Memorandum

Date:	September 28, 2016
To:	Timothy Barrett Senior Environmental Specialist Unified Port of San Diego 3165 Pacific Highway San Diego, CA 92101
Cc:	Eileen Maher
From:	Lindsay Teunis, Project Manager
Subject:	**Task 005, South Bay Bio Reconnaissance Survey**

Introduction and Location Setting

ICF International, Inc. (ICF) conducted a general biological evaluation and survey to document vegetation communities, plants, birds, active nests, potential nesting habitat, and potential jurisdictional wetlands and waters for the Port of San Diego Chula Vista CVB/MCTC Project. The survey area is located on Port of San Diego owned parcels of land (approximately 241 acres) located in Chula Vista, California (Appendix A; Figure 1 and Figure 2). The limits of the survey area are south of H Street and west of Bay Boulevard, through the old South Bay Power Plant property and the SDG&E facility. The surrounding land-use consists of commercial/industrial buildings to the east and north, salt ponds to the south, and the San Diego Bay and Chula Vista Marina View Park to the west. This technical memorandum summarizes the findings of the biological evaluation and survey and wetlands and waters assessment, and. The memorandum provides baseline information for land use planning and development.

Review of Biological Resource Information

A review of biological resource information was conducted prior to the commencement of the surveys to provide information on current and historical biological resources known within the survey area and the surrounding vicinity. This information provides a baseline for assessing the current validity of past documented biological resources and conditions on the property. A California Natural Diversity Data Base (CNDDB) search was conducted to assess the potential occurrence of listed/sensitive plant and wildlife species within the survey area. Other resources

used in the evaluation included U.S. Fish and Wildlife Service (USFWS) designated critical habitat for listed species within the survey area, and the San Diego County Bird Atlas.

Methods

Biological Survey

The following describes the methods used to evaluate the biological resources within the survey area. For all surveys ICF biologists walked transects spaced approximately 50-100-feet apart across all parcels comprising the entire survey area, with the exception of a 14-acre area where there is active construction and is currently used as a SDG&E substation. This 14-acre area was visually assessed and determined to be developed. Biological surveys were conducted from June 23 through June 29, 2016. During the surveys, the biologists identified vegetation communities and plant species, documented all bird species, active nests, assessed potential nesting habitat, and evaluated potential jurisdictional resources within the survey area.

Vegetation Community Mapping

Vegetation communities were delineated and classified according to the *Preliminary Descriptions of the Terrestrial Natural Communities of California* (Holland 1986), as modified for San Diego County (Oberbauer *et al*. 2008). The minimum mapping unit is 0.1 acre for wetland vegetation communities and 0.5 acre for upland vegetation communities. Vegetation communities were mapped in the field on orthorectified digital imagery at a scale of 1 inch equals 200 feet. The vegetation map was digitized in the office using ArcGIS software.

All plant species observed within the survey area were recorded and the location of special-status plant species were mapped with a submeter-accuracy GPS unit. Plant species nomenclature and taxonomy follows the "Checklist of the Vascular Plants of San Diego County 5th Edition" (Rebman and Simpson 2014).

Avian Surveys and Nesting Habitat

On June 23 and 24, 2016, ICF biologists Shawn Johnston and Marty Lewis conducted surveys to document bird species, active and inactive bird nests and potential nesting habitat within the survey area. Survey dates, times and weather conditions are shown in Table 1 below. Birds and in/active nests were observed through binoculars with 10x42 magnification. A list of all bird species observed during surveys is provided in Appendix B.

Table 1. Bird Survey Times and Conditions

Date	Time		Temperature (°F)		Cloud Cover (%)		Precipitation	
	Start	End	Start	End	Start	End	Start	End
23-Jun-16	9:20	15:00	79	78	40	0	0	0
24-Jun-16	5:50	13:00	67	69	100	95	0	0

Jurisdictional wetlands and waters

ICF biologists identified all potential jurisdictional features including wetlands and waters that may be regulated under the Clean Water Act Section 404, Section 1602 Streambed Alteration Agreement, and Section 401 Water Quality Certification. All potential jurisdictional features were mapped using a sub-meter accuracy GPS unit. A photo of each potential jurisdictional feature was also taken. No formal jurisdictional delineation was conducted.

Results

The following summarizes the findings of the biological evaluation and surveys.

Federally Listed Bird Species and Nesting Potential

Three Federally Endangered bird species were observed during the surveys: California least tern (*Sternula antillarumbrowni*), Belding's savannah sparrow (*Passerculus sandwichensis beldingi*) and Ridgway's rail (*Rallus obsoletus levipes*) (USFWS 2016). No USFWS designated critical habitat for listed species occurs within the survey area.

California least tern is recorded as occurring within the survey area by CNDDB (CDFW 2016a) records, and was observed by ICF biologists during the biological survey. California least terns were observed foraging for food within the open waters within the study area. No California least tern nests or nesting behavior was observed within the survey area. The potential for nesting habitat is low within the study area.

The Belding's savannah sparrow is recorded as occurring within the survey area by CNDDB (CDFW 2016a) records, and was observed by ICF biologists during the biological survey. Belding's savannah sparrow was observed within the coastal salt marsh within the survey area, and also observed foraging within disturbed habitat within the survey area along the periphery of the coastal marsh. High concentrations of this species were observed immediately outside the survey area within coastal salt marsh habitat to the west of the survey area. Potential nesting habitat for this species occurs within the coastal salt marsh of the survey area. No nest were observed during the survey; however, territorial males were observed within the study area.

Ridgeway's Rail is recorded as occurring within the survey area by CNDDB (CDFW 2016a) records, and was detected adjacent to the survey area by ICF biologists during the survey. Ridgeway's rail were heard calling within the coastal salt marsh immediately adjacent to the study area, but were

not observed within the survey area. Suitable nesting habitat occurs within the survey area for areas with salt marsh vegetation; however, no nests were found for this species during the surveys.

Non-listed Bird Species and Nesting Potential

One California Species of Special Concern (CDFW 2016b), northern harrier (*Circus cyaneus*), was observed during the survey foraging over the open disturbed habitat within the survey area. The northern harrier uses a concealed nest on the ground in marsh and grassland vegetation. Suitable nesting habitat occurs within the survey are within the disturbed and marsh vegetation; however no breeding behavior or nests were observed during the survey.

One inactive burrowing owl (*Athene cunicularia*) burrow was observed in the northern parcel directly east of Marina Parkway (32.62365, -11709892). This burrow showed signs of previous owl occupation (pellets and bones) and there are numerous other burrows in this location that would serve as suitable owl burrows. Burrowing owl is a California Species of Special Concern (CDFW 2016b). No CNDDB records for burrowing owl exist for the survey area (CDFW 2016a)

Four species covered under the City of Chula Vista Multiple Species Conservation Program (MSCP) Subarea Plan (City of Chula Vista 2003) were observed foraging within the survey area and include: Cooper's hawk (*Accipiter cooperii*), Peregrine falcon (*Falco peregrinus*), Long-billed curlew (*Numenius americanus*), and elegant tern (*Thalasseus elegans*). Long-billed curlew is not known to breed within San Diego County, and elegant tern breeding is rare to San Diego County but known from the salt ponds immediately south of the survey area (Unitt 2004). Suitable nesting habitat for Cooper's hawk exists within the survey area in the form of trees, palms and large shrubs. Peregrine nesting habitat also exists within the survey. Peregrines typically nest on cliff faces; however in the absent of cliffs, falcons will utilize bridges, transmission towers, buildings, and abandoned raptor/raven nests (Unitt 2004). Transmission towers, and old raptor/heron nest occur within the survey area, and would provide potential nesting sites for breeding peregrine falcons; however, no nests or breeding behavior were observed during the survey.

Raptor Nesting Habitat

Potential raptor nesting habitat within the project area include: large trees (mainly concentrated within the Marina View Park), transmission poles and towers, structures within SDG&E substation, and street and parking lot lights. Four inactive stick nests were observed in a grove of trees near the Chula Vista Boat Launch Ramp in the northwest portion of the survey area. These stick nests may potentially be used by breeding birds of prey such as red-tail hawk (*Buteo jamaicensis*), Osprey (*Pandion haliatus*), Cooper's hawk, peregrine falcon, and white-tailed kite (*Elanus leucurus*). However, breeding distribution information from San Diego Bird Atlas indicates very low confirmed breeding numbers for these species within the survey vicinity and these inactive stick nests may be heron nests.

Heron Nesting Habitat

Two heron species that have been recorded to nest in the general vicinity of the survey area (Unitt 2004) were observed during the survey: great blue heron (*Ardea herodias*) and black-crowned night heron (*Nycticorax nycticorax*). Herons typically nest in large trees such as Eucalyptus or palms, and one or more of the large inactive stick nests observed within the survey area may potentially be old heron nests. Another potential heron nesting habitat is a large stand of ngaio located within the Diegan coastal sage scrub vegetation within the survey area. No nesting herons were observed during the survey.

General Nesting habitat

The vegetation and land cover found within the survey area provide potential nesting habitat for a wide range of species. Open disturbed habitat may serve as suitable nesting habitat for ground nesting species observed: killdeer (*Charadrius vociferus*), mourning dove (*Zenaida macroura*), northern harrier and horned lark (Eremophila alpestris). Diegan coastal sage scrub provides nesting habitat for observed passerine species such as California towhee (*Melozone crissalis*), bushtit (*Psaltriparus minimus*), northern mockingbird (*Mimus polyglottos*), Anna's hummingbird (Calypte anna), Bewick's wren (*Thryomanes bewickii*) and house finch (*Haemorhous mexicanus*). Coastal salt marsh provides potential nesting habitat for several observed species including: mallard (*Anas platyrhynchos),* black-necked stilt (*Himantopus mexicanus*), Forster's tern (*Sterna forsteri*), and gadwall (*Anas strepera*). Coastal and Valley Freshwater Marsh provides potential nesting habitat for observed species such as: common yellowthroat (*Geothlypis trichas*), song sparrow (Melospiza melodia), and mallard. Small buildings and other man-made structures within the study area provide potential nesting habitat for commonly observed species such as: house finch, European starling (*Sturnus vulgaris*), common raven (*Corvus corax*), western gull (*Larus occidentalis*), mourning dove, Eurasian collard dove (*Streptopelia decaocto*), house sparrow (*Passer domesticus*), black phoebe (*Sayornis nigricans*), Say's phoebe (*Sayornis saya*), and rock pigeon (*Columba livia*).

Active Nest

Two active nests were observed during the survey: one osprey nest with at least two nestlings, and one killdeer nest with three eggs. The osprey nest is located within the northern buffer area of the project boundary on top of a street light fixture (32.627895, -117.101160). The killdeer nest is located near the western project boundary approximately 500ft south of a drainage creek (32.616742, -117.097663).

A list of all bird species observed within the survey area is included as Appendix B.

Vegetation Communities

Within the survey area, three riparian and wetland communities, two upland communities, and two land cover types were mapped during surveys (Appendix A; Figure 3). The acreages of each

vegetation community and land cover type within the survey area are provided in Table 2. Representative photographs of the vegetation communities are included in Appendix D.

Table 2. Vegetation Communities and Land Cover Types Occurring within the Survey Area

Vegetation Communities and Land Cover Types	Holland/OberbauerCode	Total (acres)
Riparian and Wetlands		*8.35*
Coastal and Valley Freshwater Marsh	52410	0.49
Open Water	64100	3.80
Southern Coastal Salt Marsh	52120	4.06
Uplands		*10.84*
Diegan Coastal Sage Scrub	32500	0.71
Diegan Coastal Sage Scrub: *Baccharis*-Dominated	32530	10.14
Land Cover Types		*265.06*
Disturbed Habitat	11000	198.72
Urban/Developed	12000	66.34
Total		**281.44**

Riparian and Wetlands

Coastal and Valley Freshwater Marsh: 52410 (0.49 acre). A narrow strip of Coastal and Valley Freshwater Marsh associated with a drainage ditch runs through the middle of the survey area. This is likely the remnant of a rerouted natural drainage feature and should be evaluated as a potential jurisdictional water feature.

Open Water: 64100 (3.80 acre). The open water habitat type consists of any open water body including lakes, reservoirs, and bays, and channels. Within the survey area, open water occurs as inlets adjacent to the bay and as channels that traverse the survey area. Open water bodies provide important habitat for a variety of aquatic organisms and water fowl.

Southern Coastal Salt Marsh: 52120 (4.06 acre). Southern coastal salt marsh occurred along the western edge of the survey area and extended up to the edge of San Diego Bay.

Uplands

Diegan Coastal Sage Scrub: 32500 (0.71 acre). Diegan coastal sage scrub consisting of a variety of native shrub species occupies a narrow strip along the western edge near the middle of the site just upland from the coastal salt marsh.

Diegan Coastal Sage Scrub: *Baccharis*-Dominated: 32530 (10.14 acre). Diegan coastal sage scrub: *Baccharis*-dominated occurred in three patches throughout the survey area. This vegetation was highly disturbed and was only differentiated from the disturbed habitat areas only by the high

cover of broom baccharis (*Baccharis sarathroides*) which is itself a hardy disturbance tolerant native shrub. In many areas broom baccharis was growing out of the degraded pavement.

Land Cover Types

Disturbed Habitat 11000 (198.72 acre). Disturbed habitat was the most dominant vegetation type consisting mostly of areas that have been compacted and paved or graveled over and vegetated primarily with non-native plants. Vegetation in these areas is mostly low growing herbaceous and subshrub plant species.

Urban/Developed: 12000 (66.34 acre). Urban/Developed was the second most dominant land cover type consisting mostly of non-native plants colonizing areas that have been compacted and paved or graveled over and vegetated with non-native trees such as Acacia spp. and Myoporum.

Special-Status Plants

Approximately 94 plant species were detected within study area; of these species, 53 are nonnative (Appendix C). Two special-status plant species were detected within the survey area and are discussed below and shown in Appendix A, Figure 3.

San Diego Sunflower (*Bahiopsis laciniata*)

San Diego sunflower is a California Native Plant Society (CNPS) Rare Plant Rank (RPR) 4.2 species (uncommon in California). This small-to medium-sized shrub occurs on clay soils within chaparral and coastal sage scrub on south-facing slopes from Orange County south to Baja California and Sonora, Mexico. Two small patches of this species were detected within coastal sage scrub habitat near the western edge of the survey area.

Estuary Seablite (*Suaeda esteroa*)

Estuary seablite is a CNPS RPR 1B.2 species (rare, threatened, or endangered in California and elsewhere). This subshrub occurs within coastal salt marsh habitat from Santa Barbara County south to Baja California, Mexico. One individual of this species was detected within coastal salt near the western edge of the survey area.

Jurisdictional Waters and Wetland Assessment

On June 24 and 29, 2016 ICF biologists Lance Woolley and Kipp Marzullo assessed landscape features exhibiting characteristics that have potential for delineation as Jurisdictional Features. The biologists identified and mapped all potential jurisdictional features including drainage ditches, drains and culverts as well as wetlands and waters that may be regulated under the Clean Water Act Section 404, Section 1602 Streambed Alteration Agreement, and Section 401 Water Quality Certification. A brief description of each feature and photo (Photo Points 1-30 Appendix D) are included in this report. No formal jurisdictional delineation was conducted. A network of constructed drainage ditches allow water onsite to drain into San Diego Bay through culverts and

drains. Many of the drainage ditches onsite were mapped (Appendix A; Figure 4) and photos with descriptions included in this report as potential jurisdictional features (Appendix D). Open water features, Coastal freshwater marsh and southern coastal salt marsh found within the surveyed area (Appendix A; Figure 3 and Figure 4) would likely be subject to regulation under the Clean Water Act Section 404, Section 1602 Streambed Alteration Agreement, or Section 401 Water Quality Certification. Most of the drainage features mapped in Appendix A, Figure 4 would not likely be subject to such regulations since they are ditches with intermittent flow that are not relocated tributaries, excavated in a tributaries, or drain wetlands. (40 CFR §230.3 (o)(1)(iii)(B)).

References

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"Guidelines for Specification of Disposal Sites for Dredged or Fill Material," 2015. 40 CFR §230.3 (o)(1)(iii)(B)

Appendix A. Figures

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Figure 1
Regional Vicinity
South Bay Pre-Construction Bio Surveys

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Figure 2
Project Location Map
South Bay Pre-Construction Bio Surveys

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Figure 3
Vegetation and Sensitive Biological Resources
South Bay Pre-Construction Bio Surveys

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Figure 4
Potential Jurisdictional Resources
South Bay Pre-Construction Bio Surveys

Appendix B. List of Bird Species Observed

List of Bird Species Observed within the Survey Area

Scientific Name	Common Name	Status[1]
Corvus brachyrhynchos	American crow	
Calypte anna	Anna's hummingbird	
Hirundo rustica	barn swallow	
Passerculus sandwichensis beldingi	Belding's savannah sparrow	FE
Thryomanes bewickii	Bewick's wren	
Sayornis nigricans	black phoebe	
Nycticorax nycticorax	black-crowned night heron	
Himantopus mexicanus	black-necked stlit	
Psaltriparus minimus	bushtit	
Larus californicus	California gull	
Sternula antillarum browni	California least tern	FE
Melozone crissalis	California towhee	
Hydroprogne caspia	Caspian tern	
Tyrannus vociferans	Cassin's kingbird	
Petrochelidon pyrrhonota	cliff swallow	
Corvus corax	common raven	
Geothlypis trichas	common yellowthroat	
Accipiter cooperii	Cooper's hawk	MSCP
Phalacrocorax auritus	double-crested cormorant	
Thalasseus elegans	elegant tern	MSCP
Streptopelia decaocto	Eurasian collared dove*	
Sturnis vulgaris	European starling*	
Sterna forsteri	Forster's tern	
Anas strepera	gadwall	
Ardea herodias	great blue heron	
Icterus cucullatus	hooded oriole	
Eremophila alpestris	horned lark	
Carpodacus mexicanus	house finch	
Charadrius vociferus	killdeer	
Numenius americanus	long-billed curlew	MSCP
Anas platyrhynchos	mallard	
Zenaida macroura	mourning dove	
Circus cyaneus	northern harrier	CSC
Mimus polyglottos	northern mockingbird	
Selgidopteryx serripennis	northern rough-winged swallow	
Pandion haliaetus	osprey	
Falco peregrinus	peregrine falcon	MSCP
Mergus serrator	red-breasted merganser	

List of Bird Species Observed within the Survey Area

Scientific Name	Common Name	Status[1]
Rallus obsoletus levipes	Ridgway's rail	FES
Columba livia	rock pigeon*	
Sayornis saya	Say's phoebe	
Egretta thula	snowy egret	
Melospiza melodia	song sparrow	
Larus occidentalis	western gull	
Tringa semipalmata	willet	

*Non-native or invasive species

[1] Status:

Federal:

FE = Endangered

State:

CSC = California Species of Special Concern

Local:

MSCP = Covered Species under the County of San Diego Multiple Species Conservation Program

Appendix C. List of Plant Species Observed

List of Plant Species Observed within the Survey Area

Scientific Name	Common Name	Status[1]
Aizoaceae - Fig-marigold family		
**Mesembryanthemum nodiflorum*	Slender-leaved iceplant	
**Tetragonia tetragonioides*	New zealand spinach	
Amaranthaceae - Amaranth family		
**Amaranthus albus*	Tumbleweed	
Anacardiaceae - Sumac Or Cashew family		
Rhus integrifolia	Lemonade berry	
**Schinus molle*	Peruvian pepper tree	
**Schinus terebinthifolius*	Brazilian pepper tree	
Apiaceae - Carrot family		
**Apium graveolens*	Celery	
**Foeniculum vulgare*	Fennel	
Arecaceae - Palm family		
**Phoenix canariensis*	Canary Island palm	
**Washingtonia robusta*	Mexican fan palm	
Asteraceae - Sunflower family		
Amblyopappus pusillus	Dwarf coastweed	
Ambrosia psilostachya	Western ragweed	
Artemisia californica	California sagebrush	
Baccharis pilularis ssp. *pilularis*	Coyote brush	
Baccharis salicifolia ssp. *salicifolia*	Mule fat	
Baccharis sarothroides	Broom baccharis	
Bahiopsis laciniata	San Diego County viguiera	CRPR 4.2
**Bidens pilosa*	Common beggar-ticks	
**Centaurea melitensis*	Tocalote	
**Dittrichia graveolens*	Stinkwort	
Encelia californica	California encelia	
Encelia farinosa	Brittlebush	
**Erigeron bonariensis*	Flax-leaved horseweed	
Erigeron canadensis	Horseweed	
**Glebionis coronaria*	Crown daisy	
Gutierrezia sarothrae	Matchweed	
Isocoma menziesii	Coastal goldenbush	
**Lactuca serriola*	Prickly lettuce	
Pseudognaphalium sp.	Everlasting	
**Sonchus asper* ssp. *asper*	Prickly sow thistle	
Stephanomeria diegensis	San Diego wire-lettuce	
Xanthium strumarium	Cocklebur	
Bataceae - Saltwort family		
Batis maritima	Saltwort, beachwort	

List of Plant Species Observed within the Survey Area

Scientific Name	Common Name	Status[1]
Boraginaceae - Borage family		
Heliotropium curassavicum var. *oculatum*	Alkali heliotrope	
Brassicaceae - Mustard family		
**Nasturtium officinale*	Medicinal water cress	
**Raphanus sativus*	Radish	
**Sisymbrium altissimum*	Tumble mustard	
**Sisymbrium irio*	London rocket	
Cactaceae - Cactus family		
Opuntia ×occidentalis	Western prickly pear	
Chenopodiaceae - Goosefoot family		
Arthrocnemum subterminale	Parish's pickleweed	
Atriplex lentiformis	Big saltbush	
**Atriplex lindleyi*	Lindley's saltbush	
**Atriplex semibaccata*	Australian saltbush	
**Bassia hyssopifolia*	Fivehorn smotherweed	
**Chenopodium macrospermum*	Largeseed goosefoot	
Chenopodium sp.	Goosefoot	
**Salsola tragus*	Prickly russian thistle	
Suaeda esteroa	Estuary seablite	CRPR 1B.2
Cyperaceae - Sedge family		
Schoenoplectus americanus	American bulrush	
Euphorbiaceae - Spurge family		
**Euphorbia maculata*	Spotted spurge	
**Ricinus communis*	Castorbean	
Fabaceae - Legume family		
**Acacia* sp.	Acacia	
Acmispon americanus var. *americanus*	Spanish-Clover	
Acmispon glaber	Deerweed	
**Melilotus albus*	White sweetclover	
Frankeniaceae - Frankenia family		
Frankenia salina	Alkali heath	
Geraniaceae - Geranium family		
**Erodium cicutarium*	Redstem filaree	
Lamiaceae - Mint family		
Salvia mellifera	Black sage	
Lythraceae - Loosestrife family		
**Lythrum hyssopifolia*	Grass Poly	
Myrsinaceae - Myrsine family		
**Anagallis arvensis*	Scarlet pimpernel	
Myrtaceae - Myrtle family		
**Eucalyptus* sp.	Gum	
**Melaleuca nesophila*	showy honey-myrtle	

List of Plant Species Observed within the Survey Area

Scientific Name	Common Name	Status[1]
Nyctaginaceae - Four O'clock family		
Bougainvillea sp.	Bougainvillea	
Oleaceae - Olive family		
**Olea europaea*	Olive	
Onagraceae - Evening Primrose family		
Camissoniopsis robusta	Robust suncup	
Papaveraceae - Poppy family		
Eschscholzia californica	California poppy	
Plumbaginaceae - Leadwort family		
Limonium californicum	California marsh rosemary	
**Limonium duriusculum*	Hardened marsh rosemary	
**Limonium perezii*	Perez's marsh rosemary	
Poaceae - Grass family		
**Arundo donax*	Giant reed	
**Avena barbata*	Slender wild oat	
Bromus carinatus	California brome	
**Bromus diandrus*	Ripgut brome	
**Bromus madritensis*	Compact brome	
**Cortaderia selloana*	Pampas grass	
Distichlis littoralis	Shore grass	
Hordeum sp.	Barley	
**Lamarckia aurea*	Goldentop grass	
**Melinis repens* ssp. *repens*	Natal grass	
**Phalaris paradoxa*	Hood canary grass	
**Polypogon monspeliensis*	Rabbit foot beard grass	
**Schismus barbatus*	Mediterranean schismus	
**Sorghum halepense*	Johnson grass	
Spartina foliosa	California cord grass	
**Stipa miliacea* var. *miliacea*	Smilo grass	
Polygonaceae - Buckwheat family		
Eriogonum fasciculatum	California buckwheat	
**Rumex pulcher*	Fiddle dock	
Salicaceae - Willow family		
Salix gooddingii	Goodding's black willow	
Scrophulariaceae - Figwort family		
**Myoporum laetum*	Ngaio tree	
Solanaceae - Nightshade family		
**Nicotiana glauca*	Tree tobacco	
Solanum americanum	White nightshade	
Tropaeolaceae - Nasturtium family		
**Tropaeolum majus*	Garden nasturtium	
Typhaceae - Cattail family		

List of Plant Species Observed within the Survey Area

Scientific Name	Common Name	Status[1]
Typha domingensis	Southern cattail	
Verbenaceae - Vervain family		
**Lantana* sp.	Lantana	

*Non-native or invasive species

[1]Status:

CRPR – California Rare Plant Rank

1A. Presumed extinct in California and elsewhere

1B. Rare or Endangered in California and elsewhere

2A. Presumed extinct in California, more common elsewhere

2B. Rare or Endangered in California, more common elsewhere

3. Plants for which we need more information - Review list

4. Plants of limited distribution - Watch list

Threat Ranks

.1 - Seriously endangered in California

.2 – Fairly endangered in California

.3 – Not very endangered in California

Appendix D. Photos

Jurisdictional resource map photos

Photo Point 1: Drainage ditch leading to box culvert

Photo Point 2: Drain

Photo Point 3: Culvert out to San Diego Bay

Photo Point 4: Drainage ditch with fresh water marsh vegetation

Photo Point 5: Culvert to drainage ditch with freshwater marsh vegetation

Photo Point 6: Drainage ditch

Photo Point 7: Drain to San Diego Bay

Photo Point 8: Drain

Photo Point 9: Drainage ditch

Photo Point 10: Drainage ditch

Photo Point 11: Drainage ditch

Photo Point 12: Drainage ditch

Photo Point 13: Drain

Photo Point 14: Drainage ditch

Photo Point 15: Drainage ditch

Photo Point 16: Drainage ditch

Photo Point 17: Drainage ditch


Photo Point 18: Culvert to drainage ditch

Photo Point 19: Drainage ditch

Photo Point 20: Drainage ditch 001

Photo Point21: Drainage ditch

Photo Point 22: Drain

Photo Point 23: Drain 006

Photo Point 24: Drain

Photo Point 25: Drain

Photo Point 26: Drain

Photo Point 27: Drainage ditch

Photo Point 28: Drainage ditch

Photo Point 29: Drainage ditch outlet to San Diego Bay

Photo Point 30: Culvert to drainage ditch

Representative vegetation photos

Photo 1: Salt marsh

Photo 2: Disturbed habitat

Photo 3: Disturbed habitat

Photo 4: Coastal Sage Scrub dominated by *Baccharis sarathroides*

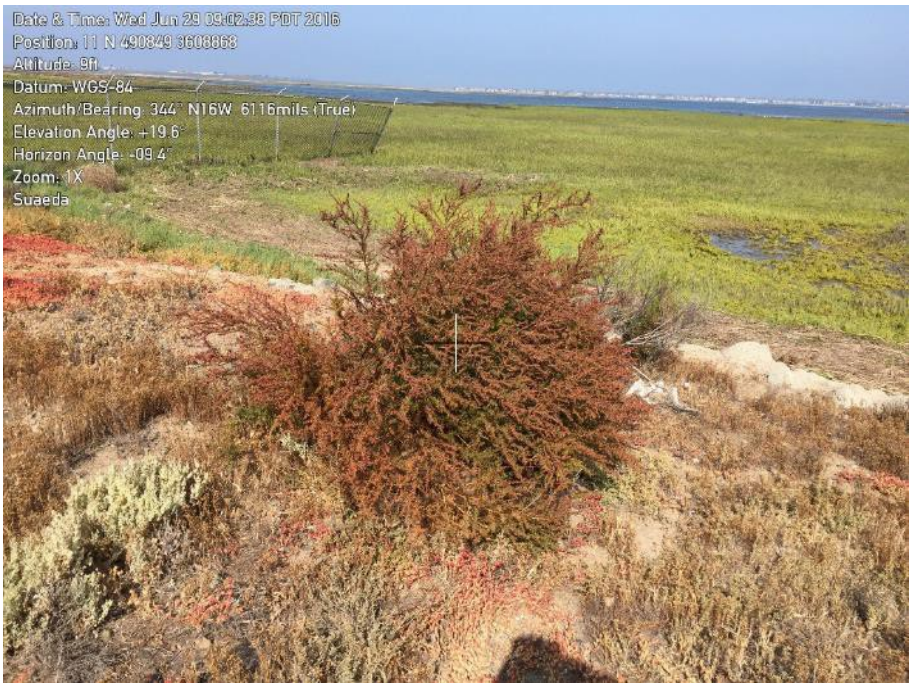

Photo 5: Estuary seablite (*Suaeda esteroa*) near the edge of the saltmarsh

Photo 6: Freshwater marsh