Wetlands

LCWA Wetlands are comprised of several habitat types: mulefat scrub; ruderal wetlands; salt flat; southern coastal brackish marsh, southern coastal salt marsh, and alkali meadow. Table 4.2-5 lists the plant species observed within these habitat types at LCWA Wetlands. Vegetation communities described by Tidal Influence (2012) are depicted on Figure 14. Appendix B contains the compendium of plant species that could be present in the Los Cerritos Wetlands Complex (Tidal Influence 2012).

Table 4.2-5. Plant Species Observed at LCWA Wetlands

Scientific Name	Common Name
<i>Anemopsis californica</i>	Yerba mansa
<i>Arthrocnemum subterminale</i>	Parish's glasswort
<i>Atriplex watsonii</i>	Salt scale
<i>Baccharis salicifolia</i>	mule fat
<i>Baccharis salicifolia</i>	Mulefat
<i>Bassia hyssopifolia</i>	five-hook Bassia
<i>Batis maritima</i>	Saltwort
<i>Brassica nigra</i>	black mustard
<i>Centromadia parryi australis</i>	southern tarplant
<i>Colpomenia bullosa</i>	Brown bag algae
<i>Cuscuta salina</i>	Salt marsh dodder
<i>Distichlis spicata</i>	Salt grass
<i>Eleocharis macrostachya</i>	Apiké rush
<i>Frankenia salina</i>	Alkali heath
<i>Gelidium spp.</i>	
<i>Isocoma menziesii</i>	Golden bush
<i>Jaumea carnosa</i>	Salty Susan
<i>Juncus acutus leopoldii</i>	Southwestern spiny rush
<i>Leymus triticoides</i>	Alkali rye
<i>Limonium californicum</i>	Sea-Lavender
<i>Lycium californicum</i>	California boxthorn
<i>Mesembryanthemum nodiflorum</i>	Slender leaved iceplant
<i>Monanthochloe littoralis</i>	Shore grass
<i>Myoporum laetum</i>	Ngaio tree
<i>Myoporum laetum</i>	Myoporum
<i>Phyllospadix spp.</i>	Surf grass
<i>Pluchea odorata</i>	Salt marsh fleabane
<i>Polypogon monspeliensis</i>	Rabbit's foot grass
<i>Pseudolithophyllum spp.</i>	Coralline algae
<i>Rumex crispus</i>	Curly dock
<i>Ruppia maritima</i>	Widgeon grass

Scientific Name	Common Name
<i>Salicornia bigelovii</i>	Annual pickleweed
<i>Salix gooddingii</i>	Black willow
<i>Salix lasiolepis</i>	Arroyo willow
<i>Sarcocornia pacifica</i>	Common pickleweed
<i>Sarcocornia pacifica</i>	pickleweed
<i>Schoenoplectus maritimus</i>	Salt marsh bulrush
<i>Silvetia compressa</i>	Endocladia muricata
<i>Spartina foliosa</i>	Pacific cordgrass
<i>Suaeda esteroa</i>	Estuary seablite
<i>Tamarisk sp.</i>	Salt cedar
<i>Triglochin coninna</i>	Arrow grass
<i>Ulva spp</i>	Sea lettuce
<i>Washingtonia robustus</i>	Mexican fan palms
<i>Zostera marina</i>	Eelgrass

Source: Tidal Influence (2012)

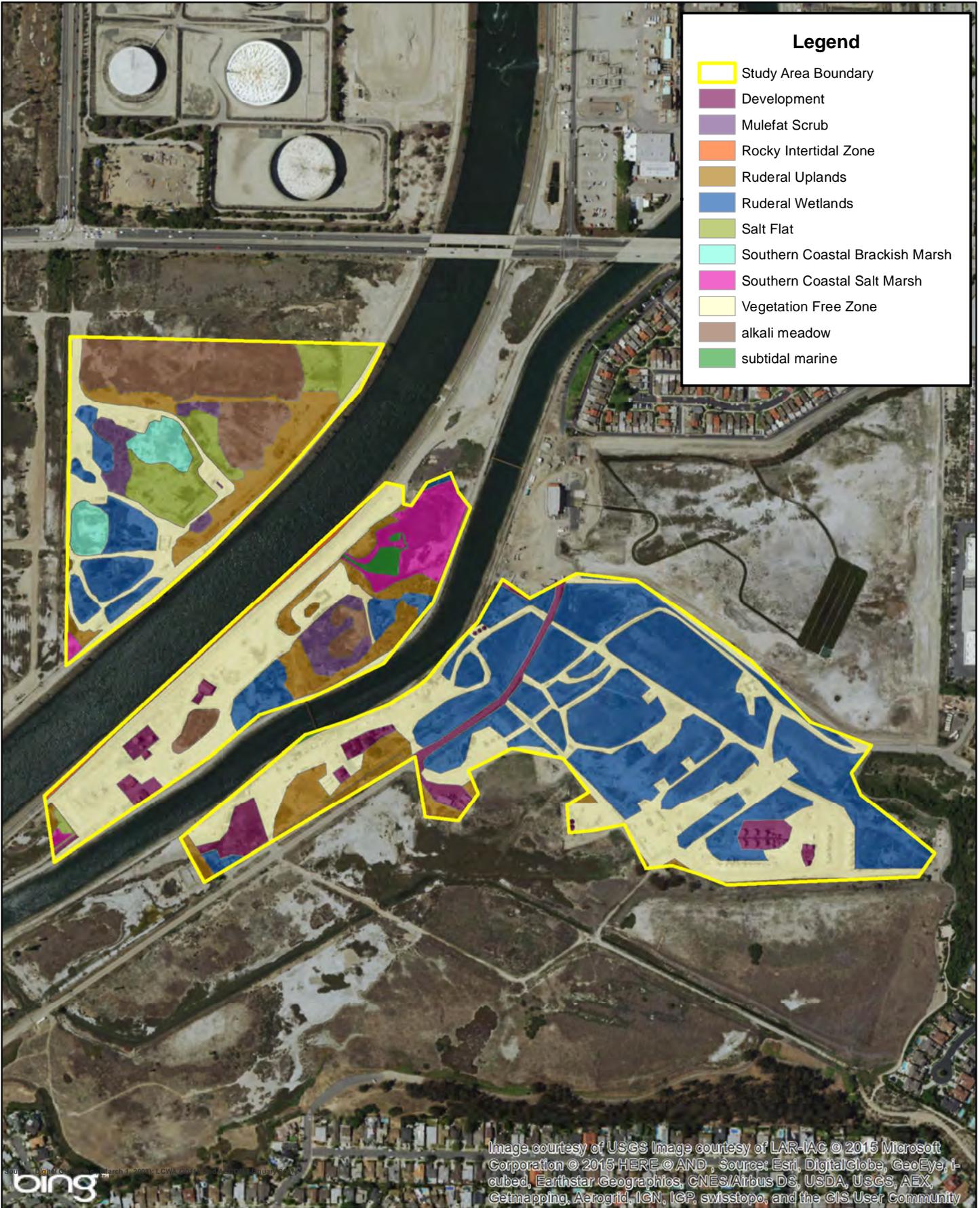
Table 4.2-6 lists the animal species observed within the LCWA Wetlands. Appendix B contains the compendium of animal species that could be present in the Los Cerritos Wetlands Complex (Tidal Influence 2012).

Table 4.2-6. Wildlife Species Observed at LCWA Wetlands

Scientific Name	Common Name
<i>Chelonia mydas</i>	Pacific Green Sea Turtle
<i>Ostrea lurida</i>	Olympia oyster
<i>Pachygrapsus crassipes</i>	Striped shore crab
<i>Passerculus sandwichensis beldini</i>	Belding's Savannah Sparrow
<i>Rallus longirostris levipes</i>	Light-footed clapper rail
<i>Sterna antillarum browni</i>	California least tern

Source: Tidal Influence (2012)

Appendix B contains the compendium of animal species that could be present in the Los Cerritos Wetlands Complex.



<p>Prepared By:</p>  <p>VCS Environmental</p> <p>Map Created: 09/10/2015</p>	 <p>0 110 220 330 440 550 Feet 1 in = 550 ft</p>	<p>Data Source: Moffat & Nichol Tidal Influence (2012) ESRI</p>	<p>SEADIP LCWA Wetland Vegetation</p>
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4.2.4 Other Potential Wetlands in the Los Cerritos Wetland Complex

4.2.4.1 Subarea 11b (Alamitos Bay Partners)

The landowner provided a wetland delineation report dated March 13, 2015, prepared by Endemic Environmental Services, Inc. Vegetation in the wetland areas consists of *Sarcocornia virginica*, *S. bigelovii*, *Batis maritima*, and *Suada esteroa*. Other dominant vegetation on the project site includes *Heliotropium curassavicum*, *Limonium californicum*, *Melilotus indica*, and various nonnative grasses. The majority of the project area consists of a matrix with redoximorphic features, and a clay loam or sandy clay loam texture. Outside the wetland boundary, the area consists primarily of clay loam, loam, and silt loam. Some hydric soils in the project area were indicated by a dark surface in the soil matrix.

The overall flow or ponding of water remains within a clearly defined channel into a depression. There is also obvious tidal flooding and ponding of other areas tied to the project site, and these areas plainly show an ordinary high water mark and salt crust. The topography creates several high and low points. Soils in some of the drier areas of the wetland showed obvious signs of wetland hydrology, like salt crust. Endemic Environmental Services concluded that the total wetland area delineated and measured within the boundary by the project is approximately 1 acre. Figure 15 is taken from the March 2015 report. Table 4.2-7 provides a list of plants present on the survey site.

Table 4.2-7. Plants Present on the Survey Site

Scientific Name	Common Name
<i>Atriplex semibaccata*</i>	Australian Saltbush
<i>Bromus diandrus</i>	Ripgut Brome
<i>Bromus madritensis ssp. rubens</i>	Red Brome
<i>Carpobrotus edulis*</i>	Hottentot Fig
<i>Cressa truxillensis</i>	Alkali Weed
<i>Distichilis spicata</i>	Seashore Saltgrass
<i>Frankenia salina</i>	Alkali Heath
<i>Limonium californicum</i>	Sea-Lavender
<i>Salicornia bigelovii</i>	Dwarf Glasswort
<i>Salicornia virginica</i>	American Glasswort
<i>Sueda esteroa</i>	Seablite

**Non-native plant species*

Source: Endemic Environmental Services, Inc. (2015)

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VCS Environmental
949.489.2700

Source Date:
March 13, 2015

Data Source: Endemic Environmental Services, Inc.

D-79

SEADIP

Alamitos Bay Partners Delineation

FIGURE 15

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4.2.4.2 Subarea 25 (Lyons “Pumpkin Patch”)

This property is currently utilized for seasonal events such as a pumpkin patch in the fall and a Christmas tree lot during the holiday season. It recently has been identified as part of a proposal to relocate oil infrastructure. It is expected that the future use of this property will be as office space and oil production. The property owner has determined that it is possible to proceed with the proposed development and avoid the existing wetland. The sensitive area of the parcel has been designated Coastal Habitat/Wetlands Recreation and the remaining area has been designated as Mixed Use Community Core. It is assumed that this 0.41-acre wetland will be avoided and not impacted.

4.2.4.3 Subarea 28 (Orange County)

This site is owned by Orange County and is utilized by the County as a retention basin. No wetland impacts would be associated with this parcel.

4.2.4.4 Subarea 26(b), 27 (Bryant Property)

The Bryant properties contain an active oil field and structures associated with oil drilling, such as drilling pads, excavation ditches and unpaved access roads. A series of low-lying oil spill catchment basins has been constructed to maintain compliance with state and federal water quality requirements. Observations of this property, known as the Bryant property, were made by VCS staff and Rick Ware on December 9, 2014. In addition, past reports were obtained and referenced (WRA 2007; UltraSystems 2008; Huffman-Broadway Group 2008). UltraSystems (2008) reported that the site occurs at approximately six feet above sea level and is made up of salt marsh vegetation, locally abundant patch of mulefat scrub, and alkali flat/playa. The northern (and most narrow) portion of the triangular site supported mulefat scrub, Australian saltbush (*Atriplex semibiccata*), and alkali heath (*Frankenia salina*). Russian thistle (*Salsola tragus*) is dominant adjacent to the western fence line and outside the patch of mulefat in more disturbed areas. The most recent report, the 2008 Huffman-Broadway report, delineated the potential wetlands according to soil types and vegetation coverage (Figure 16). Electronic data points of the wetland vegetation on these parcels were not available. The acreage reported here is approximate, based on manually duplicating the vegetation boundaries on an aerial image.

It is anticipated that the Bryant properties will be acquired by the LCWA and will be incorporated into the Los Cerritos Wetland Complex. No impacts are expected to these wetlands.

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Legend

Areas Dominated by Obligate,
Facultative Wetland and
Facultative Vegetation

0 100 200 300 Feet



Aerial Photo Source: DigitalGlobe, 3-1-2008

Huffman-Broadway Group, Inc. 828 Mission Avenue San Rafael, California Phone (415) 925-2000 Fax (415) 925-2008



VCS Environmental
949.489.2700

Source Date:
December 2008

Data Source: Huffman-Broadway Group, Inc.

D-83

SEADIP

Bryant Property Wetland Delineation

FIGURE 16

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Table 4.2-8 below lists the vegetation observed at the Bryant parcels.

Table 4.2-8. Plants Species Observed at the Bryant Parcels

Scientific Name	Common Name
<i>Arundo donax</i>	Giant Reed
<i>Bassia hyssopifolia</i>	Five-hook Bassia
<i>Cressa truxillensis</i>	Alkali Weed
<i>Cuscuta salina</i>	Dodder
<i>Distichlis spicata</i>	Salt Grass
<i>Heliotropium curassavicum</i> var. <i>oculatum</i>	Seaside Heliotrope
<i>Rumex crispus</i>	Curly Dock
<i>Salicornia subterminalis</i>	Pickleweed

Source: WRA (2007); UltraSystems (2008); Huffman-Broadway Group (2008)

Table 4.2-9 lists the wildlife observed at the Bryant parcels.

Table 4.2-9. Wildlife Species Observed at the Bryant Parcels

Scientific Name	Common Name
<i>Ardea alba</i>	Great Egret
<i>Ardea herodias</i>	Great Blue Heron
<i>Buteo jamaicensis</i>	Redtailed Hawk
<i>Calypte anna</i>	Anna's Hummingbird
<i>Canis lupus familiaris</i>	Domestic Dog
<i>Cathartes aura</i>	Turkey Vulture
<i>Hirundo rustica</i>	Barn Swallow
<i>Larus occidentalis</i>	Western Gull
<i>Melospiza melodia</i>	Song Sparrow
<i>Pelicanus erythrorhynchos</i>	American White Pelican
<i>Polites sabuleti</i>	Sandhill Skipper
<i>Sylvilagus</i> spp.	Cottontail
<i>Zenaida macroura</i>	Mourning Dove

Source: WRA (2007); UltraSystems (2008); Huffman-Broadway Group (2008)

UltraSystems (2008) did not recommend wetland restoration at this site because the site had been altered severely over time and no longer functioned as a wetland capable of restoration. However, the report supported the concept of wetland creation as appropriate compensatory mitigation.

4.3 Undeveloped, Wetland Acreages

The approximate acreage of wetlands outside of public parks is listed in Table 4.3-1. **Error! Reference source not found.**

Table 4.3-1. Approximate Acreage of Wetland Area in SEADIP Planning Area

PD-1 Subarea	Ownership	Assumed Wetland Acreage
11b	Alamitos Bay Partnership*	0.95
11a, 33	Synergy	115.47
25	City of Long Beach	22.57
26	LCWA/Bryant	21.14
27	LCWA/Bryant/State Lands Commission	10.72
28	County of Orange	2.70
29	Marina Shores	0.41
30	City of Long Beach (San Gabriel River)	1.45
TOTAL		~175

* Potential wetland impact

Source: VCS Environmental; Glenn Lukos Associates (2014); AECOM (2010); Tidal Influence (2012); LSA (2009); Huffman-Broadway Group, Inc. (2008); Endemic Environmental Services, Inc. (2015).

4.4 Park Land

A complete list of vascular plants and vertebrate wildlife detected during the October 2014 field survey of Park Land can be found in Appendix A (Hamilton 2014). Each Park Land is described below.

4.4.1 Sims' Pond

Sims' Pond is a 6.06-acre freshwater marsh located at the northwest corner of Loynes and Pacific Coast Highway in East Long Beach adjacent to Del Lago, a private gated community. Sims' Pond is not accessible to the general public. Originally a saltwater marsh fed by sea water, it started as a pond for Sims' Bait Shop. In 1979, the California Coastal Commission, when approving the construction of the area homes, required Del Lago and Bay Harbor Homeowner's Associations to own and maintain the pond as a biological reserve under the direction of the Department of Fish and Game. At that time, Sims' Pond became a freshwater marsh and seasonal pond fed by urban runoff from a local golf course. In 2003 it was deeded to the City of Long Beach. The City now owns and maintains the pond.

4.4.1.1 Sims' Pond Vegetation

Three habitat types are described within Sims Pond: Open Water/Mud Flat; Freshwater Marsh; and Black Willow Forest and Restored Habitat. A complete description of each of these habitat types can be found in Appendix A.

The Open Water/Mud Flat community is characterized by standing water and by a varyingly moist/dry surface during the summer and early fall months. When open water is present, vegetation is likely limited to duckweed (*Lemna* sp.). During dry periods, the principal weed growing in and around the perimeter was Lamb's Quarters (*Chenopodium album*). Open water is currently limited to small areas near inlets that bring in runoff from surrounding streets and residences. This is the natural state of this seasonal pond. During the field visit, the bottom of the pond was characterized by cracked mud toward the center and dry dirt around the edges, with a fairly dense growth of weeds along the margins; however, it should be noted that in Southern California, during cyclical droughts such as the current one, it is normal for seasonal ponds to have dry bottoms during the summer and early fall months.

The Freshwater Marsh habitat at Sims' Pond is dominated by the Common Cattail (*Typha latifolia*) and California Bulrush (*Schoenoplectus californicus*), which form dense stands around the pond's perimeter; Leopold's Spiny Rush (*Juncus acutus* ssp. *leopoldii*) is locally dominant, and Mulefat (*Baccharis salicifolia*) also occurs.

The Black Willow Forest consists of the *Salix gooddingii* that grow around the perimeter of the pond and an understory consisting of species typical of freshwater marsh habitat. While the main tree species growing around Sims' Pond is the native Black Willow, an area of restored habitat is found in the northeastern corner of the open space.

Table 4.4-1. Plant Species Observed at Sims' Pond

Scientific Name	Common Name
<i>Alnus rhombifolia</i>	White Alder
<i>Atriplex canescens</i>	Fourwing Saltbush
<i>Atriplex lentiformis</i> ssp. <i>breweri</i>	Brewer's Saltbush
<i>Baccharis pilularis</i>	Coyote Brush
<i>Baccharis salicifolia</i>	Mulefat
<i>Cercocarpus betuloides</i>	Mountain Mahogany
<i>Chamaesyce maculata</i>	Spotted Spurge
<i>Chenopodium album</i>	Lamb's Quarters
<i>Echinochloa crus-galli</i>	Barnyard Grass
<i>Elymus condensatus</i>	Giant Wild Rye
<i>Encelia californica</i>	California Encelia
<i>Eriogonum fasciculatum</i>	California Buckwheat
<i>Heliotropium curassavicum</i>	Salt Heliotrope
<i>Heteromeles arbutifolia</i>	Toyon
<i>Juglans californica</i>	California Walnut
<i>Juncus acutus</i> ssp. <i>leopoldii</i>	Leopold's Spiny Rush
<i>Lemna</i> sp.	duckweed
<i>Persicaria lapathifolia</i>	Willow Knotweed
<i>Plantago major</i>	Common Plantain
<i>Platanus racemosa</i>	California Sycamore
<i>Polypogon monspeliensis</i>	Rabbitsfoot Grass
<i>Populus fremontii</i>	Fremont Cottonwood
<i>Prunus ilicifolia</i>	Holly-leaved Cherry
<i>Quercus agrifolia</i>	Coast Live Oak
<i>Rhus integrifolia</i>	Lemonade Berry
<i>Rhus ovata</i>	Sugar Bush
<i>Ribes speciosum</i>	Fuchsia-flowered Gooseberry
<i>Rosa californica</i>	California Rose
<i>Rumex conglomeratus</i>	Clustered Dock
<i>Salix gooddingii</i>	Black Willow
<i>Sambucus nigra</i> ssp. <i>caerulea</i>	Blue Elderberry
<i>Schoenoplectus californicus</i>	California Bulrush
<i>Typha latifolia</i>	Common Cattail

Source: Hamilton (2014); Audubon (2013)

4.4.1.2 Sims' Pond Wildlife

The Open Water/Mud Flat habitat type provides habitat for certain exotic species of fish, crustacean, amphibian, and reptile. These species, as well as emergent vegetation, are foraged upon by various species of waterfowl, heron, egret, tern, and other shore birds. The California Least Tern (*Sternula antillarum browni*), a State- and Federally-listed species, was observed foraging in the pond during late spring/summer 2013 (Audubon 2013). When water levels drop to a depth of several inches, long-legged shorebirds may also feed in open water. As the water continues to retreat and the area of shoreline increases, many more shorebird species may forage along the water's edge. Raccoon tracks (*Procyon lotor*) were observed in the mud of the lakebed, indicating that this mammal forages on crayfish and possibly other aquatic species in the pond; other small urban mammals likely to be present include the Striped Skunk (*Mephitis mephitis*) and Virginia Opossum (*Didelphis virginiana*). One species of shorebird, the Killdeer (*Charadrius vociferans*), may nest on the exposed lakebed.

The habitat is suitable for nesting by Clark's Marsh Wren (*Cistothorus palustris clarkae*), a California Species of Special Concern known to nest in the Long Beach area. A Marsh Wren was heard vocalizing at Sims' Pond during the October 2014 field visit. Sims' Pond willows and restored habitat provide foraging habitat and cover for species typically found in freshwater marsh habitats as well as more arboreal habitats and in drier areas. Species found in these drier conditions include the Mourning Dove (*Zenaidura macroura*), Allen's Hummingbird (*Selasphorus sasin*), American Crow (*Corvus brachyrhynchos*), and House Sparrow (*Passer domesticus*). Additional species known or likely to occur during migration and/or winter include the Hermit Thrush (*Catharus guttatus*), Ruby-crowned Kinglet (*Regulus calendula*), and Yellow-rumped Warbler (*Setophaga coronata*). At least one Coyote (*Canis latrans*) is known to occur regularly at Sims' Pond (L. Arkinstall pers. comm.), and a den observed in the restoration area during the October field visit appeared consistent with that of a Coyote. Table 4.4-2 lists the wildlife observed at Sims' Pond (Hamilton 2014; Audubon 2013).

Table 4.4-2. Wildlife Species Observed at Sims' Pond

Scientific Name	Common Name
<i>Accipiter cooperii</i>	Cooper's Hawk
<i>Actitis macularius</i>	Spotted Sandpiper
<i>Agelaius phoeniceus</i>	Red-winged Blackbird
<i>Aix sponsa</i>	Wood Duck
<i>Anas americana</i>	American Wigeon
<i>Anas clypeata</i>	Northern Shoveler
<i>Anas crecca</i>	Green-winged Teal
<i>Anas cyanoptera</i>	Cinnamon Teal
<i>Anas platyrhynchos</i>	Mallard
<i>Anus acuta</i>	Northern Pintail
<i>Ardea alba</i>	Great Egret
<i>Ardea herodias</i>	Great Blue Heron
<i>Branta canadensis</i>	Canada Goose
<i>Buteo jamaicensis</i>	Red-tailed Hawk
<i>Calypte anna</i>	Anna's Hummingbird
<i>Canis latrans</i>	Coyote
<i>Cathartes aura</i>	Turkey Vulture
<i>Catharus guttatus</i>	Hermit Thrush
<i>Charadrius vociferans</i>	Killdeer
<i>Cistothorus palustris clarkae</i>	Clark's Marsh Wren
<i>Columba livia</i>	Rock Pigeon
<i>Corvus brachyrhynchos</i>	American Crow
<i>Didelphis virginiana</i>	Virginia Opossum
<i>Egretta thula</i>	Snowy Egret
<i>Fulica americana</i>	American Coot
<i>Gambusia affinis</i>	Western Mosquitofish
<i>Geothlypis trichas</i>	Common Yellowthroat
<i>Haemorhous mexicana</i>	House Finch
<i>Hirundo rustica</i>	Barn Swallow
<i>Lithobates catesbeianus</i>	Bullfrog
<i>Lonchura punctulata</i>	Nutmeg Mannikin
<i>Megaceryle alcyon</i>	Belted Kingfisher
<i>Melospiza lincolnii</i>	Lincoln's Sparrow
<i>Melospiza melodia</i>	Song Sparrow
<i>Melospiza crissalis</i>	California Towhee
<i>Mephitis mephitis</i>	Striped Skunk
<i>Mimus polyglottos</i>	Northern Mockingbird
<i>Nycticorax nycticorax</i>	Black-crowned Night-Heron
<i>Oreothlypis celata</i>	Orange-crowned Warbler

Scientific Name	Common Name
<i>Oxyura jamaicensis</i>	Ruddy Duck
<i>Pandion haliaetus</i>	Osprey
<i>Passer domesticus</i>	House Sparrow
<i>Phalacrocorax auritus</i>	Double-crested Cormorant
<i>Picoides pubescens</i>	Downy Woodpecker
<i>Podilymbus podiceps</i>	Pied-billed Grebe
<i>Porzana carolina</i>	Sora
<i>Procambarus clarkii</i>	Crayfish
<i>Procyon lotor</i>	Raccoon
<i>Psaltriparus minimus</i>	Bushtit
<i>Regulus calendula</i>	Ruby-crowned Kinglet
<i>Sayornis saya</i>	Black Phoebe
<i>Selasphorus rufus</i>	Rufus Hummingbird
<i>Selasphorus sasin</i>	Allen's Hummingbird
<i>Setophaga coronata</i>	Yellow-rumped Warbler
<i>Setophaga townsend</i>	Townsend's Warbler
<i>Spinus psaltria</i>	Lesser Goldfinch
<i>Spinus tristis</i>	American Goldfinch
<i>Sternula antillarum browni</i>	California Least Tern
<i>Trachemys scripta elegans</i>	Red-eared Slider
<i>Tringa melanoleuca</i>	Greater Yellowlegs
<i>Vireo gilvus</i>	Warbling Vireo
<i>Zenaida macroura</i>	Mourning Dove
<i>Zonotrichia leucophrys</i>	White-crowned Sparrow

Source: Hamilton (2014); Audubon (2013)

4.4.2 Marina Vista Park, Will Rogers Mini Park, Channel View Park, and Jack Nichol Park

Five parks open to the public exist within the SEADIP Planning Area: Marina Vista Park and Will Rogers Mini Park (between Marine Stadium and Colorado Lagoon), Channel View Park (western shore of the Los Cerritos Channel north of Loynes Drive), Jack Nichol Park (northern shore of the Los Cerritos Channel, west of Pacific Coast Highway), and the Jack Dunster Marine Biological Reserve (northern shore of the Los Cerritos Channel, adjacent to Marine Stadium). The first four parks are developed areas with similar resources and are discussed together.

These parks are characterized by turf grass with scattered trees, nearly all of them exotic. Trees observed include coral trees (*Erythrina* spp.), Mexican Fan Palms (*Washingtonia robusta*), pines (*Pinus* spp.), melaleucas (*Melaleuca* sp.), eucalyptus (*Eucalyptus* spp.), and alder (*Alnus* sp.). See Table 4.4-3 below for a list of the plant species observed at these Park Land areas.

Table 4.4-3. Plant Species Observed at Public Parks

Scientific Name	Common Name
<i>Agrostis</i> spp.	Turf grass
<i>Alnus</i> sp.	Alder
<i>Cupaniopsis anacardioides</i>	Carrotwood
<i>Cynodon</i> spp.	Turf grass
<i>Echium candicans</i>	Pride of Madeira
<i>Elymus glaucus</i>	Blue Wild Rye
<i>Erythrina</i> spp.	Coral trees
<i>Eucalyptus</i> spp.	Eucalyptus
<i>Festuca</i> spp.	Turf grass
<i>Ficus</i> sp.	Figs
<i>Liquidambar</i> sp.	liquidambar
<i>Lolium</i> spp.	Turf grass
<i>Melaleuca</i> sp.	Melaleucas
<i>Pennisetum setaceum</i>	Fountain Grass
<i>Pennisetum</i> spp.	Turf grass
<i>Pinus</i> spp.	Pines
<i>Platanus x hispanica</i>	London Plane
<i>Schinus molle</i>	Peruvian Pepper
<i>Schinus terebinthifolius</i>	Brazilian Pepper
<i>Washingtonia robusta</i>	Mexican Fan Palms

Source: Hamilton (2014); Ware (2014)

Resident birds include such native species as Cooper’s Hawk (*Accipiter cooperii*), Anna’s Hummingbird (*Calypte anna*), Allen’s Hummingbird (*Selasphorus sasin*), Downy Woodpecker (*Picoides pubescens*), Black Phoebe (*Sayornis nigricans*), Western Scrub-Jay (*Aphelocoma californica*), Bushtit (*Psaltriparus minimus*), and House Finch (*Haemorhous mexicanus*). See Table 4.4-4 below for a list of the animal species observed at these Park Land areas.

Jack Nichol Park is located across Pacific Coast Highway from the Los Cerritos Wetlands, where the listed Belding’s Savannah Sparrow (*Passerculus sandwichensis* ssp. *beldingi*) is resident, and this park provides marginal wintering (but not nesting) habitat for this species; one bird was observed there during the October 2014 field visit. One other wintering bird species observed only at Jack Nichol Park is the Western Meadowlark (*Sturnella neglecta*); a flock of eleven meadowlarks was observed there on October 31, 2014.

Table 4.4-4. Wildlife Species Observed at Public Parks

Scientific Name	Common Name
<i>Accipiter cooperii</i>	Cooper's Hawk
<i>Aphelocoma californica</i>)	Western Scrub-Jay
<i>Calypte anna</i>)	Anna's Hummingbird
<i>Canis latrans</i>)	Coyote
<i>Carduelis psaltria</i>	Lesser Goldfinch
<i>Didelphis virginiana</i>	Virginia Opossum
<i>Haemorhous mexicanus</i>	House Finch
<i>Mephitis mephitis</i>	Striped Skunk
<i>Passer domesticus</i>	House Sparrow
<i>Passerculus sandwichensis ssp. Beldingi</i>	Belding's Savannah Sparrow
<i>Picoides pubescens</i>	Downy Woodpecker
<i>Procyon lotor</i>	Raccoon
<i>Psaltriparus minimus</i>	Bushtit
<i>Psittacara mitrata</i>),	Mitred Parakeet
<i>Rattus norvegicus</i>	Brown Rat
<i>Regulus calendula</i>	Ruby-crowned Kinglet
<i>Sayornis nigricans</i>	Black Phoebe
<i>Sayornis saya</i>	Say's Phoebe
<i>Sceloporus occidentalis</i>	Western Fence Lizard
<i>Selasphorus sasin</i>	Allen's Hummingbird
<i>Setophaga coronata</i>	Yellow-rumped Warbler
<i>Setophaga townsendi</i>	Townsend's Warbler
<i>Sturnella neglecta</i>	Western Meadowlark
<i>Sturnus vulgaris</i>	European Starling
<i>Zonotrichia leucophrys</i>	White-crowned Sparrow

Source: Hamilton (2014); Ware (2014)

4.4.3 Jack Dunster Marine Biological Reserve

The Jack Dunster Marine Biological Reserve is a natural habitat created for recreational and educational opportunities for the public. Features include public access to a meandering pathway throughout the reserve, as well as gangway access to two floating observation platforms and one floating dock. In addition to the educational facilities created to replicate the natural features of the bay, landscaping with native plants has also been included in the park's design. The types of marine habitats present in Jack Dunster Reserve include unvegetated soft bottom sediments, sediments vegetated with eelgrass (*Zostera marina*) and algae, rock rip-rap, pilings, docks, and the water column.

4.4.3.1 Jack Dunster Marine Biological Reserve Vegetation

Common epibiota living on the seabed include blue green algae (*Bacillariophyceae*, unidentified).

Eelgrass (*Zostera marina*) is a type of seagrass that occurs in various locations throughout the Refuge's subtidal habitat. Eelgrass beds provide microhabitats for invertebrates, small fishes, and important foraging areas for waterfowl. The roots and rhizomes of the eelgrass help to stabilize the channel bottoms and the eelgrass blades help to cut down wave action, supporting fine sediment deposition. Eelgrass supports diverse and distinct groups of species, and provides critical nourishment to herbivores and detritivores (animals that eat partly decomposed organic material). Whether in a dense meadow or sporadic individual stands, eelgrass is an essential part of coastal ecosystems and its presence indicates the overall environmental quality of coastal waters.

Rocky habitat and pipelines located at the southwest and northeastern boundaries are colonized by red algae, brown algae, sea whip gorgonians, chaetopterid worm masses, mussels, tube snails, barnacles, and tunicates.

The low marsh is characterized by Pacific Cordgrass (*Spartina foliosa*); the middle marsh is characterized by Pickleweed, Estuary Seablite (*Suaeda esteroa*), and Salt Marsh Dodder (*Cuscuta salina*); the upper marsh is characterized by Parish's Glasswort (*Arthrocnemum subterminale*), Alkali Heath (*Frankenia salina*), and Salt Grass (*Distichlis spicata*).

The Reserve's uplands have been planted with a wide variety of plant species native to southern California, including several species of buckwheat and sage, Lemonade Berry (*Rhus integrifolia*), Coastal Prickly-Pear (*Opuntia littoralis*), and Coastal Cholla (*Cylindropuntia prolifera*). Species native to Catalina Island that have been established in the Reserve include Giant Coreopsis (*Leptosyne gigantea*), Santa Catalina Island Buckwheat (*Eriogonum giganteum* var. *giganteum*), Showy Island Snapdragon (*Gambelia speciosa*), and Southern Island Mallow (*Lavatera assurgentiflora* ssp. *glabra*). Exotic low shrubs apparently planted and weedy and/or invasive species growing as volunteers are also listed in Table 4.4-5.

Table 4.4-5. Plant Species Observed at Jack Dunster Marine Biological Reserve

Scientific Name	Common Name
<i>Ruppia maritima</i>	Wigeon Grass
<i>Zostera marina</i>	Eelgrass
<i>Spartina foliosa</i>	Pacific Cordgrass
<i>Sarcocornia pacifica</i>	Common Pickleweed
<i>Salicornia bigelovii</i>	Annual Pickleweed
<i>Limonium californicum</i>	California Sea-Lavender
<i>Jaumea carnosa</i>	Marsh Jaumea
<i>Triglochin concinna</i>	Arrow Grass
<i>Batis maritima</i>	Saltwort
<i>Suaeda esteroa</i>	Estuary Seablite
<i>Cuscuta salina</i>	Salt Marsh Dodder
<i>Arthrocnemum subterminale</i>	Parish's Glasswort
<i>Frankenia salina</i>	Alkali Heath
<i>Distichlis spicata</i>	Salt Grass
<i>Atriplex watsonii</i>	Watson's Saltbush
<i>Lycium californicum</i>	California Boxthorn
<i>Monanthochloe littoralis</i>	Shore Grass
<i>Juncus acutus</i> ssp. <i>leopoldii</i>	Leopold's Spiny Rush
<i>Eriogonum fasciculatum</i>	California Buckwheat
<i>Eriogonum cinereum</i>	Ashy Buckwheat
<i>Eriogonum parvifolium</i>	Seacliff Buckwheat
<i>Encelia californica</i>	California Encelia
<i>Artemisia californica</i>	California Sagebrush
<i>Isocoma menziesii</i>	Coast Goldenbush
<i>Peritoma arborea</i>	Bladderpod
<i>Salvia mellifera</i>	Black Sage
<i>Salvia apiana</i>	White Sage
<i>Salvia leucophylla</i>	Purple Sage
<i>Salvia clevelandii</i>	Cleveland Sage
<i>Rhus integrifolia</i>	Lemonade Berry
<i>Opuntia littoralis</i>	Coastal Prickly-Pear
<i>Cylindropuntia prolifera</i>	Coastal Cholla
<i>Prunus ilicifolia</i>	Holly-leaf Cherry
<i>Frangula californica</i>	Coffeeberry
<i>Atriplex canescens</i>	Fourwing Saltbush
<i>Baccharis salicifolia</i>	Mulefat
<i>Rosa californica</i>	California Rose

Scientific Name	Common Name
<i>Lonicera subspicata</i> var. <i>denudata</i>	Broad-leaved Southern Honeysuckle
<i>Epilobium canum</i>	California Fuchsia
<i>Eschscholzia californica</i>	California Poppy
<i>Suaeda taxifolia</i>	Woolly Seablite
<i>Mirabilis laevis</i>	Wishbone Bush
<i>Abronia umbellata</i>	Beach Sand Verbena
<i>Sporobolus airoides</i>	Alkali Sacaton
<i>Leptosyne gigantea</i>	Giant Coreopsis
<i>Eriogonum giganteum</i> var. <i>giganteum</i>	Santa Catalina Island Buckwheat
<i>Gambelia speciosa</i>	Showy Island Snapdragon
<i>Lavatera assurgentiflora</i> ssp. <i>glabra</i>	Southern Island Mallow
<i>Asclepias tuberosa</i>	Butterfly Milkweed
<i>Commelina benghalensis</i>	Dayflower
<i>Fraxinus uhdei</i>	Evergreen Ash
<i>Ficus carica</i>	Edible Fig
<i>Heliotropium curassavicum</i>	Salt Heliotrope
<i>Convolvulus arvensis</i>	Field Bindweed
<i>Ambrosia psilostachya</i>	Western Ragweed
<i>Malva parviflora</i>	Cheeseweed
<i>Chamaesyce maculata</i>	Spotted Spurge

Source: Hamilton (2014); Ware (2014)

4.4.3.2 Jack Dunster Marine Biological Reserve Animal Species

Covering only 1.5 acres and functionally isolated from the Los Cerritos Wetlands, located a quarter-mile to the northeast, this isolated patch of habitat is not large enough to provide extensive ecological services, but it is used by various native insects and birds. Birds observed in this area during the field visit include the species listed in Table 4.4-6 below.

The benthic infaunal community consists of a diverse assemblage of organisms that burrow into the mud, and here the seabed supports a bottom (benthic) community of invertebrates dominated by polychaete worms, crustaceans (amphipods and caprellids), and mollusks (octopus, snails, and clams). These organisms are important in the turnover of organic sediments, as well as being prey items for fishes that forage for their food in the muddy sediments. Octopuses are commonly within channel bottom "dens" that consist of small rocks, shells, and other debris. Octopuses are also located within eelgrass beds, as well as unvegetated soft bottom habitats.

In 2012, Dr. Danielle Zacherl [California State University Fullerton (CSUF)], Dr. Christine Whitcraft (CSULB), KZO Education, and Orange County Coastkeeper initiated an Olympia Oyster (*Ostrea lurida*) restoration

project in Jack Dunster Marine Reserve with funds from the National Oceanographic and Atmospheric Administration (NOAA). A total of 3,700 pounds of dead oyster shells were scattered along the mudflat, with an additional 2,000 pounds scattered in 2013. These oysters will serve as habitat for oyster “spat” that will eventually settle upon the oyster reef. The goal is to restore native oyster habitat which will also improve water quality in the Reserve because of the oysters’ water filtering capability.

The area of intertidal marsh appears to be too limited to support many of the species found in the extensive Los Cerritos Wetlands Complex, but the area is used occasionally by shorebirds, such as the Willet (*Tringa semipalmata*). During winter, the listed Belding’s Savannah Sparrow (*Passerculus sandwichensis ssp. beldingi*) could occur in small numbers, as well as the Large-billed Savannah Sparrow (*Passerculus sandwichensis ssp. rostratus*), a California Species of Special Concern that winters in small numbers along the coast.

Mammals likely to utilize the salt marsh at Jack Dunster include the Brown Rat (*Rattus norvegicus*), Virginia Opossum (*Didelphis virginiana*), Striped Skunk (*Mephitis mephitis*), coyote (*Canis latrans*), and raccoon (*Procyon lotor*).

Table 4.4-6. Animal Species Observed at Jack Dunster Marine Biological Reserve

Scientific Name	Common Name
<i>Abronia umbellata</i>	Beach Sand Verbena
<i>Ambrosia psilostachya</i>	Western Ragweed
<i>Artemisia californica</i>	California Sagebrush
<i>Arthrocnemum subterminale</i>	Parish’s Glasswort
<i>Asclepias tuberosa</i>	Butterfly Milkweed
<i>Atriplex canescens</i>	Fourwing Saltbush
<i>Atriplex watsonii</i>	Watson’s Saltbush
<i>Baccharis salicifolia</i>	Mulefat
<i>Batis maritima</i>	Saltwort
<i>Chamaesyce maculata</i>	Spotted Spurge
<i>Commelina benghalensis</i>	Dayflower
<i>Convolvulus arvensis</i>	Field Bindweed
<i>Cuscuta salina</i>	Salt Marsh Dodder
<i>Cylindropuntia prolifera</i>	Coastal Cholla
<i>Distichlis spicata</i>	Salt Grass
<i>Encelia californica</i>	California Encelia
<i>Epilobium canum</i>	California Fuchsia
<i>Eriogonum cinereum</i>	Ashy Buckwheat
<i>Eriogonum fasciculatum</i>	California Buckwheat
<i>Eriogonum giganteum</i> var. <i>giganteum</i>	Santa Catalina Island Buckwheat
<i>Eriogonum parvifolium</i>	Seacliff Buckwheat
<i>Eschscholzia californica</i>	California Poppy

Scientific Name	Common Name
<i>Ficus carica</i>	Edible Fig
<i>Frangula californica</i>	Coffeeberry
<i>Frankenia salina</i>	Alkali Heath
<i>Fraxinus uhdei</i>	Evergreen Ash
<i>Gambelia speciosa</i>	Showy Island Snapdragon
<i>Heliotropium curassavicum</i>	Salt Heliotrope
<i>Isocoma menziesii</i>	Coast Goldenbush
<i>Jaumea carnosa</i>	Marsh Jaumea
<i>Juncus acutus</i> ssp. <i>leopoldii</i>	Leopold's Spiny Rush
<i>Lavatera assurgentiflora</i> ssp. <i>glabra</i>	Southern Island Mallow
<i>Leptosyne gigantea</i>	Giant Coreopsis
<i>Limonium californicum</i>	California Sea-Lavender
<i>Lonicera subspicata</i> var. <i>denudata</i>	Broad-leaved Southern Honeysuckle
<i>Lycium californicum</i>	California Boxthorn
<i>Malva parviflora</i>	Cheeseweed
<i>Mirabilis laevis</i>	Wishbone Bush
<i>Monanthochloe littoralis</i>	Shore Grass
<i>Opuntia littoralis</i>	Coastal Prickly-Pear
<i>Peritoma arborea</i>	Bladderpod
<i>Prunus ilicifolia</i>	Holly-leaf Cherry
<i>Rhus integrifolia</i>	Lemonade Berry
<i>Rosa californica</i>	California Rose
<i>Ruppia maritima</i>	Wigeon Grass
<i>Salicornia bigelovii</i>	Annual Pickleweed
<i>Salvia apiana</i>	White Sage
<i>Salvia clevelandii</i>	Cleveland Sage
<i>Salvia leucophylla</i>	Purple Sage
<i>Salvia mellifera</i>	Black Sage
<i>Sarcocornia pacifica</i>	Common Pickleweed
<i>Spartina foliosa</i>	Pacific Cordgrass
<i>Sporobolis airoides</i>	Alkali Sacaton
<i>Suaeda esteroa</i>	Estuary Seablite
<i>Suaeda taxifolia</i>	Woolly Seablite
<i>Triglochin concinna</i>	Arrow Grass
<i>Zostera marina</i>	Eelgrass

Source: Hamilton (2014); Ware (2014)

4.4.4 Park Land Values Assessment

Wetland functions can be defined as the physical, chemical, and biological processes occurring in and making up an ecosystem. Wetland values can be defined as the goods and services perceived as beneficial or valuable to society that emanate directly or indirectly from wetland functions and “an estimate, usually subjective, of worth, merit, quality, or importance” to people. Managed landscapes, such as the public parks described in this section, generally provide limited habitat value, as they are comprised of non-native plant species and do not provide the vegetation to fully support a diverse native wildlife population. These landscaped park areas provide only marginal ecological services, and must be maintained with irrigation and by mowing turf and pruning trees. Wildlife in these areas consists of species highly adapted to human presence, such as the Western Fence Lizard, American Crow, and Virginia Opossum. The City’s parks provide moderate connectivity for these urban wildlife species.

4.5 Open Water

This habitat cover includes the areas that are perpetually under marine water. No wetlands are present in this land cover type. The following Open Water environments are found in the SEADIP Planning Area:

- Bahia Marina
- Haynes Cooling Channel
- San Gabriel River Channel
- Los Cerritos Channel/Steamshovel Slough

Characteristic plant species found in this habitat type are listed in Table 4.5-1.

Table 4.5-1. Plant Species Observed in Open Water Habitats in the SEADIP Planning Area

Scientific Name	Common Name
<i>Arthrocnemum subterminale</i>	Parish’s Glasswort
<i>Atriplex watsonii</i>	Salt Scale
<i>Batis maritime</i>	Saltwort
<i>Carex</i> spp.	Sedges
<i>Colpomenia bullosa</i>	Brown Bag Algae
<i>Cressa truxillensis</i>	Alkali Weed
<i>Cuscuta salina</i>	Salt Marsh dodder
<i>Distichlis spicata</i>	Salt Grass
<i>Endocladia muricata</i>	Sea Moss
<i>Frankenia salina</i>	Alkali Heath
<i>Gelidium</i> spp.	Fern Algae
<i>Jaumea carnosa</i>	Salty Susan
<i>Limonium californicum</i>	Sea-Lavender
<i>Lycium californicum</i>	California Boxthorn
<i>Monanthochloe littoralis</i>	Shore Grass

Scientific Name	Common Name
<i>Phyllospadix</i> spp.	Surf Grass
<i>Pseudolithophyllum</i> spp.	Crustose Coralline Algae
<i>Ruppia maritima</i>	Widgeon Grass
<i>Salicornia bigelovii</i>	Annual Pickleweed
<i>Sarcocornia pacifica</i>	Common Pickleweed
<i>Schoenoplectus</i> spp.	Bulrushes
<i>Silvetia compressa</i>	Golden Rockweed
<i>Spartina foliosa</i>	Pacific Cordgrass
<i>Suaeda esteroa</i>	Estuary Seablite
<i>Triglochin concinna</i>	Arrow-grass
<i>Typha</i> spp.	Cattails
<i>Ulva intestinalis</i>	Enteromorpha
<i>Ulva lactuca</i>	Sea Lettuce
<i>Zostera marina</i>	Eelgrass

Source: Ware (2014); Tidal Influence (2012)

The public's interest has been captured by the occurrences of the green sea turtle, primarily in the San Gabriel River (SGR). In the eastern North Pacific, green sea turtles (*Chelonia mydas*) most commonly occur from San Diego south to Baja California. Sea turtle stranding data and tagging data indicate that sea turtles occur within the SGR where they encounter the warmer, discharged waters of the power generating facilities located farther up the River, the nearshore waters between Long Beach and Huntington Beach, and local embayments (Ware 2014). The National Oceanic and Atmospheric Administration, Fisheries (NOAA Fisheries) and the California State University at Long Beach (CSULB) have initiated a more detailed sea turtle research study based upon tagging/recapture methods that has been focused on deployment of acoustic tags on green sea turtles captured with entangling nets in the San Gabriel River and Seal Beach National Wildlife Refuge.

Essential Fish Habitat (EFH), which is regulated by NOAA Fisheries Service under the MSFCMA include bay, estuarine, and eelgrass habitats (Habitats of Particular Concern (HAPC)). Due to the presence of endangered green sea turtles, eelgrass, which is a food source for green turtles, is considered a HAPC for this species. Alamitos Bay has the potential to support several species of pelagic and groundfish species covered under EFH, although only northern anchovy is likely to be present in the channels (personnel communication with Rick Ware, 6/26/15). Eelgrass has not been recorded in the San Gabriel River, although there is the potential to find it in the River and the cooling water channels for the AES power plants. The San Gabriel River is likely considered EFH because of the presence of green sea turtles that are becoming more commonly observed there, in Alamitos Bay, and the Anaheim Bay/Sunset Harbor/Huntington Harbor complex. Green sea turtles likely roam between all of these areas, according to NOAA Fisheries and CSULB. Eelgrass mapped in the Study Area is shown on Figure 17.

Eelgrass in the SEADIP Project Area 2013. Source: NOAA 2013.



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4.6 Undeveloped, Ruderal Uplands

Areas defined as Undeveloped, Ruderal Uplands do not possess the characteristics needed to be potentially considered as jurisdictional wetlands and are composed of more than 75 percent non-native vegetation mixed with less than 2 native plant species. Depending on soil quality or land uses these upland areas are bare or entirely infested by non-native vegetation. Characteristic plant species found in upland habitat are found in Table 4.6-1.

The impacted upland plant communities provide considerably less habitat value than what could be provided by native upland plant communities. Characteristic animal species include raptors and reptiles, which utilize the upland areas around the edges of the wetlands for foraging and shelter. Burrowing owls (*Athene cunicularia*) also utilize scarcely vegetated areas that contain mammal burrows. In addition to the species found in the Upland habitat of the Park Land, animal species commonly found in Upland habitat include Audubon cottontail rabbits, California ground squirrels, and coyotes.

Table 4.6-1. Plants Species Observed in Undeveloped, Upland Areas

Scientific Name	Common Name
<i>Baccharis salicifolia</i>	Mulefat
<i>Bassia hyssopifolia</i>	Five-hook Bassia
<i>Brassica nigra</i>	Black Mustard
<i>Canadian horseweed</i>	Ngaio tree
<i>Carpobrotus edulis</i>	Hottentot Fig
<i>Centauria melitensis</i>	Tocalote
<i>Centromadia parryi australis</i>	Southern Tarplant
<i>Conyza canadensis</i>	Canadian Horseweed
<i>Hirschfeldia incana</i>	Short-pod Mustard
<i>Isocoma menziesii</i>	Goldenbush
<i>Mesembryanthemum nodiflorum</i>	Slender-leafed Iceplant
<i>Polypogon monspeliensis</i>	Rabbitsfoot Grass

Source: Tidal Influence (2012); Hamilton (2014)

4.7 Mineral Extraction

The lands represented in this land cover type represent the upland roads, pipelines, pumps, and buildings associated with oil extraction in the wetlands. As with Ruderal Uplands, these areas do not possess wetland characteristics. Unlike the Ruderal Uplands, however, these areas are maintained and do not support any vegetation and have no habitat value.

4.8 Developed Lands

Ornamental landscape communities provide cover and nesting habitat for wildlife species that have adapted to urban areas. Non-native ornamental trees include olives (*Olea europaea*), pines (*Pinus* sp.), California pepper trees (*Schinus molle*), tree-of-heaven (*Ailanthus altissima*), eucalyptus trees (*Eucalyptus* spp.), Ngaio trees, carrotwood trees (*Cupaniopsis anacardioides*), fig trees (*Ficus* spp.), and myoporum (*Myoporum laetum*). Non-native ornamental shrubs included oleander (*Nerium oleander*) and acacia (*Acacia longifolia*). Turfgrass is also highly represented (e.g., *Lolium* spp., *Festuca* spp., *Pennisetum* spp., etc.).

Developed/landscaped areas provide only marginal ecological functions, and must be maintained with irrigation and by mowing turf and pruning trees. Wildlife in these areas consists of species highly adapted to human presence, including such reptiles as the Western Fence Lizard (*Sceloporus occidentalis*) and Gopher Snake (*Pituophis catenifer*). Resident birds include such native species as Cooper's Hawk (*Accipiter cooperii*), Anna's Hummingbird (*Calypte anna*), Allen's Hummingbird (*Selasphorus sasin*), Downy Woodpecker (*Picoides pubescens*), Black Phoebe (*Sayornis nigricans*), Western Scrub-Jay (*Aphelocoma californica*), Bushtit (*Psaltriparus minimus*), House Finch (*Haemorhous mexicanus*), and Lesser Goldfinch (*Carduelis psaltria*), and exotics that include the Mitred Parakeet (*Psittacara mitrata*), European Starling (*Sturnus vulgaris*), and House Sparrow (*Passer domesticus*). Native bird species that occur only during migration and winter include Say's Phoebe (*Sayornis saya*), Yellow-rumped Warbler (*Setophaga coronata*), Townsend's Warbler (*Setophaga townsendi*), White-crowned Sparrow (*Zonotrichia leucophrys*), and Hooded Oriole (*Icterus cucullatus*). Mammals found in developed areas and associated landscaping include the Brown Rat (*Rattus norvegicus*), Virginia Opossum (*Didelphis virginiana*), Striped Skunk (*Mephitis mephitis*), Coyote (*Canis latrans*), and Raccoon (*Procyon lotor*).

4.9 Special Status Plants and Wildlife within the SEADIP Planning Area

Sensitive plant communities (sensitive habitats) are of limited distribution statewide or within a county or region and are often vulnerable to environmental effects of projects. Sensitive habitats are often threatened with local extirpation and are therefore considered as valuable biological resources. Several species known to occur within the SEADIP Planning Area are accorded "special status" by federal agencies, state agencies, and/or non-governmental organizations because of their recognized rarity, potential vulnerability to extinction, and local importance. These species typically have a limited geographic range and/or limited habitat and are referred to collectively as "special status" species.

Available literature and databases were reviewed regarding sensitive habitats and special status plant and wildlife species. Special status plant and wildlife species that have the potential to occur within the immediate region of the Los Cerritos Wetlands Complex were identified. Several agencies, including the USFWS, CDFW, and CNPS publish lists of particular taxa (species and subspecies) and the associated level of protection or concern associated with each.

Four of the 20 special status plant species, salt marsh bird's-beak, Ventura River milk-vetch, Gabel's watercress, and 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 Los Cerritos Wetlands Complex. The most widespread sensitive plant species is by far the southern tarplant. This species thrives in disturbed conditions like those found throughout LCW. Populations of Coulter's goldfields appear to be the most precarious as they are only located in Seal Beach and their locations are not consistent from year to year (Glenn Lukos Associates, 2010). Table 4.9-1 lists the special status plant species within the SEADIP Planning Area.

Table 4.9-1. Special Status Plant Species Found within the SEADIP Planning Area

Scientific Name	Common Name	Status
<i>Astragalus pycnostachyus</i> var. <i>lanosissimus</i>	Ventura Marsh Milk-vetch	CNPS list 1B.1 Federal: Endangered State: Endangered
<i>Atriplex coulteri</i>	Coulter's Saltbush	CNPS list 1B.1
<i>Atriplex parishii</i>	Parish's Brittlescale	CNPS list 1B.2
<i>Atriplex serenana</i> var. <i> davidsonii</i>	Davidson's saltscale	CNPS list 1B.1
<i>Calystegia sepium</i> ssp. <i>binghamiae</i>	Santa Barbara Morning-glory	CNPS list 1B.2
<i>Camissonia lewisii</i>	Lewis' Evening Primrose	CNPS list 1B.1
<i>Centromadia parryi</i> ssp. <i>australis</i>	Southern Tarplant	CNPS list 1B.1
<i>Chloropyron maritimum</i> ssp. <i>maritimum</i>	Salt Marsh Birds Beak	CNPS list 1B.2 Federal: Endangered State: Endangered
<i>Juncus acutus</i> ssp. <i>leopoldii</i>	Southwestern Spiny Rush	CNPS list 4B.2
<i>Lasthenia glabrata</i> ssp. <i>coulteri</i>	Coulter's Goldfields	CNPS list 4
<i>Lycium californicum</i>	California Boxthorn	CNPS list 3
<i>Nama stenocarpum</i>	Mud Nama	CNPS list 1B.1
<i>Nasturtium gambelii</i>	Gabel's Watercress	CNPS list 1B.1 Federal: Endangered State: Endangered
<i>Nemacaulis denudata</i> var. <i>denudata</i>	Coast Woolly Heads	CNPS list 4.2
<i>Orcuttia californica</i>	California Orcutt grass	CNPS list 2.2 Federal: Endangered State: Endangered
<i>Sagittaria sanfordii</i>	Sanford's arrowhead	CNPS list 2.2
<i>Sidalcea neomexicana</i>	Salt Spring Checkerbloom	CNPS list 1B.2
<i>Suaeda esteroa</i>	Estuary Seablite	CNPS list 1B.1
<i>Suaeda taxifolia</i>	Woolly Seablite	CNPS list 1B.2
<i>Symphyotrichum defoliatum</i>	San Bernardino Aster	CNPS list 1B.2
<i>Zoserta marina</i>	Eelgrass	NMFS Habitat of Particular Concern

Source: Tidal Influence (2012); Data compiled from CNNDDB, 2012 for Seal Beach and Los Alamitos quadrangle and from LCWA Habitat Assessment.

California Rare Plant Rank

- 1A = Extirpated in California, rare or extinct elsewhere
- 1B = Rare, threatened, or endangered in California and elsewhere
- 2A = Rare in California, but not elsewhere; Presumed extirpated or extinct in California
- 2B = Rare in California, but not elsewhere; Rare, threatened, or endangered
- SX = All California sites are extirpated
- S1 = Critically imperiled
- S2 = Imperiled
- S3 = Vulnerable
- S4 = Apparently secure in California

Threat Ranks

- 0.1-Seriously threatened in California
- 0.2-Moderately threatened in California
- 0.3-Not very threatened in California

4.9.1 Special Status Wildlife Species Having the Potential to Occur within the Study Area

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 by CDFW. The CNDDDB literature review resulted in a list of 26 sensitive animal species that have records of occurrence on or within the same quads as the project site and were reasonable to be analyzed for their potential to occur. A total of eleven animals that are federal- or state-listed have a potential to occur on the site. Of these only the Belding’s savannah sparrow, California least tern, and Pacific green sea turtle have been documented to be present within the study area. Belding’s savannah sparrow is the most prevalent of this listed species within the study area. This resident bird species has been observed nesting in salt marsh vegetation in the prime habitat found deep in Steamshovel Slough. (Zembal and Hoffman 2010). Table 4.9-2 lists the special status wildlife species within the SEADIP Planning Area.

Table 4.9-2. Special Status Wildlife Species Found within the SEADIP Planning Area

Scientific Name	Common Name	Status
<i>Agelaius tricolor</i>	Tricolored Blackbird	State: SSC
<i>Asio flammeus</i>	Short-eared Owl	State: WL
<i>Athene cunicularia</i>	Burrowing Owl	State: SSC
<i>Charadrius alexandrinus nivosus</i>	Western Snowy Plover	State: SSC Federal: Threatened
<i>Chelonia mydas</i>	Pacific Green Sea Turtle	Federal: Threatened IVCN: Endangered
<i>Cicindella trifasciata sigmoides</i>	Salt Marsh Tiger Beetles	--
<i>Circus cyaneus</i>	Northern Harrier	State: SSC
<i>Coccyzus americanus occidentalis</i>	W. Yellow-billed Cuckoo	State: SSC Federal: Candidate
<i>Empidonox trailii extimus</i>	Southwestern Willow Flycatcher	State: Threatened Federal: Endangered
<i>Emys marmorata</i>	Western Pond Turtle	State: SSC

Scientific Name	Common Name	Status
		Federal: SSC
<i>Eucyclobobius newberryi</i>	Tidewater Goby	State: Endangered Federal: Endangered
<i>Eumops perotis californicus</i>	Western Mastiff Bat	State: SSC
<i>Icteria virens</i>	Yellow-Breasted Chat	State: SSC
<i>Lanius ludovicianus</i>	Loggerhead Shrike	State: SSC
<i>Lasiurus xanthinus</i>	Western Yellow Bat	State: SSC
<i>Microtus californicus stephensi</i>	South Coast Marsh Vole	State: SSC
<i>Panoquina errans</i>	Salt Marsh Wandering Skipper	State: SSC
<i>Passerculus sandwichensis beldingi</i>	Belding's Savannah Sparrow	State: Endangered
<i>Phrynosoma blainvillii</i>	Pacific Pocket Mouse	Federal: Endangered
<i>Perognathus longimembris pacificus</i>	Coast Horned Lizard	State: SSC
<i>Polioptila californica californica</i>	Coastal California Gnatcatcher	State: SSC Federal: Threatened
<i>Rallus longirostris levipes</i>	Light-footed Clapper Rail	State: Endangered Federal: Endangered
<i>Rynchops niger</i>	Black Skimmer	State: SSC
<i>Sorex ornatus salicornicus</i>	Southern California Saltmarsh Shrew	State: SSC
<i>Sterna antillarum browni</i>	California Least Tern	State: Endangered Federal: Endangered
<i>Vireo bellii pusillus</i>	Least Bell's Vireo	State: Endangered Federal: Endangered

Source: Tidal Influence (2012)

SSC: Species of Special Concern

- S1 = Critically imperiled
- S2 = Imperiled
- S3 = Vulnerable
- S4 = Apparently secure in California

4.10 Regional Connectivity/Wildlife Movement

4.10.1 Wildlife Movement Discussion

Wildlife corridors link together areas of suitable habitat that are otherwise separated by rugged terrain, changes in vegetation, or human disturbance. The fragmentation of open space areas by urbanization creates isolated “islands” of wildlife habitat. In the absence of habitat linkages that allow movement to adjoining open space areas, various studies have concluded that some wildlife species, especially the larger and more mobile mammals, will not likely persist over time in fragmented or isolated habitat areas because they prohibit the infusion of new individuals and genetic information (MacArthur and Wilson 1967, Soule 1987, Harris and Gallagher 1989). Corridors effectively act as links between different populations of a species. A group of smaller populations (termed “demes”) linked together via a system of corridors is termed a “meta-population.” The long-term health of each deme within the meta-

population is dependent upon its size and the frequency of interchange of individuals (immigration vs. emigration). The smaller the deme, the more important immigration becomes, because prolonged inbreeding with the same individuals can reduce genetic variability. Immigrant individuals that move into the deme from adjoining demes mate with individuals and supply that deme with new genes and gene combinations that increases overall genetic diversity. An increase in a population's genetic variability is generally associated with an increase in a population's health.

Corridors mitigate the effects of habitat fragmentation by:

- Allowing animals to move between remaining habitats, which allows depleted populations to be replenished and promotes genetic diversity.
- Providing escape routes from fire, predators, and human disturbances, thus reducing the risk that catastrophic events (such as fires or disease) will result in population or local species extinction.
- Serving as travel routes for individual animals as they move within their home ranges in search of food, water, mates, and other needs (Fahrig and Merriam 1985, Simberloff and Cox 1987, Harris and Gallagher 1989).

Wildlife movement activities usually fall into one of three movement categories:

- Dispersal (e.g., juvenile animals from natal areas, individuals extending range distributions).
- Seasonal migration.
- Movements related to home range activities (foraging for food or water, defending territories, searching for mates, breeding areas, or cover).

A number of terms have been used in various wildlife movement studies, such as "wildlife corridor," "travel route," "habitat linkage," and "wildlife crossing" to refer to areas in which wildlife moves from one area to another. To clarify the meaning of these terms and facilitate the discussion on wildlife movement in this study, these terms are defined as follows:

- Travel route: A landscape feature (such as a ridge line, drainage, canyon, or riparian strip) within a larger natural habitat area that is used frequently by animals to facilitate movement and provide access to necessary resources (e.g., water, food, cover, den sites). The travel route is generally preferred because it provides the least amount of topographic resistance in moving from one area to another; it contains adequate food, water, and/or cover while moving between habitat areas; and provides a relatively direct link between target habitat areas. The Pacific Flyway, a major migratory route for birds along the west coast of the Americas, is an example of a travel route.
- Wildlife corridor: A piece of habitat, usually linear in nature, that connects two or more habitat patches that would otherwise be fragmented or isolated from one another. Wildlife corridors are usually bounded by urban land areas or other areas unsuitable for wildlife. The corridor generally contains suitable cover, food, and/or water to support species and facilitate movement while in the corridor. Larger, landscape-level corridors (often referred to as "habitat or landscape linkages") can provide both transitory and resident habitat for a variety of species.

- Wildlife crossing: A small, narrow area, relatively short in length and generally constricted in nature, that allows wildlife to pass under or through an obstacle or barrier that otherwise hinders or prevents movement. Crossings typically are manmade and include culverts, underpasses, drainage pipes, and tunnels to provide access across or under roads, highways, pipelines, or other physical obstacles. These are often “choke points” along a movement corridor.

4.10.2 Wildlife Movement within the Study Area

A formal evaluation of wildlife movement has not been undertaken in the Study Area. The Study Area is not within or in the vicinity of any core linkages identified in the California Essential Habitat Project (sponsored by CDFW and the California Department of Transportation [Caltrans]). However, based on the definitions described above, the Study Area may provide travel routes (Pacific Flyway and the San Gabriel River), but it does not represent or contain a designated wildlife linkage.

The Study Area is a mixture of residential and commercial development adjacent to open space and the development generally precludes designated wildlife corridors. While development and wildlife movement often are not always mutually agreeable, it has been shown that wildlife can utilize the areas between developments as a corridor (Glen Lukos Associates 2012).

The San Gabriel River provides linear movement for green sea turtles, fish, and their predators, shore birds (cormorants, egrets) and raptors (osprey, harriers). The banks and trails adjacent to the San Gabriel River provide movement corridors for mammals such as coyote and raccoon. While the regional bicycle path physically provides a route, it has the potential to place wildlife in conflict with humans.

The lack of appropriate linkages in the Study Area is likely contributing to increasing conflicts between human and coyotes in the City. The City of Long Beach has recently addressed issues with aggressive coyotes by developing a strategy for managing coyotes based on balancing respect and protection for wildlife and their habitats without compromising public safety (Coyote Management Plan, undated). The main strategy of the City’s Plan is comprised of a three-pronged approach consisting of public education designed around co-existence with coyotes, enforcement of laws and regulations prohibiting the feeding of wildlife and ensuring public safety by implementing appropriate tiered responses to coyote and human interactions. This plan requires active participation on the part of the entire community including residents, homeowners associations, volunteers and city personnel.

The list of animal species found in the wetlands was reviewed to determine which species would require a corridor between wetlands. The class most represented in the available wetland reports is Aves (birds). In addition, a list of species killed by traffic on the existing streets was obtained from the City’s Animal Care Services, Department of Parks, Recreation and Marine. City staff provided the Activity Report, indicating that a total of ten animals were recovered on the roads separating wetlands in the Study Area between June 2014 and June 2015. The total included five birds (four pelican and one unidentified) and five mammals (two skunks and three raccoons). Given the amount of traffic on these roads (Studebaker,

from 2nd Street to Loynes and 2nd Street, from Studebaker to PCH), it appears that these streets do not pose a significant barrier to animal movement between existing wetlands.

The Pacific Flyway is a major north-south flyway for migratory birds in America, extending from Alaska to Patagonia. Migratory birds travel on an annual migration some or all of this distance both in spring and in fall. The Los Cerritos Wetlands are part of this migration, providing food and resting sources; some species seek breeding grounds within the SEADIP Study Area. The potential for bird strikes with buildings has become an international concern. The preservation of the SEADIP Wetland Complex provides a “no impact zone” for wildlife movement.

4.11 Buffers

4.11.1 Wetland Buffers

Wetland buffers separate wetlands from surrounding land uses that are incompatible with wetland values (Weston, et al. 2009). The buffer is intended to protect and be an integral part of a wetland. Beyond providing protection for wetlands, buffers also serve a valuable function for a variety of wildlife species as they provide habitat for foraging, breeding, and protective cover. Buffers are generally upland areas of native or planted vegetation that protects the character and function of wetlands from indirect impacts and from the adverse impacts of an adjacent land use (McMillian 2000). The buffers are treated as a part of the adjacent urban developments, and are measured horizontally from the edge of the delineated wetland.

Potential impacts to wetlands from adjacent development include lighting, noise, runoff, and intrusion by human activities. To avoid impacts to wetlands, buffers would be required to address the specific type and intensity of these impacts from the adjacent development. The Coastal Commission recommends a 100-foot buffer between development and the wetland as an avoidance measure. Ultimately, the buffer would need to provide a barrier to lighting, noise, etc.

The City does not require buffers in areas where existing streets, buildings, parking lots, access ways, and infrastructure would be removed to provide a 100-foot buffer (for example, Pacific Coast Highway adjacent to Synergy wetlands). In addition, upon scientific documentation demonstrating that a proposed development may use a reduced, enhanced buffer to accomplish the avoidance and minimization measures related to edge effects, the City may determine that a reduced buffer is appropriate; the City may also require additional mitigation for the reduced buffer. Alternatively, an increased buffer width may be required by the City under the adopted SEADIP to provide adequate protection of the wetland values. The City may use buffer averaging on site to ensure a 100-foot buffer on average around the wetland.

Buffers are not required for boat launches. The Coastal Commission regulates all activities within the Tidelands and would determine the buffer width, if any. Allowable uses within the established buffer include:

- Habitat restoration or establishment.
- Water quality features to offset impacts.
- Others, as approved by the City

4.11.2 Avian Buffers

It is well-established that buildings can pose a significant barrier and hazard to bird flight (ABC Bird-Friendly Design 2010). Collision deaths can occur at any time and do not discriminate by age, sex, size, or health. However, species that frequently fly through small spaces in dense, understory habitat appear consistently on top ten lists, perhaps due to the attraction to lighting. On the other hand species well adapted to and common in urban areas, such as sparrows and starlings are not prominent on lists of fatalities. This may be evidence that resident birds are less likely to die from collisions than migratory birds. Regardless of species, research has shown that 90 percent of the bird-strikes with buildings are within the first 40 feet in height.

The City has adopted Major Local Coastal Program (LCP) Amendment LOB-MAJ-1-10, which requires buildings in Downtown Area of Long Beach to provide bird-safe building treatments for the façade, landscaping, and lighting of newly constructed buildings (CCC 2011). Major LCP Amendment LOB-MAJ-1-10 does not extend to the SEADIP Planning Area.

5 IMPACTS

The following section provides an analysis of the impacts of the proposed action on sensitive biological resources. Direct effects are defined as actions that may cause an immediate effect on the species or its habitat, including the effects of interrelated actions and interdependent actions. Indirect effects are caused by or result from the proposed actions, are later in time, and are reasonably certain to occur. Indirect effects may occur outside of the area directly affected by the proposed action. Cumulative effects refer to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts.

Under the proposed project, wetlands would not be impacted and new development would be required to manage 100-foot buffers in perpetuity, with the exception of one parcel: the area currently identified as Subarea 11b, which contains approximately 1 acre of wetland. Therefore, for purposes of this assessment, impacts to approximately 1 acre of sensitive biological resources is assumed be associated with the unknown development options for these parcel.

5.1 THRESHOLDS OF SIGNIFICANCE

The environmental impacts relative to biological resources are assessed using impact significance criteria found in CEQA at Section 21001 (c) of the Public Resources Code. Specifically, the biological resources assessment report evaluates the project impacts against the thresholds of significance established in the CEQA Environmental Checklist, as listed below.

- a) Will the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS?

Direct impacts to sensitive species include the loss of degraded wetland habitat and impacts to trees with active nests. Building height and construction material may result in direct loss of special status migratory or resident bird species due to bird strikes on buildings. Potential indirect impacts to sensitive species include effects associated with locating development in proximity to open space habitats, such as water quality impacts lighting, noise, and recreational use. Cumulative impacts would be associated with the loss of wetland habitat.

Based on the results of the CNDDDB database, the only listed species within the Study Area include the Belding's savannah sparrow (State Endangered), California least tern (Federally Threatened), and Pacific green sea turtle (Federally Threatened). Development will not occur within habitats that support these species (i.e., high quality tidal wetlands; beaches; and rivers), and direct impacts through loss of habitat are not anticipated. Indirect impacts will be avoided with the implementation of Best Management Practices to control construction runoff, noise, and dust. No cumulative effects to these protected species have been identified.

Less than Significant with Mitigation Incorporated. BIO-MM1, BIO-MM2, BIO-MM3, and BIO-MM5 will be implemented to reduce direct impacts to sensitive species below significance. Based on the public commitment to preserving the remainder of the wetlands within the SEADIP Planning Area, impacts to 1 acre of wetlands do not result in a significant impact to sensitive species. BIO-MM4 will be implemented for new development to reduce bird strikes by sensitive bird species.

- b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by CDFW or USFWS?

Riparian habitats found within the Study Area include the San Gabriel River, and to lesser extent the El Cerrito Channel and the Haynes Cooling Channel. These habitats are channelized within the Study Area and are not part of any development. Therefore, there will be no direct impacts to these riparian features. Indirect impacts will be avoided with the implementation of Best Management Practices to control construction runoff, noise, and dust. No cumulative effects to these protected species have been identified. Impacts to eelgrass, a sensitive subtidal habitat, have not been identified by implementation of the proposed project.

Less than Significant Impact.

- c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

Direct impacts to 1 acre of wetland is anticipated by project implementation. Indirect impacts to wetlands will be avoided with the implementation of Best Management Practices listed in Section 6, below Wetland impacts within the SEADIP Planning Area shall be mitigated at a 1:1 ratio by purchasing credits from an approved mitigation bank that provides functional lift from the impacted wetlands. Applicant-sponsored mitigation would be required at a 4:1 ratio (see BIO-MM1, below). Based on the degraded quality of the 1 acre wetlands and the public commitment to preserving the remainder of the wetlands within the SEADIP Planning Area, impacts to 1 acre of wetlands do not result in a significant impact to sensitive species.

Less than Significant with Mitigation Incorporated. BIO-MM1 and BIO-MM-3 will be implemented to reduce direct impacts to wetlands below significance.

- d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

A portion of the San Gabriel River is within the Study Area, however, the San Gabriel River will not be directly impacted by implementation of the project. The Pacific Flyway overlays the Study Area but lies

substantially outside the boundary of the project. The preservation of wetlands within the SEADIP Planning Area substantially reduce impacts to migrating bird species within the Pacific Flyway.

Recognized wildlife corridors have not been designated within the SEADIP Planning Area. The Los Cerritos Wetlands are likely part of a migration path for urban wildlife, providing food and resting sources; some species seek breeding grounds within the Study Area. The preservation of wetlands comprising the SEADIP Wetlands Complex will result in avoidance of impacts to wildlife using this area as a corridor.

No native wildlife nursery sites were identified within the Study Area. The requirement to provide and maintain functioning buffers adjacent to wetlands addresses potential impacts to movement corridors for species associated with these habitats.

Less than Significant with Mitigation Incorporated. BIO-MM1 will be implemented to reduce direct impacts to wetland buffers. BIO-MM4 will be implemented to reduce direct impacts to migratory avian wildlife. Based on the public commitment to preserving the remainder of the wetlands within the SEADIP Planning Area, impacts to 1 acre of wetlands do not result in a significant impact to wildlife corridors or wildlife nursery sites.

- e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

The proposed project does not conflict with any existing local ordinances that protect biological resources. Any new development will be required to be consistent with all local ordinances at the time the project is submitted to the City of Long Beach for approval.

Less than Significant with Mitigation Incorporated. BIO-MM3 will be implemented to ensure compliance and consistency with local policies protecting biological resources. BIO-MM3 requires any applicant with a proposal for development potentially affecting wetland resources to provide to the City a complete application to the regulatory agencies, including a biological report confirming compliance with local policies.

- f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

No impact. No Habitat Conservation Plan, Natural Community Conservation Plan, or any other conservation plan operates or has jurisdiction in the Study Area.

6 AVOIDANCE, MINIMIZATION, AND MITIGATION MEASURES

Best management practices (BMPs) and mitigation measures are recommended to reduce potential impacts to biological resources to below significance. By following these recommendations, if required by the development standards found in the Specific Plan, implementation of SEADIP would result in less than significant impacts.

6.1 Avoidance and Minimization Measures

Compliance with the following avoidance and minimization measures will ensure that the proposed project will not result in significant indirect impacts to adjacent open space habitats and associated floral and faunal species.

- The project will comply with all applicable water quality regulations, including obtaining and complying with those conditions established in WDRs and a National Pollutant Discharge Elimination System (NPDES) permits. Both of these permits include the treatment of all surface runoff from paved and developed areas, the implementation of applicable Best Management Practices (BMPs) during construction activities and the installation and proper maintenance of structural BMPs to ensure adequate long-term treatment of water before entering into any aquatic resource or offsite open space areas.
- Storm water treatment systems will be designed to prevent the release of toxins, chemicals, petroleum products, exotic plant material, or other elements that could degrade or harm downstream biological or aquatic resources. Toxic sources within the Project Site would be limited to those commonly associated with mixed use developments such as petroleum products, pesticides, insecticides, herbicides, and fertilizers. Mitigation for the potential effects of these toxics includes incorporation of structural BMPs in the project, as required in association with compliance with WDRs and the NPDES permit system, in order to reduce the level of toxins introduced into the drainage system and the surrounding areas.
- Night lighting associated with the proposed development that is adjacent to existing or proposed open space areas would be directed away to reduce potential indirect impacts to wildlife species.
- Indirect noise impacts may occur to wildlife during construction and during operations of the completed project. Noise and vibration associated with the use of heavy equipment near sensitive resources such as wetlands and trees with nests during construction has the potential to disrupt wildlife foraging and breeding behavior. Biological Mitigation Measure BIO-MM2, monitoring project activities, erecting a temporary noise barrier and complying with the federal Migratory Bird Treaty Act (MBTA) would be incorporated into the future projects to contribute to reducing potential noise impacts to wildlife located within adjacent open space habitats to the level of less than significance, if present. Short-term construction-related noise impacts will be reduced by the implementation of the following BMP's:
 - During all Project Site excavation and grading on-site, the construction contractors shall equip all construction equipment, fixed or mobile, with properly operating and maintained

mufflers, consistent with manufacturers' standards. The construction contractor shall place all stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest the project site.

- The construction contractor shall locate equipment staging in areas that will create the greatest distance between construction-related noise sources and noise sensitive receptors nearest the project site during all project construction.
- BMPs for building facades to reduce bird strikes include the following design considerations:
 - Patterns covering as little as 5 percent of the total glass surface can deter 90 percent of strikes under experimental conditions
 - Most birds will not attempt to fly through horizontal spaces less than two inches high, nor through vertical spaces four inches wide or less. This concept has become known as the 2" x 4" Rule.
 - Overhangs may reduce collisions. However, they do not eliminate reflections, and only block glass from the view of birds flying above, and thus are of limited effectiveness.
- BMPs for buildings and windows to reduce bird strikes include the following design considerations:
 - Layering and recessing glazed surfaces
 - Louvers
 - Overhangs and awnings
 - Screening
 - Netting
 - Angled or faceted glazing - minimize reflectivity
 - Opaque surfaces
 - Structurally break-up large expanses of glass
 - Avoid beacon effect and blind spots
 - Minimal external lighting
 - No up lighting
 - Shielded lighting
 - No event searchlights
 - Wind Generators must appear solid

6.2 Mitigation Measures

MM-BIO1: The City shall establish a Wetland Monitoring Fund and establish mitigation ratios.

MM-BIO1: The City shall establish a Wetland Monitoring Fund and establish mitigation ratios.

Mitigation ratios will differ depending on whether a mitigation bank is available in the SEADIP plan area or applicant-sponsored mitigation is utilized.

By purchasing mitigation bank credits in an approved mitigation bank in the SEADIP plan area, and depositing \$75,000 in the City's Wetland Monitoring Fund, an applicant may mitigate at a 1:1 ratio.

If applicant sponsored mitigation is utilized, a 4:1 mitigation ratio will be required. Payment to the Wetland Monitoring Fund is not required provided the applicant establishes an endowment and financial assurances pursuant to State and Federal mitigation banking requirements. If the applicant cannot mitigate at a 4:1 ratio within the SEADIP area, payment to the Wetland Monitoring Fund in the amount of \$100,000 per acre of impact for up to 3:1 of the mitigation along with the buffer requirements described below may be acceptable.

Buffers are typically required 100 feet from a wetland resource. However, due to site specific conditions, a smaller buffer may be approved. Any portion of the buffer less than 100 feet shall require contribution to the Wetland Monitoring Fund of \$25,000 per each quarter of an acre. At a minimum, the applicant must incorporate a 25-foot vegetated "habitat separation" area within the buffer which shall be approved by the City. The habitat separation area must be designed to shield the existing wetland from lighting, noise and human intrusion resulting from the project.

MM-BIO2: Federal Migratory Bird Treaty Act (MBTA)

Mitigation for potential direct/indirect impacts to common and sensitive passerine and raptor species will require compliance with the federal MBTA. For construction outside the nesting season for raptors and passerine species (between January 31 and September 15), a qualified biologist must conduct a nesting bird survey(s) no more than three days prior to initiation of grading to document the presence or absence of nesting birds within or directly adjacent (100 feet) to the project site.

The preconstruction survey(s) will focus on identifying any raptors and/or passerines nests that may be directly or indirectly affected by construction activities. If active nests are documented, species-specific measures shall be prepared by a qualified biologist and implemented to prevent abandonment of the active nest. At a minimum, grading in the vicinity of a nest shall be postponed until the young birds have fledged. A minimum exclusion buffer of 100 feet shall be maintained during construction, depending on the species and location. A survey report by a qualified biologist verifying that no active nests are present, or that the young have fledged, shall be submitted to the City prior to initiation of ground-breaking activities. The qualified biologist shall serve as a biological monitor during those periods when construction activities occur near active nest areas to ensure that no inadvertent impacts on these nests occur.

MM-BIO3: Compliance with City requirements for new development applications requiring approved wetland delineations.

Development applications must demonstrate compliance with local ordinances and submittal requirements for permits or entitlement applications as determined by the City. If a wetland delineation is required by the City for a new development application or permit, one of two options may be provided by the applicant: (1) a preliminary jurisdictional delineation approved by the U.S. Army Corps of Engineers

showing the location and extent of wetlands or sensitive resources, or (2) a letter signed by a qualified biologist declaring that no wetlands or sensitive resources would be impacted.

MM-BIO4: Bird friendly provisions should be adopted and incorporated as part of the provisions and development standards in the SEADIP Specific Plan.

To address the potential for buildings to contribute to bird fatalities due to striking reflective surfaces, a “bird-friendly” building is required for any new development. A bird-friendly building is one where:

- Interior lighting is turned off at night or designed to minimize light escaping through windows
- Landscaping is designed to keep birds away from the building’s façade.

7 CONCLUSION

7.1 Wetland Resources within the SEADIP Planning Area

The research and observations made to complete this study have concluded that the SEADIP Planning Area contains approximately 175 acres of wetland habitats (Figure 18). Based on the existing reports and field observations, the existing wetland habitats have been impacted to various degrees, resulting in degraded wetland functions and values in most areas. Steamshovel Slough is the area of the highest habitat value, but all the wetlands and buffers are valuable in their current state for potential restoration and enhancement.

The current planning effort has resulted in focused consideration as to the future of the remaining wetlands within the SEADIP Planning Area. While the decisions regarding the future of the wetlands are still in flux, it is anticipated that the majority of the wetlands and potential wetlands within the SEADIP Planning Area are to be protected in perpetuity from development. LCWA does not intend to allow development that is inconsistent with wetland preservation on its property. Synergy Oil is in the process of creating a wetland mitigation bank and does not intend to develop on its property. The City of Long Beach, which owns Marketplace Marsh, is also contemplating the establishment of a wetland mitigation bank on this parcel and, if so, would not allow development inconsistent with the banking operation or existing oil extraction operations on its property. These three properties comprise the majority of the undeveloped wetlands in the SEADIP Planning Area identified in this report. Private parcels, e.g., the Bryant properties, are anticipated to be sold to LCWA and included in the Los Cerritos Wetland Complex. The remaining wetlands identified in this report may undergo some form of development.

To the extent that the Conceptual Restoration Plan (CRP) proposed by the LCWA has been presented to the public, SEADIP is consistent with the goals and objectives of the LCWA CRP. SEADIP supports the following goals:

- “Maximizing contiguous habitat areas and maximizing the buffer between habitat and sources of human disturbance” (Goal No. 2).
 - Supported by requiring 100-foot buffer and bird-friendly architecture.
- “Create a public access and interpretive program that is practical, protective of sensitive habitat and on-going oil operations, economically feasible, and will ensure a memorable visitor experience” (Goal No. 3).
 - Supported by providing appropriate opportunity in the LUP for the siting of interpretive buildings and low-impact uses near wetlands.
- Incorporate phasing of implementation to accommodate existing and future potential changes in land ownership and usage (Goal No. 4).
 - Supported by acknowledging future development and restoration opportunities may expand the existing wetland resources.

- Integrate experimental actions and research into the project, where appropriate, to inform restoration and management actions for this project (Goal 5).
 - Supported by recommending that bird collisions be monitored and measured to evaluate building treatments.



Legend

- SEADIP Boundary
- Assumed Wetland Impact
- Undeveloped Wetlands (175 acres)

Source: Esri, DigitalGlobe, GeoEye, i-cubed, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Prepared By:

 VCS Environmental
 949.489.2700

Map Created:
 September 10, 2015



 Feet
 1 in = 2,000 ft

Data Source: Placeworks;
 City of Long Beach
 1977 SEADIP Boundary;
 Moffat & Nichol;
 ESRI

D-121

SEADIP
 Wetlands Mapped in Study Area

FIGURE 18

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7.2 CEQA Consideration of Potential Impacts to Biological Resources

7.2.1 Direct Impacts

The impact to up to 1 acre of wetland habitat is expected. Unanticipated impacts to other wetlands within the Study Area would be mitigated by implementation of MM-BIO1 (adoption of wetland monitoring fund) and MM-BIO3 (submittal of approved delineation report to the City with development application). Direct impacts to avian wildlife would be reduced below significance by implementation of MM-BIO2 (survey for compliance with Migratory Bird Treaty Act) and MM-BIO4 (adoption of bird-friendly building ordinance in the SEADIP Planning Area). Under the proposed project, there would be less than significant direct impacts to biological resources.

7.2.2 Indirect Impacts

Indirect impacts are related to interfaces between development and sensitive biological resources. Implementation of identified BMPs will result in bringing indirect impacts associated with locating development in proximity to open space habitats, such as water quality impacts lighting, noise, recreational use, and pets to less than significant.

7.3 Cumulative Impacts

Examples of cumulative impacts to special status wildlife include an insignificant reduction of identified suitable foraging habitat, which could over time contribute to a significant impact. This includes, for example, loss of wetland habitat, removal of mature trees, or excessive outdoor lighting. Due to the few degraded conditions of the wildlife resources outside the wetlands complex (which will be preserved) and given the existing build-out development in the area, the loss of up to 1 acre of wetland would not result in a significant cumulative impact. In addition, cumulatively, preservation of the existing wetlands within the SEADIP Wetlands Complex provides habitat and wetland values in perpetuity. No significant cumulative impacts to biological resources has been identified.

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APPENDIX A

VCS Reports

HAMILTON BIOLOGICAL

April 18, 2014

MEMORANDUM

TO: LENNIE RAE COOKE AND RICK WARE

**SUBJECT: UPLAND RESOURCES NEAR LOS CERRITOS
WETLANDS**

This memorandum provides information on upland habitats around the periphery of the Los Cerritos Wetlands, in areas not previously addressed in the Habitat Assessment Report dated August 2012, prepared by Tidal Influences for Moffat and Nichol and the Los Cerritos Wetlands Authority (LCWA). I have also reviewed a current report from the California Natural Diversity Data Base (CNDDDB) to determine whether it provides any new information on special-status species in the expanded study area. The purpose of the field work conducted as part of this study was to characterize the upland communities in the expanded study area. The purpose was not to detect all plant and wild-life species present or to determine the presence/absence of any listed or otherwise “sensitive” plant or wildlife species.

METHODS

On 6 January 2014 I met with you and representatives of the LCWA and to be oriented to parts of the study area.

I reviewed a CNDDDB report and accompanying map for the Seal Beach and Los Alamitos U.S. Geological Survey (USGS) quadrangles dated March 1, 2014, provided by VCS.

On 25 March 2014 from 1200 to 1600 I conducted field reconnaissance around the edges of Marketplace Marsh and at the Loynes Drive restoration area.

On 31 March 2014 from 0945 to 1200 I met with you both and walked the Loynes Property and nearby upland habitat fragments.

RESULTS

Review of California Natural Diversity Data Base (CNDDDB)

All of the species accounts in the current CNDDDB report predate the August 2012 Habitat Assessment Report, and thus do not add any new information to that summarized in the Habitat Assessment Report. Figure 1 shows the sensitive species occurrences reported in the current CNDDDB for the Seal Beach and Los Alamitos USGS quadrangles. The

U.S. Fish and Wildlife Service has not designated critical habitat in or near the Los Ceritos Wetlands for any species listed as threatened or endangered.

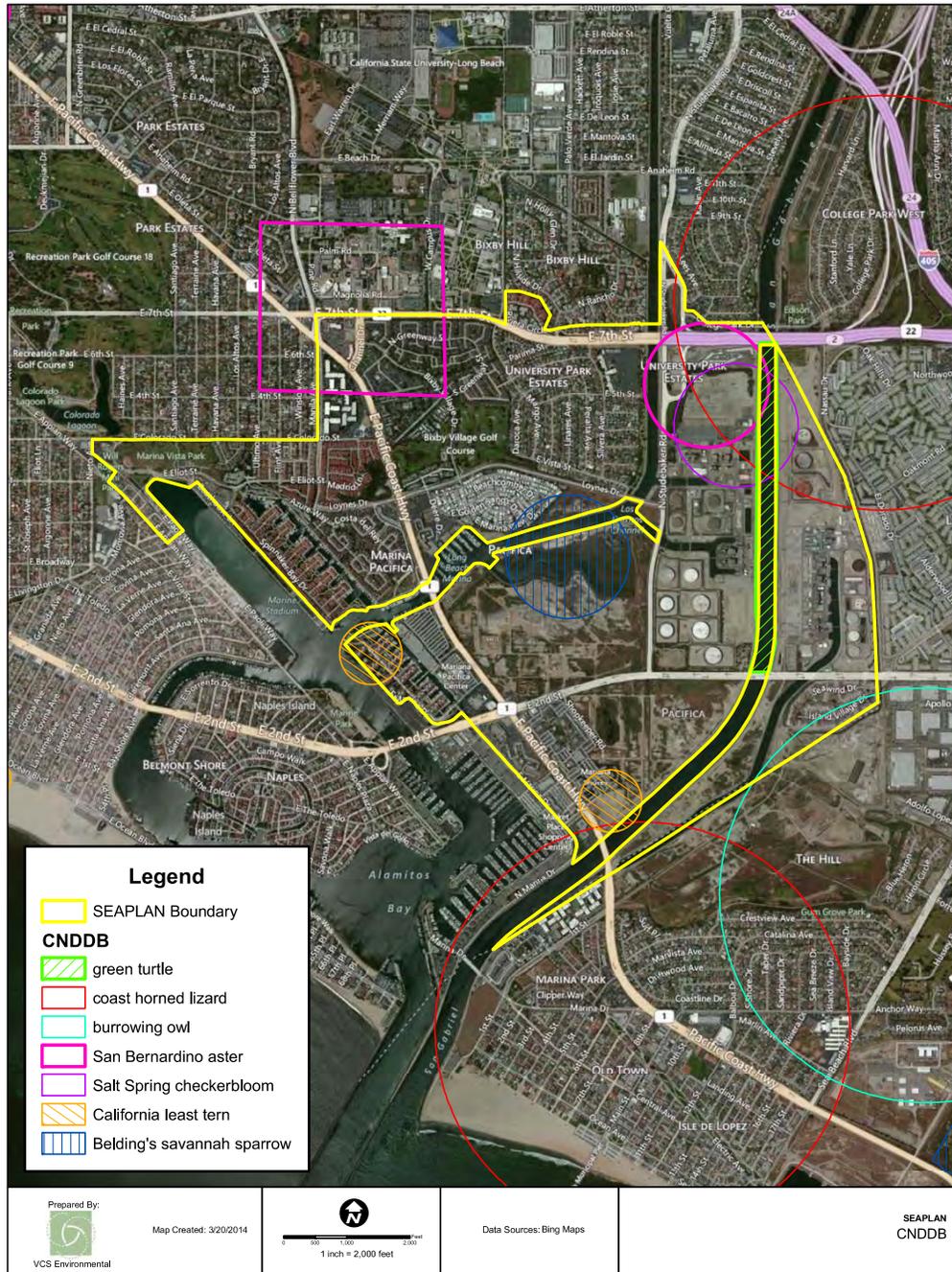


Figure 1. Map of the Southeast Long Beach planning area (SEAPLAN) with locations of sensitive species included in the CNDDB report. As reported by Tidal Influences (2012), the Green Turtle and Belding's Savannah Sparrow are extant in the areas shown; the California Least Tern formerly nested near Marketplace Marsh but now only forages and trains young in areas with open water; the Burrowing Owl occurs as a non-breeding winter visitor; and the San Bernardino Aster (last recorded locally in 1932), Salt Spring Checkerbloom (last recorded locally in 1936), and Coast Horned Lizard (last recorded locally in 1961) have very low potential for occurrence.

Upland Plant Communities

No native upland plant communities remain in the expanded study area. All of the uplands show evidence of extensive past disturbance. Where upland revegetation has been attempted it either has failed or has involved planting a mix of species native to the wider region rather than restoration of a plant community native to the Long Beach area. This section describes the associations of upland plants found in the expanded study area.

Ruderal Uplands

Scattered small fragments of ruderal upland habitat are found in the expanded study area, in areas that are not developed or in the process of being revegetated. This disturbed community, consisting mostly of non-native plant species, was thoroughly and accurately described as Habitat Type 2.3.1, page 22 in the Habitat Assessment Report, quoted below (with references to tables and figures omitted):

General Description: Areas defined as ruderal uplands 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 bare or entirely infested by non-native vegetation.

Characteristic Plant Species: *Bassia hyssopifolia* (five-hook Bassia), *Polypogon monspeliensis* (rabbits foot grass), *Brassica nigra* (black mustard) *Mesembryanthemum nodiflorum* (slender-leaved iceplant), *Carpobrotus edulis* (Hottentot-fig), *Centromadia parryi australis* (southern tar-plant), *Baccharis salicifolia* (mulefat), *Centauria melitensis* (tocalote), *Hirschfeldia incana* (short-pod mustard), *Conyza canadensis* (Canadian horseweed), *Myoporum laetum* (Ngaio tree), and *Isocoma menziesii* (goldenbush).

Site Specific Distribution: Historically within the project area, uplands existed along the southeast edge of the Hellman Lowlands as part of a coastal bluff system. The historical extent of Alamitos Bay was bordered by sage scrub, coastal strand and southern coastal bluff scrub upland plant communities; all of which have been lost, leaving no native upland plant communities intact within the project area. Ruderal uplands are currently the most widely spread habitat type at Los Cerritos Wetlands, comprising 21.8% of the study area. Most existing supratidal areas are located on historic coastal salt marsh habitat. The previous wetlands were converted to uplands by the introduction of fill that raised the elevation above sea level and subsequently have become infested by weedy species or remain bare due to poor soil quality.

Ecological Services: The services provided are considerably less than what could be provided by native upland plant communities. However, upland animals such as Audubon cottontail rabbits (*Sylvilagus audubonii*), California ground squirrels (*Otospermophilus beecheyi*), coyotes (*Canis latrans*), raptors, and reptiles utilize these areas around the edges of the wetlands for foraging and shelter. Burrowing owls (*Athene cunicularia*) also utilize scarcely vegetated areas that contain mammal burrows. Upland areas in Los Cerritos Wetlands have also been documented to provide foraging habitat for raptors.

Developed/Landscaped Areas

Most of the uplands in the expanded study area consist of residential neighborhoods, public parks, and other developed areas characterized by man-made roads and structures punctuated with exotic landscaping. Non-native species found in local landscaping include eucalyptus trees (*Eucalyptus* spp.), pine trees (*Pinus* sp.), Ngaio trees, carrotwood trees (*Cupaniopsis anacardioides*), fig trees (*Ficus* spp.), and turfgrass (*Agrostis* spp., *Lolium* spp., *Cynodon* spp., *Festuca* spp., *Pennisetum* spp., etc.).

Ecological Services: Developed/landscaped areas provide only marginal ecological services, and must be maintained with irrigation, mowing of turf, and pruning of trees. Wildlife in these areas consists of species highly adapted to human presence, including such reptiles as the Western Fence Lizard (*Sceloporus occidentalis*) and Gopher Snake (*Pituophis catenifer*). Resident birds include such native species as Cooper's Hawk (*Accipiter cooperii*), Anna's Hummingbird (*Calypte anna*), Allen's Hummingbird (*Selasphorus sasin*), Downy Woodpecker (*Picoides pubescens*), Black Phoebe (*Sayornis nigricans*), Western Scrub-Jay (*Aphelocoma californica*), Bushtit (*Psaltriparus minimus*), House Finch (*Haemorhous mexicanus*), and Lesser Goldfinch (*Carduelis psaltria*), and exotics that include the Mitred Parakeet (*Psittacara mitrata*), European Starling (*Sturnus vulgaris*), and House Sparrow (*Passer domesticus*). Native bird species that occur only during migration and winter include Say's Phoebe (*Sayornis saya*), Yellow-rumped Warbler (*Setophaga coronata*), Townsend's Warbler (*Setophaga townsendi*), White-crowned Sparrow (*Zonotrichia leucophrys*), and Hooded Oriole (*Icterus cucullatus*). Mammals found in developed areas and associated landscaping include the Brown Rat (*Rattus norvegicus*), Virginia Opossum (*Didelphis virginiana*), Striped Skunk (*Mephitis mephitis*), Coyote (*Canis latrans*), and Raccoon (*Procyon lotor*).

Coastal Scrub Revegetation Site

At the western end of Colorado Lagoon is an upland site covering approximately one acre that has been planted during the past two years with species native to southern California. The most abundant shrub species are California Sagebrush (*Artemisia californica*), California Encelia (*Encelia californica*), California Buckwheat (*Eriogonum fasciculatum*), Ashy Buckwheat (*Eriogonum cinereum*), Coast Goldenbush (*Isocoma menziesii*), Bladderpod (*Peritoma arborea*), Purple Sage (*Salvia leucophylla*), and California Fuchsia (*Epilobium canum*). Less abundant shrubs include White Sage (*Salvia apiana*), Black Sage (*Salvia mellifera*), Mock Heather (*Ericameria ericoides*), Giant Coreopsis (*Leptosyne gigantea*), Sticky Monkeyflower (*Mimulus aurantiacus*), and Coastal Prickly-Pear (*Opuntia littoralis*). Grasses and forbs present include Deer Weed (*Acmispon glaber*), Deergrass (*Muhlenbergia rigens*), Giant Wild Rye (*Elymus condensatus*), Island False Bindweed (*Calystegia macrostegia*), Fingertips (*Dudleya edulis*), Common Tidy-tips (*Layia platyglossa*), Elegant Clarkia (*Clarkia unguiculata*), Arroyo Lupine (*Lupinus succulentus*), Chinese Houses (*Collinsia heterophylla*), Baby Blue Eyes (*Nemophila menziesii*), and California Poppy (*Eschscholzia californica*). Mulefat (*Baccharis salicifolia*), a native shrub typically found in this type of habitat along the coast, is represented by only a few plants, and

Coyote Brush (*Baccharis pilularis*), a locally native species that occurred naturally in this area prior to planting, appears to be absent.

Ecological Services: The upland scrub revegetation area at the western end of Colorado Lagoon includes many species native to the local area, and therefore functions largely as a patch of native scrub. Covering only an acre or so, this isolated patch of habitat is not large enough to provide extensive ecological services, but it is likely that various native insects and birds use this area. In general, the vertebrate species using this upland scrub area overlap with the variety of human-tolerant species listed previously for Developed/Landscaped Areas. Additional restoration/revegetation projects are planned for areas around the Colorado Lagoon, and as a component of this wider effort the western arm plantings could potentially contribute to supporting a wider range of wild-life species in the future.

Loynes Property

At the Loynes Property (Area 4.9, briefly discussed on Page 52 of the Habitat Assessment Report), I observed that the habitat consisted of a disturbed area in the process of being restored to alkali meadow habitat. The status of this restoration project is unknown but it appears to have been discontinued before the area was completely restored. The habitat in this area consisted of non-native annual grasses and forbs with scattered native forb species, most of which appear to have been planted as part of the partial restoration. Non-native species included Italian Rye Grass (*Lolium multiflorum*), Garland Chrysanthemum (*Chrysanthemum coronarium*), Cheeseweed (*Malva parviflora*), Shortpod Mustard (*Hirschfeldia incana*), Wild Radish (*Raphanus sativus*), Curly Dock (*Rumex crispus*), and Ice Plant (*Mesembryanthemum* sp.). Native species included Western Verbena (*Verbena lasiostachys*), California Poppy, and Yellowray Goldfields (*Lasthenia glabrata*). This area is generally dominated by non-native species, including a large area dominated by the highly invasive Garland Chrysanthemum. Thus, the restoration effort is currently not successful.

Ecological Services: The ecological services provided by the Loynes Property are diminished due to previous extensive disturbance of this site and restoration efforts that have not been successful to date. Wildlife observed at the Loynes Property generally consisted of the typical, non-sensitive wildlife found in open uplands in the Long Beach area. This included Western Fence Lizard, Red-tailed Hawk (*Buteo jamaicensis*), Killdeer (*Charadrius vociferans*), Mourning Dove (*Zenaida macroura*), Allen's Hummingbird, Say's Phoebe (*Sayornis saya*), Cassin's Kingbird (*Tyrannus vociferans*), Northern Rough-winged Swallow (*Stelgidopteryx serripennis*), Barn Swallow (*Hirundo rustica*), Cliff Swallow (*Petrochelidon pyrrhonota*), Northern Mockingbird (*Mimus polyglottos*), Yellow-rumped Warbler, Orange-crowned Warbler (*Oreothlypis celata*), Savannah Sparrow (*Passerculus sandwichensis*; not the sensitive *beldingi* or *rostratus* subspecies), White-crowned Sparrow, House Finch, Lesser Goldfinch, Audubon Cottontail (*Sylvilagus audubonii*), and California Ground Squirrel (*Otospermophilus beecheyi*). During our field visit on 31 March we

flushed a female Northern Harrier (*Circus cyaneus*) that was eating an Audubon Cotton-tail at the western end of the Loynes property. The harrier is a California Species of Special Concern that is known to occur throughout the Los Cerritos Wetlands area, but nesting has not been documented. Observation of this bird in April suggests the possibility of nesting at the Loynes Property or in adjacent Steamshovel Slough.

SUMMARY AND CONCLUSION

The upland portions of the expanded study area consist mainly of developed and disturbed areas. The upland areas of greatest interest are the revegetated site at Colorado Lagoon and the faltering restoration effort at the Loynes Property. If you have any questions or comments on this memorandum, please call me at 562-477-2181 or send e-mail to robb@hamiltonbiological.com.

Attachment: List of Plant and Wildlife Species Observed

LIST OF VASCULAR PLANTS AND VERTEBRATE WILDLIFE DETECTED

The following list identifies plant and wildlife species detected during the current study in upland habitats within the expanded study area. Sources:

Campbell, K. F. 2014. *FFShort CoSoCal: Simplified List of the Vascular Flora and Vertebrate Fauna of Coastward Southern California*. Temecula, CA: Kurt F. Campbell. Version 10.0.3, dated 19 March 2014.

Calflora: Information on California plants for education, research and conservation, with data contributed by public and private institutions and individuals, including the Consortium of California Herbaria. 2014. Berkeley, California: The Calflora Database [a non-profit organization]. <http://www.calflora.org/>

* Taxon not native to the study area

VASCULAR PLANTS

SECTION: GYMNOSPERMS

Pinaceae - Pine Family

* *Pinus* sp., pine

SECTION: MAGNOLIIDS

Lauraceae - Laurel Family

* *Cinnamomum camphora*, Camphor Tree

SECTION: EUDICOTS

Aizoaceae - Fig-Marigold Family

* *Carpobrotus edulis*, Freeway Iceplant

* *Mesembryanthemum* sp., ice plant

Anacardiaceae - Sumac Family

* *Schinus molle*, Peruvian Pepper

* *Schinus terebinthifolius*, Brazilian Pepper

Asteraceae - Sunflower Family

Artemisia californica, California Sagebrush

Artemisia douglasiana, California Mugwort

Baccharis salicifolia, Mulefat
Conyza canadensis, Canada Horseweed
* *Ericameria ericoides*, Mock Heather
Heterotheca grandiflora, Telegraph Weed
Isocoma menziesii, Coastal Goldenbush
* *Lactuca serriola*, Prickly Lettuce
Lasthenia glabrata, Yellowray Goldfields
Layia platyglossa, Common Tidy-tips
* *Leptosyne gigantea*, Giant Coreopsis
* *Sonchus asper*, Prickly Sow Thistle

Brassicaceae - Mustard Family

* *Brassica nigra*, Black Mustard
* *Hirschfeldia incana*, Short-pod Mustard
* *Raphanus sativus*, Wild Radish
* *Sisymbrium irio*, London Rocket

Cactaceae - Cactus Family

Opuntia littoralis, Coastal Prickly-pear

Capparaceae - Caper Family

Peritoma arboria, Bladderpod

Chenopodiaceae - Goosefoot Family

* *Atriplex semibaccata*, Australian Saltbush
* *Chenopodium album*, Lamb's-quarters
* *Salsola tragus*, Russian-thistle

Convolvulaceae - Morning-glory Family

Calystegia macrostegia, Island False Bindweed

Crassulaceae - Stonecrop Family

* *Dudleya edulis*, Fingertips

Euphorbiaceae - Spurge Family

* *Ricinus communis*, Castor-bean

Fabaceae - Pea Family

* *Acacia* sp., wattle

Acmispon glaber, Deer Weed

Lupinus succulentus, Arroyo Lupine

Frankeniaceae - Frankenia Family

Frankenia salina, Alkali Heath

Geraniaceae - Geranium Family

* *Erodium cicutarium*, Red-stemmed Filaree

Hydrophyllaceae - Waterleaf Family

* *Nemophila menziesii*, Baby Blue-eyes

Lamiaceae - Mint Family

* *Marrubium vulgare*, Horehound

* *Rosmarinus officinalis*, Rosemary

* *Salvia apiana*, White Sage

* *Salvia leucophylla*, Purple Sage

Salvia mellifera, Black Sage

Malvaceae - Mallow Family

* *Malva parviflora*, Cheeseweed

Malvella leprosa, Alkali Mallow

Moraceae - Mulberry Family

* *Ficus* sp., fig

Myoporaceae - Myoporum Family

* *Myoporum laetum*, Ngaio tree

Myrtaceae - Myrtle Family

* *Melaleuca* sp., melaleuca

* *Eucalyptus* sp., eucalyptus

Oleaceae - Olive Family

* *Olea europaea*, European Olive

Onagraceae - Evening-primrose Family

Camissonia bistorta, Southern Sun-cup

* *Clarkia unguiculata*, Elegant Clarkia

Epilobium canum, California Fuchsia

Oxalidaceae - Wood-sorrel Family

* *Oxalis pes-caprae*, Bermuda-buttercup

Papaveraceae - Poppy Family

Eschscholzia californica, California Poppy

Platanaceae - Sycamore Family

Platanus racemosa, California Sycamore

Plumbaginaceae - Leadwort Family

* *Plumbago auriculata*, Cape Plumbago

Polygonaceae - Buckwheat Family

* *Eriogonum cinereum*, Ashy-leaved Buckwheat

Eriogonum fasciculatum, California Buckwheat

* *Rumex crispus*, Curly Dock

Scrophulariaceae - Figwort Family

Mimulus aurantiacus, Sticky Monkeyflower

Solanaceae - Nightshade Family

* *Nicotiana glauca*, Tree Tobacco

Urticaceae - Nettle Family

* *Urtica urens*, Dwarf Nettle

Verbenaceae - Vervain Family

Verbena lasiostachys, Western Verbena

SECTION: MONOCOTS

Arecaceae - Palm Family

* *Washingtonia robusta*, Mexican Fan Palm

Iridaceae - Iris Family

Sisyrinchium bellum, Blue-eyed-grass

Liliaceae - Lily Family

* *Yucca aloifolia*, Spanish Dagger

Poaceae - Grass Family

* *Agrostis* sp., bentgrass

* *Avena fatua*, Common Wild Oat

* *Avena sativa*, Slender Wild Oat

* *Bromus diandrus*, Ripgut Brome

* *Bromus hordeaceus*, Soft Brome

* *Bromus madritensis* ssp. *rubens*, Red Brome

* *Cynodon dactylon*, Bermuda Grass

* *Digitaria sanguinalis*, Hairy Crabgrass

Leymus condensatus, Giant Wild Rye

* *Lolium multiflorum*, Italian Ryegrass

* *Muhlenbergia rigens*, Deer Grass

* *Piptatherum miliaceum*, Smilo Grass

* *Polypogon monspeliensis*, Rabbitsfoot Grass

VERTEBRATE WILDLIFE

CLASS REPTILIA - REPTILES

Phrynosomatidae - Spiny Lizard Family

Sceloporus occidentalis, Western Fence Lizard

CLASS AVES - BIRDS

Phalacrocoracidae - Cormorant Family

Phalacrocorax auritus, Double-crested Cormorant

Ardeidae - Heron Family

Ardea herodias, Great Blue Heron

Cathartidae - New World Vulture Family

Cathartes aura, Turkey Vulture

Pandionidae - Osprey Family

Pandionidae haliaetus, Osprey

Accipitridae - Hawk Family

Circus cyaneus, Northern Harrier

Accipiter cooperii, Cooper's Hawk

Buteo jamaicensis, Red-tailed Hawk

Falconidae - Falcon Family

Falco sparverius, American Kestrel

Charadriidae - Plover Family

Charadrius vociferous, Killdeer

Laridae - Gull and Tern Family

Larus occidentalis, Western Gull

Columbidae - Pigeon and Dove Family

* *Columba livia*, Rock Pigeon

Zenaida macroura, Mourning Dove

Psittacidae - Parrot Family

* *Aratinga mitrata*, Mitred Parakeet

Trochilidae - Hummingbird Family

Calypte anna, Anna's Hummingbird

Selasphorus sasin, Allen's Hummingbird

Tyrannidae - Tyrant Flycatcher Family

Sayornis nigricans, Black Phoebe

Sayornis saya, Say's Phoebe

Tyrannus vociferans, Cassin's Kingbird

Corvidae - Jay and Crow Family

Corvus brachyrhynchos, American Crow

Corvus corax, Common Raven

Hirundinidae - Swallow Family

Stelgidopteryx serripennis, Northern Rough-winged Swallow

Petrochelidon pyrrhonota, Cliff Swallow

Hirundo rustica, Barn Swallow

Aegithalidae - Bushtit Family

Psaltriparus minimus, Bushtit

Mimidae - Thrasher Family

Mimus polyglottos, Northern Mockingbird

Sturnidae - Starling Family

* Sturnus vulgaris, European Starling

Bombycillidae - Waxwing Family

Bombycilla cedrorum, Cedar Waxwing

Parulidae - Wood-Warbler Family

Oreothlypis celata, Orange-crowned Warbler

Geothlypis trichas, Common Yellowthroat

Setophaga coronata, Yellow-rumped Warbler

Emberizidae - Sparrow Family

Melospiza crissalis, California Towhee

Passerculus sandwichensis, Savannah Sparrow

Melospiza melodia, Song Sparrow

Melospiza lincolni, Lincoln's Sparrow

Zonotrichia leucophrys, White-crowned Sparrow

Icteridae - Blackbird, Cowbird and Oriole Family

Agelaius phoeniceus, Red-winged Blackbird

Sturnella neglecta, Western Meadowlark

Fringillidae - Finch Family

Haemorhous mexicanus, House Finch

Spinus psaltria, Lesser Goldfinch

Passeridae - Old World Sparrow Family

* Passer domesticus, House Sparrow

CLASS MAMMALIA - MAMMALS

Leporidae - Hare and Rabbit Family

Sylvilagus audubonii, Audubon Cottontail

Sciuridae - Squirrel Family

Spermophilus beecheyi, California Ground Squirrel

Geomyidae - Pocket Gopher Family

Thomomys bottae, Botta's Pocket Gopher

**A REVIEW OF GREEN SEA TURTLE OBSERVATIONAL AND TRACKING DATA
BETWEEN THE CABRILLO BEACH MARINA (SAN PEDRO) AND BOLSA CHICA
STATE BEACH (HUNTINGTON BEACH) WITH AN EMPHASIS ON ALAMITOS
BAY, LONG BEACH, CALIFORNIA**

Rick Ware, Coastal Resources Management, Inc.

April 21st, 2014

In the eastern North Pacific, green turtles (*Chelonia mydas*) are known to range between from Baja California and southern Alaska, but most commonly occur from San Diego south to Baja California. Sea turtle stranding data and tagging data indicate that sea turtles occur within the San Gabriel River where they encounter the warmer, discharged waters of the power generating facilities located farther up the River, the nearshore waters between Long Beach and Huntington Beach, and local embayments (Alamitos Bay, Anaheim Bay, Anaheim Estuary, and Huntington Harbour) as reported by Dan Lawson, National Marine Fisheries Service and Dan Crear California State University Long Beach (unpublished data) and Christina Fahy, National Marine Fisheries Service, unpublished data).

The first sea turtle sightings were in the early 1980s and in 2008, NOAA received information from local residents that indicated the presence of sea turtles in the San Gabriel River approximately 1.5 miles inland and adjacent to two coastal power plant facilities appeared to be more consistent than previously known (Lawson et al. , unpublished data). Based on that data, NMFS/CSULB initiated a more detailed sea turtle research study based upon tagging/recapture methods that has been focused on deployment of acoustic tags on green sea turtles captured with entangling nets in the San Gabriel River and Seal Beach National Wildlife Refuge. Movements of turtles are captured by arrays of acoustic receivers deployed in the San Gabriel River and Anaheim Bay. Since 2011, the NMFS/CSULB study has identified over 20 different individual turtles in the San Gabriel River/Anaheim Bay area.

While their numbers are not high locally, their presence is significant due to potential for vessel collisions and human interactions in a high use recreational boating environment.

Stranding data and incidental sightings have been the source of most sea turtle information for the local area (Dan Lawson, unpublished standing Data, National Marine Fisheries Service). . Since 1985, 20 sea turtles have stranded between San Pedro and Bolsa Chick State Beach. Of these, 10 stranded along the Long Beach shoreline, including four within Alamitos Bay, and six between Alamitos Bay and Ocean Blvd/Grand Avenue. Strandings in Alamitos Bay were reported in the Alamitos Bay Entrance Channel, along Alamitos Landing (Marina Drive), and at 5643 Corso di Napoli Lane, Treasure Island (Naples). The reasons for stranding included vessel collisions, marine debris and fishing gear entanglement, generating plant entrainment, unknown illness, injury related, and other unknown circumstances.

In 2006, the National Marine Fisheries Service, Long Beach office received numerous reports of sightings of sea turtles in the area. In October, 2006, the Long Beach Aquarium attached a

satellite transmitter to a green sea turtle that had live-stranded in Long Beach. The turtle was tracked south to the San Clemente area and then turned around and headed back north to the Long Beach area, where it remained for several weeks, presumably foraging on eel grass or algae in the area. The turtle appears to have entered the Marine Stadium area on multiple occasions. (Christina Fahy, National Marine Fisheries pers. com. with EDAW, Inc. July 2007).

A 21-inch juvenile green sea turtle (estimated to be between three to five years old) was found by fishermen casting lines in the channel at the intersection of Pacific Coast Highway and the San Gabriel River stranded within the intake channel on 29 August, 2008 (Aquarium of the Pacific, Pacific Currents Magazine, Fall 2008) and was reported to have been harassed by several unknown individuals. It was removed and transferred to the Long Beach Aquarium for rehabilitation from minor injuries and released in the San Gabriel River in October 2008 (Los Angeles Times, 2008).

Most records of sea turtles in Alamitos Bay are based on anecdotal records that point to occasional presence probably mostly during the warmer part of the year (Dan Lawson, per. com. With R. Ware, 12/10/13). The Long Beach Lifeguards and Marine Bureau staff have observed green sea turtles in Alamitos Bay. However, the Marine Department does not keep records as to where they have been seen, the time of year of occurrence, or the numbers observed (Coastal Resources Management, Inc. 2007a and 200b).

Green turtles are mostly herbivorous. As juveniles, they eat plants and other organisms such as: jellyfish, crabs, sponges, snails, and worms. As adults, they are strictly herbivorous (Ernst 1994; Crite, J. 2000). They spend most of their time feeding on algae in the sea and seagrasses that grow in shallow waters. Their attraction to Alamitos Bay, the Cerritos Channel, and the Marine Stadium may partially be related to an abundance of eelgrass (*Zostera marina*), and aggregations of large numbers of moon jellies (*Aurelia aurita*), while the San Gabriel River offers a thermal refuge.

Based on data tagging data and observations in nearby Anaheim Bay/Seal Beach Wildlife Refuge and the San Gabriel River, the general trend has been that turtles are first sighted in late spring/early summer, may be present throughout summer/fall, and then disappear by the beginning of winter (NMFS/CSULB unpublished data). Presumably turtle movements are influenced to some degree by local water temperatures, and the warmed effluent from the power plants in the San Gabriel River may be offering a thermal refuge for turtles especially during the winter.

There is no evidence that these species breed in the project area.

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- Los Angeles Times. 2008. Rehabilitated green sea turtle set free in the San Gabriel River. Article written by Louis Sahagun, October 31st, 2008).

HAMILTON BIOLOGICAL

November 5, 2014

MEMORANDUM

TO: LENNIE RAE COOKE AND RICK WARE

**SUBJECT: HABITAT ASSESSMENT FOR SIMS' POND AND
PARKS IN THE SEADIP AREA**

At your request, this memorandum provides an assessment of the habitats present at Sims' Pond Biological Reserve and parks within the SEADIP area. The purpose of my field review was to characterize the main plant communities/wildlife habitats found in these areas, not to detect all plant and wildlife species present or to determine the presence/absence of any listed or otherwise "sensitive" plant or wildlife species. This work supplements my earlier habitat assessment, conducted in upland areas around the periphery of the Los Cerritos Wetlands, provided to you in a memorandum dated 18 April 2014.

METHODS

On 27 October 2014, from 1340 to 1600, I conducted field reconnaissance at Sims Pond. I was accompanied by Lenny Arkinstall, Executive Director of the Los Cerritos Wetlands Stewards, Inc.

On 28 October 2014, from 1100 to 1200, I conducted field reconnaissance at Marina Vista Park, Will Rogers Mini Park, and around the upper end of the Marine Stadium Reserve.

On 30 October 2014, from 1150 to 1300, I conducted field reconnaissance at the Jack Dunster Marine Biological Reserve.

On 31 October 2014, from 1130 to 1230, I conducted field reconnaissance at Jack Nichol Park and Channel View Park.

RESULTS

Sims' Pond Biological Reserve

This natural area was described in a recent report, *Birds of Sims' Pond, A Month by Month Report, October 2012 – Sept 2013*, prepared by Los Cerritos Wetlands Stewards, Inc., and El Dorado Audubon Society:

Sims' pond is located at the NW corner of Loynes and PCH in East Long Beach adjacent to the Del Lago private gated community. It was built between 1978 and 1985. Sims' pond is protected by a chain-link fence and is not accessible to the general public.

This 6.06 acre freshwater marsh was originally a saltwater marsh fed by sea water and started as a pond for Sims' Bait Shop. In 1979, The California Coastal Commission, when approving the construction of the area homes, required Del Lago and Bay Harbor Homeowner's Associations to own and maintain the pond as a biological reserve under the direction of the Department of Fish and Game. At that time, Sims' Pond became a freshwater marsh and seasonal pond fed by urban runoff from a local golf course. In 2003 it was deeded to the City of Long Beach. The City now owns and maintains the pond.

Several species of willow trees, bulrushes, cattails, and native plants surround the pond providing habitat for the pond's wildlife. The adjacent homes often have bird feeders and gardens providing seed. The pond supports a variety of animals including insects, fish, frogs, turtles, squirrels, raccoons, birds, and an occasional coyote. The pond is stocked with mosquito fish to eat mosquito larvae.

The biological resources of Sims' Pond are described in the following sections.

Open Water/Mud Flat

General Description: The open water/mud flat community is characterized by standing water during the rainy season, or when artificial inputs create standing water, and by a varyingly moist/dry surface during the summer and early fall months.

Characteristic Plant Species: When open water present, vegetation probably limited to duckweed (*Lemna* sp.). During dry periods, the principal weed growing in around the perimeter was Lamb's Quarters (*Chenopodium album*).

Site Specific Description: As described above, Sims' Pond is a seasonal wetland, although water has been periodically added to maintain standing water during dry periods. As a result, the pond typically has not gone dry during past years (L. Arkinstall *pers. comm.*). With extreme drought conditions in the region and state during 2014, however, the City of Long Beach has not added water to the pond, and runoff from nearby areas has been reduced due to water-saving measures. As a result, open water is currently limited to small areas near inlets that bring in runoff from surrounding streets and residences. This is the natural state of this seasonal pond. Sims' Pond is only a few feet deep, and so can become dry relatively quickly during hot weather. During the field visit, the bottom of the pond was characterized by cracked mud toward the center and dry dirt around the edges, with a fairly dense growth of weeds along the margins. During the October 2014 field visit the vegetation around the edges of the pond did not show signs of water stress. In southern California, during cyclical droughts such as the current one, it is normal for seasonal ponds to have dry bottoms during the summer and early fall months.

Ecological Services: Open water habitat type provides habitat for certain exotic species of fish, crustacean, amphibian, and reptile. Specifically, Sims' Pond supports the Western Mosquitofish (*Gambusia affinis*), Crayfish (*Procambarus clarkii*), Bullfrog (*Lithobates catesbeianus*), and Red-eared Slider (*Trachemys scripta elegans*). These species, as well as emergent vegetation, are foraged upon by various species of waterfowl, heron, egret,

tern, Double-crested Cormorant (*Phalacrocorax auritus*), and Belted Kingfisher (*Megasceryle alcyon*). The above-referenced report on the Birds of Sims' Pond indicates that the California Least Tern (*Sternula antillarum browni*), a State- and federally listed species, was observed foraging in the pond during late spring/summer 2013. When water levels drop to a depth of several inches, certain long-legged shorebirds, such as the Greater Yellowlegs (*Tringa melanoleuca*), may also feed in open water. As the water continues to retreat and the area of shoreline increases, many more shorebird species may forage along the water's edge. Footprints of the Raccoon (*Procyon lotor*) were observed in the mud of the lakebed, indicating that this mammal forages on crayfish and possibly other aquatic species in the pond; other small mammals likely to be present include the Striped Skunk (*Mephitis mephitis*) and Virginia Opossum (*Didelphis virginiana*). One species of shorebird, the Killdeer (*Charadrius vociferans*), may nest on the exposed lakebed. If the lake is allowed to dry completely, the non-native aquatic species in the pond may be eradicated, as they are not adapted to seasonal wetland conditions, but standing water is likely to remain near the outlets throughout the year, and this is probably adequate to maintain small populations of all the species mentioned above. Furthermore, if any exotic aquatic species do die off, they are likely to be quickly re-introduced. Likely sources of reintroduction are the nearby golf course pond (north of Pacific Coast Highway), residents of the adjacent community, and vector control personnel (who maintain stocks of mosquitofish in all ponded areas).

Freshwater Marsh

General Description: Freshwater marsh habitat consists of perennial, emergent monocots that grow in dense stands and that may achieve heights of two meters or greater. This habitat occurs in non-tidal areas where soils are saturated/inundated for extended periods.

Characteristic Plant Species: *Carex* spp. (sedges), *Juncus* spp. (rushes), *Eleocharis* spp. (spike-rushes), *Schoenoplectus* spp. (bulrushes), and *Typha* spp. (cattails).

Site Specific Description: The freshwater marsh habitat at Sims' Pond is dominated by Common Cattail (*Typha latifolia*) and California Bulrush (*Schoenoplectus californicus*), which form dense stands around the pond's perimeter; Leopold's Spiny Rush (*Juncus acutus* ssp. *leopoldii*) is locally dominant and Mulefat (*Baccharis salicifolia*) also occurs. Herbaceous species observed commonly around the margins of the freshwater marsh include Common Plantain (*Plantago major*), Willow Knotweed (*Persicaria lapathifolia*), Clustered Dock (*Rumex conglomeratus*), Salt Heliotrope (*Heliotropium curassavicum*), Spotted Spurge (*Chamaesyce maculata*), Barnyard Grass (*Echinochloa crus-galli*), and Rabbitsfoot Grass (*Polypogon monspeliensis*).

Ecological Services: Freshwater marsh vegetation is used by a variety of wildlife species for foraging and breeding; some species are present only during the fall and winter months. Characteristic birds resident at Sims' Pond include the Mallard (*Anas platyrhynchos*), Black-crowned Night-Heron (*Nycticorax nycticorax*),

Snowy Egret (*Egretta thula*), American Coot (*Fulica americana*), Black Phoebe (*Sayornis saya*), Common Yellowthroat (*Geothlypis trichas*), and Song Sparrow (*Melospiza melodia*). The resident waterfowl and wading bird species likely move to other wetland habitats in the general vicinity during periods when Sims' Pond dries up. Also present is the exotic Scaly-breasted Munia (*Lonchura punctulata*), a recent colonist in the region. The habitat is suitable for nesting by Clark's Marsh Wren (*Cistothorus palustris clarkae*), a California Species of Special Concern known to nest in the Long Beach area¹. A Marsh Wren heard vocalizing at Sims' Pond during the October 2014 field visit may have been this taxon, or it could have been a migratory subspecies wintering at the site. Wintering species include various waterfowl, such as the American Wigeon (*Anas americana*), Cinnamon Teal (*Anas cyanoptera*), Northern Shoveler (*Anas clypeata*), and Ruddy Duck (*Oxyura jamaicensis*), rails, such as the Sora (*Porzana carolina*), and various passerines, such as Lincoln's Sparrow (*Melospiza lincolnii*).

Black Willow Forest and Restored Habitat

General Description: This generalized habitat type refers to stands of Black Willow (*Salix gooddingii*) that grow around the perimeter of the pond, which have an understory consisting of species typical of freshwater marsh habitat, and an area of restored habitat in the northeastern corner of the open space.

Characteristic Plant Species and Site Specific Description: The main tree species growing around Sims' Pond is the native Black Willow (*Salix gooddingii*), but in the restoration planting area this species has been supplemented with plantings of California Sycamore (*Platanus racemosa*), Fremont Cottonwood (*Populus fremontii*), White Alder (*Alnus rhombifolia*), California Walnut (*Juglans californica*), and Coast Live Oak (*Quercus agrifolia*). The restoration site includes a variety of species native to southern California. The species present include Blue Elderberry (*Sambucus nigra* ssp. *caerulea*), Toyon (*Heteromeles arbutifolia*), Holly-leaved Cherry (*Prunus ilicifolia*), Mountain Mahogany (*Cercocarpus betuloides*), Sugar Bush (*Rhus ovata*), Lemonade Berry (*Rhus integrifolia*), Coyote Brush (*Baccharis pilularis*), Fourwing Saltbush (*Atriplex canescens*), Brewer's Saltbush (*Atriplex lentiformis* ssp. *breweri*), Fuchsia-flowered Gooseberry (*Ribes speciosum*), California Buckwheat (*Eriogonum fasciculatum*), California Encelia (*Encelia californica*), California Rose (*Rosa californica*), and Giant Wild Rye (*Elymus condensatus*).

Ecological Services: At Sims' Pond, willows and restored habitat provide foraging habitat and cover for many of the same species listed previously under Freshwater Marsh, as well as species typically found in more arboreal habitats and in drier ar-

¹ Unitt, P. 2008. Clark's Marsh Wren (*Cistothorus palustris clarkae*) in Shuford, W. D., and Gardali, T., editors. California Bird Species of Special Concern: A ranked assessment of species, subspecies, and distinct populations of birds of immediate conservation concern in California. Studies of Western Birds 1. Western Field Ornithologists, Camarillo, and California Department of Fish and Game, Sacramento.

eas. These include resident birds, such as the Mourning Dove (*Zenaida macroura*), Anna's Hummingbird (*Calypte anna*), Allen's Hummingbird (*Selasphorus sasin*), American Crow (*Corvus brachyrhynchos*), Bushtit (*Psaltirparus minimus*), Northern Mockingbird (*Mimus polyglottos*), Orange-crowned Warbler (*Oreothlypis celata*), House Finch (*Haemorhous mexicanus*), Lesser Goldfinch (*Spinus psaltria*), and the non-native House Sparrow (*Passer domesticus*). Additional species known or likely to occur during migration and/or winter include the Warbling Vireo (*Vireo gilvus*), Hermit Thrush (*Catharus guttatus*), Ruby-crowned Kinglet (*Regulus calendula*), and Yellow-rumped Warbler (*Setophaga coronata*). At least one Coyote (*Canis latrans*) is known to occur regularly at Sims' Pond (L. Arkinstall *pers. comm.*), and a den observed in the restoration area during the October field visit appeared consistent with that of a Coyote.

Public Parks in the SEADIP Area

Five public parks exist within the SEADIP area: Marina Vista Park and Will Rogers Mini Park (between Marine Stadium and Colorado Lagoon), Channel View Park (western shore of the Los Cerritos Channel north of Loynes Drive), Jack Nichol Park (northern shore of the Los Cerritos Channel west of Pacific Coast Highway), and the Jack Dunster Marine Biological Reserve (northern shore of the Los Cerritos Channel adjacent to Marine Stadium). The first four parks are developed areas with similar resources, so they are discussed together.

Marina Vista Park, Will Rogers Mini Park, Channel View Park, and Jack Nichol Park

Characteristic Plant Species and Site Specific Description: These parks are characterized by turf grass (*Agrostis* spp., *Lolium* spp., *Cynodon* spp., *Festuca* spp., *Pennisetum* spp., etc.) with scattered trees, nearly all of them exotic. Trees observed include coral trees (*Erythrina* spp.), Mexican Fan Palms (*Washingtonia robusta*), pines (*Pinus* spp.), melaleucas (*Melaleuca* sp.), eucalyptus (*Eucalyptus* spp.), Carrotwood (*Cupaniopsis anacardioides*), figs (*Ficus* sp.), Brazilian Pepper (*Schinus terebinthifolius*), Peruvian Pepper (*Schinus molle*), London Plane (*Platanus x hispanica*), liquidambar (*Liquidambar* sp.), and alder (*Alnus* sp.). Jack Nichol Park has fewer trees than the other parks; it is characterized by open turf bordered by low shrubs, especially Pride of Madeira (*Echium candicans*), and bunch grasses, especially Fountain Grass (*Pennisetum setaceum*) and Blue Wild Rye (*Elymus glaucus*).

Ecological Services: These landscaped park areas provide only marginal ecological services, and must be maintained with irrigation, mowing of turf, and pruning of trees. Wildlife in these areas consists of species highly adapted to human presence, such as the Western Fence Lizard (*Sceloporus occidentalis*). Resident birds include such native species as Cooper's Hawk (*Accipiter cooperii*), Anna's Hummingbird (*Calypte anna*), Allen's Hummingbird (*Selasphorus sasin*), Downy Woodpecker (*Picoides pubescens*), Black Phoebe (*Sayornis nigricans*), Western Scrub-Jay (*Aphelocoma californica*), Bushtit (*Psalt-*

triparus minimus), House Finch (*Haemorhous mexicanus*), and Lesser Goldfinch (*Carduelis psaltria*), and exotic species that include the Mitred Parakeet (*Psittacara mitrata*), European Starling (*Sturnus vulgaris*), and House Sparrow (*Passer domesticus*). Native bird species that occur only during migration and/or winter include Say's Phoebe (*Sayornis saya*), Ruby-crowned Kinglet (*Regulus calendula*), Yellow-rumped Warbler (*Setophaga coronata*), Townsend's Warbler (*Setophaga townsendi*), and White-crowned Sparrow (*Zonotrichia leucophrys*).

Jack Nichol Park is located across Pacific Coast Highway from the Los Cerritos Wetlands, where the listed Belding's Savannah Sparrow (*Passerculus sandwichensis* ssp. *beldingi*) is resident, and this park provides marginal wintering (but not nesting) habitat for this species; one bird was observed there during the 31 October field visit. One other wintering bird species observed only at Jack Nichol Park is the Western Meadowlark (*Sturnella neglecta*); a flock of 11 meadowlarks was observed there on 31 October.

Mammals found in developed parks include the Brown Rat (*Rattus norvegicus*), Virginia Opossum (*Didelphis virginiana*), Striped Skunk (*Mephitis mephitis*), Coyote (*Canis latrans*), and Raccoon (*Procyon lotor*).

Jack Dunster Marine Biological Reserve

As described on the City of Long Beach web page²:

The Jack Dunster Marine Biological Reserve is a 2.7-acre site containing 1.5 acres of land and 1.2 acres of shallow water constructed on the northwesterly side of the Los Cerritos Channel adjacent to the Rowing Center at Marine Stadium. It is a natural habitat created for recreational and educational opportunities for the public.

The special features of the Jack Dunster Marine Biological Reserve were recommended by the Marine Advisory Commission and coordinated by the Parks, Recreation and Marine Department. These features include public access to a meandering pathway throughout the reserve, as well as gangway access to two floating observation platforms and one floating dock.

The site is protected from the highly erosive currents in the Los Cerritos Channel and upland runoff by a low, bluff-like retaining wall made of interlocking concrete blocks. They are terraced to allow vegetative cover.

The central area of the site has been excavated to allow for the tidal marsh. A floating breakwater reduces the erosive currents while protecting this area. The breakwater stretches between the points of this miniature bay and separate the 1.2 water acres from the boating activity in the Los Cerritos Channel. Forming the west-end of the breakwater is a 132-foot long dock allowing access by boat to the site.

² http://www.longbeach.gov/park/parks_and_open_spaces/parks/jack_dunster_marine_biological_reserve.asp

An irrigation system and landscaping with plants native have also been added to this unique ecosystem. The habitats will include Coastal Sage Shrub, Southern Beach, Coastal Marsh, Inter-tidal Mudflats, Rocky Inter-tidal and Sandy Bottom.

The biological resources of Jack Dunster Marine Biological Reserve are described in the following sections.

Subtidal Marine and Southern Coastal Salt Marsh

The following general descriptions of habitats, and lists of characteristic algal and plant species, are adapted from the discussions of Habitat Types 2.1.2 and 2.2.1, pages 14–16 in the Habitat Assessment Report dated August 2012, prepared by Tidal Influences for Moffat and Nichol and the Los Cerritos Wetlands Authority. The list of subtidal and salt marsh plants found specifically at Jack Dunster Marine Biological Reserve incorporates information from a 2005 Masters Thesis by Melissa M. Apodaca³ in addition to my observations.

General Description: Subtidal marine habitat refers to coastal areas that are perpetually under marine water. In coastal embayment's they are found just below the intertidal zone in tidal basins and channels. The usually soft bottom substrate supports a variety of algal species as well as eelgrass beds. Above the intertidal zone is southern coastal salt marsh habitat, which develops within a two to three meter intertidal elevation range along sheltered inland margins of bays, lagoons, and estuaries. Southern coastal salt marsh habitat is dominated by highly productive, herbaceous and suffrutescent, salt-tolerant hydrophytes forming moderate to dense cover up to one meter tall. Unvegetated intertidal areas, known as salt pannes, often form in hypersaline soils of the upper marsh.

Characteristic Algal and Plant Species: In subtidal marine areas, *Ulva* spp., Wigeon Grass (*Ruppia maritima*), and Eelgrass (*Zostera marina*). In southern coastal salt marsh, the low marsh is characterized by Pacific Cordgrass (*Spartina foliosa*); the middle marsh is characterized by Common Pickleweed (*Sarcocornia pacifica*), Annual Pickleweed (*Salicornia bigelovii*), California Sea-Lavender (*Limonium californicum*), Marsh Jaumea (*Jaumea carnosa*), Arrow Grass (*Triglochin concinna*), Saltwort (*Batis maritima*), Estuary Sea-Blight (*Suaeda esteroa*), and Salt Marsh Dodder (*Cuscuta salina*); the upper marsh is characterized by Parish's Glasswort (*Arthrocnemum subterminale*), Alkali Heath (*Frankenia salina*), Salt Grass (*Distichlis spicata*), Watson's Saltbush (*Atriplex watsonii*), California Boxthorn (*Lycium californicum*), and Shore Grass (*Monanthochloe littoralis*).

Site Specific Description: The subtidal marine and southern salt marsh habitats at Jack Dunster Marine Biological Reserve support many of the characteristic species listed above, including Common Pickleweed, California Sea-Lavender, Marsh Jaumea, Salt Marsh Dodder, Alkali Heath, Salt Grass, and Shore Grass, as well as Leopold's Spiny Rush (*Juncus acutus* ssp. *leopoldii*).

Ecological Services: Subtidal habitat at Jack Dunster Marine Biological Reserve supports a variety of fish species, as well as such bird species as the American Coot (*Fulica ameri-*

³ Apodaca, M. M. 2005. Plant community and sediment development in two constructed salt marshes in Long Beach, California. MS Thesis, California State University, Long Beach. December 2005.

cana), Eared Grebe (*Podiceps nigricollis*), Western Gull (*Larus occidentalis*), Forster's Tern (*Sterna forsteri*), and Belted Kingfisher (*Megaceryle alcyon*). The area of intertidal marsh appears to be too limited to support many of the species found in the extensive Los Ceritos Wetlands, located to the northeast, but the area is used occasionally by shorebirds, such as the Willet (*Tringa semipalmata*). During winter, the listed Belding's Savannah Sparrow (*Passerculus sandwichensis* ssp. *beldingi*) could occur in small numbers, as well as the Large-billed Savannah Sparrow (*Passerculus sandwichensis* ssp. *rostratus*), a California Species of Special Concern that winters in small numbers along the coast.

Mammals likely to utilize the salt marsh at Jack Dunster include the Brown Rat (*Rattus norvegicus*), Virginia Opossum (*Didelphis virginiana*), Striped Skunk (*Mephitis mephitis*), Coyote (*Canis latrans*), and Raccoon (*Procyon lotor*).

Upland Scrub

General Description: The Reserve's uplands have been planted with a wide variety of plant species native to southern California, including California Buckwheat (*Eriogonum fasciculatum*), Ashy Buckwheat (*Eriogonum cinereum*), Seacliff Buckwheat (*Eriogonum parvifolium*), California Encelia (*Encelia californica*), California Sagebrush (*Artemisia californica*), Coast Goldenbush (*Isocoma menziesii*), Bladderpod (*Peritoma arborea*), Black Sage (*Salvia mellifera*), White Sage (*Salvia apiana*), Purple Sage (*Salvia leucophylla*), Cleveland Sage (*Salvia clevelandii*), Lemonade Berry (*Rhus integrifolia*), Coastal Prickly-Pear (*Opuntia littoralis*), Coastal Cholla (*Cylindropuntia prolifera*), Holly-leaf Cherry (*Prunus ilicifolia*), Coffeeberry (*Frangula californica*), Fourwing Saltbush (*Atriplex canescens*), Mulefat (*Baccharis salicifolia*), California Rose (*Rosa californica*), Broad-leaved Southern Honeysuckle (*Lonicera subspicata* var. *denudata*), California Fuchsia (*Epilobium canum*), California Poppy (*Eschscholzia californica*), Woolly Seabligh (*Suaeda taxifolia*), Wishbone Bush (*Mirabilis laevis*), Beach Sand Verbena (*Abronia umbellata*), and Alkali Sacaton (*Sporobolus airoides*). Species native to Catalina Island that have been established in the Reserve include Giant Coreopsis (*Leptosyne gigantea*), Santa Catalina Island Buckwheat (*Eriogonum giganteum* var. *giganteum*), Showy Island Snapdragon (*Gambelia speciosa*), and Southern Island Mallow (*Lavatera assurgentiflora* ssp. *glabra*). Exotic low shrubs apparently planted at the reserve include Butterfly Milkweed (*Asclepias tuberosa*) and Dayflower (*Commelina benghalensis*). Weedy and/or invasive species growing as volunteers include Evergreen Ash (*Fraxinus uhdei*), Edible Fig (*Ficus carica*), Salt Heliotrope (*Heliotropium curassavicum*), Field Bindweed (*Convolvulus arvensis*), Western Ragweed (*Ambrosia psilostachya*), Cheeseweed (*Malva parviflora*), and Spotted Spurge (*Chamaesyce maculata*).

Site Specific Description: Discussed in the preceding paragraph.

Ecological Services: The uplands at Jack Dunster Marine Biological Reserve have been planted with numerous species native to the local area, and thus the area functions largely as a small patch of native scrub. Covering only 1.5 acre and functionally isolated

from the Los Cerritos Wetlands, located a quarter-mile to the northeast, this isolated patch of habitat is not large enough to provide extensive ecological services, but various native insects and birds do use this area. Birds observed in this area during the field visit include Anna's Hummingbird (*Calypte anna*), Allen's Hummingbird (*Selasphorus sasin*), American Crow (*Corvus brachyrhynchos*), Yellow-rumped Warbler (*Setophaga coronata*), Golden-crowned Sparrow (*Zonotrichia atricapilla*), and House Finch (*Haemorhous mexicanus*). The mammals likely to be present are those listed above, for southern coastal salt marsh habitat.

CONCLUSION

If you have any questions or comments on this memorandum, please call me at 562-477-2181 or send e-mail to robb@hamiltonbiological.com.

Attachment: List of Plant and Wildlife Species Observed

LIST OF VASCULAR PLANTS AND VERTEBRATE WILDLIFE DETECTED

The following list identifies plant and wildlife species detected during the current study in upland habitats within the expanded study area. Sources:

Campbell, K. F. 2014. *FFShort CoSoCal: Simplified List of the Vascular Flora and Vertebrate Fauna of Coastward Southern California*. Temecula, CA: Kurt F. Campbell. Version 10.0.3, dated 19 March 2014.

Calflora: Information on California plants for education, research and conservation, with data contributed by public and private institutions and individuals, including the Consortium of California Herbaria. 2014. Berkeley, California: The Calflora Database [a non-profit organization]. <http://www.calflora.org/>

* Taxon not native to the study area

VASCULAR PLANTS

SECTION: GYMNOSPERMS

Pinaceae - Pine Family

* *Pinus* sp., pine

SECTION: MAGNOLIIDS

Lauraceae - Laurel Family

* *Cinnamomum camphora*, Camphor Tree

SECTION: EUDICOTS

Aizoaceae - Fig-Marigold Family

* *Mesembryanthemum* sp., ice plant

Altingiaceae - Sweet Gum Family

* *Liquidambar* sp., liquidambar

Anacardiaceae - Sumac Family

Rhus integrifolia, Lemonade Berry

* *Rhus ovata*, Sugar Bush

* *Schinus molle*, Peruvian Pepper

* *Schinus terebinthifolius*, Brazilian Pepper

Asteraceae - Sunflower Family

- Ambrosia psilostachya*, Western Ragweed
Artemisia californica, California Sagebrush
Artemisia douglasiana, California Mugwort
Baccharis salicifolia, Mulefat
Conyza canadensis, Canada Horseweed
Heterotheca grandiflora, Telegraph Weed
Isocoma menziesii, Coastal Goldenbush
Jaumea carnosa, Marsh Jaumea
* *Lactuca serriola*, Prickly Lettuce
* *Leptosyne gigantea*, Giant Coreopsis
* *Sonchus asper*, Prickly Sow Thistle

Betulaceae - Birch Family

- Alnus rhombifolia*, White Alder

Boraginaceae - Borage Family

- Heliotropium curassavicum*, Salt Heliotrope

Brassicaceae - Mustard Family

- * *Brassica nigra*, Black Mustard
* *Hirschfeldia incana*, Short-pod Mustard
* *Raphanus sativus*, Wild Radish
* *Sisymbrium irio*, London Rocket

Cactaceae - Cactus Family

- Cylindropuntia prolifera*, Coastal Cholla
Opuntia littoralis, Coastal Prickly-pear

Capparaceae - Caper Family

- Peritoma arboria*, Bladderpod

Caprifoliaceae - Honeysuckle Family

- * *Lonicera subspicata* var. *denudata*, Broad-leaved Southern Honeysuckle

Chenopodiaceae - Goosefoot Family

- Atriplex canescens*, Fourwing Saltbush
Atriplex lentiformis ssp. *breweri*, Brewer's Saltbush
* *Atriplex semibaccata*, Australian Saltbush
* *Chenopodium album*, Lamb's-quarters
* *Salsola tragus*, Russian-thistle
Sarcocornia pacifica, Pacific Pickleweed
Suaeda taxifolia, Woolly Seablight

Commelinaceae - Spiderwort Family

- * *Commelina benghalensis*, Dayflower

Convolvulaceae - Morning-glory Family

- * *Convolvulus arvensis*, Field Bindweed

Euphorbiaceae - Spurge Family

- * *Chamaesyce maculata*, Spotted Spurge

Fabaceae - Pea Family

- * *Acacia* sp., wattle

Fagaceae - Beech Family

- Quercus agrifolia*, Coast Live Oak

Frankeniaceae - Frankenia Family

- Frankenia salina*, Alkali Heath

Geraniaceae - Geranium Family

- * *Erodium cicutarium*, Red-stemmed Filaree

Lamiaceae - Mint Family

- * *Marrubium vulgare*, Horehound
* *Salvia apiana*, White Sage
* *Salvia clevelandii*, Cleveland Sage
* *Salvia leucophylla*, Purple Sage
Salvia mellifera, Black Sage

Malvaceae - Mallow Family

Lavatera assurgentiflora ssp. *glabra*, Southern Island Mallow

* *Malva parviflora*, Cheeseweed

Malvella leprosa, Alkali Mallow

Moraceae - Mulberry Family

* *Ficus* sp., fig

Myoporaceae - Myoporum Family

* *Myoporum laetum*, Ngaio Tree

Myrtaceae - Myrtle Family

* *Melaleuca* sp., melaleuca

* *Eucalyptus* sp., eucalyptus

Nyctaginaceae - Four-o'clock Family

Abronia umbellata, Beach Sand-verbena

Mirabilis laevis, Wishbone Bush

Oleaceae - Olive Family

* *Fraxinus uhdei*, Evergreen Ash

Onagraceae - Evening-primrose Family

Epilobium canum, California Fuchsia

Oenothera elata, Hooker's Evening-primrose

Papaveraceae - Poppy Family

Eschscholzia californica, California Poppy

Plantaginaceae - Plantain Family

* *Gambelia speciosa*, Showy Island Snapdragon

* *Plantago major*, Common Plantain

Platanaceae - Sycamore Family

* *Platanus* × *hispanica*, London Plane

Platanus racemosa, California Sycamore

Plumbaginaceae - Leadwort Family

- * *Plumbago auriculata*, Cape Plumbago
- Limonium californicum*, California Sea-lavender

Polygonaceae - Buckwheat Family

- * *Eriogonum cinereum*, Ashy-leaved Buckwheat
- Eriogonum fasciculatum*, California Buckwheat
- * *Eriogonum giganteum*, Queen Anne's Lace
- * *Eriogonum parvifolium*, Seacliff Buckwheat
- Persicaria lapathifolia*, Willow Smartweed
- * *Rumex conglomeratus*, Clustered Dock

Rhamnaceae - Buckthorn Family

- Frangula californica*, California Coffeeberry

Rosaceae - Rose Family

- * *Cercocarpus betuloides*, Mountain Mahogany
- * *Heteromeles arbutifolia*, Toyon
- * *Prunus ilicifolia*, Holly-leaved Cherry
- Rosa californica*, California Rose

Salicaceae - Willow Family

- Salix gooddingii*, Black Willow

Solanaceae - Nightshade Family

- * *Nicotiana glauca*, Tree Tobacco

SECTION: MONOCOTS

Arecaceae - Palm Family

- * *Washingtonia robusta*, Mexican Fan Palm

Cyperaceae - Sedge Family

- Schoenoplectus californicus*, California Bulrush

Juncaceae - Rush Family

- Juncus acutus* ssp. *leopoldii*, Leopold's Spiny Rush

Phormiaceae - Phormium Family

* *Phormium* sp., phormium

Poaceae - Grass Family

- * *Agrostis* sp., bentgrass
- * *Avena fatua*, Common Wild Oat
- * *Avena sativa*, Slender Wild Oat
- * *Bromus diandrus*, Ripgut Brome
- * *Bromus madritensis* ssp. *rubens*, Red Brome
- * *Cynodon dactylon*, Bermuda Grass
- * *Digitaria sanguinalis*, Hairy Crabgrass
- Distichlis spicata*, Salt Grass
- * *Echinochloa crus-galli*, Barnyard Grass
- Leymus condensatus*, Giant Wild Rye
- * *Lolium multiflorum*, Italian Ryegrass
- Monanthochloe littoralis*, Shore Grass
- * *Muhlenbergia rigens*, Deer Grass
- * *Piptatherum miliaceum*, Smilo Grass
- * *Polypogon monspeliensis*, Rabbitsfoot Grass
- Sporobolus airoides*, Alkali Sacaton

Typhaceae - Cattail Family

Typha latifolia, Common Cattail

VERTEBRATE WILDLIFE

CLASS ACTINOPTERYGII: RAY-FINNED FISHES

Poeciliidae - Livebearer Family

* *Gambusia affinis*, Western Mosquitofish

CLASS REPTILIA - REPTILES

Emydidae - Turtle Family

* *Trachemys scripta*, Red-eared Slider

Phrynosomatidae - Spiny Lizard Family

Sceloporus occidentalis, Western Fence Lizard

CLASS AVES - BIRDS

Anatidae - Swan, Goose, and Duck Family

Anas platyrhynchos, Mallard

Podicipedidae - Grebe Family

Podiceps nigricollis, Eared Grebe

Phalacrocoracidae - Cormorant Family

Phalacrocorax auritus, Double-crested Cormorant

Cathartidae - New World Vulture Family

Cathartes aura, Turkey Vulture

Accipitridae - Hawk Family

Buteo jamaicensis, Red-tailed Hawk

Charadriidae - Plover Family

Charadrius vociferous, Killdeer

Scolopacidae - Sandpiper Family

Tringa semipalmata, Willet

Laridae - Gull and Tern Family

Larus occidentalis, Western Gull

Columbidae - Pigeon and Dove Family

* *Columba livia*, Rock Pigeon

Zenaida macroura, Mourning Dove

* *Eurasian Collared-Dove*, *Streptopelia decaocto*

Trochilidae - Hummingbird Family

Calypte anna, Anna's Hummingbird

Selasphorus sasin, Allen's Hummingbird

Alcedinidae - Kingfisher Family

Megaceryle alcyon, Belted Kingfisher

Tyrannidae - Tyrant Flycatcher Family

Sayornis nigricans, Black Phoebe

Sayornis saya, Say's Phoebe

Tyrannus vociferans, Cassin's Kingbird

Corvidae - Jay and Crow Family

Corvus brachyrhynchos, American Crow

Corvus corax, Common Raven

Aegithalidae - Bushtit Family

Psaltriparus minimus, Bushtit

Troglodytidae - Wren Family

Troglodytes aedon, House Wren

Cistothorus palustris, Marsh Wren

Regulidae - Kinglet Family

Regulus calendula, Ruby-crowned Kinglet

Turdidae - Thrush Family

Catharus guttatus, Hermit Thrush

Mimidae - Thrasher Family

Mimus polyglottos, Northern Mockingbird

Sturnidae - Starling Family

* *Sturnus vulgaris*, European Starling

Bombycillidae - Waxwing Family

Bombycilla cedrorum, Cedar Waxwing

Parulidae - Wood-Warbler Family

Oreothlypis celata, Orange-crowned Warbler

Geothlypis trichas, Common Yellowthroat

Setophaga coronata, Yellow-rumped Warbler

Emberizidae - Sparrow Family

Melospiza crissalis, California Towhee

Passerculus sandwichensis, Savannah Sparrow

Passerculus sandwichensis beldingi, Belding's Savannah Sparrow

Melospiza melodia, Song Sparrow

Melospiza lincolnii, Lincoln's Sparrow

Zonotrichia leucophrys, White-crowned Sparrow

Zonotrichia atricapilla, Golden-crowned Sparrow

Icteridae - Blackbird, Cowbird and Oriole Family

Agelaius phoeniceus, Red-winged Blackbird

Sturnella neglecta, Western Meadowlark

Fringillidae - Finch Family

Haemorhous mexicanus, House Finch

Spinus psaltria, Lesser Goldfinch

Passeridae - Old World Sparrow Family

* *Passer domesticus*, House Sparrow

Estrilidae – Waxbill and Mannikin Family

* *Lonchura punctulata*, Scaly-breasted Munia

CLASS MAMMALIA – MAMMALS

Sciuridae – Squirrel Family

* *Sciurus niger*, Eastern Fox Squirrel

Geomyidae – Pocket Gopher Family

Thomomys bottae, Botta’s Pocket Gopher

Canidae – Dog Family

Canis latrans, Coyote

Procyonidae – Raccoon Family

Procyon lotor, Northern Raccoon

APPENDIX B

Compendia

Alamitos Bay Marine Flora and Fauna Species List

Source: Rick Ware, CMR Inc. (2014)

ALAMITOS BAY MARINE FLORA AND FAUNA SPECIES LIST

	Scientific Name	Common Name	Eelgrass Beds and/or Soft Bottom Benthos	Hard Surfaces, Marina Pilings, Rip Rap, and Bulkhead	Wetland Channel Water Column	Open Water	All Areas
PLANTAE							
BACILLARIOPHYTA							
	Bacillariophyceae	diatom mat	x				x
CHLOROPHYTA							
		Green algae					
	<i>Bryopsis corticulans</i>	Green algae		x			x
	<i>Chaetomorpha</i> sp.	Green algae	x	x			x
	<i>Ulva californica</i>	Green algae	x	x			x
	<i>Ulva intestinalis</i>	Green algae	x	x			x
	<i>Ulva lobata</i>	Green algae	x	x			x
PHAEOPHYTA							
		Brown algae					
	<i>Codium fragile</i>	Brown algae	x	x			x
	<i>Colpomenia perigrina</i>	Brown algae	x	x			x
	<i>Cystocleira osmundacea</i>	Brown algae		x			x
	<i>Egria menziesii</i>	Brown algae		x			x
	<i>Macrocystis pyrifera</i>	Brown algae		x			x
	<i>Sargassum muticum</i>	Brown algae		x			x
RHODOPHYTA							
		Red algae					
	<i>Caulacanthus</i> sp.	Red algae		x			x
	<i>Corallina</i> spp.	Red algae		x			x
	<i>Gelidium</i> sp.	Red algae		x			x
	<i>Gracilariopsis sjoestedtii</i>	Red algae	x				x
	<i>Gracilaria andersonii</i>	Red algae	x				x
	<i>Hypnea johnstonii?</i>	Red algae	x	x			x
	<i>Pseudolithopoma</i> sp.	Red algae		x			x
	<i>Pterocladia</i> sp.	Red algae		x			x
	<i>Pterosiphonia</i> sp.	Red algae		x			x
	red turf algae (complex)	Red algae		x			x
	<i>Rhodomenia</i> sp.	Red algae		x			x
S[ERMATOPHYTA							
	<i>Zostera marina</i>	Eelgrass "seawrack"	x				x
	<i>Ruppia maritima</i>	Ditchgrass "Widgeon weed"	x				x
ANIMALIA							
PORIFERA							
	<i>Aplysiana nr fistularis</i>	Sponge	x	x			x
	<i>Haliclona</i> sp.	Sponge	x	x			x
	<i>Leucilla nuttingi</i>	Sponge		x			x
	<i>Leucosolenia</i> sp.	Sponge		x			x
CNIDARIA							
Hydrozoa							
	<i>Abietenaria</i> sp.	Hydroid		x			x
	<i>Corymorpha palma</i>	Hydroid	x				x
	<i>Tubularia</i> sp.	Hydroid		x			x
Scyphozoa							
	<i>Aurelia aurita</i>	Moon jelly			x	x	x
Anthozoa							
	<i>Anthopleura elegantissima</i>	Colonial anemone		x			x
	<i>Anthopleura sola</i>	Solitary anemone		x			x
	<i>Bunodeopsis</i> sp. A	Stinging anemone	x	x			x
	<i>Diadume franciscana</i>	San Francisco anemone	x	x			x
	<i>Epiactis prolifera</i>	Prolific anemone	x	x			x
	<i>Harenatis</i> sp.	Burrowing anemone	x				x
	<i>Pachycerianthus fimbriatus</i>	Burrowing anemone	x				x
	<i>Muricea californica</i>	California golden gorgonian		x			x
	<i>Stylatula elongatus</i>	White sea pen	x				x
PLATYHELMINTHES							
	<i>Freemania litoricola</i>	Flatworm	x	x			x
NEMERTEA							
	<i>Carinoma mutabilis</i>	ribbon worm	x				x
	<i>Carinoma mutabilis</i>	ribbon worm	x				x
	<i>Cerebratulid</i> sp.	ribbon worm	x				x
	<i>Cerebratulid</i> sp.	ribbon worm	x				x
	<i>Micrura</i> sp.	ribbon worm	x				x
	<i>Micrura</i> sp.	ribbon worm	x				x
	<i>Nemertea, unidentified</i>	ribbon worm	x				x
	<i>Paranemertes californica</i>	ribbon worm					x
	<i>Rhamphogordius sanguineus</i>	ribbon worm					x
	<i>Tubulanus polymorphus</i>	ribbon worm					x
	<i>Tubulanus polymorphus</i>	ribbon worm					x
ANNELIDA							
Oligochaeta							
	<i>Oligochaeta, unid.</i>	Aquatic/terrestrial worms	x				x
	<i>Tubificidae, unid.</i>	Tubificid worm complex	x				x
ANNELIDA							
Marine segmented worms							
	<i>Amphictius scaphobranchiata</i>	Polychaete Worm	x				x
	<i>Apoprionospio pygmaea</i>	Polychaete Worm					x
Polychaeta							
	<i>Arenicola</i> sp. (mounds)	Polychaete Worm	x				x
	<i>Armandia bioculata</i>	Polychaete Worm	x				x
	<i>Armandia brevis</i>	Polychaete Worm	x				x
	<i>Axiotella rubrocincta</i>	Polychaete Worm	x				x
	<i>Boccardia proboscidea</i>	Polychaete Worm	x	x			x
	<i>Boccardiella hamata</i>	Polychaete Worm	x				x
	<i>Capitella capitata complex</i>	Polychaete Worm	x				x
	<i>Chaetopterus variopedatus</i>	Polychaete Worm	x				x

Scientific Name	Common Name	Eelgrass Beds and/or Soft Bottom Benthos	Hard Surfaces, Marina Pilings, Rip Rap, and Bulkhead	Wetland Channel Water Column	Open Water	All Areas
<i>Cirratulida, unid.</i>	Polychaete Worm		x			x
<i>Cirratulidae, unidentified</i>	Polychaete Worm	x	x			x
<i>Cirriformia sp.</i>	Polychaete Worm	x	x			x
<i>Cirriformia spirabrancha</i>	Polychaete Worm	x	x			x
<i>Cossura candida</i>	Polychaete Worm	x				x
<i>Cossura longicirrata</i>	Polychaete Worm	x				x
<i>Diopatra ornata</i>	Polychaete Worm	x				x
<i>Dipolydora socialis</i>	Polychaete Worm	x				x
<i>Dipolydora sp.</i>	Polychaete Worm	x				x
<i>Dorvillea (S.) annulata</i>	Polychaete Worm	x	x			x
<i>Dorvillea (Schistomeringos) annula</i>	Polychaete Worm	x	x			x
<i>Errano erecta</i>	Polychaete Worm	x				x
<i>Errano lagunae</i>	Polychaete Worm	x				x
<i>Eteone californica</i>	Polychaete Worm	x				x
<i>Eteone dilatata</i>	Polychaete Worm	x				x
<i>Euchone limnicola</i>	Polychaete Worm	x				x
<i>Eudistylia californica</i>	Polychaete Worm		x			x
<i>Eumida longicornuta</i>	Polychaete Worm	x	x			x
<i>Exogone sp. A</i>	Polychaete Worm	x	x			x
<i>Exogone uniformis</i>	Polychaete Worm		x			x
<i>Glycera americana</i>	Polychaete Worm	x				x
<i>Goniada littorea</i>	Polychaete Worm	x				x
<i>Halosydna brevisetosa</i>	Polychaete Worm	x	x			x
<i>Harmothoe imbricata</i>	Polychaete Worm	x	x			x
<i>Hydroides gracilis</i>	Polychaete Worm		x			x
<i>Leitoscoloplos pugettensis</i>	Polychaete Worm	x				x
<i>Lumbrineris minima</i>	Polychaete Worm					x
<i>Lumbrineridae, unidentified</i>	Polychaete Worm	x				x
<i>Lysaretidae</i>	Polychaete Worm	x				x
<i>Marphysa sanguinea</i>	Polychaete Worm	x				x
<i>Mediomastus ambiseta</i>	Polychaete Worm	x				x
<i>Mediomastus californiensis</i>	Polychaete Worm	x				x
<i>Naineris dendritica</i>	Polychaete Worm	x	x			x
<i>Neanthes arenaceodentata</i>	Polychaete Worm	x				x
<i>Neanthes succinea</i>	Polychaete Worm	x	x			x
<i>Neoamphitrite robusta</i>	Polychaete Worm	x				x
<i>Nephtys caecoides</i>	Polychaete Worm	x				x
<i>Nephtys cornuta</i>	Polychaete Worm	x				x
<i>Notomastus latericeus</i>	Polychaete Worm	x				x
<i>Notomastus magnus</i>	Polychaete Worm	x				x
<i>Notomastus tenuis</i>	Polychaete Worm	x				x
<i>Novafabricia brunnea</i>	Polychaete Worm	x				x
<i>Ophelidae</i>	Polychaete Worm	x				x
<i>Paraonidae</i>	Polychaete Worm	x				x
<i>Paraprionospio pinnata</i>	Polychaete Worm	x				x
<i>Pherusa sp.</i>	Polychaete Worm	x				x
<i>Pherusa sp.</i>	Polychaete Worm	x				x
<i>Pista alata</i>	Polychaete Worm	x				x
<i>Pista cristata</i>	Polychaete Worm	x				x
<i>Pista breviranchiata</i>	Polychaete Worm	x				x
<i>Platynereis bicanaliculata</i>	Polychaete Worm	x	x			x
<i>Polycirrus sp.</i>	Polychaete Worm	x				x
<i>Polydora cornuta</i>	Polychaete Worm	x				x
<i>Polydora ligni</i>	Polychaete Worm	x	x			x
<i>Polydora nuchalis</i>	Polychaete Worm	x				x
<i>Polydora sp.</i>	Polychaete Worm	x	x			x
<i>Polyopthalmus pictus</i>	Polychaete Worm	x				x
<i>Prionospio heterobranchia</i>	Polychaete Worm	x				x
<i>Prionospio lighti</i>	Polychaete Worm	x				x
<i>Pseudopolydora paucibranchiata</i>	Polychaete Worm	x				x
<i>Sabellidae, unidentified</i>	Polychaete Worm	x	x			x
<i>Schistomeringus longicornis</i>	Polychaete Worm	x				x
<i>Scoletopsis sp.</i>	Polychaete Worm	x				x
<i>Scoletoma erecta</i>	Polychaete Worm	x				x
<i>Scoletoma sp.</i>	Polychaete Worm	x				x
<i>Scoloplos acmeceps</i>	Polychaete Worm	x				x
<i>Serpulidae, unid.</i>	Polychaete Worm		x			x
<i>Sphaerosyllis californiensis</i>	Polychaete Worm	x	x			x
<i>Spiochaetopterus sp.</i>	Polychaete Worm	x				x
<i>Spio maculata</i>	Polychaete Worm	x				x
<i>Spionidae, unid.</i>	Polychaete Worm	x	x			x
<i>Spiophanes berkeleyorum</i>	Polychaete Worm	x				x
<i>Spiophanes duplex</i>	Polychaete Worm	x				x
<i>Spiophanes missionensis</i>	Polychaete Worm	x				x
<i>Spiophanes sp.</i>	Polychaete Worm	x				x
<i>Streptosio benedicti</i>	Polychaete Worm	x				x
<i>Streblostoma sp. E</i>	Polychaete Worm	x				x
<i>Terrellidae, unid</i>	Polychaete Worm	x	x			x
<i>Tharyx sp.</i>	Polychaete Worm	x				x
<i>Timarete luxuriosa</i>	Polychaete Worm	x				x
<i>Typosyllis ?n. sp.</i>	Polychaete Worm	x	x			x
ARTHROPODA						
Crustacea						
<i>Euphilomedes carcharodonta</i>	Ostracod	x				x
<i>Pasterope sp</i>	Ostracod	x				x
<i>Rudilemboides stenopropodus</i>	Ostracod	x				x
<i>Clausidium vancouverense</i>	Copepod	x				x
<i>Balanus amphitrite</i>	Barnacle		x			x
<i>Balanus crenatus</i>	Barnacle		x			x

Scientific Name	Common Name	Eelgrass Beds and/or Soft Bottom Benthos	Hard Surfaces, Marina Pilings, Rip Rap, and Bulkhead	Wetland Channel Water Column	Open Water	All Areas
<i>Balanus glandula</i>	Barnacle		x			x
<i>Chthamalus fissus/dalli</i>	Barnacle		x			x
<i>Nebalia pugettensis CMLX</i>	Nebalid	x				x
<i>Oxyurostylis pacifica</i>	Cumacean	x				x
<i>Edotea sp.</i>	Isopod	x	x			x
<i>Excirologa kincaidi</i>	Isopod	x				x
<i>Ligia occidentalis</i>	Isopod		x			x
<i>Paranthura elegans</i>	Isopod	x	x			x
<i>Leptocheilia dubia</i>	Tanaid	x	x			x
<i>Leptocheilia dubia</i>	Tanaid	x	x			x
<i>Synaptotanais notabilis</i>	Tanaid	x				x
<i>Zeuxo normani</i>	Tanaid	x	x			x
<i>Caprella californica</i>	Caprellid	x	x			x
<i>Mayerella banksia</i>	Caprellid	x	x			x
<i>Amphioe valida</i>	Amphipod	x	x			x
<i>Aoroides inermis</i>	Amphipod	x	x			x
<i>Elasmopus bampo</i>	Amphipod	x	x			x
<i>Elasmopus rapax</i>	Amphipod	x				x
<i>Grandidierella japonica</i>	Amphipod	x	x			x
<i>Hyale sp.</i>	Amphipod	x				x
<i>Monocorophium acherusicum</i>	Amphipod	x	x			x
<i>Monocorophium insidiosum</i>	Amphipod	x	x			x
<i>Pasasterope arnesi</i>	Amphipod	x				x
<i>Cancer jordani</i>	Cancer crab	x				x
<i>Hemigrapsus nudus</i>	Purple shore crab	x				x
<i>Hemigrapsus oregonensis</i>	Yellow shore crab	x				x
<i>Neotrypaea californiensis</i>	Red mud shrimp	x				x
<i>Pachygrapsus crassipes</i>	Lined shore crab	x				x
<i>Pachygrapsus crassipes</i>	Striped shore crab		x			x
<i>Podochelia sp.</i>	Decorator crab	x				x
<i>Pyromaia tuberculata</i>	Decorator crab	x				x
<i>Upogebia maeginitieorum</i>	Ghost shrimp	x				x
ARTHROPODA						
Insecta	<i>Dipteran larva</i>	Insect	x			x
MOLLUSCA						
Cephalopoda	<i>Octopus bimaculoides</i>	Two-spotted octopus	x	x		x
Gastropoda- Nudibranchia		Nudibranchs				x
	<i>Dialula sandiegensis</i>	Ringed nudibranch	x			x
	<i>Doriopsilla albopunctata</i>	White-spotted dorid nudibranch	x	x		x
	<i>Flabellina iodinea</i>	Spanish shawl nudibranch	x	x		x
	<i>Hermisenda crassicornis</i>	Horned aeolid	x	x		x
	<i>Janolus (Antiopella) barborensis</i>	Cockscomb nudibranch	x	x		x
	<i>Peltdoris Anisodoris nobilis</i>	Lemon nudibranch	x	x		x
Gastropoda-Opisthobranchia						
	<i>Aplysia californica</i>	Brown sea hare	x	x		x
	<i>Aplysia vaccaria</i>	Black sea hare	x	x		x
	<i>Navanax inermis</i>	Navanax	x	x		x
	<i>Phyllaplysia taylora</i>	Taylor's sea hare	x			x
Gastropoda (All Shelled Species)						
	<i>Acanthina spirata</i>	Angled unicorn snail		x		x
	<i>Acteocina carinata</i>	Paper Bubble Shell	x			x
	<i>Acteocina inculta</i>	Rude Barrel-Bubble	x			x
	<i>Alia carinata</i>	Carinate snail	x			x
	<i>Assiminea californica</i>	Salt Marsh Snail	x			x
	<i>Bulla gouldiana</i>	Gould's bubble snail	x			x
	<i>Caecum crebricinctum</i>	Caecum	x			x
	<i>Cerithidea californica</i>	California horn snail	x			x
	<i>Conus californicus</i>	California cone snail	x	x		x
	<i>Crepidula dorsata</i>	Half wrinkled slipper limpet		x		x
	<i>Crepidula onyx</i>	Onyx slipper limpet		x		x
	<i>Crucibulum spinosum</i>	Spiny cup and saucer limpet		x		x
	<i>Haminaea vesicula</i>	bubble snail	x			x
	<i>Kelletia kelletii</i>	Kellet's whelk	x	x		x
	<i>Lithopoma undosa</i>	Wavy top snail		x		x
	<i>Lottia digitalis</i>	Ringered limpet		x		x
	<i>Lottia limatula</i>	File limpet		x		x
	<i>Lottia scabra</i>	Rough limpet		x		x
	<i>Megathura crenulata</i>	Giant keyhole limpet		x		x
	<i>Nuttalina sp.</i>	chiton		x		x
	<i>Mopalia muscosa</i>	Mossy mopalia		x		x
	<i>Nassarius mendicus</i>	Lean nassa	x			x
	<i>Nassarius tegula</i>	Mud nassa	x			x
	<i>Pteropurpura festiva</i>	Festive murex	x	x		x
	<i>Serpulorbis squamigerus</i>	Calcareous tube snail		x		x
	<i>Tegula eiseni</i>	Banded tegula		x		x
MOLLUSCA						
Bivalva						
	<i>Argopecten aequivalvatus</i>	Speckled scallop	x			x
	<i>Argopecten ventricosus</i>	Catarina scallop	x	x		x
	<i>Chione californiensis</i>	California chione	x			x
	<i>Chione flucitifraga</i>	Smooth chione	x			x
	<i>Chione undatella</i>	Wavy chione	x			x
	<i>Cooperella subdiaphana</i>	Shiny Cooper clam	x			x
	<i>Crassostrea gigas</i>	Pacific oysters		x		x
	<i>Crepidula onyx</i>	California slipper shell		x		x
	<i>Cryptomya californica</i>	California smooth shell clam	x			x
	<i>Cumingia californica</i>	California semele	x			x

Scientific Name	Common Name	Eelgrass Beds and/or Soft Bottom Benthos	Hard Surfaces, Marina Pilings, Rip Rap, and Bulkhead	Wetland Channel Water Column	Open Water	All Areas
<i>Florimetus obesa</i>	Tellin clam	x				x
<i>Gari californica</i>	California sunset clam	x				x
<i>Laevicardium substriatum</i>	Egg cockle	x				x
<i>Psammotreta (Leporimetus) obesa</i>	California fat tellin	x				x
<i>Leptopecten latauratus</i>	Kelp scallop	x				x
<i>Lysonia californica</i>	California lysonia clam	x				x
<i>Macoma nasuta</i>	Bent-nose macoma	x				x
<i>Macrotoma californica</i>	California surf clam	x				x
<i>Mercenaria mercenaria</i>	Quahog clam	x				x
<i>Modiolus rectus</i>	Horse mussel		x			x
<i>Musculista senhousia</i>	Asian mussel	x				x
<i>Mysella sp.</i>	bivalve	x				x
<i>Mytilus edulis</i>	Bay mussel		x			x
<i>Mytilus galloprovincialis</i>	Mediterranean mussel		x			x
<i>Ostrea lurida</i>	Native oyster	x	x			x
<i>Panope generosa</i>	Geoduck	x				x
<i>Protothaca lacinata</i>	Rough-sided littleneck	x				x
<i>Protothaca staminea</i>	Japanese littleneck	x				x
<i>Protothaca staminea</i>	Common littleneck	x				x
<i>Pseudochama exogyra</i>	Reverse chama		x			x
<i>Saxidomus nuttalli</i>	Washington clam	x				x
<i>Solen rosaceus</i>	Rosy razor clam	x				x
<i>Tagelus californianus</i>	California jackknife	x				x
<i>Tellina carpenteri</i>	Carpenter's tellin	x				x
<i>Tellina modesta</i>	Modest tellin	x				x
<i>Tagelus subteres</i>	Jackknife	x				x
<i>Theora fragilis</i>	Fragile semele	x				x
<i>Theora lubrica</i>	Asian semele	x				x
<i>Trachycardium quadragenarium</i>	Spiny cockle	x				x
<i>Venerupis philippinarum</i>	Manila Clam	x				x
BRYOZOA (ECTOPROCTA)						
<i>Bugula spp.</i>	Bushy bryozoan	x	x			x
<i>Membranipora membranacea</i>	Lacy crust bryozoan	x	x			x
<i>Thalamoporella californica</i>	Bryozoan	x	x			x
<i>Zoobotryon verticillatum</i>	Spagetti ectoproct	x	x			x
ECHINODERMATA						
<i>Amphiodia psara</i>	Brittle star	x				x
<i>Ophiactis simplex</i>	Brittle star	x				x
<i>Pisaster ochraceus</i>	Ochre sea star		x			x
<i>Asterina miniata</i>	Bat star		x			x
<i>Parastichopus parvimensis</i>	Sea cucumber	x	x			x
<i>Leptosynapta sp.</i>	Sea cucumber	x				x
<i>Strongylocentrotus purpuratus</i>	Purple sea urchin		x			x
UROCHORDATA						
Tunicata						
<i>Botryllus/Botrylloides complex</i>	Colonial tunicate		x			x
Asciacea, unid.	Solitary tunicate		x			x
<i>Ciona intestinalis</i>	Solitary tunicate		x			x
<i>Styela montereyensis</i>	Solitary tunicate		x			x
<i>Styela clava</i>	Solitary tunicate		x			x
<i>Styela plicata</i>	Solitary tunicate		x			x
CHORDATA						
Chondrichthyes						
<i>Mustelus californicus</i>	Gray Smoothhound			x	x	x
<i>Myliobatis californicus</i>	Bat Ray	x		x	x	x
<i>Raja clavata</i>	Thornback Ray	x				x
<i>Rhinobatus productus</i>	Shovelnose Guitarfish	x				x
<i>Torpedo californica</i>	Electric Ray	x				x
<i>Urobatis (Urolophus) halleri</i>	Round sting ray	x				x
Osteichthyes						
<i>Albula vulpes</i>	Bonefish			x	x	x
<i>Sardinops sagax</i>	Pacific sardine				x	x
<i>Anchoa delicatissima</i>	slough anchovy			x	x	x
<i>Engraulis mordax</i>	Northern anchovy				x	x
<i>Gobiesox rhesodon</i>	California clingfish	x	x			x
<i>Stongylura exilis</i>	California needlefish			x	x	x
<i>Fundulus parvipinnis</i>	California killifish			x	x	x
<i>Atherinops affinis</i>	Topsmelt	x		x	x	x
<i>Cosmocampus arctus</i>	Snubnose pipefish	x	x			x
<i>Syngnathus eucrochus</i>	Chocolate pipefish	x	x			x
<i>Syngnathus leptorhynchus</i>	Bay pipefish	x	x			x
<i>Scorpaena guttata</i>	California scorpionfish			x		x
<i>Paralabrax clathratus</i>	Kelp bass	x	x			x
<i>Paralabrax maculatofasciatus</i>	Spotted sand bass	x	x			x
<i>Paralabrax nebulifer</i>	Barred sand bass	x	x			x
<i>Leptocottus armatus</i>	Pacific staghorn sculpin	x	x			x
<i>Anisotremus davidsonii</i>	Sargo				x	x
<i>Xenistius californiensis</i>	Salema				x	x
<i>Atractoscion nobilis</i>	White seabass				x	x
<i>Cheilotrema saturnum</i>	Black croaker				x	x
<i>Genyonemus lineatus</i>	White croaker				x	x
<i>Menticirrhus undulatus</i>	California corbina				x	x
<i>Seriphus politus</i>	Queenfish				x	x
<i>Umbrina roncadore</i>	Yellowfin Croaker				x	x
<i>Tilapia mossambica</i>	Mozambique tilapia			x	x	x
<i>Girella nigricans</i>	Opaleye perch		x		x	x
<i>Brachyistius frenatus</i>	Kelp Perch		x		x	x

Scientific Name	Common Name	Eelgrass Beds and/or Soft Bottom Benthos	Hard Surfaces, Marina Pilings, Rip Rap, and Bulkhead	Wetland Channel Water Column	Open Water	All Areas
<i>Cymatogaster aggregata</i>	Shiner perch	x	x		x	x
<i>Damalichthys vacca</i>	Pile perch		x	x	x	x
<i>Embiotoca jacksoni</i>	Black perch	x	x		x	x
<i>Micrometrus minimus</i>	Dwarf surfperch				x	x
<i>Phanerodon furcatus</i>	White seaperch	x			x	x
<i>Rhacochilus vacca</i>	Pile perch		x		x	x
<i>Mugil cephalus</i>	Striped mullet			x	x	x
<i>Sphyaena argentea</i>	Pacific Barracuda				x	x
<i>Halichoeres semicinctus</i>	Rock wrasse		x			x
<i>Oxyjulis californica</i>	Senorita				x	x
<i>Hypsoblennius gentilis</i>	Bay blenny	x				x
<i>Hypsoblennius gilberti</i>	Rockpool blenny		x			x
<i>Hypsoblennius jenkinsi</i>	Mussel blenny		x			x
<i>Neoclinus blanchardi?</i>	Saracastic fringehead	x	x			x
<i>Neoclinus sp.</i>	Fringehead, unidentified	x	x			x
<i>Gibbonsia elegans</i>	Spotted kelpfish		x			x
<i>Heterostichus rostratus</i>	Giant kelpfish	x	x			x
<i>Paraclinus integripinnis</i>	Reef finspot		x			x
<i>Acanthogobius flavimanus</i>	Yellowfin goby	x				x
<i>Clevelandia ios</i>	Arrow goby	x				x
<i>Gillichthys mirabilis</i>	Longjaw mudsucker	x				x
<i>Ilypnus gilberti</i>	Cheekspot goby	x				x
<i>Quietula y-cauda</i>	Shadow goby	x				x
<i>Hypsopsetta guttulata</i>	Diamond turbot	x				x
<i>Symphurus atricauda</i>	California tonguefish	x				x
<i>Paralichthys californicus</i>	California halibut	x				x
<i>Pleuronichthys ritteri</i>	Spotted turbot	x				x
<i>Citharichthys stigmaeus</i>	Speckled sand dab	x				x
<i>Pleuronichthys verticalis</i>	Hornyhead turbot	x				x
Note: The following species are occasionally observed in the Bay, but not residents						
REPTILIA						
Testudines/Chelonidae	<i>Chelonia mydas</i>	Green sea turtle			x	x
MAMMALIA						
Carnivora/Otariidae	<i>Zalophus californianus</i>	California sea lion		x	x	x
Carnivora/Phocidae	<i>Phoca vitulina</i>	Harbor seal		x	x	x
Cetacea/Delphinidae	<i>Tursiops truncatus</i>	Bottlenose dolphin		x	x	x
Cetacea/Eschrichtiidae	<i>Eshrichtius robustus</i>	California gray whale (note: rare wanderer into Alamitos Bay)			x	x
				Total Taxa		348

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Plant and Animal Species List Compendium

Source: Tidal Influence (2012)

Animal Species*

Group	Genus species	Common Name
Invertebrates		
	Crustaceans	
	Crawfish	<i>Procalmbarus sp.</i>
	Purple Shore Crah	<i>Hemigrapsus nudus</i>
	Red Ghost Shrimp	<i>Callinassa californiensis</i>
	Striped Shore Crab	<i>Pachygrapsus crassipes</i>
	Yellow Shore Crab	<i>Hemigrapsus oregonensis</i>
	Gastropods	
	California Horn Snail	<i>Cerithidea californica</i>
	Cloudy Bubble Snail	<i>Bulla gouldiana</i>
	Green Paper Bubble Snail	<i>Haminoea virescens</i>
	Sea Hare	<i>Aplysia californica</i>
	Striped Sea Hare	<i>Navanax inermis</i>
	Bivalves	
	Bay Mussel	<i>Mytilus edulis</i>
	California Jackknife Clam	<i>Tagelus californianus</i>
	Common Littleneck Clam	<i>Protothaca staminea</i>
	Olympia Oyster	<i>Ostrea lurida</i>
	Ribbed Horse Mussel	<i>Modiolus demissus</i>
	Cephalapods	
	Two-spot Octopus	<i>Octopus bimaculoides</i>
	Insects and Arachnids	
	Acree Moth	<i>Estigmene acree</i>
	Green Lynx Spider	<i>Peucetia viridans</i>
	Monarch Butterfly	<i>Danaus plexippus</i>
	Mudflat Tiger Beetle	<i>Cicindela trifasciata sigmoidea</i>
	Pygmy Blue Butterfly	<i>Brephidium exilis</i>
	Rove Beetle	<i>Bledius ssp.</i>
	Saldid Bug	<i>Pentacora signoreti</i>
	Salt Marsh Tiger Beetle	<i>Cicindela hemorrhagica hemorrhagica</i>
	Salt Marsh Wandering Skipper	<i>Panoquina errans</i>
	Sand Wasp	<i>Bembix comata</i>
	Tarantula Hawk	<i>Pepsis ssp.</i>
Marine Fishes		
	Arrow Goby	<i>Clevelandia ios</i>
	Bay Pipe Fish	<i>Syngnathus griseolineatus</i>
	California Killifish	<i>Fundulus parvipinnis</i>
	Round Sting Ray	<i>Urobatis haleri</i>
	Staghorn Sculpin	<i>Leptocottus armatus</i>
	Stripped Mullet	<i>Mugil cephalus</i>
	Topsmelt	<i>Atherinops affinis</i>
Amphibians		
	Baja California Treefrog	<i>Pseudacris hypochondriaca</i>
Reptiles		
	Gopher Snake	<i>Pituophis melanoleucus</i>
	Pacific Green Sea Turtle	<i>Chelonia midas</i>
	Red Diamond Rattlesnake	<i>Crotalus ruber</i>
	Side-blotched Lizard	<i>Uta stansburiana</i>

Animal Species*

Group	Genus species	Common Name
Reptiles	Southern Alligator Lizard	<i>Gerrhonotus multicarinatus</i>
	Western Fence Lizard	<i>Sceloporus occidentalis</i>
Birds	Allen's Hummingbird	<i>Selasphorus sasin</i>
	American Avocet	<i>Recurvirostra americana</i>
	American Bittern	<i>Botaurus lentiginosus</i>
	American Coot	<i>Fulica americana</i>
	American Crow	<i>Corvus brachyrhynchos</i>
	American Goldfinch	<i>Carduelis tristis</i>
	American Kestrel	<i>Falco sparverius</i>
	American pipit	<i>Anthus rubescens</i>
	American White Pelican	<i>Pelecanus erythrorhynchos</i>
	American Widgeon	<i>Anas americana</i>
	Anna's Hummingbird	<i>Calypte anna</i>
	Ash-thoated Flycatcher	<i>Myiarchus cinerascens</i>
	Barn Owl	<i>Tyto alba</i>
	Barn Swallow	<i>Hirundo rustica</i>
	Belding's Savannah Sparrow	<i>Passerculus sandwichensis beldingi</i>
	Belted Kingfisher	<i>Ceryle alcyon</i>
	Black Pheobe	<i>Sayornis nigricans</i>
	Black Skimmer	<i>Rynchops niger</i>
	Black-bellied Plover	<i>Pluvialis squatarola</i>
	Black-chinned Humminbird	<i>Archilochus alexandri</i>
	Black-crowned Night-Heron	<i>Nycticorax nycticorax</i>
	Black-headed Grosbeak	<i>Pheucticus melanocephalus</i>
	Black-necked Stilt	<i>Himantopus mexicanus</i>
	Blue-gray Gnatcatcher	<i>Poliophtila caerulea</i>
	Blue-winged Teal	<i>Anas discors</i>
	Bonaparte's Gull	<i>Larus philadelphia</i>
	Brant	<i>Branta bernicla</i>
	Bufflehead	<i>Bucephala albeola</i>
	Bullock's Oriole	<i>Icterus bullockii</i>
	Burrowing Owl	<i>Athene cunicularia</i>
	California Brown Pelican	<i>Pelecanus occidentalis</i>
	California Gull	<i>Larus californicus</i>
	California Least Tern	<i>Sternula antillarum brownii</i>
	California Towhee	<i>Pipilo crissalis</i>
Canada Geese	<i>Branta canadensis</i>	
Caspian Tern	<i>Hydroprogne caspia</i>	
Cassin's Kingbird	<i>Tyrannus vociferans</i>	
Cedar Waxwing	<i>Bombycilla cedrorum</i>	
Cinnamon Teal	<i>Anas cyanoptera</i>	
Clark's Grebe	<i>Aechmophus clarkii</i>	
Cliff Swallow	<i>Petrochelidon pyrrhonota</i>	
Common Loon	<i>Gavia immer</i>	
Common Poorwill	<i>Phalaenoptilus nuttallii</i>	

Animal Species*

Group	Genus species	Common Name
Birds		
	Common Yellowthroat	<i>Geothlypis trichas</i>
	Cooper's Hawk	<i>Accipiter cooperii</i>
	Double-crested Cormorant	<i>Phalacrocorax auritus</i>
	Downy Woodpecker	<i>Picoides pubescens</i>
	Eared Grebe	<i>Podiceps nigricollis</i>
	Elegant Tern	<i>Thalasseus elegans</i>
	Forster's Tern	<i>Sterna forsteri</i>
	Gadwall	<i>Anas strepera</i>
	Great Blue Heron	<i>Ardea herodias</i>
	Great Egret	<i>Ardea alba</i>
	Great Horned Owl	<i>Bubo virginianus</i>
	Greater Scaup	<i>Aythya marila</i>
	Greater Yellowlegs	<i>Tringa melanoleuca</i>
	Great-tailed Grackle	<i>Quiscalus mexicanus</i>
	Green Heron	<i>Butorides virescens</i>
	Green-Winged Teal	<i>Anas crecca</i>
	Heermann's Gull	<i>Larus heermanni</i>
	Hermit Thrush	<i>Catharus guttatus</i>
	Hooded Oriole	<i>Icterus cucullatus</i>
	Horned Grebe	<i>Podiceps auritus</i>
	House Finch	<i>Carpodacus mexicanus</i>
	House Wren	<i>Troglodytes aedon</i>
	Killdeer	<i>Charadrius vociferous</i>
	Least Sandpiper	<i>Calidris minutilla</i>
	Lesser Scaup	<i>Aythya affinis</i>
	Light-footed Clapper Rail	<i>Rallus longirostris levipes</i>
	Loggerhead Shrike	<i>Lanius ludovicianus</i>
	Long-billed Curlew	<i>Numenius americanus</i>
	Long-billed Dowitcher	<i>Limnodromus scolopaceus</i>
	Mallard	<i>Anas platyrhynchos</i>
	Marbled Godwit	<i>Limosa fedosa</i>
	Marsh Wren	<i>Cistothorus palustris</i>
	Merlin	<i>Falco columbarius</i>
	Mourning Dove	<i>Zenaida macroura</i>
	Northern Flicker	<i>Colaptes auratus</i>
	Northern Harrier	<i>Circus cyaneus</i>
	Northern Mockingbird	<i>Mimus polyglottos</i>
	Northern Pintail	<i>Anas acuta</i>
	Northern Shoveler	<i>Anas clypeata</i>
	Orange Bishop	<i>Euplectes franciscanus</i>
	Osprey	<i>Pandion haliaetus</i>
	Pacific-slope Flycatcher	<i>Empidonax difficilis</i>
	Pacific Loon	<i>Gavia pacifica</i>
	Peregrine Falcon	<i>Falco peregrinus</i>
	Pied Billed Grebe	<i>Podilymbus podiceps</i>
	Red-breasted Merganser	<i>Mergus serrator</i>

Animal Species*

Group	Genus species	Common Name
Birds		
	Reddish Egret	<i>Egretta refescens</i>
	Red-necked Phalarope	<i>Phalaropus lobatus</i>
	Red-shouldered Hawk	<i>Buteo lineatus</i>
	Red-tailed Hawk	<i>Buteo jamaicensis</i>
	Red-winged Blackbird	<i>Agelaius phoeniceus</i>
	Ring-billed Gull	<i>Larus delawarensis</i>
	Ruby-crowned Kinglet	<i>Regulus calendula</i>
	Ruddy Duck	<i>Oxyura jamaicensis</i>
	Say's Pheobe	<i>Sayornis saya</i>
	Semipalmated Plover	<i>Charadrius semipalmatus</i>
	Short-billed Dowitcher	<i>Limnodromus griseus</i>
	Short-eared Owl	<i>Asio flammeus</i>
	Snowy Egret	<i>Egretta thula</i>
	Sora	<i>Porzana carolina</i>
	Spotted Sandpiper	<i>Actitis macularia</i>
	Surf Scoter	<i>Melanitta perspicillata</i>
	Turkey Vulture	<i>Cathartes aura</i>
	Violet-green Swallow	<i>Tachycineta thalassina</i>
	Western Bluebird	<i>Sialia mexicana</i>
	Western Grebe	<i>Aechmorphus occidentalis</i>
	Western Gull	<i>Larus occidentalis</i>
	Western Kingbird	<i>Tyrannus verticalis</i>
	Western Meadowlark	<i>Sturnella neglecta</i>
	Western Sandpiper	<i>Calidris mauri</i>
	Western Scrubjay	<i>Aphelocoma californica</i>
	Whimbrel	<i>Numenius phaeopus</i>
	White Tailed Kite	<i>Elanus leucurus</i>
	White-crowned Sparrow	<i>Zonotrichia leucophrys</i>
	White-faced Ibis	<i>Plegadis chihi</i>
	Willet	<i>Tringa semipalmatus</i>
	Wilson's Phalarope	<i>Phalaropus tricolor</i>
	Wilson's Snipe	<i>Gallinago delicata</i>
	Yellow-breasted Chat	<i>Icteria virens</i>
	Yellow-rumped Warbler	<i>Dendroica coronata</i>
Mammals		
	Coyote	<i>Canis latrans</i>
	American Opossum	<i>Didelphis virginiana</i>
	Audubon's Cottontail Rabbit	<i>Sylvilagus audubonii</i>
	Botta's Pocket Gopher	<i>Thomomys bottae</i>
	California Ground Squirrel	<i>Otospermophilus beecheyii</i>
	California Sea Lion	<i>Zalophus californianus</i>
	Harbor Seal	<i>Phoca vitulina</i>
	House Mouse	<i>Mus musculus</i>
	Human	<i>Homo sapien sapien</i>
	Raccoon	<i>Procyon lotor</i>
	Western Harvest Mouse	<i>Reithrodontomys megalotis limicola</i>

*Data collected by Tidal Influence and LCWA Stewardship Program

Native Plant Species *

Habitat	Genus species	Common Name
Marine		
	<i>Zostera marina</i>	Common Eelgrass
Lower Salt Marsh		
	<i>Spartina foliosa</i>	Pacific Cordgrass
Mid Salt Marsh		
	<i>Batis maritima</i>	Saltwort
	<i>Cuscuta salina</i>	Salt Marsh Dodder
	<i>Frankenia salina</i>	Alkali Heath
	<i>Jaumea carnosa</i>	Fleshy Jaumea
	<i>Limonium californicum</i>	Sea Lavender
	<i>Salicornia bigelovii</i>	Annual Pickleweed
	<i>Salicornia pacifica</i>	Common Pickleweed
	<i>Suaeda esteroa</i>	Estuary Sea-blite
	<i>Suaeda calceoliformis</i>	Horned Sea-blite
	<i>Triglochin concinna</i>	Arrow-grass
Upper Salt Marsh		
	<i>Arthrocnemum subterminale</i>	Glasswort
	<i>Atriplex watsonii</i>	Watson's Salt Bush
	<i>Cressa truxillensis</i>	Alkali Weed
	<i>Distichlis spicata</i>	Salt Grass
	<i>Distichlis littoralis</i>	Shore Grass
	<i>Spergularia marina</i>	Sand Spurrey
Transition Zone		
	<i>Amblyopappus pusillus</i>	Pineapple Weed
	<i>Aster subulatus</i>	Salt Marsh Aster
	<i>Centromadia parryi ssp. australis</i>	Southern Tarplant
	<i>Isocoma menziesii</i>	Coast Goldenbush
	<i>Lasthenia glabrata ssp. coulteri</i>	Coulter's Goldfields
	<i>Lycium californicum</i>	California Boxthorn
	<i>Pluchea odorata var. odorata</i>	Salt Marsh Fleabane
	<i>Suaeda taxifolia</i>	Woolly Sea-blite
Freshwater Wetlands		
	<i>Anemopsis californica</i>	Yerba Mansa
	<i>Azolla filiculoides</i>	Pacific Mosquito Fern
	<i>Cyperus eragrostis</i>	Tall Flatsedge
	<i>Eleocharis macrostachya</i>	Spike Rush
	<i>Juncus acutus ssp. leopoldii</i>	Spiny Rush
	<i>Juncus bufonius</i>	Toad Rush
	<i>Juncus mexicanus</i>	Mexican Rush
	<i>Elymus triticoides</i>	Alkali Rye

Native Plant Species *

Habitat	Genus species	Common Name
Freshwater Wetlands	<i>Salix gooddingii</i>	Black Willow
	<i>Salix laevigata</i>	Red Willow
	<i>Salix lasiolepis</i>	Arroyo Willow
	<i>Schoenoplectus americanus</i>	Chairmaker's Bulrush
	<i>Schoenoplectus californicus</i>	California bulrush
	<i>Bolboschoenus robustus</i>	Salt Marsh Bulrush
	<i>Typha domingensis</i>	Southern Cattail
	<i>Typha latifolia</i>	Broadleaf Cattail
	<i>Xanthium strumarium</i>	Cocklebur
Upland	<i>Ambrosia acanthicarpa</i>	Annual Burweed
	<i>Ambrosia psilostachya</i>	Western Ragweed
	<i>Artemisia californica</i>	California Sagebrush
	<i>Atriplex lentiformis</i>	Quail Bush
	<i>Baccharis salicina</i>	Emory's Baccharis
	<i>Baccharis pilularis</i>	Coyote Brush
	<i>Baccharis salicifolia</i>	Mulefat
	<i>Baccharis sarthoides</i>	Broom Baccharis
	<i>Camissoniopsis lewisii</i>	Lewis' Primrose
	<i>Centromadia pungens</i>	Common Tarweed
	<i>Peritoma arborea</i>	Bladderpod
	<i>Galium angustifolium</i>	Bedstraw
	<i>Heliotropium curassavicum var. oculatum</i>	Seaside Heliotrope
	<i>Laennecia coulteri</i>	Coulter's Horsetail
	<i>Acmispon glaber</i>	Deerweed
	<i>Malosma laurina</i>	Laurel Sumac
	<i>Malvella leprosa</i>	Alkali Mallow
	<i>Solanum americanum</i>	White Nightshade
<i>Solanum douglasii</i>	Douglas Nightshade	
<i>Stephanomeria virgata</i>	Twiggy Wreath Plant	

*Data collected by Tidal Influence and AECOM, 2011

Non-Native Plant Species*

<i>Genus species</i>	Common Name
<i>Acacia pycnantha</i>	Golden Wattle
<i>Atriplex semibaccata</i>	Australian Salt Bush
<i>Bassia hyssopifolia</i>	Five-hook Bassia
<i>Brassica nigra</i>	Black Mustard
<i>Bromus diandrus</i>	Ripgut Brome
<i>Bromus madritensis</i>	Red Brome
<i>Capsella bursa-pastoris</i>	Sheperd's Purse
<i>Carpobrotus edulis</i>	Hottentot-fig
<i>Centaurea melitensis</i>	Tocalote
<i>Chenopodium album</i>	Lamb's Quarters
<i>Erigeron canadensis</i>	Canadien Horseweed
<i>Cortaderia selloana</i>	Pampas Grass
<i>Cotula coronopifolia</i>	Brass Buttons
<i>Cynodon dactylon</i>	Bermuda Grass
<i>Erodium cicutarium</i>	Common Stork's Bill
<i>Eucalyptus ficifolia</i>	Red Flowering Gum
<i>Eucalyptus globulus</i>	Blue Gum
<i>Pseudognaphallium luteoalbum</i>	Everlasting Cud Weed
<i>Hirschfeldia incana</i>	Shortpod Mustard
<i>Hordeum vulgare</i>	Common Barely
<i>Lactuca serriola</i>	Prickly Lettuce
<i>Limonium ramosissimum</i>	Algerian Sea-lavender
<i>Festuca perennis</i>	Italian Ryegrass
<i>Malephora crocea</i>	Coppery Iceplant
<i>Malva parviflora</i>	Cheeseweed
<i>Melilotus albus</i>	Honey Clover
<i>Melilotus indicus</i>	Sweet Clover
<i>Mesembryanthemum nodiflorum</i>	Slender-leaved Ice Plant
<i>Mesembryanthemum crystallinum</i>	Crystalline Ice Plant
<i>Myoporum laetum</i>	Ngao Tree
<i>Nicotiana glauca</i>	Tobacco Tree
<i>Olea europaea</i>	Olive Tree
<i>Parapholis incurva</i>	Sickle Grass
<i>Pennisetum setaceum</i>	Purple Fountain Grass
<i>Phoenix canariensis</i>	Canary Island Palm
<i>Helminthoteca echioides</i>	Bristly Ox Tongue
<i>Polypogon monspeliensis</i>	Rabbit's Foot Grass
<i>Raphanus sativus</i>	Wild Radish
<i>Ricinus communis</i>	Castor Bean

Non-Native Plant Species*

<i>Genus species</i>	Common Name
<i>Salsola australis</i>	Russian Thistle
<i>Schinus terebinthifolius</i>	Brazilian Pepper Tree
<i>Silybum marianum</i>	Milk Thistle
<i>Sonchus oleraceus</i>	Sow Thistle
<i>Ulmus parvifolia</i>	Chinese Elm
<i>Urtica urens</i>	Annual Stinging Nettle
<i>Washingtonia robusta</i>	Mexican Fan Palm

*Data collected by Tidal Influence and AECOM, 2011

Biological Resources Assessment and Wetland Delineation for the Southeast Area Specific Plan

Technical Memorandum Supplement

This technical memorandum has been prepared to supplement the “Biological Resources Assessment and Wetland Delineation” dated January 2016 for the Southeast Area Specific Plan (“Project” or “SEASP”). Specifically, this analysis supplements Section 5, Impacts of the report and is intended to support the CEQA documentation for this project.

Environmental Impacts

- a) Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?; and**
- b) Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?**

DIRECT IMPACTS

As shown in Tables 4.9-1 and 4.9-2, the Project area contains habitat for 21 special status plant species—4 of which are federal and/or state-listed as endangered, threatened, or candidate species—and 26 special status wildlife—11 of which are federal and/or state-listed as endangered, threatened, or candidate species. Additionally, several other plant and animal species have been observed through field survey of the Project area.

Buildout of the proposed Specific Plan would allow for the development of an additional 5,439 dwelling units and 573,576 square feet of nonresidential building space in the Project area compared to existing conditions. The Specific Plan would establish the necessary plans, development standards, regulations, infrastructure requirements, design guidelines, and implementation programs that subsequent project-related development activities would follow. No new site specific development is planned at this time; however, the Specific Plan allows new development to be concentrated along the Pacific Coast Highway commercial corridor within the proposed Mixed Use Community Core and Mixed Use Marina land uses. These areas of change are entirely developed and do not include native habitat or other suitable habitat for sensitive species, with the exception of natural water quality features and ornamental trees.

No land use changes or additional development capacity are planned for a majority of the Project area, including the residential neighborhoods north of the Los Cerritos Channel. New industrial uses would be allowed in the proposed Industrial land use in the northeast corner of the Project area consistent with the City's General Industrial land use (LBMC Chapter 21.33) except as outlined in SEASP Section 4.3.7. However, the area proposed Industrial north of Westminster Boulevard is currently developed and infill development at this location would not impact sensitive species or natural communities. A portion of the proposed Industrial land use designation at the northeast corner of Pacific Coast Highway and the San Gabriel River consists of a vacant parcel (described above under Lyons "Pumpkin Patch"). There is approximately 0.41 acre of wetland and future development on this parcel is expected to consist of oil production and office space. Development on this parcel could result in removal of native vegetation that could support sensitive species.

The Project does not propose development or changes in permitted land uses in Sims' Pond or Jack Dunster Marine Biological Preserve. These areas would be designated Open Space and Recreation under the proposed Specific Plan and are expected to remain in their current uses. Uses in the Open Space and Recreation land use designation shall comply with provisions of LBMC Chapter 21.35, Park District, and any conditions that were included as part of each project's original entitlement approval. Wetlands in these areas may be limited to the public in an effort to preserve the integrity its resource value.

The San Gabriel River, Los Cerritos Channel, and Marine Stadium are designated Channel/Marina/Waterway in the Specific Plan. Eelgrass, regulated by NMFS, is known to occur in the Jack Dunster Marine Biological Preserve and Los Cerritos Channel and likely to occur in the San Gabriel River. The proposed Specific Plan does not propose development, dredging, or modification within tidelands or rivers that would house eelgrass. Therefore, direct impacts to HAPC (eelgrass) or other EFH would not occur.

Special Considerations - Los Cerritos Wetlands Complex (LCWC)

The entire portion of the LCWC within the Project boundaries would be designated Coastal Habitat, Wetlands & Recreation, except for two areas: the Lyons Pumpkin Patch, and the Orange County parcel, a 5-acre detention basin, including about 2.7 acres of wetlands. Future development with respect to the Lyons Pumpkin Patch is described above. No development is proposed on the Orange County parcel.

The intent of the Specific Plan is to preserve, restore, and enhance sensitive biological habitat. Buildout would result in a net increase in native vegetation and wetland habitats. This effort is being ensured through a number of project design features. For example, jurisdictional delineations are required for any new development activity in the Coastal Habitat; Wetlands & Recreation land use (see Section 5.8 of SEASP). Uses would be reviewed and designed to avoid direct impacts to wetlands and other sensitive habitats by placing development within existing roads, buildings, or ruderal upland area. The City anticipates that the interpretive center could be housed in the Bixby Ranch Field Office (6422 East 2nd Street) in the ruderal, upland habitat area of the LCWC. Additionally, trails, if allowed, would be developed on upland or unvegetated areas, thus minimizing direct impacts to native vegetation. The

Specific Plan also establishes a Wetland Monitoring Fund (SEASP Section 5.9), which will provide revenue in perpetuity for the long-term management of the wetlands, thereby protecting native vegetation and sensitive habitats.

No site specific development project is being proposed in the Coastal Habitat, Wetlands & Recreation area as part of the Specific Plan. However, the Coastal Habitat, Wetlands & Recreation land use designation lies entirely within the coastal zone and provides for coastal restoration, access, and visitor-serving recreation—ancillary office space, boat storage, trails, and an interpretive center. These uses are intended to be complementary to the surrounding habitat and consistent with the Coastal Act. While these uses are intended to be developed in disturbed areas or ruderal uplands consisting of bare land or nonnative vegetation, development of these uses could impact sensitive habitat or result in the loss of native vegetation. This requires analysis as well as agency approval and appropriate mitigation, if necessary.

For example, implementation of the Specific Plan could allow development of dry-stack boat storage on the Alamos Bay Partnership property—about six acres in the LCWC at the southeast corner of Pacific Coast Highway and the Los Cerritos Channel—which includes about one acre of jurisdictional wetlands and sensitive plant species. Development on this property could result in a significant impact.

INDIRECT IMPACTS

Buildout of the Specific Plan would add 8,648 residents and 560 employees to the Project area. Accommodating the increased growth and building square footage could result in indirect impacts on sensitive species and habitats in the proposed Coastal Habitat, Wetlands & Recreation and Open Space and Recreation land uses, which has the greatest concentration of native vegetation and sensitive species. Developments and other human activities near sensitive species and sensitive habitats can have indirect adverse effects because of noise, light, recreational use, human and domestic animal intrusion, and stormwater runoff.

Noise

Indirect noise impacts may occur to wildlife during project construction and operation. Construction noise to sensitive wildlife could result from demolition, grading, and building activities. Noise and vibration associated with the use of heavy equipment during project construction has the potential to disrupt wildlife foraging and breeding behavior. Construction equipment generates high levels of noise. The ambient noise levels in the Project area represent typical noise levels for a highly urbanized area with heavily traveled roadways. However, construction noise levels would exceed the existing ambient conditions and could disrupt wildlife if they occur adjacent to or near sensitive areas.

No site specific development project is proposed. However, the proposed Specific Plan would allow new development near sensitive biological resources. These areas, such as new development adjacent to the Los Cerritos Channel within the proposed Mixed Use Marina land use, adjacent to the LCWC within the Mixed Use Community Core area, and visitor-serving recreation in the Coastal Habitat, Wetlands &

Recreation area, could experience substantial noise increases during construction. This is considered a potentially significant impact for sensitive species during the breeding season.

Lighting

Artificial lighting at night has been demonstrated to significantly reduce or curtail the normal activity patterns of nocturnal animals by interfering with foraging, mating, nurturing young, other important social interactions. In addition, lit areas in an otherwise dark environment can expose animals to predators. Night lighting associated with implementation of the proposed Project would result in an increase in lighting associated with the introduction of new buildings, security, sign, and vehicles traveling in the area. The vast majority of new lighting would occur within a highly urbanized area and on highly trafficked roadways. As such, the overall change in night lighting in the area would not be significant. However, the introduction of new buildings with increased heights in the proposed mixed-use areas or an interpretive center in the proposed Coastal Habitat, Wetlands & Recreation areas could impact sensitive habitat and wildlife in the LCWC and open space areas.

The proposed Specific Plan includes a number of design guidelines to control light and glare from new developments. For example, direct lamp glare from unshielded floodlights and lighting aimed into the night sky are prohibited. Exterior lighting should be designed and located in such a way that it does not project off-site or onto adjacent uses. Additionally, the design guidelines that control lighting to protect biological resources are provided in Section 7.2.14 of SEASP as follows:

- Nighttime lighting shall be minimized to levels necessary to provide pedestrian security.
- Buildings shall be designed to minimize light spillage and maximize light shielding to the maximum feasible extent.
- Building lighting shall be shielded and directed downward, up-lighting is prohibited. Use of “event” searchlights or spotlights shall be prohibited.
- Landscape lighting shall be limited to low-intensity and low-wattage lights.
- Red lights shall be limited to only that necessary for security and safety warning purposes, blue or green lights are a better option if the use of colored lights is desired.

Compliance with the above design guidelines would ensure that new buildings and other urban infrastructure would be designed to reduce excessive light and glare onto adjacent sensitive biological resources. Even with these measures, new lighting proposed within and adjacent to sensitive habitat could impact wildlife.

Human Activities/Urban/Wetland Interface

The proposed Coastal Habitat, Wetlands & Recreation land use designation encourages trails and public viewing areas and allows for the development of visitor-serving recreation or an interpretive center. Additionally, the proposed Project would increase residential uses, increasing population in the Project area. The proposed uses and Specific Plan buildout would attract residents and visitors to the wetland

areas. Increased recreational use has damaging effects on wildlife due to trampling, bicycle use, and unregulated movement of domestic animals. The impact of human intrusion into sensitive biological resources could result in a significant impact.

New developments would also introduce new landscaping. Planting of invasive species adjacent to LCWC and other sensitive habitats has the potential to disrupt the habitat value of the native vegetation and wetland habitat. The Specific Plan includes project design features to ensure non-invasive and native plant species. For example, new landscape plantings shall utilize non-invasive species (prohibited species published by the California Invasive Plant Council) and reflect native plants typically associated with wetlands into development around wetlands (SEASP Section 7.2.13A). Additionally, landscaping within 500 feet of natural areas the edge of Shopkeeper Road shall consist of California Native species or varieties that will not invade habitat or hybridize with existing native vegetation to create a more seamless transition between the natural wetlands and development (per CalGreen and Cal-IPC standards) (SEASP Section 7.1.5). Implementation of these provisions of the Specific Plan would ensure that impacts to sensitive habitat would not occur.

Stormwater Runoff

Construction activities related to the buildout of the Specific Plan would potentially result in soil erosion and temporary adverse impacts to surface water quality from construction materials and wastes if left unregulated. Clearing, grading, excavation, and construction activities associated with the proposed Project may impact water quality due to sheet erosion of exposed soils and subsequent deposit of sediment in local drainages. However, future projects in accordance with the proposed Specific Plan are required to comply with the most current General Construction Permit (Order No. 2009-0009-DWQ). This requires treatment of all surface runoff from paved and developed areas, the implementation of applicable best management practices (BMPs) during construction activities, and the installation and proper maintenance of structural BMPs to ensure adequate long-term treatment of water before it enters any stream course or offsite open space areas. Water quality measures will be implemented as part of the NPDES permits, and no significant impacts are anticipated.

Implementation of the Specific Plan would allow for additional residential, commercial, and industrial land uses. These uses could generate pollutants—pesticides, insecticides, herbicides, fertilizers, and vehicle emissions—that, if left untreated, would impact the water quality of receiving waters. Future projects in accordance with the Specific Plan would be required to incorporate low-impact development (LID)/site design and source control BMPs to address post-construction stormwater runoff management. Selection of LID and additional treatment control BMPs is based on the pollutants of concern for the specific Project area and the BMP's ability to effectively treat those pollutants in consideration of site conditions and constraints. Further, projects must develop a project-specific LID design plan that describes the menu of BMPs chosen for the project, as well as operation and maintenance requirements for all structural and any treatment control BMPs. Consistency with the City's LID Ordinance would reduce potential water quality impacts to sensitive biological resources to less than significant.

Avian Species – Bird Strikes

Of the 26 special status wildlife species present in the Specific Plan area, 15 are birds. The LCWC provides habitat for a number of bird species and is part of the Pacific Flyway. New development or redevelopment activities in areas that are already urbanized would not directly impact any sensitive habitat. However, development that increases building heights near sensitive habitats—Sims’ Pond, Jack Dunster Marine Biological Reserve, LCWC, and all areas proposed to be designated Coastal Habitat, Wetlands & Recreation—has the potential to impact sensitive birds due to bird strikes. For example, a mixed-use development with a hotel component could allow up to seven stories in the Mixed-Use Community Core or new industrial uses on the vacant Pumpkin Patch, adjacent to the wetlands.

It is well established that buildings can pose a significant hazard to flying birds from collision deaths. Species that frequently fly through small spaces in dense understory habitat appear consistently on top ten lists of fatalities; species well adapted to and common in urban areas, such as sparrows and starlings, are not prominent on lists of fatalities. This may be evidence that resident birds are less likely to die from collisions than migratory birds. About 90 percent of bird strikes with buildings are within the first 40 feet in height (comparable to a 3 story building).

As detailed in Section 7.2.14, Bird-Safe Treatments, of the Specific Plan, the proposed Project requires special building treatments and establishes guidelines for all new developments to reduce impacts related to bird strikes. The reflectivity and transparency of glass are the primary hazards to birds. Highly reflective surfaces falsely imitate the sky, clouds, or nearby trees or vegetation. Sheets of transparent glass are invisible to birds and become dangerous barriers to migration routes, shelter, and food. Lights may also disorient and confuse birds by inhibiting their ability to see navigational markers such as the stars and the moon. Therefore, special design requirements have been established relating to lighting, landscaping, and façade treatments. For example, building façade treatments specify glazing materials, and building site design prohibits features that create bird traps. In addition to the building, lighting, and landscaping requirements, height limitations are required within 100 feet of a wetland (see Section 7.1.5 of the Specific Plan, Special Edge Conditions, Wetlands Edge at Shopkeeper Road).

Mitigation Measures

1. Concurrent with submittal of site development plans for development on or adjacent to undeveloped land and all land within the Coastal Habitat, Wetlands & Recreation land use, the project applicant shall submit a biological resources report conducted by a qualified biologist. The biological resources report shall include: analysis of available literature and databases (CNDDDB); historical sensitive biological resources; review of current land use and land ownership within the project vicinity; on-site survey and mapping that delineates vegetation communities present within the development area; identification of jurisdictional waters and special status habitat, wildlife, and plant species. Focused surveys for sensitive, threatened, endangered species, will also be prepared, as required. The project applicant shall demonstrate that the proposed development and project design avoids impacts to special status species and habitats,

in consultation with CDFW and USFWS. If complete avoidance is not possible, the project applicant shall obtain necessary permits from CDFW and USFWS. Prior to the issuance of grading permits, the project applicant shall submit plans, required permits, and mitigation plans (if needed) to the Long Beach Development Services Department for review and approval.

2. Concurrent with submittal of site development plans for development on or adjacent to undeveloped land and all land within the Coastal Habitat, Wetlands & Recreation land use, the project applicant shall submit a jurisdictional delineation prepared by a qualified biologist or letters stating that no such jurisdictional features exist. The jurisdictional delineation shall be prepared pursuant to the requirements of (1) US Army Corps of Engineers (Corps) jurisdiction pursuant to Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act, (2) CDFW jurisdiction pursuant to Section 1602 of the Fish and Game Code, (3) RWQB jurisdiction pursuant to Section 401 of the Clean Water Act and Section 13260 of the Porter-Cologne Act, and (4) wetlands as defined under the California Coastal Act. The project shall be designed to avoid impacts to jurisdictional wetlands. If wetland avoidance is not possible, the applicant shall ensure no net loss of wetlands either by creation of applicant-sponsored wetlands or purchase of mitigation bank credits in consultation with applicable Federal- and State- agencies (Corps, CDFW, RWQB, and/or Coastal Commission). Any mitigation, replacement, and/or restoration of habitat shall occur in the LCWC or in an approved coastal mitigation bank that covers this area. If the applicant can demonstrate that there are no logistically viable opportunities for mitigation within the LCWC, the applicant may propose mitigation elsewhere, which must be approved by the City and the resource agencies. The mitigation plan prepared in consultation with the applicable agencies shall include: responsibilities and of persons to supervise and implement the plan, site selection, restoration and creation of habitat; site preparation and planting implementation, schedule, maintenance guidelines, monitoring plan (5 year minimum), and long-term preservation. Prior to the issuance of grading permits covering jurisdictional areas, the project applicant shall provide evidence to the Long Beach Development Services Department that (1) all necessary permits or authorizations have been obtained from the Corps (pursuant to Section 404 of the Clean Water Act), CDFW (pursuant to Section 1602 of the Fish and Game Code, and RWQCB (pursuant to Section 401 of the Clean Water Act), the Coastal Commission, or that no such permits are required; and (2) the detailed mitigation and restoration plan shall be approved by the Development Services Department.
3. If sensitive biological resources are identified within or adjacent to the proposed development area, the project applicant shall submit evidence to the Long Beach Development Services Department that a qualified biologist has been retained to prepare a construction management plan. The construction limits shall be clearly flagged and/or fenced. No construction access, parking, storage of equipment, or waste dirt or rubble will be permitted within such marked areas. A monitoring biologist shall be onsite during any grading activities. The qualified biologist shall also develop and implement a project specific contractor training program to educate

project contractors on the sensitive biological resources within and adjacent to the proposed development project area and oversee measures to avoid and/or minimize impacts to these species.

4. Prior to the issuance of grading permits for any development, the project applicant shall include noise reduction measures to reduce noise impacts to wildlife. A note shall be provided on development plans indicating that throughout grading, demolition, and construction, the property owner/developer shall be responsible for requiring contractors to implement the following measures to limit construction-related noise:
 - During all excavation and grading on-site, the construction contractors shall equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers, consistent with manufacturers' standards.
 - The construction contractor shall place all stationary construction equipment so that emitted noise is directed away from sensitive receptors (wildlife) nearest the project site.
 - The construction contractor shall locate equipment staging in areas that will create the greatest distance between construction-related noise sources and noise-sensitive receptors (wildlife) during all project construction.
 - No construction shall occur within 500 feet of nesting raptors or threatened or endangered species and 100 feet of all other nesting birds protected by the federal Migratory Bird Treaty Act.
5. Prior to approval of any development adjacent to jurisdictional waters or habitat for special status species and all land within the Coastal Habitat, Wetlands & Recreation land use, the project applicant shall submit a photometric plan demonstrating that the project will be designed and shielded so that the nighttime lighting shall be no greater than 0.10 footcandles at the edge of the habitat. This would ensure that spill light does not result in exposure of artificial light at levels exceeding the intensity of moonlight (approximately 0.5 footcandles).
6. Prior to approval of a trails/access plan within or adjacent to jurisdictional waters, the location, design, and text for urban-open space interface signage shall be developed. The signage shall be located at all pedestrian access points. The signage shall educate users on the responsibilities associated with the open space interface and shall address relevant issues including the role of natural predators in the wildlands and how to minimize impacts of human and domestic pets on native communities and their inhabitants.
7. Prior to the issuance of building permits, the project applicant and/or subsequent builder shall prepare an urban-open space interface brochure to be approved by the Long Beach Development Services Department to educate residents on the responsibilities associated with living near sensitive biological habitat. The brochure shall address relevant issues, including the

role of natural predators in the wildlands and how to minimize impacts of human and domestic pets on native communities and their inhabitants. The approved brochure, along with attachments, shall be included as part of the rental/lease agreements and as part of the sales literature for future developments.

- b) Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?; and**
- c) Would the project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including but not limited to marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?**

DIRECT IMPACTS

The Project area contains approximately 175 acres of undeveloped wetlands. The majority of this acreage is protected under the Specific Plan. Wetlands within the Specific Plan area will benefit from the establishment of a wetland monitoring fund by the City. New development is required to contribute to the fund for long term management of these resources. Since development footprints are not yet defined and the Specific Plan would allow recreational uses in the LCWC, impacts to jurisdictional waters within the proposed Coastal Habitat, Wetlands & Recreation areas are potentially significant.

The intent of the Specific Plan is to preserve, restore, and enhance sensitive biological habitat. Buildout would result in a net increase in native vegetation and wetland habitats. Based on the biological resources assessment, the existing wetland habitats have been impacted to various degrees, resulting in degraded wetland functions and values in most areas. Steamshovel Slough is the area of the highest habitat value, however all the wetlands and buffers are valuable in their current state for potential restoration and enhancement. The Specific Plan effort has resulted in focused consideration of the future of the remaining wetlands in the Project area.

Furthermore, LCWA does not intend to allow development that is inconsistent with wetland preservation on its property. Synergy Oil is in the process of creating a wetland mitigation bank and does not intend to develop on its property. The City of Long Beach, which owns Marketplace Marsh, is also contemplating the establishment of a wetland mitigation bank on this parcel and, if so, would not allow development inconsistent with the banking operation or existing oil extraction operations. These three properties comprise the majority of the undeveloped wetlands in the Project area. Private parcels, such as the Bryant properties, are anticipated to be sold to LCWA and included in the LCWC.

Riparian habitats found within the Project area include the San Gabriel River and, to lesser extent, the El Cerrito Channel and Haynes Cooling Channel. These waterways are channelized within the Project area

and are not part of any allowed development. Therefore, there will be no direct impacts to these riparian features.

INDIRECT IMPACTS

Potential indirect impacts to wetlands from adjacent development could include lighting, noise, runoff, and human intrusion. To avoid indirect impacts to wetlands, wetland buffers are required (SEASP Section 5.10) to address the specific type and intensity of these impacts from adjacent development.

Wetland buffers separate wetlands from surrounding land uses that are incompatible with wetland values. Beyond providing protection for wetlands, buffers also serve a valuable function for a variety of wildlife species because they provide habitat for foraging, breeding, and protective cover. Buffers are generally upland areas of native or planted vegetation that protect the character and function of wetlands from indirect impacts and from the adverse impacts of an adjacent land use (e.g. lighting, noise, etc.). The buffers are treated as a part of the adjacent urban developments and are measured horizontally from the edge of the delineated wetland.

Although the Coastal Commission recommends a 100-foot buffer between development and wetlands, the City does not require buffers in areas where existing streets, buildings, parking lots, access ways, and infrastructure would need to be removed to provide a 100-foot buffer (for example, Pacific Coast Highway adjacent to Synergy wetlands). In addition, with scientific documentation demonstrating that a proposed development may use a reduced, enhanced buffer to accomplish the avoidance and minimization measures related to edge effects, the City may determine that a reduced buffer is appropriate; the City may also require additional mitigation for the reduced buffer. Alternatively, an increased buffer width may be required by the City under the proposed Specific Plan to provide adequate protection of the wetland values. Wetland buffers required as part of the proposed Specific Plan would ensure indirect impacts to wetlands are less than significant.

Mitigation Measures

The mitigation measures listed above apply.

d) Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites?

A portion of the San Gabriel River is within the Project area; however, the San Gabriel River will not be directly impacted by implementation of the Specific Plan. Recognized wildlife corridors have not been designated within the Project area. However, the LCWC is likely part of a migration path for urban wildlife, providing food and resting sources; some species seek breeding grounds within the Project area. The preservation of wetlands and limited uses allowed within the proposed Coastal Habitat, Wetlands & Recreation land use designation would result in avoidance of impacts to wildlife using this area as a corridor.

The LCWC provides habitat for a number of avian species and is part of the Pacific Flyway. The preservation of wetlands in the Project area substantially reduces impacts to migrating bird species in the Pacific Flyway. Section 7.2.14 of SEASP, Bird-Safe Treatments, would reduce impacts relating to bird strikes to less than significant.

There is a potential for existing ornamental trees to be removed during development or redevelopment in the urbanized areas. Projects undertaken in accordance with the proposed Specific Plan would also be required to comply with the MBTA, which implements the United States' commitment to four treaties with Canada, Japan, Mexico, and Russia for the protection of shared migratory bird resources. The MBTA governs the take, kill, possession, transport, and import of migratory birds, their eggs, parts, and nests. Trees and nests will not be removed during the breeding season.

Mitigation Measures

Following implementation of project design features (SEASP Section 7.2.14) and MBTA, no other mitigation measures are required.

- e) Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?; or**
- f) Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?**

The Project area is not in a habitat conservation plan, a natural community conservation plan, or any other approved local, regional, or state habitat conservation plan. Therefore, no impacts with respect to a habitat conservation plan would occur.

Trees in Long Beach are protected under Chapter 14.28 (Trees and Shrubs) of the City's Municipal Code, which regulates the planting, maintenance, and removal of trees in the City. Projects developed under the proposed Project may involve the removal of existing ornamental trees, including street trees. However, projects would be required to comply with provisions of the City's Municipal Code. Therefore, implementation of the proposed Project would not conflict with local policies or ordinances protecting trees, and no impact would occur.

Mitigation Measures

- 8. If construction is proposed between January 15 to September 1st, a qualified biologist must conduct a nesting bird survey(s) no more than three days prior to initiation of construction activities to document the presence or absence of nesting birds in or adjacent to the project site. The preconstruction survey(s) will focus on identifying any raptors and/or passerines nests that may be directly or indirectly affected by construction activities. Any nest permanently

vacated for the season would not warrant protection pursuant to the MBTA. If active nests are documented, the following measures are required:

- Species-specific measures shall be prepared by a qualified biologist and implemented to prevent abandonment of the active nest. At a minimum, grading in the vicinity of a nest shall be postponed until the young birds have fledged. A minimum exclusion buffer of 100 feet shall be maintained during construction, depending on the species and location. The perimeter of the nest setback zone shall be fenced or adequately demarcated with stakes and flagging at 20-foot intervals, and construction personnel and activities are restricted from the area.
- A survey report by a qualified biologist verifying that no active nests are present, or that the young have fledged, shall be submitted to the Long Beach Development Services Department prior to initiation of grading in the nest-setback zone. The qualified biologist shall serve as a biological monitor during those periods when construction activities occur near active nest areas to ensure that no inadvertent impacts on these nests occur.
- A final report of the findings, prepared by a qualified biologist, shall be submitted to the Long Beach Development Services Department prior to construction-related activities that have the potential to disturb any active nests during the nesting season.