Natural Environment Study

(Minimal Impacts)

12-ORA-1-R18.38

EA-0N9100

EFIS-1215000008

STATE OF CALIFORNIA
Department of Transportation

Prepared By: _____ Date: 12/30/15
Kedest Ketsela, Associate Environmental Planner (Natural Science)
(949) 440-4462
Division of Environmental Analysis
District 12/Orange County

Approved By: _____ Date: 12/30/2015
Charles Baker, Specialist Branch Chief:
(949) 724-2252
Division of Environmental Analysis
District 12/Orange County

December 2015

Caltrans
CALIFORNIA DEPARTMENT OF TRANSPORTATION

Summary

The California Department of Transportation (Caltrans) District 12 proposes to restore the collapsed concrete slope paving at the North Arm Newport Bay Bridge abutment and failed asphalt section of the bicycle and pedestrian path underneath the bridge(Bridge No. 55-0621M). A scoured area on the west side of the bridge will be filled with rocks sheet pile will be placed in front of foundation of retaining wall (wing wall of abetment) to prevent further damage to the bridge.

Habitat evaluations for special-status plant and animal species and depleted natural communities were conducted within a 500' buffer around the proposed project area. Potential suitable habitat for several special-status birds, bats, plants, and invertebrates exists within the BSA. Focused surveys for rare plants and general habitat assessments for special-status animal species were conducted. No special-status species were observed within the BSA. However, the project site has suitable habitat for nesting birds. With the implementation of avoidance and minimization measures under section 5 of this NESMI, the project is not anticipated to impact any special status wildlife species.

The proposed project is located within limited potential foraging habitat (mud flat) but not nesting habitat for California Least Terns and Western Snowy Plovers. The project will result in temporary and permanent impacts to mud flat. However the impacts to mud flat expected to be minimal with the incorporation of avoidance and minimization measures (M-1 through M-8). Since the suitable foraging habitat for these species exists outside the project footprint and the species aren't known to occur or weren't observed within the BSA, the project will have no effect on California Least Terns and Western Snowy Plovers.

Caltrans also made no effect determinations for the following federally listed plant and animal species since no suitable habitats occur within the project impact area; the species weren't observed within the BSA; and/or no direct impacts to the species or their habitats will occur as result of this project: Salt marsh bird's-beak, Light-Footed Clapper rail, Pacific Pocket mouse, and Coastal California gnatcatcher. Since USFWS doesn't normally concur with no effect determinations, section 7 consultation is not anticipated.

A wetland delineation was conducted within a 50' buffer of the proposed work area. The project is located within areas subject to Section 404 of the Clear Water Act, Section 10 Navigable Waters of the US, Section 401 of the Clean Water Act, and the Coastal Zone Management Act.

A total of 0.0122 acres of temporary impacts to mud flat, 0.0262 acres of CCC wetland, and 0.014 acres temporary impacts to waters of the US will occur during construction. With the implementation of measures M-1 through M-9 listed under section 4 of this NESMI, the impacts to these jurisdictional areas are expected to be minimal. Furthermore, the project will result in 0.0071 acres of permanent impacts to mud flat, 0.025 acres of CCC wetland, and 0.018 acres of permanent impacts to waters of the US due to the placement of rocks within the project limits. To compensate the permanent impacts to these jurisdictional areas (mud flat and non-wetland)/coastal wetland, 1:1 ratio on-site or 2:1 ratio off-site mitigation is proposed for this project. Upon the approval of these mitigation ratios by the regulatory agencies, the mitigation may be accomplished through payment of an in-lieu fee, habitat restoration and/or enhancement of on or off-site areas, or another mechanism approved by the resource agencies.

Permits/agreements/Certifications from the regulatory agencies listed in Table S-1 are required for this project.

Table S-1 Regulatory Agency Permits/approval

Agency	Impact	Permit/Approval
U.S. Army Corps of Engineers	0.018 acre permanent and 0.014 acre temporary impacts to non-wetland Waters of US 0.0071 acre permanent and 0.0122 acre temporary impacts to mud flat (special aquatic site)	CWA Section 404 (NWP 3) / section 10 RHA
California Coastal Commission	0.025 acre permanent/ 0.0262 acre temporary Coastal Zone wetland	Coastal Development Permit
Regional Water Quality Control Board (RWQCB)	0.018 acre permanent and 0.014 acre temporary impacts to non-wetland Waters of US 0.0071 acre permanent and 0.0122 acre temporary impacts to Wetland (special aquatic site)	Section 401 Water Quality Certification

Eelgrass surveys, caulerpa survey and an Essential Fish Habitat Assessment were also conducted within a 50' buffer of the proposed work area. No EFH was observed within the BSA. Therefore, no EFH Consultation is anticipated for this project.

1 - Introduction

History

In January 2015, Caltrans proposed to restore permanently the collapsed Concrete slope and asphalt bike path embankments at north Arm Newport Bay Bridge with Rock Slope Protection (RSP). Simultaneously, ICF International prepared a Draft Natural Environmental Study (NES), Jurisdictional Delineation (JD) Report, and Essential Fish Habitat (EFH) report under Task Order (TO) 17 of the agreement No. 12A1488 in April 2015. However, in August 2015, the project design was changed and the project impacts to biological resources were reduced to meet the NESMI criteria. Therefore, the biological analysis (with the exception of impacts analysis) for this report was obtained from the draft NES, final JD, and EFH reports prepared by ICF International under the above referenced TO.

Project Purpose and Need

The project is located on State Route 1, also known as Pacific Coast Highway (PCH), at the southwest corner of the Newport Bay Bridge (Bridge No. 55-0614) in the City of Newport Beach, County of Orange at Post Mile (PM) R18.2 (see Figures 1-1 and 1-2).

At this segment of PCH (PM 18.38) a Class 1 bike path (Bridge No. 55-0621M) runs under the Newport Bay Bridge; perpendicular to PCH. The bike path provides a completely separated right of way for the exclusive use of bicycles and pedestrians who need to cross PCH at Dover Drive. The project is needed because the slope paving at the bridge's abutment has collapsed due to tidal erosion exposing timber piles, soil, and rebar. A portion of the bike path has also collapsed into the bay. A scoured area on the west side of the bridge will be filled with Rocks to prevent further damage to the bridge. The purpose of the project is to provide protective revetment for slope paving and failed bike path sections to dissipate tidal action causing erosion.

Project Description

The Newport Bay Bridge on Pacific Coast Highway in the City of Newport Beach has a condition of failed concrete slope paving and scouring on the west side of abutment 1. A section of the bike/pedestrian path under the bridge has also failed. This project proposes to repair the bridge and bike path by 1) replacing the failed concrete slope paving with concrete featuring a deeper slope paving key, geo-composite material and a sheet pile to minimize environmental disturbance, and 2) replacing the failed section of the asphalt concrete bike path with a 3' pavement section that has a deeper slope paving key, geo-composite materials and a sheet pile to

minimize environmental disturbances and to confine the project to the State right-of-way. Also, the scoured area on the west side of the bridge will be filled with rocks and sheet pile will be placed in front of foundation of retaining wall (wing wall of abetment) to prevent further damage to the bridge. The project is located on State Route 1, also known as Pacific Coast Highway (PCH), at the southwest corner of the Newport Bay Bridge (Bridge No. 55-0614) in the City of Newport Beach, County of Orange at Post Mile (PM) R18.2 (see Figures 1-1 and 1-2).

Figure 1-1
Regional Vicinity Map
State Route 1 Restoration Project

Figure 2
Project Location
State Route 1 Restoration Project

2 - Study Methods

In January 2015, Caltrans proposed to restore permanently the collapsed Concrete slope and asphalt bike path embankments at the north arm of the Newport Bay Bridge with Rock Slope Protection (RSP). Simultaneously, ICF International prepared a Draft Natural Environmental Study (NES), Jurisdictional Delineation (JD) Report, and Essential Fish Habitat (EFH) report under Task Order (TO) 17 of the agreement No. 12A1488 in April 2015. However, In August 2015, the project design was changed and the project impacts to biological resources were reduced to meet the NESMI criteria. Therefore, the biological analysis (with the exception of impacts analysis) for this report was obtained from the draft NES, final JD and EFH reports prepared by ICF International under the above referenced TO.

Regulatory Requirements

Federal Requirements

National Environmental Policy Act

The National Environmental Policy Act (NEPA) declares a continuing federal policy "to use all practicable means and measures...to create and maintain conditions under which man and nature can exist in productive harmony, and fulfill the social, economic, and other requirements of present and future generations." NEPA directs "a systematic, interdisciplinary approach" to planning and decision-making, and requires environmental statements for "major Federal actions significantly affecting the quality of the human environment." Implementation regulations by the Council on Environmental Quality (CEQ) (Code of Federal Regulations [CFR], title 40, Parts 1500–1508) require federal agencies to identify and assess reasonable alternatives to proposed actions that will restore and enhance the quality of the human environment and avoid or minimize adverse environmental impacts. Federal agencies are further directed to emphasize significant environmental issues in project planning and to integrate impact studies required by other environmental laws and Executive Orders into the NEPA process. The NEPA process should therefore be seen as an overall framework for the environmental evaluation of federal actions.

Clean Water Act-Sections 401 and 404

The Clean Water Act (CWA) provides a structure for regulating discharges of pollutants into the waters of the United States (WoUS). Section 404 establishes a permit program administered by the United States Army Corps of Engineers (USACE), regulating the discharge of dredged or fill material into WoUS (including wetlands).

Under Section 401 of the CWA, any project activities that involve a discharge to WoUS must obtain a state certification that the discharge complies with other provisions of the CWA. The Regional Water Quality Control Boards (RWQCBs) administer the certification program in California. The RWQCBs regulate at the state level all activities that are regulated at the federal level by USACE. Therefore, RWQCB jurisdiction usually coincides with the jurisdictional boundaries for WoUS. However, if waters are determined not to be WoUS, they may still be subject to RWQCB jurisdiction based on the Porter-Cologne Water Quality Control Act (Porter-Cologne Act; refer to Section 2.1.2.3).

Section 10 of the Rivers and Harbors Act

The USACE regulatory jurisdiction, pursuant to Section 10 of the Rivers and Harbors Act (RHA) of 1899 (33 United States Code [USC] 403), regulates almost all work in, over, and under waters listed as "navigable waters of the U.S. Under Section 10 of the RHA, USACE jurisdiction over tidal waters of the United States extends from the ordinary low tide 3 nautical miles seaward. USACE jurisdiction shoreward extends to the line on the shore reached by the mean high water. This jurisdiction extends to this edge even though portions of the water body may be extremely shallow and are thus considered "navigable in law" although they may not in fact be navigable (33 Code of Federal Regulations [CFR] 329.12). The USACE grants or denies permits based on effects on navigation. Most activities covered under this act are also covered under Section 404 of CWA.

Waters of the United States

WoUS, as defined in 33 CFR 328.3, includes the following:

(1) All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;

(2) All interstate waters including interstate wetlands;

(3) All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mud flats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce including any such waters:

(i) Which are or could be used by interstate or foreign travelers for recreational or other purposes; or
(ii) From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or
(iii) Which are used or could be used for industrial purpose by industries in interstate commerce;

(4) All impoundments of waters otherwise defined as waters of the United States under the definition;

(5) Tributaries of waters identified in paragraphs (1) through (4) of this section;

(6) The territorial seas;

(7) Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (1) through (6) of this section.

(8) Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other Federal agency, for the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with EPA [U.S. Environmental Protection Agency].

Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA (other than cooling ponds as defined in 40 CFR 423.11(m), which also meet the criteria of this definition) are not WoUS.

The limit of USACE jurisdiction, excluding wetlands and tidal waters, is delineated using the Ordinary High Water Mark (OHWM), defined in CFR 328.3(e) as:

> ...that line on the shore established by the fluctuations of water and indicated by physical characteristics such as [a] clear, natural line impressed on the bank, shelving, and changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.

Wetlands

Normally, three criteria must be satisfied to classify an area as a jurisdictional wetland: (1) a predominance of plant life adapted to living in wet conditions (hydrophytic vegetation); (2) soils that saturate, flood, or pond long enough during the growing season to develop anaerobic conditions in the upper part (hydric soils); and (3) permanent or periodic inundation or soils saturation, at least seasonally (wetland hydrology) (Environmental Laboratory 1987, USACE 2008a).

Executive Order 11990—Protection of Wetlands

This order establishes a national policy to avoid adverse impacts on wetlands whenever there is a practicable alternative.

Federal Endangered Species Act

Species listed as endangered and/or threatened by the U.S. Fish and Wildlife Service (USFWS) under the federal Endangered Species Act (FESA) are protected under Section 9 of FESA, which forbids any person to "take" an endangered or threatened species. "Take" is defined in Section 3 of FESA as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." The U.S. Supreme Court ruled in 1995 that the term "harm" includes destruction or modification of habitat. Sections 7 and 10 of FESA may authorize "incidental take" for an otherwise lawful activity (a development project, for example) if it is determined that the activity would not jeopardize the species' survival or recovery. Section 7 applies to federalized projects where a federally listed species is present and there is a federal nexus such as a federal CWA Section 404 permit (e.g., presence of WoUS) that is required. Section 7 requires federal agencies in consultation with, and with the assistance of, the Secretary of the Interior to ensure that actions they authorize, fund, or carry out are not likely to jeopardize the continued existence of threatened or endangered species or result in the destruction or adverse modification of Critical Habitat (CH) for these species. Section 10 applies when a federally listed species is present but no federal nexus is present.

Migratory Bird Treaty Act

This treaty makes it unlawful at any time, by any means or in any manner, to pursue, hunt, take, capture, or kill migratory birds. The law applies to the removal of nests as well as the abandonment of nests occupied by migratory birds during the breeding season.

Magnuson-Stevens Fishery Conservation and Management Act

The Magnuson-Stevens Fishery Conservation and Management Act (MSA) was authorized in 1996 and requires the National Marine Fisheries Service (NMFS) to identify, conserve, and enhance Essential Fish Habitat (EFH) for those species regulated under a federal Fisheries Management Plan (FMP). EFH is defined as the waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity. Specifically, the MSA requires: (1) federal agencies to consult with NMFS on all actions or proposed actions authorized, funded, or undertaken by the agency that could adversely affect EFH; (2) NMFS to provide conservation recommendations for any federal or State action that could adversely affect EFH; and (3) federal agencies to provide a detailed response in writing to NMFS within 30 days of receiving EFH conservation recommendations.

Marine Mammal Protection Act

The Marine Mammal Protection Act (MMPA) establishes a federal responsibility to conserve marine mammals, with management vested in the Department of Commerce [National Marine Fisheries Service] for cetaceans and pinnipeds other than walrus. The Department of the Interior

[US Fish and Wildlife Service] is responsible for all other marine mammals, including sea otter, walrus, polar bear, dugong and manatee. The Act generally assigns identical responsibilities to the Secretaries of the two departments.

The MMPA is the main regulatory vehicle that protects marine mammal species and their habitats in an effort to maintain sustainable populations. In doing so, the statute outlines prohibitions, required permits, criminal and civil penalties, and international aspects in addressing marine mammals. The act requires consultation on any action that may adversely affect marine mammals and provides a mechanism for an "incidental" take of species not listed under the federal Endangered Species Act.

State Requirements

California Environmental Quality Act

The California Environmental Quality Act (CEQA) establishes state policy to prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures. CEQA applies to actions directly undertaken, financed, or permitted by state lead agencies. Regulations for implementation are found in the state CEQA guidelines published by the state resources agency (Office of the Secretary).

California Fish and Game Code Sections 1600–1616

Under current California Fish and Game Code Sections 1600–1616, the California Department of Fish and Wildlife (CDFW) has authority to regulate work that would substantially divert or obstruct the natural flow—or substantially change or use any material from the bed, channel, or bank—of any river, stream, or lake. CDFW also has authority to regulate work that would deposit or dispose of debris, water, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake. This regulation takes the form of a requirement for a Lake or Streambed Alteration Agreement (SAA) and is applicable to all projects involving state or local government discretionary approvals.

Porter-Cologne Water Quality Control Act

The RWQCBs regulate activities that would involve "discharging waste, or proposing to discharge waste, within any region that could affect waters of the state" (California Water Code 13260[a]), pursuant to provisions of the state Porter-Cologne Act. Waters of the State (WoS) are defined as "any surface water or groundwater, including saline waters, within the boundaries of the state" (California Water Code 13050 [e]). Such waters may include waters not subject to regulation under CWA Section 404 due to a lack of connectivity with a navigable water body or lack of an OHWM (i.e., isolated features).

Coastal Zone Management Act

When a project requires substantial fill or new construction fill within the Coastal Zone, Caltrans must obtain a permit from the California Coastal Commission (CCC) or a city or county with coastal permit jurisdiction. The CCC oversees implementation of the California Coastal Act (CCA) and the federal Coastal Zone Management Act (CZMA). The Coastal Zone is generally defined as the distance from the ocean shoreline to 1,000 yards inland or more in some locations. The proposed project is within Orange County jurisdiction. Orange County does not have a certified Local Coastal Program. This project will be subject to original jurisdiction by the CCC due to the impact to tidelands.

California Endangered Species Act

The California Endangered Species Act (CESA) is regulated by CDFW. This act establishes the policy of the state to conserve, protect, restore, and enhance threatened or endangered species and their habitats. CESA mandates that state agencies should not approve projects that would jeopardize the continued existence of threatened or endangered species if reasonable and prudent alternatives are available that would avoid jeopardy. There are no state agency consultation procedures under CESA. For projects that affect both a state and federally listed species, compliance with FESA would satisfy CESA if CDFW determines that the federal incidental take authorization is consistent with CESA under Fish & Game Code Section 2080.1. For projects that would result in a "take" of a state-only listed species, Caltrans must apply for a take permit under Section 2081(b).

California Fish and Game Codes

These California Fish and Game Code sections 3503, 3503.5, 3505, 3800, and 3801.6 protect all native birds, birds of prey, and all nongame birds, including their eggs and nests, that are not already listed as fully protected and that occur naturally within the state. Furthermore, Section 5650 of the CFG code protect any affect to wildlife and fish.

Marine Life Protection Act

The Marine Life Protection Act (MLPA) was passed in 1999 and requires California to reevaluate all existing marine protected areas (MPAs) and potentially design new MPAs that together function as a statewide network. The MLPA has clear guidance associated with the development of this MPA network. MPAs are developed on a regional basis with MLPA- and MPA-specific goals in mind, and are evaluated over time to assess their effectiveness for meeting these goals. MPAs are separate geographic marine or estuarine areas designed to protect or conserve marine life and habitat. There are three types of MPAs designated (or recognized) in California: State marine reserve (SMR), State marine park (SMP) and State marine conservation area (SMCA). Pursuant to the MLPA, Upper Newport Bay is considered an SMCA by CDFW.

Studies Required

The studies required for the proposed project included an initial field reconnaissance and habitat evaluation for special-status species; a delineation of jurisdictional waters, wetlands, and streambeds; and focused surveys for those special-status species with a reasonable potential to occur in the biological study area, including special-status plants and animals, Zostera marina (eelgrass), Caulerpa taxifoluia (caulerpa), Essential Fish Habitat (EFH), and marine resources.

Literature Search

Prior to the initial site visit, the following potentially relevant reference literature and natural resource databases were reviewed to determine the potential value of the BSA to biological resources and habitat resources with special-status or resource value:

- Official United States Fish and Wildlife Services (USFWS) IPaC Species List was obtained on March 9, 2015. Appendix C
- CDFW 2015 California Natural Diversity Data Base (CNDDB) on the United States Geological Survey (USGS) 7.5-minute Newport beach, Laguna Beach and Tustin quadrangle maps.
- California Native Plant Society (CNPS) electronic Inventory.
- Natural Resource Conservation Service (NRCS) soils survey was accessed for soils occurring in the BSA.

Field Reviews

The Biological Study Area (BSA) that was evaluated for biological resources consisted of the proposed project work area footprint and up to a 500-foot buffer. The exception to this 500' buffer was the study area for the jurisdictional delineation (JD), essential fish habitat (EFH), eelgrass, and caulerpa surveys, all of which utilized up to a 50-foot buffer around the proposed project area.

Survey Methods

ICF Biologists performed field reconnaissance of the BSA on March 4, 2015 and March 10, 2015. These field evaluations determined what type of focused evaluations and/or surveys were necessary within the BSA. The biologists conducted Habitat assessment, bat habitat suitability assessment, Essential Fish Habitat Assessment, and Eelgrass and Caulerpa surveys. Representative

photographs were taken of the BSA and are provided in Appendix A. Table 2-1 lists survey dates and personnel.

Personal Survey Dates

Date	Time	Personnel	Weather Conditions	Surveys Conducted
3/4/2015	0900-1400	Shannon Crossen (ICF), Paul Schwartz (ICF)	62-64 degrees(°) Fahrenheit (F), 0.8 miles per hour (mph) wind, good visibility, clear skies	Jurisdictional Delineation & Flora and Fauna surveys
3/10/2015	1000-1100	Shannon Crossen (ICF) Casey Quon (TRC) Richard Burke (TRC)	65-70° F, hazy skies, light breeze.	Site reconnaissance for eelgrass and caulerpa conducted from land at low tide
3/19/15	0845-0945	Shannon Crossen (ICF), Paul Schwartz (ICF)	78-70° F, light breeze, 30% cloud cover, good visibility	Jurisdictional Delineation supplementary data collection
3/19/2015	1430-1530	TRC Solutions	Not Available	Snorkel surveys for eelgrass and caulerpa

Agency Coordination and Professional Contacts

A field meeting between Caltrans Engineers (Vora Raju, Majid Ghaboosi, and Saleh Naser); Caltrans Biologist (Kedest Ketsela); and Consultant Biologists (Shannon Crossen and Phillip Richards) occurred on March 17, 2015.

Following the initial field visit, USACE staff member Steven Estes directed ICF Biologist Paul Schwartz to use the maximum predicted annual tide (i.e., HTL) from the previous year to map the limits of Section of 404 WoUS. Additionally Mr. Estes assisted in determining the appropriate elevations to use for mapping the limits of section 404 and Section 10 jurisdictional elevations.

Potential jurisdictional area under section 1600 of the California Fish and Game Code was analyzed within the BSA. Based on the JD analysis, 0.34 acres of the study area were identified as potential CDFW jurisdictional areas under sections 1600-1616 of the Fish and Game code. Since the project footprint is located within lower Newport Bay, Kedest Ketsela, Caltrans Biologist, requested CDFW clarification on whether the Department would take jurisdiction over any works within lower Newport Bay. Based on an email response from Tim Dillingham, CDFW representative, the Lower Newport Bay is considered to be an embayment and no SAA notification is required. See the email correspondence dated October 21, 2015.

A field meeting between Caltrans staff (Kedest Ketsela, Sylvia Vega, Charles Baker, and Lisa Perez) and Stephanie Hall, USACE representative, was conducted on November 16, 2015. Corps jurisdictional areas and potential on-site mitigation were discussed at the field meeting. The Corps accepted proposed on-site mitigation proposal to remove and replace non-native plant with native plants. Furthermore, the Corps indicated that the project requires section 10 permit only.

Limitations That May Influence Results

The collection of biological field data is normally subject to environmental factors that cannot always be controlled or anticipated. In addition, project-level scheduling limitations may pose constraints on data collected during field visits (e.g. conducting focused botanical surveys outside of species-specific blooming periods). Not all of the BSA was accessible due to the fact that several parcels within the BSA are privately owned or city owned properties and permission to enter was not acquired prior to field surveys. Therefore, the interpretation of field data must be conservative and consider the uncertainties and limitations unavoidably imposed by the project schedule, access limitations, and the environment. However, due to the experience and qualifications of the ICF biologists involved in the surveys, these limitations are not expected to strongly influence the results or considerably modify the findings of this study.

3 - Results: Environmental Setting

The BSA is located in the City of Newport Beach, Orange County, California within the jurisdiction of Caltrans District 12. The BSA is located within Township 6 South, Range 10 West, and Section 27 of the Newport Beach, California, USGS Topographic Quadrangle Map. The BSA extends along SR-1 about the southwestern-most portion of the SR-1 Bridge in and adjacent to Newport Bay.

Newport Bay consists of a large estuary divided into two sections: Lower Newport Bay and Upper Newport Bay. The SR-1 Bridge divides the upper and lower portions of Newport Bay. Upper Newport Bay is primarily composed of undeveloped open water, mud flats, saltmarsh, coastal salt marsh, and riparian habitat surrounded by cliffs and hills dominated by upland southern coastal bluff scrub, coastal sage scrub, and grasslands. The Lower Newport Bay is consists of a harbor and marina with significant development along its borders. The project is located within lower Newport Bay.

Description of the Existing Biological and Physical Conditions

Physical Conditions

The BSA is located within and adjacent to Newport Bay, while the Upper Newport Bay consists of a large natural estuary with primary freshwater inputs from San Diego Creek as well as several unnamed small freshwater channels, while the Lower Newport Bay consists of a harbor and marina with significant development along its borders.

Biological Conditions in the Study Area

The BSA is located within and adjacent to Newport Bay. The BSA elevation is approximately 0-65 feet above mean seal level (amsl). The topography within the BSA is relatively flat with some slopes at the peripheries of the BSA. A soil series is a group of soils containing similar soil profiles. One soil series occurs in the BSA: Beaches. The Beaches soil is identified by NRCS Soil Survey as consisting of course to fine poorly drained sands (see Appendix E for BSA soil mapping).The BSA is located within the Santa Ana River Hydrologic Unit and Newport Beach Hydrologic Subarea.

Regional Species and Habitats and Natural Communities of Concern

ICF Biologists assessed over 100 special-status plant and animal species and 9 depleted natural communities that are known to occur within the project's region based on database searches. A list of these species and vegetation communities, as well as habitat requirements, regulatory status, and potential to occur within the BSA is provided in Appendix B. Determinations for the likelihood of occurrence are based on the presence of suitable habitat, soils, quality of habitat, geographic range, elevation, and species-specific tolerances to disturbances within the BSA.

Natural Communities and Vegetation

The BSA can be classified into 7 vegetation communities; Figure 3-1 illustrates the vegetation community mapping in the BSA.

California Sagebrush Scrub

California Sagebrush Scrub (CSS) is located in the BSA on the northern edge of the site adjacent to the City of Newport Beach parcel.

Disturbed Quailbush Scrub

This vegetation community is a remnant fragment of the adjacent southern coastal bluff scrub and quailbush scrub and consists of a patch of *Atriplex lentiformis* within a disturbed edge area of the BSA.

Disturbed California Brittle Bush Scrub

This vegetation community is a disturbed fragment likely associated with the adjacent southern coastal bluff scrub to the north of the project area and consists of a sparse patch of *Encelia californica* within a disturbed area of the BSA.

Open Water

Open water estuarine habitat occurs within the BSA along the southeastern portion of the study area. Open water habitat consists of waters which remain open water regardless of the ebb and flow of the tides.

Mud flat

Mud flat habitat exists within the BSA along the intertidal portions of the estuary. Mud flats are subject to exposure and submersion by the ebb and flow of daily tide cycles and are primarily composed of sediment deposits (i.e. silts, clays). Mud flat habitat was delineated using long-term historical aerial imagery (Google Earth) and represents the average exposure detected for the available imagery.

Ruderal

Ruderal areas typically lack natural topography because they are often in areas that have been altered by human use and disturbance, such that the disturbances discourage growth of native vegetation. The dominant species in ruderal areas are often tolerant of frequent disturbances or soil compaction, and are typically nonnative or weedy in nature. Within the BSA, common ruderal vegetation consisted of salt grass (*Distichlis spicata*), fennel (*Foeniculum vulgare*), and black mustard (*Brassica nigra*).

Ornamental

Several trees, shrubs, and ground cover within the BSA that have been planted as ornamentals such as ice plant (*Carpobrotus chilensis*), Brazilian pepper tree (*Schinus terebinthifolius*), Mexican fan palm (*Washingtonia robusta*), Eucalyptus sp., and trailing shrub verbena (*Lantana* sp). These ornamental plants are not associated with any native natural communities.

Giant Reed Breaks

An isolated stand of Arundo donax is found in the center of the BSA on City of Newport Beach property. The stand exists in a disturbed area that is primarily dominated by ornamental and ruderal vegetation communities.

Developed

The remainder of the BSA consists of developed lands in the form of roadway, commercial, and residential areas. The residential and commercial developed areas contain some ornamental landscaping.

Wildlife

Thirty-six species of wildlife were detected in the BSA during field surveys for the proposed project and included birds, reptiles, marine and terrestrial invertebrates, and mammals. Appendix F provides a complete list of wildlife species detected.

Birds were the most commonly detected faunal group within the BSA, including such species as western gull (*Larus occidentalis*), brown pelican (*Pelecanus occidentalis*), horned grebe (*Podiceps auritus*), American coot (*Fulica americana),* and white-throated swift (*Aeronautes saxatalis*).

Aquatic Resources

Aquatic resources under the jurisdiction of the USACE, RWQCB, CDFW, and CCC were evaluated in the BSA. A full evaluation of these resources can be found in Appendix D.

Invasive Species

There were 16 invasive plant species classified as California Invasive Plant Council (Cal-IPC) invasive plants observed within the BSA

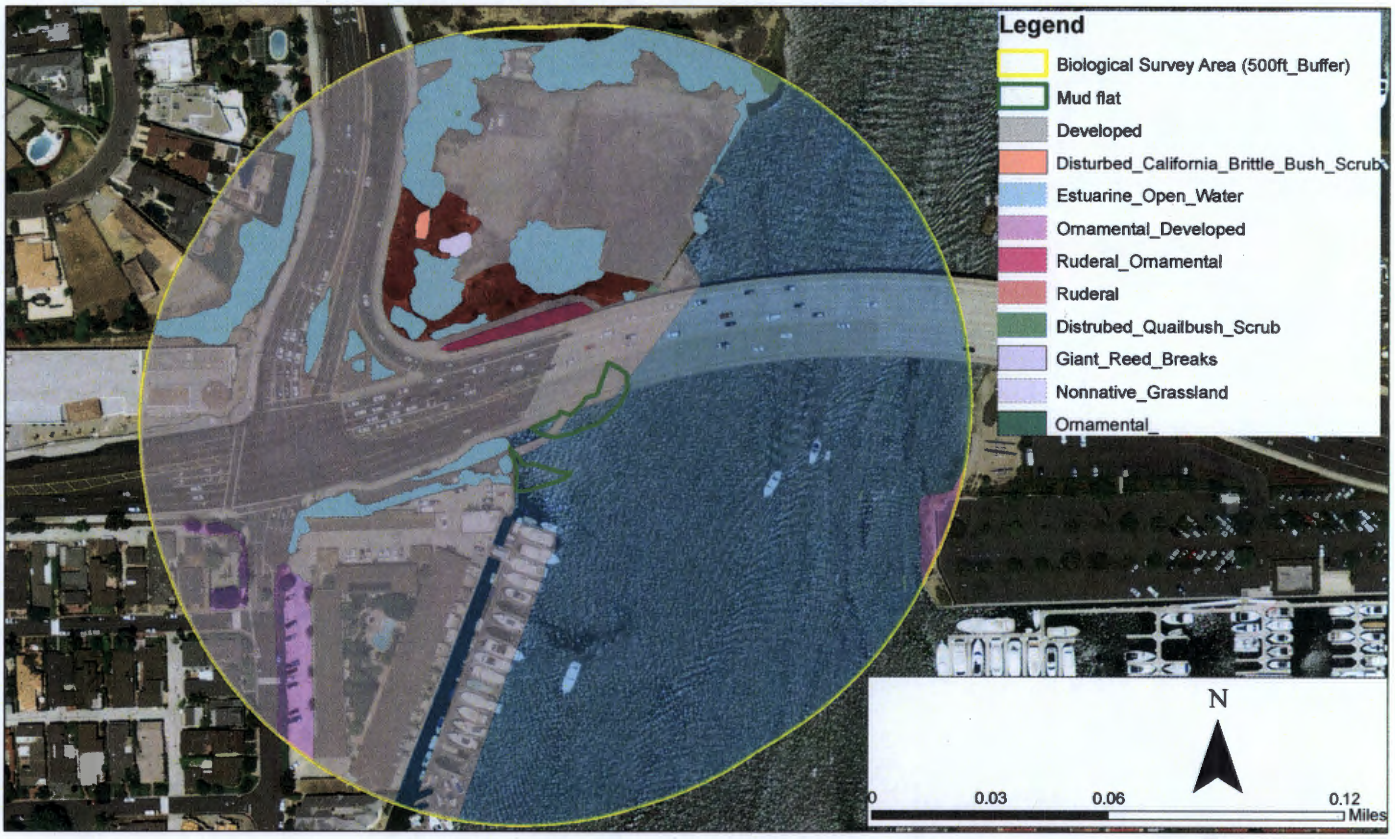


Figure 3-1
Biological Survey Area
State Route 1 Restoration Project

4 - Results: Biological Resources, Discussion of Impacts & Mitigation

Habitats and Natural Communities of Special Concern

Disturbed Quailbush Scrub

Disturbed quailbush scrub (DQBS) is a vegetation community found on alkali and mesic soils within sage scrub and coastal scrub habitats in southern California. Shrub cover is dominated by *Atriplex lentiformis.*

Disturbed California Brittle Bush Scrub

Disturbed California Brittle Bush Scrub (DCBBS) is a vegetation community associated with sage scrub and coastal scrub habitats in southern California. Shrub cover is dominated by *Artemisia californica.*

California Sagebrush Scrub

California Sagebrush Scrub (CSS) is a vegetation community associated with sage scrub and coastal scrub habitats in southern California. Shrub cover is dominated by *Artemisia californica.*

Survey Results

Figure 3-2 depicts the location of the above natural communities within the BSA.

Project Impacts

As result of this project, no impacts, either direct or indirect, to these natural communities are anticipated.

Avoidance and Minimization Efforts/Compensatory Mitigation

Since the project will not impact the above natural communities, no avoidance and minimization measures are needed.

Jurisdictional Wetland and Waters of the US and State

Mud flat

Mud flats are considered Environmentally Sensitive Habitat Areas (ESHAs) by the CCC, which are protected under the CCA. They are also regulated by Section 404 of the CWA (special aquatic sites) and the RWQCB under Section 401 of the CWA.

Survey Results

0.142 acres of mud flat habitat are present in the BSA along the intertidal portions of the estuary. The mud flat areas within the BSA contain scattered asphalt and concrete rubble from the eroding portions of the bridge abutment and bike path that are proposed for repair. A small number of sessile marine invertebrates (e.g. barnacles, limpets, Pacific oyster [*Crassostrea gigas]*) were observed dwelling on the rubble.

Project Impacts

A total of 0.0122 acres of mud flat will be temporarily impacted during construction. This impact will occur due to construction access and installation of temporary BMP measures i.e. installation of Turbidity Curtains. 0.0071 acres of permanent impacts to this habitat will occur as result of installation of rocks to protect the concrete slope. Although, no mitigation is proposed for temporary impacts to mud flat since the site will be restored to pre-existing conditions naturally after construction is completed, permanent impacts to this habitat will require mitigation.

Avoidance and Minimization Efforts/Compensatory Mitigation

M-1. Prior to clearing or construction, highly visible barriers (such as orange construction fencing) will be installed around sensitive habitats adjacent to the project footprint to designate ESAs to be preserved. Since installing ESA fence will not be effective within tidal waters, turbidity curtains (which will be installed as a BMP measure) will be used to delineate the ESA. All equipment maintenance, staging, and dispensing of fuel, oil, or any other such activities will occur in developed or designated non-sensitive upland habitat areas. The designated upland areas will be located in such a manner as to prevent the runoff from any spills from entering Waters of the US/ Waters of the State (WoUS/WoS).

M-2. Shielded lighting will be used for any nighttime construction adjacent to native vegetation areas and open-water habitats to avoid and minimize artificial night-lighting effects.

M-3. All construction within jurisdictional waters will occur at a low or low-low tide that is sufficient to allow work to be conducted from out of the water.

M-4. All construction site BMPs from the SWPPP will be followed.

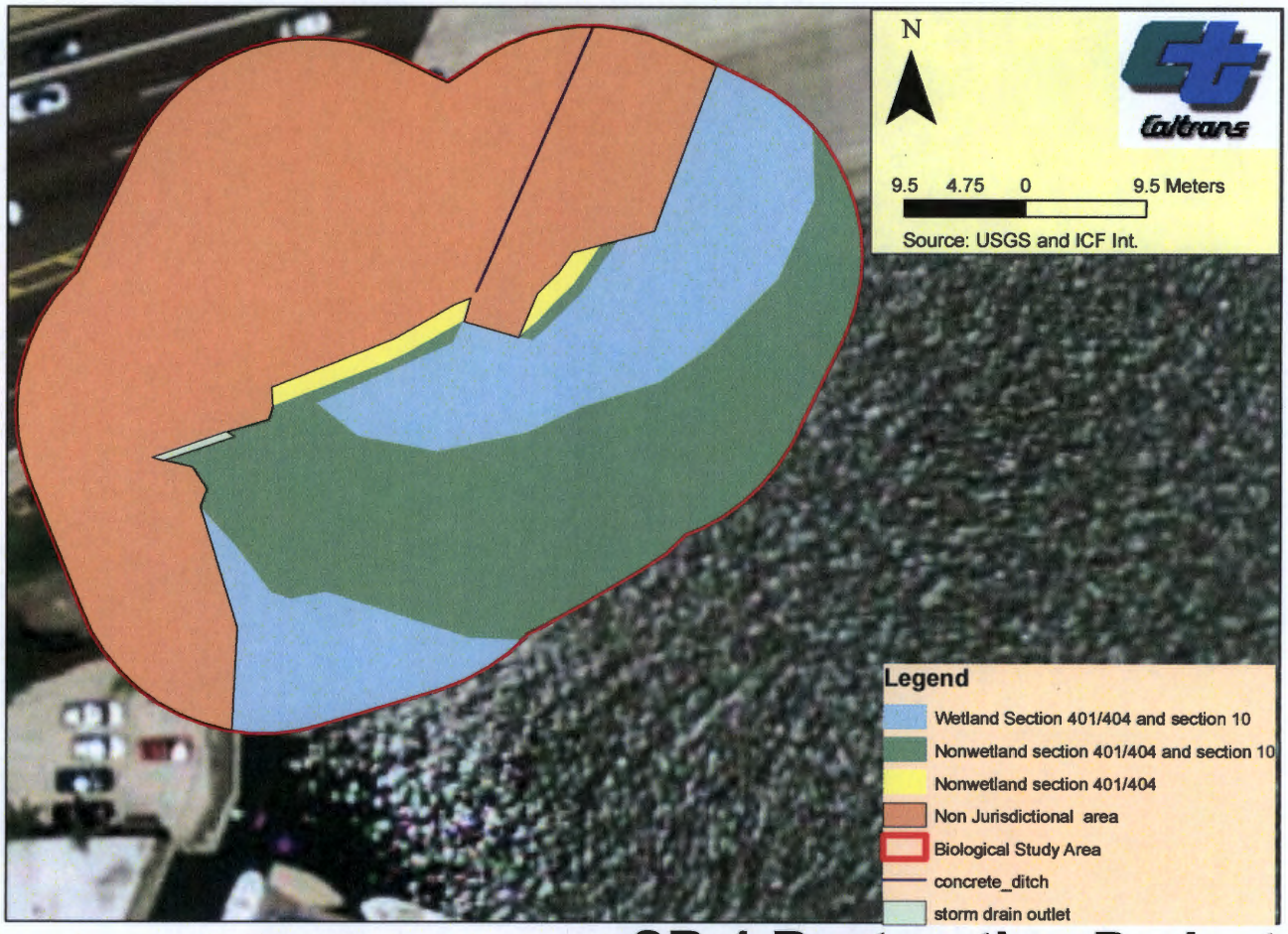


Figure 4-1
USACE and RWQCB
Jurisdictional Area

SR-1 Restoration Project

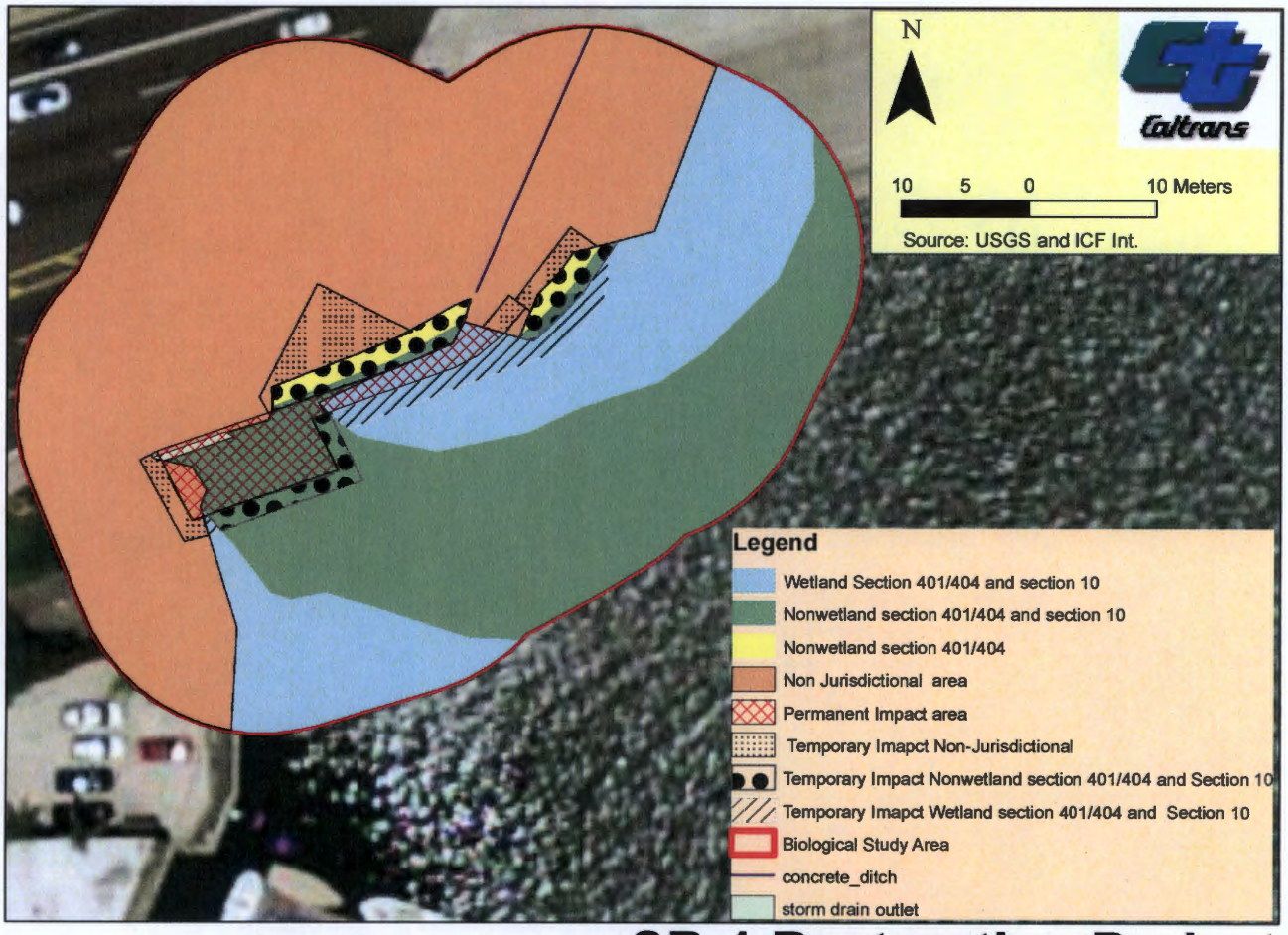


Figure 4-3
USACE and RWQCB
Jurisdictional Impacts Area

SR-1 Restoration Project

M-5. Turbidity curtains will be used to minimize impacts from turbidity on mud flats and other aquatic resources adjacent to the construction area. These curtains will be placed in a semi-circular ring around the construction area before construction begins.

Non-wetland Waters of the U.S. and Coastal Zone Wetland

Non-wetland waters of the US are areas that lacks one or two of the three criteria to meet the definition of "wetland" under the USACE jurisdiction. Based on site evaluations of the BSA, the extent of non-wetland Waters of the US was delineated within existing structures due to the presence of OHWM on the structures. Therefore, the existing bridge concrete slope and bike path are delineated as USACE non-wetland Waters of the US and are subjected to section 10 of the Rivers and Harbor Act, and Section 404 and 401 of the Clear Water Act. However, these structures as well as areas adjacent to the structures are delineated as potential coastal zone wetlands and are subject to the Coastal Act. The CCC jurisdictional area was evaluated based on the existing tide line on structures.

Survey Results

0.195 acres of potential USACE Non-wetland Waters of the US and 0.340 acres of potential Coastal Zone Wetland were assessed within the BSA. (See Figure 4-1 and 4-2.)

Project Impacts

The project will result 0.014 acres and 0.0262 acres of temporary impacts to Non-wetland Waters of the US and Coastal Zone Wetland respectively. (See figure 4-3 and 4-4.) These impacts to potential regulatory agencies (USACE, RWQCB, and CCC) jurisdictional areas are expected to occur as result of temporary construction easements and the replacement of structures within the project footprint. Out of the total temporary impacts to areas subjected to these regulatory agencies, 0.01 acres of USACE/RWQCB and 0.012 acres of CCC jurisdictional areas will occur due to the replacement of existing concrete and asphalt materials with slope paving keys, geo-composite materials, and sheet piles. The remaining temporary impact will occur due to the placement of turbidity curtains and construction easements during the construction period. The project will result 0.018 acres of permanent impacts to USACE/RWQCB (non-wetland) and 0.025 acres to CCC (wetland) jurisdictional areas due to the placement of rocks to repair the existing scour within the project footprint.

Avoidance and Minimization Efforts/Compensatory Mitigation

With the implementation of Caltrans BMPs and Measures 1-6 listed above, the project will have minimal impacts to jurisdictional waters. Since the project impacts areas fall under the regulatory

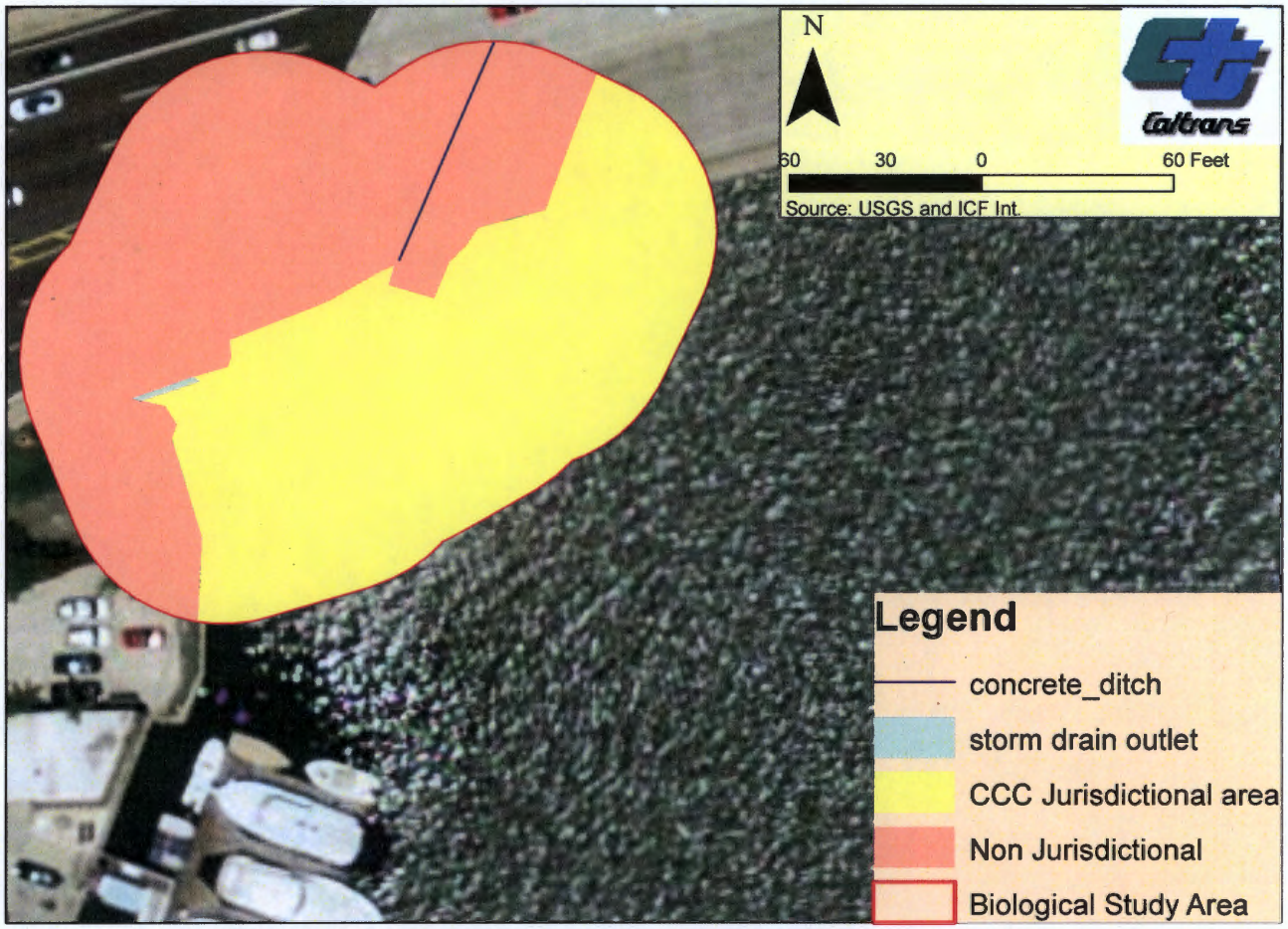


Figure 4-2
Coastal Commission Jurisdictional Area

SR-1 Restoration Project

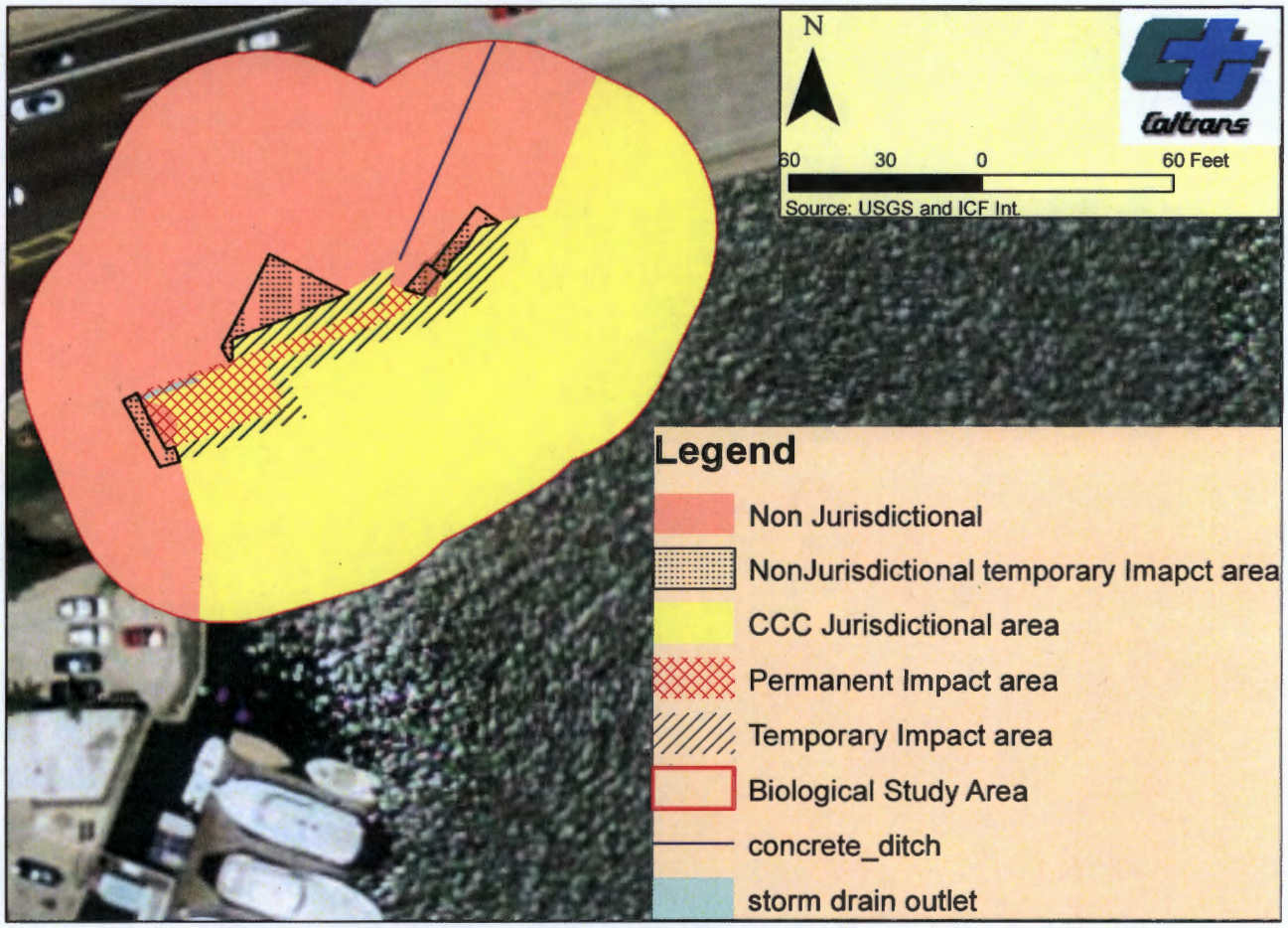


Figure 4-4
Coastal Commission Jurisdictional Impacts Area

SR-1 Restoration Project

agencies' jurisdiction, regulatory agency permits from USACE (NWP 3 and/or Section 10), RWQCB (401 Certification), and CCC (Coastal Development Permit) will be obtained.

M-6. To compensate the permanent impacts to jurisdictional waters of the US (mud flat and non-wetland) and coastal zone wetland,1:1 ratio on-site or 2:1 ratio off-site mitigation is proposed for this project. Upon the approval of these mitigation ratio by the regulatory agencies, the mitigation may be accomplished through payment of an in-lieu fee, habitat restoration and/or enhancement of on- or off-site areas or another mechanism approved by the resource agencies. Caltrans proposes an on-site restoration through removal and replacement of existing invasive/non-native plant with native plants. Based on a preliminary discussion with the Corps during field meeting on November 16, 2015, the proposed on-site mitigation was acceptable. However, final approval of the proposed mitigation will be made during permit processing period.

No mitigation is proposed for temporary impacts to jurisdictional waters since the site will be restored to pre-existing conditions naturally after construction is completed.

Essential Fish Habitat

An Essential Fish Habitat (EFH) assessment was conducted within the proposed project area and a 50 foot buffer around the proposed project impact area. See Appendix G for detailed reporting on EFH assessment methods and findings.

Survey Results

According to the EFH assessment conducted for this project, no EFH is present within the 50 foot study buffer around the proposed project area. Eelgrass and EFH are known to occur approximately 800 feet southeast of the project site.

Project Impacts

No direct impacts to EFH are anticipated because EFH is absent from the BSA. Indirect impacts that may occur to EFH located outside of the BSA include impacts from increased turbidity related to construction disturbance.

Avoidance and Minimization Efforts/Compensatory Mitigation

Measures **M-1** through **M-8** will avoid indirect impacts to EFH.

Eelgrass Habitat and Caulerpa Surveys

Eelgrass surveys were conducted within the proposed project area and a 50 foot buffer around the proposed project impact area. This section summarizes the findings. See Appendix G for a detailed report of eelgrass survey methods and findings.

Survey Results

According to the eelgrass surveys conducted for this project, no eelgrass is present within the BSA. Eelgrass is known to occur approximately 800 feet southeast of the project site.

Project Impacts

No direct impacts to eelgrass are anticipated because eelgrass is absent from the project impact areas. Indirect impacts that may occur to eelgrass located outside of the project impact areas include impacts from increased turbidity related to construction disturbance.

Avoidance and Minimization Efforts/Compensatory Mitigation

Measures **M-1 through M-8** will avoid indirect impacts to eelgrass habitat.

Special Status Plant Species

There were 10 federal and/or state threatened and endangered (or candidate) plant species and 45 plant species ranked as non-listed special-status by CNPS that were reviewed for occurrence in the BSA based on the regional location of the proposed project. Of the 45 plant species, the following plant species are protected under the Federal and State ESA: salt marsh bird's-beak (*Chloropyron maritimum ssp. maritimum*), Laguna Beach dudleya (*Dudleya stolonifera*), Gambel's water cress (*Nasturtium gambelii*), San Diego button-celery (*Eryngium aristulatum var. parishii*), and big-leaved crownbeard (*Verbesina dissita*).

Survey results

None of the 45 plant species were observed during focused field surveys and are considered to have extremely low potential to occur in the BSA due to the level of disturbance and lack of suitable habitats.

Project Impacts

The project will impact no listed plant species within the BSA. Therefore, the project would have no effect on the above Federal/State listed species.

Avoidance and Minimization Efforts/Compensatory Mitigation

Because no State and Federal listed plant species occur within the BSA, avoidance and minimization measures are not warranted.

Special Status Animal Species Occurrences

There are 13 state and federal threatened and endangered animal species with potential to occur in the project region based on database searches of the area. Of the 13 animal species, potential suitable habitats for the following four listed species may occur within and adjacent to BSA: Coastal California gnatcatcher (*Polioptila Californica Californica*), western snowy plover (*Charadrius alexandrinus nivosus*), Pacific pocket mouse (*Perognathus longimembris pacifcus*), and California least tern (*Sternula antillarum browni*).

Coastal California Gnatcatcher

The coastal California gnatcatcher (CAGN) (*Polioptila Californica Californica*) was listed as threatened by the USFWS in March 1993. On February 7, 2000, approximately 513,650 acres in Los Angeles, Orange, Riverside, San Bernardino, and San Diego Counties were designated as critical habitat for the CAGN (USFWS 2000). New boundaries for designated critical habitat encompassing a total of 495,795 acres were proposed in April 2003 (USFWS 2003). On December 19, 2007, the USFWS designated 197,303 acres as revised final critical habitat (USFWS 2007). This revised final rule excludes lands in approved Habitat Conservation Plan areas. There is no designated critical habitat in the BSA.

Survey Results

CAGN are known to occur in the area along the bluffs within the southern coastal bluff scrub habitat immediately adjacent to the BSA. CAGN were incidentally observed and were audible within the southern coastal bluff scrub immediately north of the BSA during site reconnaissance surveys on March 10th and March 19th 2015.

Project Impacts

The proposed project is expected to result in no effects (direct, indirect or cumulative) to CAGN and its suitable habitat located adjacent to BSA as the species' suitable habitat is located approximately more than 500 ft. from the project footprint. Therefore, the project will have no effects on Coastal California gnatcatchers.

Avoidance and Minimization Efforts/Compensatory Mitigation

Because CAGN and its suitable habitat will not be impacted as result of this project, avoidance and minimization measures are not warranted.

California Least Tern

The California Least tern (*Sterna antillarum browni*) was listed as endangered by the USFWS in March 8, 1969. This small North American tern is found along the Pacific Coast of California from San Francisco southward to Baja California. According to the 2006 USFWS Carlsbad office, the species' population increased from 600 pairs to 7,100 pairs between year 1973 and 2005. The least tern recovery effort has ameliorated threats to the population so the USFWS recommends down listing to threatened. However, the species is still listed as Endangered. There is no designated critical habitat for this species in California.

Survey Results

California Least Tern is known to occur within the Upper Newport Bay Natural Preserve Park located approximately 9.500 ft. upstream from the proposed project site. This species wasn't observed in the BSA during the site reconnaissance surveys. The mud flat habitat is expected to provide limited potential foraging habitat for this species as the mud flat is located within a harbor that is significantly developed, and disturbed by human activities including human foot traffic, bike riders, boaters, and kayakers.

Project Impacts

The proposed project is not expected to result in direct or indirect effects to California least tern. However, 0.0122 acres of temporary and 0.0071 acres of permanent impacts to mud flats will occur during the construction period. Due to the placement of turbidity curtains and construction easements during the construction period, a small portion of the mud flat will not be available for the species to forage in during the construction period. Furthermore, a very small area of mud flat adjacent to the concrete slope will permanently impacted due to the placement of rocks. Since suitable foraging habitats for this species exist outside the project impact area and the species isn't known to occur or wasn't observed within the vicinity of the project site, the project impacts to mud flats would have no measurable effect on the Least tern.

Avoidance and Minimization Efforts/Compensatory Mitigation

Because California Least tern wasn't observed within the project impact area and the mud flat provides limited foraging habitat for this species; and the project will incorporate the following measures and measures M-1 though M-6 to minimize impacts to mud flat:

M-7: Existing scattered asphalt and concrete rubbles located within the project limit will be preserved to the maximum possible. If the rubbles within the project's temporary impact areas are required to be removed to conduct the construction activities, then each rubble will be relocated to areas outside the project limit behind the turbidity curtain.

M-8: A biologist will monitor the project construction to ensure the implementation of measures listed in the NESMI.

Western Snowy Plover

The Western Snowy Plover (*Charadrius nivosus ssp. Nivosus*) was listed as threatened by the USFWS in March 5, 1993. This species' breeding habitat is limited to Bolsa Chica Ecological Reserve and the mouth of Santa Ana River Orange County. The USFWS designated 24,572 acres of critical habitat area in Washington, Oregon, and California on March 22, 2011. The BSA is not located within designated critical habitat area for this species.

Survey Results

This species wasn't observed in the BSA during site reconnaissance surveys. The mud flat habitat found within the BSA is considered to be limited potential suitable habitat for foraging but not nesting Snowy plover due to significantly developed, high human activities within and around BSA.

Project Impacts

The proposed project is not expected to result in direct or indirect effects to Western snowy plover. However, 0.0122 acres of temporary and 0.0071 acres of permanent impacts to mud flat will occur during the construction period. Due to the placement of turbidity curtains and construction easements during the construction period, a small portion of the mud flat will not be available for the species to forage in during the construction period. Furthermore, a very small area of mud flat adjacent to the concrete slope will permanently impacted due to the placement of rocks. Since suitable foraging habitats for Western Snowy Plover exist outside the project impact area and the species isn't known to occur within the vicinity of the project site, the project impacts to mud flats would have no measurable effect on the Snowy Plover.

Avoidance and Minimization Efforts/Compensatory Mitigation

Because this species wasn't observed within the project impact area and the project site provides limited foraging habitat for this species, and the project will incorporate the following measures and measures M-1 though M-9, the project's impacts to mud flats would have no measurable effect on this species.

Light-Footed Clapper rail

The light-footed clapper rail (*Rallus longirostris levipes*) was listed as Endangered by USFWS in October 13, 1970. This species inhabits coastal marshes with cordgrass (spartina ssp.) and pickleweed (salicornia ssp.) This species is also known to nest less frequently in freshwater marshes than in saltwater marshes. The species has no designated critical habitat in California.

Survey Results

This species and its suitable habitat are absent from the BSA.

Project Impacts

Since this species and its suitable habitat are absent from the BSA, no impacts to light-footed clapper rail will occur as result of this project.

Avoidance and Minimization Efforts/Compensatory Mitigation

Because light-footed clapper rail and its suitable habitat would not be impacted as result of this project, avoidance and minimization measures are not warranted.

San Diego Fairy Shrimp

The San Diego Fairy Shrimp (*Branchinecta sandiegonesis*) was listed as Endangered by the USFWS in February 3, 1997. This species occurs in groups of vernal pools referred to as vernal pool complexes. Vernal pool complexes include between 5 and 50 vernal pools. In December 2007, the USFWS finalized critical habitat designation for this species includes 3,082 acres of habitat in portions of Orange, San Diego counties, California. The BSA is not located within designated critical habitat areas for this species.

Survey Results

This species and its suitable habitat are absent from the BSA.

Project Impacts

The project would have no effect on this species and its habitat.

Avoidance and Minimization Efforts/Compensatory Mitigation

Because San Diego fairy shrimp and its habitat are absent from the BSA, avoidance and minimization measures are not warranted.

Pacific Pocket Mouse

The Pacific pocket mouse (*Perognathus longimembris pacifcus*) was listed as Endangered by the USFWS in February 3, 1994. This species lives on fine grained substrates in coastal sage scrub, coastal stand and coastal dunes. The species has no designated critical habitat in California.

Survey Results

Similar to CAGN, this species may occur in the areas along the bluffs within the southern coastal bluff scrub habitat immediately adjacent to the BSA. This species wasn't observed during field surveys.

Project Impacts

The proposed project is expected to result in no effects (direct, indirect or cumulative) to pacific pocket mouse and its suitable habitat located adjacent to the BSA as the species' suitable habitat is located approximately more than 500 ft. from the project footprint. Therefore, the project will have no effect on the pacific pocket mouse.

Avoidance and Minimization Efforts/Compensatory Mitigation

Because pacific pocket mouse is absent from the BSA and its suitable habitat would not be impacted as result of this project, avoidance and minimization measures are not warranted.

Other Special-Status Species Dependent on Estuarine/Open Water Habitat

In addition to the species discussed above, many special-status animal species are known to occur within and directly adjacent to estuarine habitats including mimic tryonia (*Tryonia imitator*), western tidal-flat tiger beetle (*Cicindela gabbii*), western beach tiger beetle (*Cicindela latesignata latesignata*), and senile tiger beetle (*Cicindela senilis frosti*). These species are known to inhabit sand and mud flats.

Survey Results

None of these species was observed within the BSA during field surveys.

Project Impacts

The proposed project is not expected to result in direct or indirect effects to species listed above. However, 0.0122 acres of temporary and 0.0071 acres of permanent impacts to mud flats will occur during the construction period. Due to the placement of turbidity curtains and construction easements during the construction period, a small portion of the mud flat will not be available for the species during the construction period. Furthermore, a very small area of mud flat adjacent

to the concrete slope will permanently impacted due to the placement of rocks. Since similar habitats are available adjacent to the project impact area and none of the species were observed during field survey, the project impacts to mud flats would have no measurable effects on these species.

Avoidance and Minimization Efforts/Compensatory Mitigation

Because the species weren't observed within the project impact area and the availability of suitable habitat adjacent to the project footprint, the impacts to these species is very minimal with the incorporation of measures M-1 though M-8.

Crevice Dwelling and Foliage Dwelling Bat Species

According to database searches and habitat evaluations, other special-status animal species and bat species with the potential to occur in the BSA are Mexican free-tailed bat (*Tadarida brasiliensis*), pallid bat (*Antrozous pallidus*), western mastiff bat (*Eumops perotis*), hoary bat (*Lasiurus cinereus*), western yellow bat (*Lasiurus xanthinus*), western small-footed myotis (*Myotis ciliolabrum*), Yuma myotis (*Myotis yumaensis*), and big free-tailed bat (*Nyctinomops macrotis*). Of these species Yuma myotis, Mexican free-tailed bat, western yellow bat, and hoary bat are considered to have potential roosting habitat within the BSA. Yuma Myotis and Mexican free-tailed bats have a moderate potential to occur and hoary and western yellow bat have a low potential to occur within the BSA.

Survey Results

A bat habitat suitability assessment was conducted by consultant biologist Shannon Crossen on March 5 2015, to ascertain the potential for bat foraging and roosting activity in the BSA. The habitat assessment was conducted during the day and entailed the inspection of bridge features and vegetation within the BSA that could be used for bat roosting as well as habitat qualities that could be used for bat foraging. There is potential for bats to roost in the SR-1 bridge structure within any available crevices and/or within weep holes for day and maternity roosting and on the outside of the bridge for night roosting. There is also some potential for bats to roost within the trees (fan palms) within the BSA and Lasiurine (foliage roosting bat species) species have documented past occurrences adjacent to the BSA (CNDDB, 2015) but the trees are manicured making their potential to serve as roosting habitat low.

Project Impacts

No potential roosting habitat will be permanently altered by the proposed project. As a result, the project is not expected to substantially affect the long-term use of the structures by bats.

Avoidance and Minimization Efforts/Compensatory Mitigation

All work conducted on bridges will take place during the day to the extent feasible. If this is not feasible, impacts will be minimized by directing lighting and noise away from night roosting areas as much as possible.

5 - Conclusions & Regulatory Determination

Federal Endangered Species Act Consultation Summary

Caltrans took the responsibility for compliance with all section 7of ESA requirements from FHWA under the pursuant to Memorandum of Understanding (MOU) between Caltrans and FHWA, where the California Department of Transportation, the State of California's Participation in the Project Delivery Program under 23 USC 327, which Caltrans has assumed FHWA responsibilities since October 1, 2012. The MOU was signed pursuant to the Moving Ahead for Progress in the 21st Century Act (MAP-21) effective on October, 2012. Therefore, Caltrans made the following no effect determinations for the species identified by the Fish and Wildlife Service:

No effect determinations were made to the following Federal listed plant and animal species since no suitable habitats occur within the project impact area; the species weren't observed within the BSA; and/or no direct effects to these species or their habitats will occur as result of this project: Salt marsh bird's-beak, Light-Footed Clapper rail, Pacific Pocket mouse, and Coastal California gnatcatcher.

The proposed project is located within limited potential foraging habitat (mud flat) but not nesting habitat for California Least Terns and Western Snowy Plovers. These species aren't known to occur within the BSA and weren't observed during surveys. Furthermore, the project impacts to mud flat is very minimal with the incorporation of avoidance and minimization measures (M-1 through M-8). Since suitable foraging habitats for this species exist outside the project impact area and the species aren't known to occur or weren't observed within the BSA, the project will have no measurable effect on California Least Terns and Western Snowy Plovers.

Since USFWS or NMFS doesn't normally concur with no effect determinations, Section 7 consultation is not anticipated for this project.

California Endangered Species Act

The project will have no effect on the following State listed plant and animal species, since no suitable habitats occur within the project impact area; the species weren't observed within the

BSA; and/or no direct impacts to these species or their habitats will occur as result of this project: Laguna Beach dudleya, San Diego button-celery, big-leaved crownbeard and light footed clapper rail. California Least tern is a State listed species and protected under the CESA. Similar to the effect determination made under the Federal Endangered Species Act above, the project will have no effect on California Least tern.

Essential Fish Habitat Consultation Summary

Due to the absence of EFH within the BSA no EFH consultation is anticipated.

Wetlands and Other Waters Coordination Summary

Potential Section 404 WoUS and special aquatic sites were initially delineated using methods established in the Wetland Delineation Manual (Environmental Laboratory 1987), the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (USACE 2008a), A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States (USACE 2008b), and 2007 and 2008 Rapanos Guidance (USACE and EPA 2008).

Potential Section 10 Navigable Waters were mapped using tidal gauge data from Station 9410580. The limits of Section 10 tidal WoUS were defined by the Mean High Water (MHW) using MLLW as a baseline (MHW minus MLLW = Section 10 MHW).

Based on the Jurisdictional Delineation Report prepared by ICF International, the project is located within USACE jurisdictional areas that are subject to Section 404 of the CWA and Section10 of RHA. The project will result 0.014 acres and 0.0122 acres of temporary impacts to USACE non-wetland waters of the US and special aquatic site during the construction period. The project will permanently impact 0.018 acres and 0.0071 acres of non-wetland waters and mud flat (special aquatic site) due to the installation of rocks within the scoured area.

Evaluation of areas subject to Section 401 of the Clear Water Act typically follows the same jurisdictional areas as used to define the limits of Section 404 of WoUS. Therefore, the Regional Water Quality Control Board impacts are consistent with those of the USACE.

Similar to USACE and RWQCB, the CCC delineates wetlands based on USACE wetland definitions except CCC jurisdictional wetlands requires one Parameter of either Hydric soil, hydrology, or hydrophytic vegetation for an area to qualify as a wetland. Therefore, 0.0262 acres of temporary and 0.025 acres of permanent impacts to CCC wetland jurisdictional areas will occur as result of this project.

Due to the potential impacts to jurisdictional wetlands and waters of the US, the project may require NWP 3 and/or Section 10 permits from USACE; 401 certification from RWQCB; and Coastal Development permit from the CCC. The project doesn't require Streambed Alteration Agreements since the project is located within areas considered an embayment or part of the ocean. Based on a field meeting with the USACE representative, the Corps indicated that the project requires section 10 permit only.

Jurisdictional and Non-Jurisdictional Waters	**Temporary Impacts**	**Permanent Impacts**
Non Jurisdictional	0.04 acre	0.003 acre
Non Wetland Section 401/404	0.0034 acres	0.0 acres
Non Wetland Section 401/404 and Section 10	0.014 acres	0.018 acres
Wetland Section 401/404 and Section 10	0.0122 acres	0.0071 acres
Coastal Commission wetland	0.0262 acres	0.025 acres

Invasive Species

On February 3, 1999, President Clinton signed EO 13112 (Invasive Species), requiring federal agencies to combat the introduction or spread of invasive species in the United States. This EO defines invasive species as "...any species, including its seeds, eggs, spores, or other biological material capable of propagating that species, that is not native to that ecosystem whose introduction does or is likely to cause economic or environmental harm or harm to human health." FHWA guidance issued August 10, 1999, directs the use of the State's noxious weed list to define the invasive plants that must be considered as part of CEQA analysis for a proposed project in California.

A total of 4 invasive plants identified under the Cal-IPC California Invasive Plant Inventory were observed within the BSA. These species include sweet fennel, English ivy, giant reed, and pampas grass. Since these species were found outside the project impact areas and no landscape work is proposed within the project limits, the project isn't expected to introduce or is likely to cause economical or environmental harm, or harm to human health.

However, as part of on-site proposed mitigation for impacts to Corps, Regional Board and Coastal Commission jurisdictional areas, Caltrans proposes to remove and replace invasive/non-native plant with native plants. The proposed restoration site is located on a slope adjacent to the project disturbed area. If all the regulatory agencies approve the proposed on-site mitigation, restoration landscape plan will be included in the project plans during the final project design phase and additional measures will be included in the project Environmental Document.

Migratory and Nesting Birds

Native bird species along with their nests are protected under the MBTA (16 USC 703–712) and by California Fish and Game Code Sections 3503, 3503.5, and 3800. These laws prohibit the take, possession, import, export, transport, sale, purchase, barter, or offering for sale, purchase, or barter, of any migratory bird and its eggs, parts, and nests, except as authorized under a valid permit.

In addition, EO 13186 (Responsibilities of Federal Agencies to Protect Migratory Birds) directs Federal agencies "...taking actions that have, or are likely to have, a measurable negative impact on migratory bird populations to develop and implement a Memorandum of Understanding with the Fish and Wildlife Service that promotes the conservation of migratory bird populations."

No nesting birds were observed within the BSA during field studies. However, northern rough-winged swallows, tree swallows, and white-throated swifts were observed inspecting weep holes within the SR-1 Bridge immediately adjacent to the proposed work area which indicates that they are likely using the bridge for nesting.

The project is not expected to impact the weep holes within the SR-1 Bridge. However, the project may have indirect impacts to nesting birds due to construction activities under the bridge.

To avoid indirect impacts to nesting birds and bats, exclusion devices will be installed under the supervision of the qualified biologist prior to the initiation of construction activities. Exclusion will be installed during the fall (September or October).

References

California Department of Transporation D-12. April 2015. *Draft Natural Enviornmental Study for State Route 1 Restoration Project,* April 2015, ICF International

California Department of Transporation D-12. October 2015. *Jursdictional Delinieation Report for State Route 1 Restoration Project*, October 2015, ICF International

California Department of Transporation D-12. March 2015. *Essential Fish Habitat Assessment for State Route 1 Restoration Project*, TRC Solutions, INC.

United State Fish and Wildlife Service. 2006. *California Least Tern 5 Years Review and Summary Evaluation*. Calrsbad California.

Google Earth. 2015. Aerial imagery for the study area. Date of image: 2014. Accessed: September and August 2015.

United State Geological Survey (USGS). 2014. Ortho Aerial Imagery. San Diego California

California Department of Fish and Wildlife. 2015. California Natural Diversity Database, RareFind 5. Newport Beach, Laguna Beach, and Tustin Quadrangles. Available: <http://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp.> Accessed: March 2, 2015.

———. 2012b. Staff Report on Burrowing Owl Mitigation. Report Dated March 7, 2012.

California Burrowing Owl Consortium (CBOC). 1993. *Burrowing Owl Survey Protocol and Mitigation Guidelines.* Technical Report Burrowing Owl Consortium. Alviso, California.

California Invasive Plant Council (Cal-IPC). 2006. *California Invasive Plant Inventory*. Cal-IPC Publication 2006-002. Available: <http://www.cal-ipc.org/ip/inventory/weedlist.php.> California Invasive Plant Council: Berkeley, CA.

California Native Plant Society (CNPS). *Inventory of Rare and Endangered Plants* (online edition). Sacramento, CA: California Native Plant Society. Available: http://www.rareplants.cnps.org/. Accessed: March 2, 2015.

Baldwin, Bruce G., and Douglas H. Goldman, eds. The Jepson manual: vascular plants of California. Univ of California Press, 2012.

Environmental Laboratory. 1987. *Corps of Engineers Wetland Delineation Manual*. Technical Report Y-87-1. Vicksburg, MS: U.S. Army Waterways Experiment Station.

Google Earth. 2015. Aerial imagery for the study area. Date of image: April 23, 2014. Accessed: March 2015.

Sawyer, J., Keeler-Wolf, T., and Evens, J. 2009. *A Manual of California Vegetation*. 2nd Edition. California Native Plant Society Press, Sacramento, CA.

U.S. Army Corps of Engineers (USACE). 2008a. Region*al Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (Version 2.0). Vicksburg, MS: U.S. Army Engineer Research and Development Center. Report dated September 2008.

———. 2008b. *A Field Guide to the Identification of the OHWM in the Arid West Region of the Western United States: A Determination Manual*. Available: <http://www.crrel.usace.army.mil/library/technicalreports/ERDC-CRREL-TR-08-12.pdf>. August.

U.S. Army Corps of Engineers and Environmental Protection Agency. 2007. *Jurisdictional Determination Form Instructional Guidebook.*

———.2008. Clean Water Act Jurisdiction Following the U.S. Supreme Court's Decision in *Rapanos v. United States & Carabell v. United States*. Memorandum.

———. 2011. Draft *Guidance on Identifying Waters Protected by the Clean Water Act*. Available: <http://www.epa.gov/tp/pdf/wous_guidance_4-2011.pdf>.

United States Fish and Wildlife Service. Information, Planning, and Conservation System. Available: http://ecos.fws.gov/ipac/. Accessed March 9th, 2015.

U.S. Fish and Wildlife Service. 2015. *National Wetlands Inventory*. Washington, D.C. Available: <http://www.fws.gov/wetlands/>. Accessed: March 2015.

Natural Resources Conservation Service (NRCS). 2012. U.S. Department of Agriculture PLANTS Database. Available: <http://plants.usda.gov/java/>.

Natural Resources Conservation Service (NRCS). 2014. *Web Soil Survey*. U.S. Department of Agriculture, Natural Resources Conservation Service. Available: <http://websoilsurvey.nrcs.usda.gov/app/>. Accessed: March 2, 2015.

Appendix A Project Photos

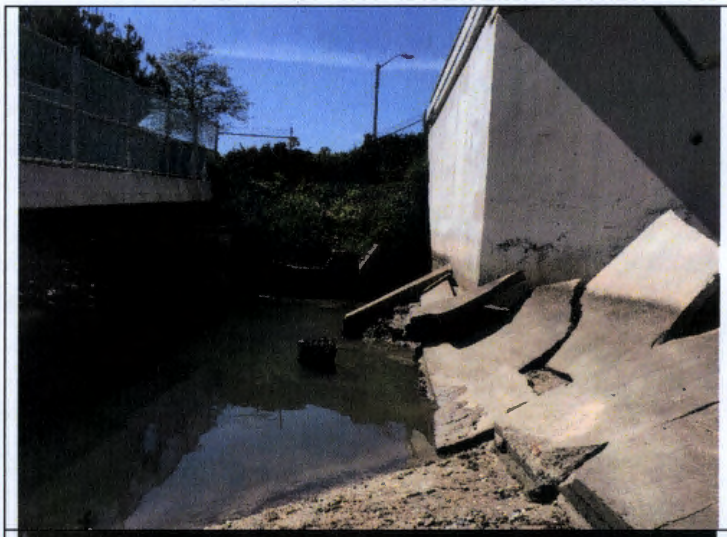
	**Photo 1** **Date: March 4, 2015** **Description: View of failed SR-1 Bridge abutment.**
	Photo 2 **Date: March 4, 2015** **Description: View of failed asphalt at bike trail adjacent to SR-1 abutment**

Photo 3

Date: March 4, 2015

Description: View of bike train and eroded asphalts adjacent to SR-1 Bridge

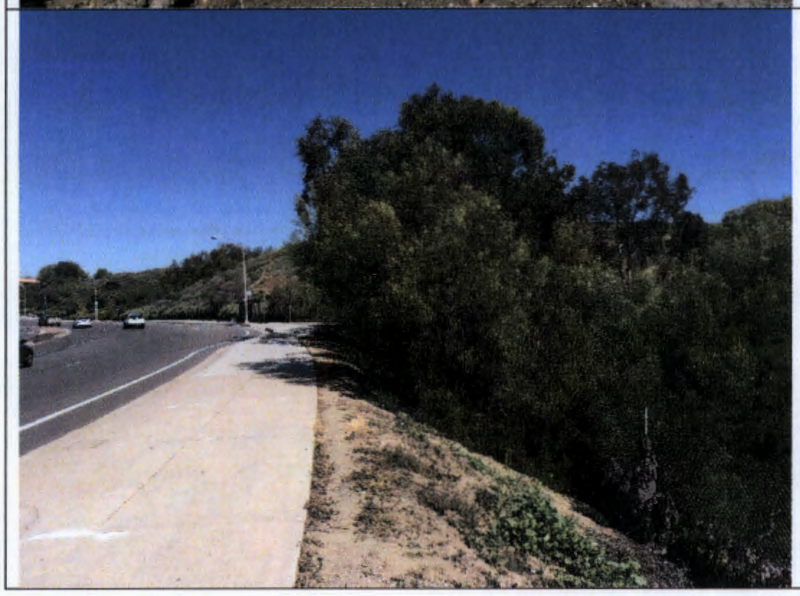


Photo 4

Date: March 4, 2015

Description: View of western side of BSA along Dover Drive and City of Newport Beach parcel

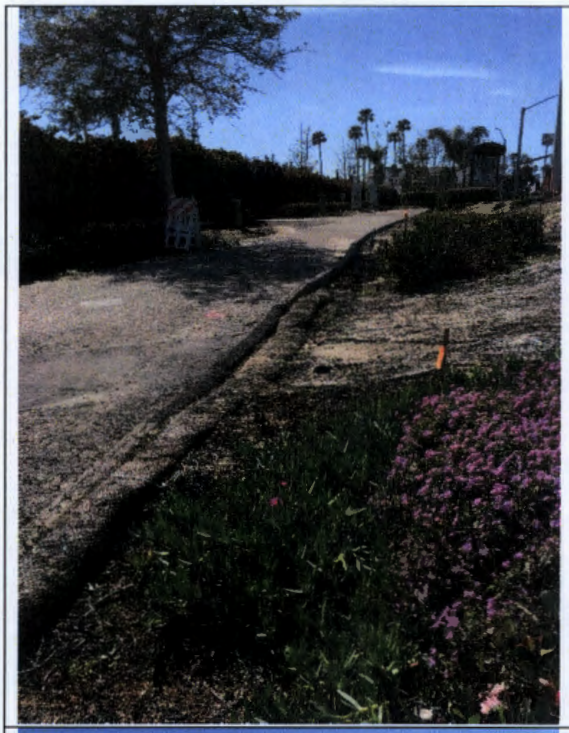
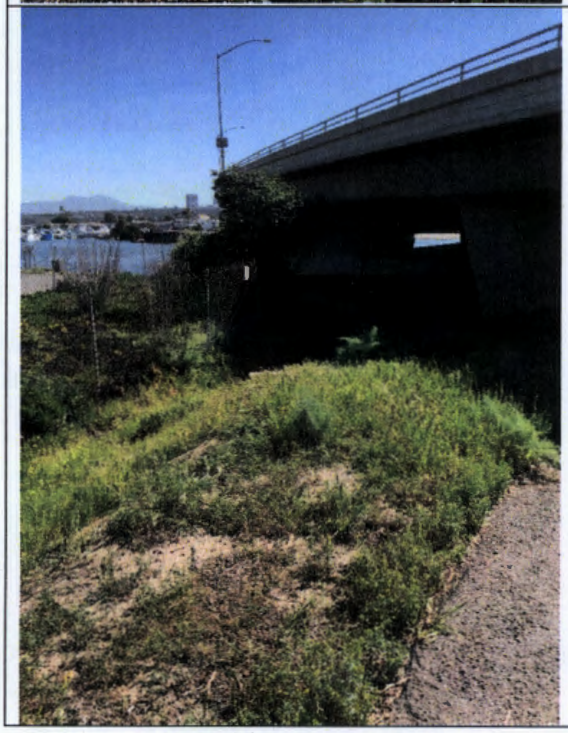
	**Photo 5** **Date: March 4, 2015** **Description: View of southwestern side of BSA at bike path.**
	**Photo 6** **Date: March 4, 2015** **Description: View of northwestern side of BSA at bike trail.**

	Photo 7 **Date: March 4, 2015** **Description: View of vegetation within City of Newport Beach parcel. Note *Arundo donax* and *Encelia californica.***
	Photo 8 **Date: March 4, 2015** **Description: View of City of Newport Beach Parcel developed area/parking lot and adjacent coastal bluffs.**

COMMON/SCIENTIFIC NAME	Status[a] FED/STATE/CNPS /CNDDB	SPECIES REQUIREMENTS	SPECIFIC HABITAT[b] PRESENT/ ABSENT	RATIONALE
PLANTS				
red sand-verbena (*Abronia maritima*)	-/-/4.2/S3S4	Perennial herb found in coastal dunes from 0-300 feet elevation. Blooming is from February-November.	HA	No suitable habitat is present within the BSA. This species is not expected to occur. No further constraint is present.
chaparral sand-verbena (*Abronia villosa var. aurita*)	-/-/1B.1/S2	Annual herb found in sandy soils within chaparral, coastal scrub, and coastal dunes between 150-5000 feet. Blooming period is from January-September.	HA	The project occurs below the species' known elevation range. This species is not expected to occur. No further constraint is present.
Aphanisma (*Aphanisma blitoides*)	-/-/1B.2/S3	Annual herb found in sandy or clay soils on ocean bluffs or slopes in coastal scrub, coastal dunes, coastal bluff scrub between 3-600 feet elevation. Blooming period is from March-June.	HP	Potentially suitable habitat is present, but only within the scrub habitat found along the north edge of the BSA. Project activities are not anticipated in or immediately adjacent to this habitat.
Coulter's saltbush (*Atriplex coulteri*)	-/-/1B.2/S2	Perennial herb/shrub found in alkaline to clay soils on ocean bluffs, ridgetops within coastal bluff scrub, coastal dunes, coastal scrub, and valley and foothill grassland from 10-1,500 feet elevation. Blooming period is from March-October.	HP	Potentially suitable habitat is present, but only within the scrub habitat found along the north edge of the BSA. Project activities are not anticipated in or immediately adjacent to this habitat.
South Coast saltscale (*Atriplex pacifica*)	-/-/1B.2/S2	Annual herb found in alkaline soils in coastal scrub, coastal dunes, coastal playas, and coastal bluff scrub between 0-460 feet elevation. Blooming period is from March-October.	HP	Potentially suitable habitat is present, but only within the scrub habitat found along the north edge of the BSA. Project activities are not anticipated in or immediately adjacent to this habitat.
Parish's brittlescale (*Atriplex parishii*)	-/-/1B.1/S1	Annual herb found in alkaline soils within chenopod scrub, playas, and vernal pools between 80-6,160 feet elevation. Blooming is from June-October.	HA	No suitable habitat is present within the BSA and the project occurs below the species' known elevation range. This species is not expected to occur. No further constraint is present.
Davidson's saltscale (*Atriplex serenana var. davidsonii*)	-/-/1B.2/S1	Annual herb found in alkaline soils in coastal bluff scrub, and coastal scrub between 30-650 feet elevation. Blooming period is from April-October.	HP	Potentially suitable habitat is present, but only within the scrub habitat found along the north edge of the BSA. Project activities are not anticipated in or immediately adjacent to this habitat.
Catalina mariposa lily (*Calochortus catalinae*)	-/-/4.2/S4	Perennial bulbiferous herb found in chaparral, cismontane woodland, coastal scrub, and valley and foothill woodland between 50- 2,200 feet elevation. Blooming period is from February- June.	HA	The project occurs below the species' known elevation range. This species is not expected to occur. No further constraint is present.
intermediate mariposa lily (*Calochortus weedii var. intermedius*)	-/-/1B.2/S2	Perennial bulbiferous herb found in chaparral, cismontane woodland, coastal scrub, and valley and foothill woodland between 300-2,000 feet elevation. Blooming period is from May-July.	HA	The project occurs below the species' known elevation range. This species is not expected to occur. No further constraint is present.
Lewis' evening-primrose (*Camissoniopsis lewisii*)	-/-/3/S4	Annual herb found on sandy and clay soils within coastal bluff scrub, cismontane woodland, coastal dunes, coastal scrub, and valley and foothill grassland between 0-600 feet elevation. Blooming is from March-June.	HP	Potentially suitable habitat is present, but only within the scrub habitat found along the north edge of the BSA. Project activities are not anticipated in or immediately adjacent to this habitat.
southern tarplant (*Centromadia parryi ssp. australis*)	-/-/1B.1/S2	Annual herb found in alkaline soils and disturbed sites along coastal marsh edges, wetlands, valley foothill grasslands, salt marshes, and swamps between 0-1300 feet elevation. Blooming period is from May-November.	HP	Potentially suitable habitat is present within BSA. Although the potential for this species to occur is deemed low.

COMMON/SCIENTIFIC NAME	Status[a] FED/STATE/CNPS /CNDDB	SPECIES REQUIREMENTS	SPECIFIC HABITAT[b] PRESENT/ ABSENT	RATIONALE
Orcutt's pincushion (*Chaenactis glabriuscula var. orcuttiana*)	-/-/1B.1/S1	Annual herb found in coastal bluff scrub, coastal dunes. Located on sandy soils between 0 – 330 feet elevation. Blooming is from January – August.	HP	Potentially suitable habitat is present, but only within the scrub habitat found along the north edge of the BSA. Project activities are not anticipated in or immediately adjacent to this habitat.
salt marsh bird's-beak (*Chloropyron maritimum ssp. maritimum*)	E/E/1B.2/S1	Annual herb found in higher zones of salt marsh habitat within coastal salt marsh, coastal dunes, and coastal wetlands between 0-90 feet elevation. Blooming period is from May-October.	HA	No suitable habitat is present within the BSA. This species is not expected to occur. No further constraint is present.
seaside cistanthe (*Cistanthe maritima*)	-/-/4.2/S3	Annual herb found in coastal bluff scrub, coastal scrub, valley and foothill grassland. Located on sea bluffs and sandy sites between 15-975 feet elevation. Blooming is from February - August.	HP	Potentially suitable habitat is present, but only within the scrub habitat found along the north edge of the BSA. Project activities are not anticipated in or immediately adjacent to this habitat.
summer holly (*Comarostaphylis diversifolia ssp. diversifolia*)	-/-/1B.2/S2	Perennial evergreen shrub found in Chaparral and Cismontane woodland between 90-2,400 feet elevation. Blooming is from April-June.	HA	No suitable habitat is present within the BSA and the project occurs below the species' known elevation range. This species is not expected to occur. No further constraint is present.
small-flowered morning-glory (*Convolvulus simulans*)	-/-/4.2/S4	Annual herb found in chaparral, coastal scrub, valley and foothill grassland. Located in openings on wet clay soils and serpentine seeps between 95 – 2275 feet elevation. Blooming is from March – July.	HA	No suitable habitat is present within the BSA and the project occurs below the species' known elevation range. This species is not expected to occur. No further constraint is present.
paniculate tarplant (*Deinandra paniculata*)	-/-/4.2/S4	Annual herb found in coastal scrub, valley and foothill grassland, and vernal pools. Typically located on vernally mesic sites. Sometimes in vernal pools or on mima mounds near them between 80 – 3055 feet elevation. Blooming is from April – November.	HA	No suitable habitat is present within the BSA and the project occurs below the species' known elevation range. This species is not expected to occur. No further constraint is present.
western dichondra (*Dichondra occidentalis*)	-/-/4.2/S3S4	Perennial rhizomatous herb found in chapparral, cismontane woodland, coastal scrub, and valley and foothill grasslands between 150-1500 feet elevation. Blooming is from January-July.	HA	The project occurs below the species' known elevation range. This species is not expected to occur. No further constraint is present.
many-stemmed dudleya (*Dudleya multicaulis*)	-/-/1B.2/S2	Perennial herb found in heavy clayey soils on grassy slopes in chaparral, coastal scrub, valley and foothill grasslands between 45-2400 feet elevation. Blooming period is from April-July.	HA	No suitable habitat is present within the BSA. This species is not expected to occur. No further constraint is present.
Laguna Beach dudleya (*Dudleya stolonifera*)	T/T/1B.1/S1	Perennial stoloniferous herb found on rocky substrates in chaparral. Cismontane woodland, costal scrub, and valley and foothill needlegrass between 30-780 feet elevation. Blooming is from May-July.	HA	No suitable habitat is present within the BSA. This species is not expected to occur. No further constraint is present.
San Diego button-celery (*Eryngium aristulatum var. parishii*)	E/E/1B.1/S1	Annual/perennial herb found in mesic coastal scrub, vernal pools, and valley and foothill grassland between 60-2,000 feet elevation. Blooming is form April-June.	HA	No suitable habitat is present within the BSA and the project occurs below the species' known elevation range. This species is not expected to occur. No further constraint is present.
cliff spurge (*Euphorbia misera*)	-/-/2B.2/S2	Perennial shrub found in rocky sites within coastal bluff scrub, coastal scrub, and Mojave desert scrub between 30-1500 feet elevation. Blooming is from December-October.	HP	Potentially suitable habitat is present, but only within the scrub habitat found along the north edge of the BSA. Project activities are not anticipated in or immediately adjacent to this habitat.

COMMON/SCIENTIFIC NAME	Status[a] FED/STATE/CNPS /CNDDB	SPECIES REQUIREMENTS	SPECIFIC HABITAT[b] PRESENT/ ABSENT	RATIONALE
Los Angeles sunflower (*Helianthus nuttallii ssp. parishii*)	-/-/1A/SH	Perennial rhizomatous herb found in coastal and freshwater marsh and swamps between 30-5000 feet elevation. Blooming is from August-October.	HA	No suitable habitat is present within the BSA. This species is not expected to occur. No further constraint is present.
Vernal barley (*Hordeum intercedens*)	-/-/3.2/S3S4	Annual herb fund in coastal dunes, coastal scrub, vernal pools, and valley and foothill grasslands between. 15-3,000 feet elevation. Blooming is from March-June.	HP	Potentially suitable habitat is present, but only within the scrub habitat found along the north edge of the BSA. Project activities are not anticipated in or immediately adjacent to this habitat.
mesa horkelia (*Horkelia cuneata var. puberula*)	-/-/1B./S1	Perennial herb found in chaparral, cismontane woodland, coastal scrub. Located on sandy or gravelly sites between 225 – 2,625 feet elevation. Blooming is from February – September.	HA	No suitable habitat is present within the BSA and the project occurs below the species' known elevation range. This species is not expected to occur. No further constraint is present.
decumbent goldenbush (*Isocoma menziesii var. decumbens*)	-/-/1B.2/S2	Perennial herb found in chaparral, coastal scrub often in sandy, disturbed areas between 30-400 feet elevation. Blooming is from April-November.	HP	Potentially suitable habitat is present, but only within the scrub habitat found along the north edge of the BSA. Project activities are not anticipated in or immediately adjacent to this habitat.
southwestern spiny rush (*Juncus acutus ssp. leopoldii*)	-/-/4.2/S4	Perennial rhizomatous herb found in mesic coastal dunes, alkaline meadows and seeps, and coastal salt marches and swamps between 9-3000 feet elevation. Blooming is from March-June.	HA	No suitable habitat is present within the BSA. This species is not expected to occur. No further constraint is present.
Coulter's goldfields (*Lasthenia glabrata ssp. coulteri*)	-/-/1B.1/S2	Annual herb found in coastal salt marshes and swamps, playas and vernal pools below 4,000 feet in elevation. Blooming period is from February-June.	HA	No suitable habitat is present within the BSA. This species is not expected to occur. No further constraint is present.
Robinson's pepper-grass (*Lepidium virginicum var. robinsonii*)	-/-/4.3/S3	Annual herb found in chaparral and coastal scrub between 1-2700 feet elevation. Blooming is from January-July.	HP	Potentially suitable habitat is present, but only within the scrub habitat found along the north edge of the BSA. Project activities are not anticipated in or immediately adjacent to this habitat.
California box-thorn (*Lycium californicum*)	-/-/4.2/S4	Perennial shrub found on coastal bluff scrub and coastal scrub between 15-500 feet elevation. Blooming is from December-August.	HP	Potentially suitable habitat is present, but only within the scrub habitat found along the north edge of the BSA. Project activities are not anticipated in or immediately adjacent to this habitat.
cliff malacothrix (*Malacothrix saxatilis var. saxatilis*)	-/-/4.2/S4	Perennial rhizomatous herb found in coastal bluff scrub and coastal scrub between 10-600 feet elevation. Blooming is from March-September.	HP	Potentially suitable habitat is present, but only within the scrub habitat found along the north edge of the BSA. Project activities are not anticipated in or immediately adjacent to this habitat.
mud nama (*Nama stenocarpum*)	-/-/2B.2/S1S2	Annual or Perennial herb found in lake or river margin marshes and swamps between 15-1500 feet elevation. Blooming is from January-July.	HA	No suitable habitat is present within the BSA. This species is not expected to occur. No further constraint is present.
Gambel's water cress (*Nasturtium gambelii*)	E/T/1B.1/S1	Perennial rhizomatous herb found in freshwater and brackish marshes and swamps from 15-900 feet elevation. Blooming period is from April-October.	HA	No suitable habitat is present within the BSA. This species is not expected to occur. No further constraint is present.

COMMON/SCIENTIFIC NAME	Status[a] FED/STATE/CNPS /CNDDB	SPECIES REQUIREMENTS	SPECIFIC HABITAT[b] PRESENT/ ABSENT	RATIONALE
prostrate vernal pool navarretia (*Navarretia prostrata*)	-/-/1B.1/S2	Annual herb found in alkaline soils in grassland, vernal; pool on mesic sites within coastal scrub, valley and foothill grassland, and vernal pools between 9-3600 feet elevation. Blooming is from April-July.	HA	No suitable habitat is present within the BSA. This species is not expected to occur. No further constraint is present.
coast woolly-heads (*Nemacaulis denudata var. denudate*)	-/-/1.B2/S2	Annual herb found in Coastal dunes between 0 – 325 feet elevation. Blooming from April – September.	HA	No suitable habitat is present within the BSA. This species is not expected to occur. No further constraint is present.
Allen's pentachaeta (*Pentachaeta aurea ssp. allenii*)	-/-/1B.1/S2	Annual herb found in coastal scrub and valley and foothill grassland between 225-1600 feet elevation. Blooming is from March-June. Threats include development, habitat alteration, and vehicles.	HA	The project occurs below the species' known elevation range. This species is not expected to occur. No further constraint is present.
south coast branching phacelia (*Phacelia ramosissima var. austrolitoralis*)	-/-/3.2	Perennial herb found in sandy and rocky substrates within chaparral, coastal dunes, costal scrub, and coastal swamps and marshes between 10-900 feet elevation. Blooming is from March-August.	HP	Potentially suitable habitat is present, but only within the scrub habitat found along the north edge of the BSA. Project activities are not anticipated in or immediately adjacent to this habitat.
Nuttall's scrub oak (*Quercus dumosa*)	-/-/1B.1/S3	Perennial evergreen shrub blooms from February to August at elevations from 49 to 1,312 feet. It inhabits sandy soils and clay loam in coastal scrub, chaparral, and closed-cone coniferous forests.	HA	No suitable habitat is present within the BSA and the project occurs below the species' known elevation range. This species is not expected to occur. No further constraint is present.
Sanford's arrowhead (*Sagittaria sanfordii*)	-/-/1B.2/S3	Perennial rhizomatous herb found in freshwater marsh and swamps between 0-1,950 feet elevation. Blooming is from May-November.	HA	No suitable habitat is present within the BSA. This species is not expected to occur. No further constraint is present.
chaparral ragwort (*Senecio aphanactis*)	-/-/2B.2/S2	Annual herb found in (sometimes alkaline) chaparral, cismontane woodland, and coastal scrub between 45-2400 feet elevation. Blooming is from January-April.	HA	The project occurs below the species' known elevation range. This species is not expected to occur. No further constraint is present.
salt spring checkerbloom (*Sidalcea neomexicana*)	-/-/2B.2/S2S3	Perennial herb found in alkali playas, brackish marshes, chaparral, coastal scrub, lower montane coniferous forest, Mojavean Desert scrub. Located on alkali springs and marshes between 45 – 4,960 feet elevation. Blooming is from March – June.	HA	No suitable habitat is present within the BSA. This species is not expected to occur. No further constraint is present.
Estuary seablite (*Suaeda esterea*)	-/-/1B.2/S2	Perennial herb found in coastal salt marshes and swamps. Located on clay, silt, and sandy substrates between 0 – 15 feet elevation. Blooming is from May – January.	HA	No suitable habitat is present within the BSA. This species is not expected to occur. No further constraint is present.
San Bernardino aster (*Symphyotrichum defoliatum*)	-/-/1B.2/S2	Perennial rhizomatic herb found in cismontane woodland, coastal scrub, lower montane coniferous forest, marsh and swamp, meadow and seep, valley & foothill grassland, and wetlands between 5-8,000 feet elevation. Blooming is from July-November.	HP	Potentially suitable habitat is present, but only within the scrub habitat found along the north edge of the BSA. Project activities are not anticipated in or immediately adjacent to this habitat.
big-leaved crownbeard (*Verbesina dissita*)	T/T/1B.1/S1	Perennial herb found in maritime chaparral and coastal scrub between 130-650 feet elevation. Blooming is from April-July.	HA	The project occurs below the species' known elevation range. This species is not expected to occur. No further constraint is present.
WILDLIFE				
Invertebrates				
San Diego fairy shrimp (*Branchinecta sandiegonensis*)	E/-/-/S2	Species found in deep vernal pools, road cuts, and depressions that retain water through the warm weather of late April and May. Distribution is limited to discrete localities from Los Angeles County (LAX), Orange County, Riverside, and San Diego Counties south to Baja California.	HA	No suitable habitat is present within the BSA. This species is not expected to occur. No further constraint is present.

COMMON/SCIENTIFIC NAME	Status[a] FED/STATE/CNPS /CNDDB	SPECIES REQUIREMENTS	SPECIFIC HABITAT[b] PRESENT/ ABSENT	RATIONALE
western tidal-flat tiger beetle (*Cicindela gabbii*)	-/-/-/S1	Found in salty coastal habitats including salt marshes, mudflats, tidal flats, beaches and beaches. Species uses burrows in soil.	HP	Potentially suitable habitat is present within BSA.
sandy beach tiger beetle (*Cicindela hirticollis gravida*)	-/-/-/S1	Inhabits clean, dry, light-colored sand in the upper zone of the beach dunes, usually close to non-brackish water. Occurs along the coast of California from San Francisco Bay to northern Mexico.	HA	No suitable habitat is present within the BSA. This species is not expected to occur. No further constraint is present.
western beach tiger beetle (*Cicindela latesignata latesignata*)	-/-/-/S1	Inhabits mudflats and beaches in coastal Southern California.	HP	Potentially suitable habitat is present within BSA.
senile tiger beetle (*Cicindela senilis frosti*)	-/-/-/S1	Inhabits marine shoreline, from Central California coast south to salt marshes of San Diego. Also found at Lake Elsinore Inhabits dark-colored mud in the lower zone and dried salt pans in the upper zone.	HP	Potentially suitable habitat is present within BSA.
globose dune beetle (*Coelus globosus*)	-/-/-/S1S2	Inhabitant of coastal sand dune habitat, typically foredunes and sand hummocks, from Bodega Head in Sonoma County, south to Ensenada, Mexico. Burrows beneath soil and commonly found under dune vegetation.	HA	No suitable habitat is present within the BSA. This species is not expected to occur. No further constraint is present.
monarch butterfly (*Danaus plexippus*)	-/-/-/S3	Winter roost sites extend along the coast from northern Mendocino to Baja California, Mexico. Roosts located in wind-protected tree groves (eucalyptus, Monterey pine, cypress), with nectar and water sources nearby.	HA	No suitable winter roost sites are present within the BSA. This species is not expected to occur. No further constraint is present.
wandering (=saltmarsh) skipper (*Panoquina errans*)	-/-/-/S2	Inhabits southern California coastal salt marshes. Requires moist saltgrass for larval development.	HP	Potentially suitable habitat is present within BSA.
Mimic tryonia (*Tryonia imitator*)	-/-/-/S2	Inhabits coastal lagoons, estuaries and salt marshes, from Sonoma County south to San Diego County. Found only in permanently submerged areas in a variety of sediment types; able to withstand a wide range of salinities.	HP	Potentially suitable habitat is present within BSA.
Fish				
tidewater goby (*Eucyclogobius newberryi*)	E/SSC/-/S2S3	Found in brackish water habitats along the California coast from Agua Hedionda Lagoon, San Diego Co. to the mouth of the Smith River. Found in shallow lagoons and lower stream reaches, they need fairly still but not stagnant water & high oxygen levels.	HA	No suitable habitat is present within the BSA. This species is not expected to occur. No further constraint is present.
Reptiles and Amphibians				
orangethroat whiptail (*Aspidoscelis hyperythra*)	-/SSC/-/S2	Inhabits low-elevation coastal scrub, chaparral, and valley-foothill hardwood habitats. Prefers washes & other sandy areas with patches of brush & rocks. Perennial plants necessary for its major food-termites.	HP	Potentially suitable habitat is present within BSA.
red-diamond rattlesnake (*Crotalus ruber*)	-/SSC/-/S2?	Chaparral, woodland, grassland, & desert areas from coastal San Diego County to the eastern slopes of the mountains. Occurs in rocky areas & dense vegetation. Needs rodent burrows, cracks in rocks or surface cover objects.	HP	Potentially suitable habitat is present within BSA.
western pond turtle (*Emys marmorata*)	-/SSC/-/S3	A thoroughly aquatic turtle of ponds, marshes, rivers, streams & irrigation ditches, usually with aquatic vegetation, below 6000 ft elevation. Need basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 km from water for egg-laying.	HA	No suitable habitat is present within the BSA. This species is not expected to occur. No further constraint is present.

COMMON/SCIENTIFIC NAME	Status[a] FED/STATE/CNPS /CNDDB	SPECIES REQUIREMENTS	SPECIFIC HABITAT[b] PRESENT/ ABSENT	RATIONALE
coast horned lizard (*Phrynosoma blainvillei*)	-/SSC/-/S3S4	Frequents a wide variety of habitats, most common in lowlands along sandy washes with scattered low bushes. Prefers open areas for sunning, bushes for cover, patches of loose soil for burial, & abundant supply of ants & other insects.	HP	Potentially suitable habitat is present within BSA.
western spadefoot (*Spea hammondii*)	-/SSC/-/S3	Occurs primarily in grassland habitats, but can be found in valley-foothill hardwood woodlands. Vernal pools are essential for breeding and egg-laying.	HA	No suitable habitat is present within the BSA. This species is not expected to occur. No further constraint is present.
Birds				
Cooper's hawk (*Accipiter cooperii*)	-/WL/-/S4	Found in cismontane woodland, riparian forest, riparian woodland, upper montane coniferous forest woodland, chiefly of open, interrupted or marginal type. Nest sites mainly in riparian growths of deciduous trees, as in canyon bottoms on river flood-plains; also, live oaks.	Breeding: HP Migrants/Foraging: HP	Potential breeding habitat is present in the ornamental plantings and potential foraging habitat is present throughout the BSA.
southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*)	-/WL/-/S2S3	Found in chaparral and coastal scrub. Resident in Southern California coastal sage scrub and sparse mixed chaparral. Frequents relatively steep, often rocky hillsides with grass & forb patches.	Breeding: HP Migrants/Foraging: HP	Potential breeding and foraging habitat is present in the scrub along the north edge of the BSA.
grasshopper sparrow (*Ammodramus savannarum*)	-/SSC/-/S2	Found in valley & foothill grassland. Dense grasslands on rolling hills, lowland plains, in valleys & on hillsides on lower mountain slopes. Favors native grasslands with a mix of grasses, forbs & scattered shrubs. Loosely colonial when nesting.	HA	No suitable habitat is present within the BSA. This species is not expected to occur.
burrowing owl (*Athene cunicularia*)	-/SSC/-/S3	Level, open, dry, heavily grazed or low grassland or desert vegetation with available burrows. In coastal Southern California, a substantial fraction of Burrowing Owls are found in microhabitats highly altered by humans, including flood control and irrigation basins, dikes, banks, abandoned fields surrounded by agriculture, and road cuts and margins. Several factors in combination probably explain the species' distribution on local scales: vegetation density, availability of suitable prey, availability of burrows or suitable soil, and disturbance.	HP	Suitable habitat is present within the BSA. This species has low-moderate potential to occur in the BSA.
coastal cactus wren (*Campylorhynchus brunneicapillus sandiegensis*)	-/SSC/-/S3	Found in southern California coastal sage scrub. Wrens require tall opuntia cactus for nesting and roosting.	Breeding: HA Migrants/Foraging: HP	There is no suitable nesting habitat within the BSA Species could potentially forage in the BSA.
western snowy plover (*Charadrius alexandrinus nivosus*)	T/SSC/-/S2	Breeds primarily above the high tide line on coastal beaches, sand spits, dune-backed beaches, sparsely-vegetated dunes, beaches at creek and river mouths, and salt pans at lagoons and estuaries. In winter, found on beaches used for nesting and other beaches, in manmade salt ponds and on estuarine sand and mud flats.	Breeding: HA Migrants/Foraging: HP	There is no suitable nesting habitat within the BSA Species could potentially forage in the BSA.

COMMON/SCIENTIFIC NAME	Status[a] FED/STATE/CNPS /CNDDB	SPECIES REQUIREMENTS	SPECIFIC HABITAT[b] PRESENT/ ABSENT	RATIONALE
White-tailed Kite (*Elanus leucurus*)	-/FP/-/S3S4	Hunts in open country. It is found across most of California west of the Sierra Nevada and deserts, from north of the San Francisco Bay south into northern Baja California, Mexico. Separate populations also occur from southern Texas across lowland Mexico, and in southern Florida. This is a strongly lowland species, apparently rare anywhere in California above 2000 feet (610 m), though there are records of wanderers to over 10,000 feet (3050 m). Nests are flimsy, often not lasting to the next breeding season, and are located low in trees and large shrubs near foraging areas in savannahs and at edges between open habitat and woodland or forest areas.	Breeding: HA Migrants/Foraging: HP	There is no suitable nesting habitat within the BSA Species could potentially forage in the BSA.
California horned lark (*Eremophila alpestris actia*)	-/WL/-/S3	Found in marine intertidal & splash zone communities, meadow & seep, coastal regions, chiefly from Sonoma Co. to San Diego Co. Also main part of San Joaquin Valley & east to foothills. Short-grass prairie, "bald" hills, mountain meadows, open coastal plains, fallow grain fields, alkali flats.	Breeding: HA Migrants/Foraging: HP	There is no suitable nesting habitat within the BSA Species could potentially forage in the BSA.
yellow-breasted chat (*Icteria virens*)	-/SSC/-/S3	Found in riparian forest, riparian scrub, and riparian woodlands. Summer resident; inhabits riparian thickets of willow & other brushy tangles near watercourses. Nests in low, dense riparian, consisting of willow, blackberry, wild grape; forages and nests within 10 ft of ground.	HA	No suitable habitat is present within the BSA. This species is not expected to occur.
California black rail (*Laterallus jamaicensis coturniculus*)	-/T & FP/S1	Tidal salt marshes associated with heavy growth of tule and pickleweed; also occurs in brackish marshes or freshwater marshes at low elevations. Primarily restricted to the San Francisco Bay, with smaller numbers in wetlands from the Salton Sea area to Arizona. This species has essentially disappeared from coastal wetlands in coastal southern and central California, although small populations have recently been discovered about 100 miles south of the U.S. border in northwestern Baja California.	HA	No suitable habitat is present within the BSA. This species is not expected to occur.
osprey (*Pandion haliaetus*)	-/WL/-/S4	This large, distinctive hawk is highly adapted to a diet consisting almost entirely of fish. One of the most widespread bird species in the world, it was formerly a common and widespread breeder in southern California, but no longer breeds regularly in California anywhere south of the northern San Francisco Bay.	Breeding: HA Migrants/Foraging: HP	There is no suitable nesting habitat within the BSA Species could potentially forage in the BSA.
Belding's savannah sparrow (*Passerculus sandwichensis beldingi*)	-/E/-/S3	Inhabits coastal salt marshes, from Santa Barbara south through San Diego County. Nests in Salicornia on and about margins of tidal flats.	HA	No suitable habitat is present within the BSA. This species is not expected to occur.
coastal California gnatcatcher (*Polioptila californica californica*)	T/SSC/-/S2	Obligate, permanent resident of coastal sage scrub below 2500 ft in Southern California. Low, coastal sage scrub in arid washes, on mesas & slopes. Not all areas classified as coastal sage scrub are occupied. Generally prefers open sage scrub with California sagebrush (Artemisia californica) as a dominant or co-dominant species. Nest placement typically in areas with less than 40 percent slope gradient. Monogamous pairs tend to stay in the same locale. Both parents build nest, incubate, and care for young	HP	Potentially suitable habitat is present within BSA.

COMMON/SCIENTIFIC NAME	Status[a] FED/STATE/CNPS /CNDDB	SPECIES REQUIREMENTS	SPECIFIC HABITAT[b] PRESENT/ ABSENT	RATIONALE
Light-footed clapper rail (*Rallus longirostris levipes*)	E/E&FP/-/S1	This subspecies of the large and widespread Clapper Rail is restricted to the lower elevations of coastal marshes with active tidal flow and dense pickleweed and/or cordgrass thickets from Hueneme, Ventura County (formerly to Santa Barbara County) south to Bahia de San Quintin, Baja California, Mexico. No substantial seasonal movements occur, although rare individuals wander away from known breeding locales.	HA	No suitable habitat is present within the BSA. This species is not expected to occur.
bank swallow (*Riparia riparia*)	-/T/-/S2	This species historically bred interruptedly along the entire coast of California, as well as in the Central Valley and Great Basin portions of the state.	HA	No suitable habitat is present within the BSA. This species is not expected to occur.
California least tern (*Sternula antillarum browni*)	E/E & FP/-/S2	Nests on sandy upper ocean beaches, open barren sites, and occasionally uses mudflats. Forages on adjacent surf line, estuaries, or the open ocean. Colonies are located near the ocean shoreline (within 0.5 miles [about 800 meters]), typically on nearly flat, loose sandy substrates with lightly scattered short vegetation and debris, although some colonies have been located on hard-packed surfaces, even unused asphalt. Colony sites must provide access to the shoreline for juveniles, and must be relatively free of predators or the colony may abandon breeding efforts before completion.	Breeding: HA Migrants/Foraging: HP	There is no suitable nesting habitat within the BSA Species could potentially forage in the BSA.
least Bell's vireo (*Vireo bellii pusillus*)	E/E/-/S2	Nesting elevation ranges from below sea level to at least 4,100 feet. The subspecies winters in southern Baja California. Least Bell's Vireos select dense vegetation low in riparian zones for nesting.	HA	No suitable habitat is present within the BSA. This species is not expected to occur.
Mammals				
Mexican long-tongued bat (*Choeronycteris Mexicana*)	-/SSC/-/S1	Occasionally found in San Diego Co., which is on the periphery of their range. Feeds on nectar & pollen of night-blooming succulents. Roosts in relatively well-lit caves, & in & around buildings.	HA	No suitable roosting habitat is present within the BSA. This species is not expected to occur.
western mastiff bat (*Eumops perotis californicus*)	-/SSC/-/S3S4	Occurs in many open, semi-arid to arid habitats, including conifer & deciduous woodlands, coastal scrub, grasslands, chaparral etc. Roosts in crevices in cliff faces, high buildings, trees & tunnels.	HA	No suitable roosting habitat is present within the BSA. This species is not expected to occur.
hoary bat (*Lasiurus cinereus*)	-/-/-/S4	Prefers open habitats or habitat mosaics, with access to trees for cover & open areas or habitat edges for feeding within broadleaved upland forest, cismontane woodland, lower montane coniferous forest, and north coast coniferous forest. Roosts in dense foliage of medium to large trees. Feeds primarily on moths. Requires water.	HP	Low potential for roosting within vegetation, particularly palm species, within the BSA. Moderate potential for foraging.
big free-tailed bat (*Nyctinomops macrotis*)	-/SSC/-/S3	Occurs in low-lying arid areas in Southern California. Need high cliffs or rocky outcrops for roosting sites. Feeds principally on large moths.	HA	No suitable habitat is present within the BSA. This species is not expected to occur. Low potential for foraging.
Pacific pocket mouse (*Perognathus longimembris pacificus*)	E/SSC/-/S1	Found in coastal scrub. Inhabits the narrow coastal plains from the Mexican border north to El Segundo, Los Angeles Co. Seems to prefer soils of fine alluvial sands near the ocean.	HA	No suitable habitat is present within the BSA. This species is not expected to occur.

COMMON/SCIENTIFIC NAME	Status[a] FED/STATE/CNPS /CNDDB	SPECIES REQUIREMENTS	SPECIFIC HABITAT[b] PRESENT/ ABSENT	RATIONALE
southern California saltmarsh shrew (*Sorex ornatus salicornicus*)	-/SSC/-/S1	Found in coastal salt marshes in Los Angeles, Orange and Ventura counties. Requires dense vegetation and woody debris for cover.	HA	No suitable habitat is present within the BSA. This species is not expected to occur.
American badger (*Taxidea taxus*)	-/SSC/-/S3	Found in a wide variety of habitats. Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Needs sufficient food, friable soils & open, uncultivated ground. Preys on burrowing rodents. Digs burrows.	HA	No suitable habitat is present within the BSA. This species is not expected to occur.
NATURAL COMMUNITIES				
Southern Coast Live Oak Riparian	CNDDB S4	Riparian Forest	HA	Not present
Southern Coastal Salt Marsh	CNDDB S2.1	Coastal marsh, swamp, and wetlands	HA	Not present
Southern Dune Scrub	CNDDB S1.1	Coastal dunes	HA	Not present
Southern Foredunes	CNDDB S2.1	Coastal Dunes	HA	Not present
Southern Sycamore/Alder Riparian Woodland	CNDDB S4	Riparian Woodland	HA	Not present
Southern Cottonwood/Willow Riparian Forest	CNDDB S3.2	Riparian Forest	HA	Not present
Valley Needlegrass Grassland	CNDDB S3.1	Valley Needlegrass Grassland	HA	Not present

[a] Status Codes

Federal

E = Federally listed; Endangered
PE = Proposed Endangered
T = Federally listed; Threatened
FC = Federal Candidate for Listing
FSC = Federal Species of Concern
D = Delisted

State

E = State listed; Endangered
CE = Candidate Endangered
T = State listed; Threatened CT= Candidate Threatened
R = Rare (Native Plant Protection Act)
SSC = California Species of Special Concern
CFP = California Fully Protected Species
WL = Watch List

[b] Habitat Presence/Absence Codes

P = The species is present and was observed during survey efforts.
HP =Habitat is or may be present within Project footprint. The species may potentially be present. Focused survey is warranted.
HPB =Habitat is or may be present within 200 ft study area (BSA). The species may potentially be present. Focused survey is warranted.
HA = No habitat present and no further work needed.

Gray Highlight = No potential to occur in the BSA.

CNPS Rare Plant Rank (CRPR)

1A = Plants presumed extinct in California
1B = Plants rare, threatened, or endangered in California and elsewhere
2 = Plants rare, threatened, or endangered in California, but more common elsewhere
3 = Plants about which we need more information
4 = Limited distribution (Watch List)

CNPS CRPR Threat Codes

0.1 = Seriously endangered in California
0.2 = Fairly endangered in California
0.3 = Not very endangered in California

Note: The California Natural Diversity Database (CNDDB) uses the same ranking methodology originally developed by The Nature Conservancy and now maintained and recently revised by NatureServe. The *state rank* (S-rank) refers to the imperilment status only within California's state boundaries. It is a reflection of the overall status of an element through its state range. The state rank represent a letter + number score that reflects a combination of Rarity, Threat, and Trend factors, with weighting being heavier on Rarity than the other two.

S1 = **Critically Imperiled** - Critically imperiled in the state because of extreme rarity (often 5 or fewerpopulations) or because of some factor(s) such as very steep declines making it especially vulnerable to extirpation from the state.

S2 = **Imperiled** - Imperiled in the state because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the state.

S3 = **Vulnerable** - Vulnerable in the state due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation from the state.

S4 = **Apparently Secure** - Uncommon but not rare in the state; some cause for long-term concern due to declines or other factors.

S5 = **Secure** - Common, widespread, and abundant in the state.

SH = All sites are historical; the element has not been seen for at least 20 years, but suitable habitat still exists.

SX = All sites are extirpated.

Uncertainty about the rank of an element is expressed in two major ways:

- By expressing the ranks as a range of values: e.g., S2S3 means the rank is somewhere between S2 and S3.
- By adding a ? to the rank: e.g., S2? This represents more certainty than S2S3, but less certainty than S2.

Appendix C

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Carlsbad Fish and Wildlife Office
2177 SALK AVENUE - SUITE 250
CARLSBAD, CA 92008
PHONE: (760)431-9440 FAX: (760)431-5901
URL: www.fws.gov/carlsbad/

Consultation Code: 08ECAR00-2015-SLI-0334 April 10, 2015
Event Code: 08ECAR00-2015-E-00669
Project Name: State Route 1 Restoration Project

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, and proposed species, designated critical habitat, and candidate species that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment

United States Department of Interior
Fish and Wildlife Service

Project name: State Route 1 Restoration Project

Official Species List

Provided by:

Carlsbad Fish and Wildlife Office
2177 SALK AVENUE - SUITE 250
CARLSBAD, CA 92008
(760) 431-9440
http://www.fws.gov/carlsbad/

Consultation Code: 08ECAR00-2015-SLI-0334
Event Code: 08ECAR00-2015-E-00669

Project Type: Transportation

Project Name: State Route 1 Restoration Project
Project Description: Caltrans District 12- Bridge abutment and pike path slope repair. Remove failed concrete slope and place rock slope protection.

Please Note: The FWS office may have modified the Project Name and/or Project Description, so it may be different from what was submitted in your previous request. If the Consultation Code matches, the FWS considers this to be the same project. Contact the office in the 'Provided by' section of your previous Official Species list if you have any questions or concerns.

United States Department of Interior
Fish and Wildlife Service

Project name: State Route 1 Restoration Project

Project Location Map:

Project Coordinates: MULTIPOLYGON (((-117.9067294 33.6177418, -117.9063372 33.6178267, -117.9060148 33.6178428, -117.9055546 33.6178173, -117.9052145 33.6177575, -117.9046904 33.6175154, -117.9044098 33.6172576, -117.9041925 33.6167269, -117.9041861 33.6163217, -117.9043765 33.6157293, -117.9046576 33.6153273, -117.9049103 33.6151629, -117.9055594 33.6149248, -117.9059853 33.6149011, -117.9066891 33.6149645, -117.9072647 33.615275, -117.907578 33.6156829, -117.9077416 33.6161457, -117.9077636 33.6166438, -117.9075673 33.6170905, -117.907188 33.6174533, -117.9067294 33.6177418)))

Project Counties: Orange, CA

United States Department of Interior
Fish and Wildlife Service

Project name: State Route 1 Restoration Project

Endangered Species Act Species List

There are a total of 7 threatened or endangered species on your species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Critical habitats listed under the **Has Critical Habitat** column may or may not lie within your project area. See the **Critical habitats within your project area** section further below for critical habitat that lies within your project. Please contact the designated FWS office if you have questions.

Birds	**Status**	**Has Critical Habitat**	**Condition(s)**
California Least tern *(Sterna antillarum browni)*	Endangered		
Coastal California gnatcatcher *(Polioptila californica californica)* Population: Entire	Threatened	Final designated	
Light-Footed Clapper rail *(Rallus longirostris levipes)* Population: U.S.A. only	Endangered		
western snowy plover *(Charadrius nivosus ssp. nivosus)* Population: Pacific coastal pop.	Threatened	Final designated	
Crustaceans			
San Diego fairy shrimp *(Branchinecta sandiegonensis)*	Endangered	Final designated	
Flowering Plants			
Salt Marsh bird's-beak *(Cordylanthus maritimus ssp. maritimus)*	Endangered		
Mammals			

Pacific Pocket mouse *(Perognathus longimembris pacificus)* Population: Entire	Endangered		

United States Department of Interior
Fish and Wildlife Service

Project name: State Route 1 Restoration Project

Critical habitats that lie within your project area

There are no critical habitats within your project area.

Appendix D

JURISDICTIONAL DELINEATION REPORT

STATE ROUTE 1 RESTORATION PROJECT CITY OF NEWPORT BEACH, ORANGE COUNTY, CALIFORNIA (EFIS-1215000008)

PREPARED FOR:

State of California
California Department of Transportation, District 12
3347 Michelson Drive, Suite 100
Irvine, CA 92612
Contact: Kedest Ketsela
949-440-4462

PREPARED BY:

ICF International
1 Ada, Suite 100
Irvine, CA 92618
Contact: Paul Schwartz
949-333-6634

October 2015

ICF International. 2015. Jurisdictional Delineation Report, State Route 1 Restoration Project, City of Newport Beach, Orange County, California. October. (ICF 140.15) Irvine, CA. Prepared for California Department of Transportation, District 12, Irvine CA.

Contents

Page

Chapter 1 Introduction **1-1**

1.1 Project Location 1-2

1.2 Project Description 1-2

Chapter 2 Regulatory Background **2-1**

2.1 U.S. Army Corps of Engineers Regulated Activities 2-1

2.1.1 Waters of the United States 2-1

2.1.2 Special Aquatic Sites and Wetlands 2-2

2.1.3 Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers 2-2

2.1.4 Rapanos v. United States and Carabell v. U.S. Army Corps of Engineers 2-3

2.1.5 Section 10 of the Rivers and Harbors Act 2-5

2.2 State Regulated Activities 2-5

2.2.1 Section 401 of the Clean Water Act 2-5

2.2.2 Porter-Cologne Water Quality Control Act 2-6

2.2.3 State Water Resources Control Board/Regional Water Quality Control Boards 2-6

2.3 California Department of Fish and Wildlife Regulated Activities 2-6

2.3.1 California Department of Fish and Wildlife Jurisdiction 2-7

2.3.2 California Fish and Game Code Section 1602 2-7

2.4 California Coastal Act – California Coastal Commission 2-7

2.4.1 Definition of Wetlands and Policy 2-8

2.4.2 Environmentally Sensitive Habitat Areas 2-9

Chapter 3 Methodology **3-1**

3.1 Project Research 3-1

3.2 Field Investigation 3-1

3.2.1 U.S. Army Corps of Engineers Jurisdiction 3-1

3.2.2 Regional Water Quality Control Board Jurisdiction 3-3

3.2.3 California Department of Fish and Wildlife Jurisdiction 3-3

3.2.4 California Coastal Commission 3-3

Chapter 4 Environmental Setting **4-1**

4.1 Topography and Land Use 4-1

4.2 Hydrology 4-1

4.2.1 Precipitation 4-1

4.2.2 Hydrologic Unit 4-2

4.3 Vegetation/Land Cover Types 4-2

4.3.1 Developed Lands 4-2
4.3.2 Ornamental Vegetation 4-2
4.3.3 Estuarine/Open Water 4-3
4.4 Soils 4-3
Chapter 5 Jurisdictional Delineation Results 5-1
5.1 Delineated Feature Descriptions 5-1
5.1.1 Newport Bay 5-1
5.2 Delineation Results Summary 5-2
5.3 List of Delineators and Report Preparers/ Reviewer 5-3
Chapter 6 References 6-1

Appendices

A Jurisdictional Delineation Maps
B Study Area Photographs
C Wetland Determination Data Forms
D Preliminary Jurisdictional Determination Form

Tables and Figures

Table		Page
4-1	Rainfall Data Summary for Newport Beach Harbor, California (in inches)	4-1
5-1	Jurisdictional Delineation Summary (acres)	5-3

Figure		Page
1	Regional Vicinity Map	Appendix A
2	Project Location Map	Appendix A
3	Study Area Map	Appendix A
4	Watersheds – HUC 10	Appendix A
5	Watersheds – HUC 8	Appendix A
6	National Wetlands Inventory Map	Appendix A
7	NRCS Soils Map	Appendix A
8a	USACE/RWQCB Jurisdictional Delineation Results	Appendix A
8b	CDFW/CCC Jurisdictional Delineation Results	Appendix A

Acronyms and Abbreviations

Caltrans	California Department of Transportation
CCC	California Coastal Commission
CDFW	California Department of Fish and Wildlife
CFR	Code of Federal Regulations
CWA	Clean Water Act
EPA	U.S. Environmental Protection Agency
ESHA	Environmentally Sensitive Habitat Area
FAC	Facultative
FACW	Facultative Wetland
GPS	global positioning system
HTL	high-tide level
HUC	Hydrologic Unit Code
ICF	ICF International
JD	Jurisdictional Determination
LCP	Local Coastal Program
LIP	Land Implementation Plan
LUP	Land Use Plan
MHW	mean high water
MLLW	mean lower low water
MSL	mean sea level
NHD	National Hydrography Dataset
NI	No Indicator
NO	No Occurrence
NOAA	National Oceanic and Atmospheric Administration
NRCS	Natural Resources Conservation Service
NWI	National Wetlands Inventory
NWPL	National Wetlands Plant List
OBL	Obligate
OHWM	Ordinary High-Water Mark
PCH	Pacific Coast Highway
Porter-Cologne Act	Porter-Cologne Water Quality Control Act
RGL	Regulatory Guidance Letter
RPWs	relatively permanent waters
RSP	rock slope protection
RWQCB	Regional Water Quality Control Board
SSURGO	Soil Survey Geographic
SWANCC	Solid Waste Agency of Northern Cook County
SWRCB	State Water Resources Control Board
TNWs	traditional navigable waters
USACE	U.S. Army Corps of Engineers

USDA	U.S. Department of Agriculture
USGS	U.S. Geologic Survey
WoS	waters of the State
WoUS	waters of the United States

Chapter 1
Introduction

On March 4, and March 19, 2015, ICF International (ICF) conducted a routine-level delineation of jurisdictional waters and wetlands within a portion of Newport Bay adjacent to the North Arm Newport Bay Bridge (henceforth referred to as bridge) for the California Department of Transportation (Caltrans) as part of the federal and state regulatory permitting process for activities to be conducted for the State Route 1 Restoration Project (project). The purpose of the proposed project is to restore the collapsed concrete slope paving at the southwestern portion of the bridge abutment and repair a failed asphalt section of the bicycle and pedestrian path that crosses under the western edge of the bridge.

The purpose of this delineation was to identify the extent of federal and state jurisdiction within and adjacent to the project site to support the resource-agency permitting process under Sections 401 and 404 of the Clean Water Act (CWA), Section 10 of the Rivers and Harbors Act, Section 13260 of the Porter-Cologne Water Quality Control Act (Porter-Cologne Act), Section 1602 of the California Fish and Game Code, and Section 30121 of the California Coastal Act.

Section 404 of the CWA covers waters of the United States (WoUS) as well as federal wetlands, and Section 10 of the Rivers and Harbors Act covers navigable waters and rivers. Both Section 404 and Section 10 are regulated by the U.S. Army Corps of Engineers (USACE). Under Section 401 of the CWA, the Regional Water Quality Control Board (RWQCB), under guidance from the U.S. Environmental Protection Agency (EPA), regulates at the state level all activities that are regulated at the federal level by the USACE. The RWQCB/State Water Resources Control Board (SWRCB) may also regulate activities that affect non-federal waters and wetlands (e.g., isolated features) under the Porter-Cologne Act. Section 1600 et. seq. of the California Fish and Game Code is regulated by the California Department of Fish and Wildlife (CDFW) and covers aquatic features, which may include lakes or streambeds or other aquatic features that support wildlife or potential habitat for wildlife with a defined bed and bank plus any adjacent riparian vegetation. Section 30121 of the California Coastal Act is regulated by the California Coastal Commission (CCC), which regulates all development activities in the Coastal Zone, including wetlands, as defined by the CCC under Title 14 of the California Code of Regulations, and Environmentally Sensitive Habitat Areas (ESHAs), defined under Section 30107.5 of the California Coastal Act. If a proposed project may affect waters or wetlands, the project site must be evaluated to determine the presence of jurisdictional waters. Permits for the proposed activity must be sought from each applicable resource agency. Details regarding each of these resource agencies and their regulatory authority, jurisdiction, permits, and regulatory processes are provided in Chapter 2, Regulatory Background.

The information and results presented herein document the investigation, best professional judgment, and conclusions of the investigators. It is correct and complete to the best of our knowledge. However, all jurisdictional determinations should be considered preliminary until reviewed and approved by the regulatory agencies.

1.1 Project Location

The proposed project is located on State Route 1, also known as Pacific Coast Highway (PCH), at the southwest quadrant of the Newport Bay Bridge (Bridge No. 55-0614) in the city of Newport Beach, Orange County, California (Appendix A, Figure 1). The jurisdictional delineation study area (study area), defined as the project footprint plus a 50-foot buffer, is mapped within Section 27, Township 10 West, Range 5 South of the Newport Beach, California, U.S. Geologic Survey (USGS) 7.5-minute topographic quadrangle map (USGS 1965) (Appendix A, Figure 2).

The study area is located immediately southwest of the southern boundary of the 752-acre Upper Newport Bay Ecological Reserve which is managed by CDFW. The Upper Newport Bay Ecological Reserve consists of a large estuary composed of open water, mudflats, coastal salt marsh, and riparian habitat surrounded by cliffs and hills dominated by upland coastal bluff scrub, coastal sage scrub, and grasslands.

1.2 Project Description

Caltrans proposes to restore the collapsed concrete slope paving at the southwestern portion of the bridge abutment (Appendix B, Photos 1 and 2) and repair a failed asphalt section of the bicycle and pedestrian path (Appendix B, Photos 3 and 4) that crosses under the western edge of the bridge. The pedestrian path provides a completely separated right-of-way for bicyclists and pedestrians who need to cross PCH at Dover Drive. The project is needed because the slope paving at the bridge's abutment has collapsed because of tidal erosion that exposed timber piles, soil, and rebar. A portion of the pedestrian path has also collapsed into the bay. The project will remove the failed concrete slope paving and asphalt and replace with rock slope protection (RSP).

Chapter 2
Regulatory Background

The following sections summarize the regulations imposed on each type of jurisdictional feature potentially present within the project area.

2.1 U.S. Army Corps of Engineers Regulated Activities

Pursuant to Section 404 of the CWA, the USACE regulates the discharge (temporary or permanent) of dredged or fill material into WoUS, including wetlands. A discharge of fill material includes, but is not limited to, grading, placing riprap for erosion control, pouring concrete, laying sod, and stockpiling excavated material into WoUS. Activities addressed under Section 404 (f)1 that generally do not involve a regulated discharge (if performed specifically in a manner to avoid discharges) include driving pilings, performing certain drainage channel maintenance activities, constructing temporary mining and farm/forest roads, and excavating without stockpiling.

2.1.1 Waters of the United States

WoUS, as defined in Code of Federal Regulations (CFR) Title 33, Section 328.3, includes the following.

(1) All waters that are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters that are subject to the ebb and flow of the tide;

(2) All interstate waters, including interstate wetlands;

(3) All other waters, such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation, or destruction of which could affect interstate or foreign commerce, including any such waters:

  (i) That are or could be used by interstate or foreign travelers for recreational or other purposes; or

  (ii) From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or

  (iii) That are used or could be used for industrial purpose by industries in interstate commerce;

(4) All impoundments of waters otherwise defined as waters of the United States under the definition;

(5) Tributaries of waters identified in paragraphs (1) through (4) of this section;

(6) The territorial seas;

(7) Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (1) through (6) of this section.

(8) Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for

> the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with EPA.
>
> Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA (other than cooling ponds as defined in 40 CFR 423.11(m), which also meet the criteria of this definition), are not waters of the United States.

The limit of USACE jurisdiction, excluding wetlands and tidal waters, is delineated using the ordinary high-water mark (OHWM), defined in CFR 328.3(e) as:

> ...that line on the shore established by the fluctuations of water and indicated by physical characteristics such as [a] clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.

The limit of Section 404 jurisdiction within tidal waters is delineated using the maximum predicted annual tide (or High-Tide Level [HTL]) for the previous year. Physical evidence (wracking, staining) in combination with the Mean Lower Low-Water (MLLW) tide elevation is used to define the HTL. The HTL and the MLLW elevations are available from the National Oceanic and Atmospheric Administration (NOAA) tidal gauge stations.[1]

2.1.2 Special Aquatic Sites and Wetlands

Section 404 of the CWA identifies six categories of Special Aquatic Sites; Sanctuaries and Refuges, Wetlands, Mudflats, Vegetated Shallows, Coral Reefs and Riffle and Pool Complexes. Wetlands are explained in detail below.

Normally, three criteria must be satisfied to classify an area as a jurisdictional wetland: (1) a predominance of plant life that is adapted to life in wet conditions (hydrophytic vegetation); (2) soils that saturate, flood, or pond long enough during the growing season to develop anaerobic conditions in the upper part (hydric soils); and (3) permanent or periodic inundation or soils saturation, at least seasonally (wetland hydrology) (Environmental Laboratory 1987).

2.1.3 Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers

In 1986, in an attempt to clarify the reach of its jurisdiction, USACE stated that Section 404(a) extends to intrastate waters that:

> ...(a) are or would be used as habitat by birds protected by migratory bird treaties or (b) are or would be used as habitat by other migratory birds that cross state lines or (c) are or would be used as habitat for endangered species or (d) used to irrigate crops sold in interstate commerce" (51 *Federal Register* 41217).

As a result of the 2001 *Solid Waste Agency of Northern Cook County* (*SWANCC*) case, the U.S. Supreme Court held that USACE may not rely on the Migratory Bird Rule to establish a significant nexus to interstate or foreign commerce. Although no formal guidance was issued by USACE that interprets the extent to which the *SWANCC* decision would limit jurisdictional determinations, in practice, USACE considers intrastate waters as WoUS where there is an appropriate connection to a navigable water or other clear interstate commerce connection. Therefore, WoUS, including jurisdictional

[1] Personal communication with USACE staff member Steven Estes on March 18, 2015.

wetlands, must show connectivity with (i.e., be tributary to) a navigable WoUS to be subject to the USACE under Section 404 of the CWA.

2.1.4 Rapanos v. United States and Carabell v. U.S. Army Corps of Engineers

In 2006, the U.S. Supreme Court issued an opinion regarding the extent of USACE jurisdiction over certain waters under Section 404 of the CWA. The *Rapanos-Carabell* consolidated decisions addressed the question of jurisdiction over attenuated tributaries to WoUS as well as wetlands adjacent to those tributaries.

On June 5, 2007, the USACE and EPA issued guidance related to the *Rapanos* decision. The guidance identifies those waters over which the agencies (USACE and EPA) will assert jurisdiction categorically and on a case-by-case basis. To summarize, USACE will continue to assert jurisdiction over the following features:

- Traditional navigable waters (TNWs) and their adjacent wetlands.
- Non-navigable tributaries of TNWs that are relatively permanent waters (RPWs) (e.g., tributaries that typically flow year-round or have a continuous flow at least seasonally [i.e., typically 3 months]) and wetlands that directly abut such tributaries (i.e., not separated by uplands, berm, dike, or similar feature).

For non-RPWs, the agencies will determine whether a "significant nexus" exists with a TNW using the data found in an Approved Jurisdictional Determination (JD) form. The purpose of the significant nexus evaluation is to determine whether the existing functions of a tributary affect the chemical, physical, and/or biological integrity of a downstream TNW. Tributary characteristics that are considered when evaluating whether a significant nexus exists include volume, duration, and frequency of flow; proximity to a TNW; and hydrologic and ecologic functions performed by the tributary and all of its adjacent wetlands. Based on that information, the agencies may assert jurisdiction over the following features:

- Non-navigable tributaries that do not typically flow year-round or have continuous flow at least seasonally.
- Wetlands adjacent to such tributaries.
- Wetlands adjacent to but not directly abutting a relatively permanent non-navigable tributary.

The agencies will typically not assert jurisdiction over the following features:

- Swales or erosional features (e.g., gullies and small washes characterized by low volume and infrequent or short-duration flow).
- Ditches (including roadside ditches) excavated wholly in uplands and draining only uplands that do not carry a relatively permanent flow of water.

2.1.4.1 Approved Jurisdictional Determinations

An Approved JD is an official USACE jurisdictional determination, is valid for 5 years, can be used and relied upon in a CWA citizen's lawsuit if its legitimacy is challenged (except under extraordinary circumstances), and can be immediately appealed (33 CFR 331). Approved JDs are documented in

accordance with Regulatory Guidance Letter (RGL) No. 07-01 and require the use of the Approved JD form. Approved JDs are evaluated by the USACE and EPA.

Under the *Rapanos* guidance, an Approved JD is required for determinations for all "isolated" waters or wetlands and is subject to review by the USACE and EPA.

2.1.4.2 Preliminary Jurisdictional Determinations

The USACE issued RGL No. 08-02 on June 26, 2008, allowing the USACE to issue Preliminary JDs for a project. A Preliminary JD is a non-binding written indication that there may be WoUS, including wetlands, on a project site. In addition, it identifies the approximate location of these features. Preliminary JDs are used when a landowner, permit applicant, or other affected party elects to voluntarily waive or set aside questions regarding CWA jurisdiction over a particular site, usually in the interest of allowing the landowner to move ahead expeditiously to obtain Section 404 authorization where the party determines that it is in his or her best interest to do so. A Preliminary JD is not an official determination regarding the jurisdictional status of potentially jurisdictional features and has no bearing on Approved JDs. A Preliminary JD cannot be used to confirm the absence of jurisdictional waters or wetlands, is advisory in nature, and cannot be appealed. It is considered "preliminary" because a recipient can later request an Approved JD if one is necessary or appropriate.

A Preliminary JD is documented using the Preliminary JD form. For purposes of impact calculations, compensatory mitigation requirements, and other resource protection measures, a permit decision made on the basis of a Preliminary JD treats all waters and wetlands that would be affected in any way, except by the permitted activity, as if they were jurisdictional. Although a Preliminary JD may be chosen by the applicant, the district engineer reserves the right to use an Approved JD where warranted.

2.1.4.3 2011 Draft Clean Water Act Guidance

On April 27, 2011, the USACE and EPA issued draft guidance for determining jurisdiction under the CWA (USACE 2011). The guidance supersedes the previous guidance from 2003 regarding *SWANCC* (68 *Federal Register* 1991–1995) and 2007 *Rapanos* guidance. This document reiterated the guidance issued under the *Rapanos* decision, asserting that the following waters are protected by the CWA:

- Traditional navigable waters.
- Interstate waters.
- Wetlands adjacent to either TNWs or interstate waters.
- Non-navigable tributaries to TNWs that are relatively permanent (meaning they contain water at least seasonally).
- Wetlands that directly abut relatively permanent waters.

The guidance further clarifies the criteria for defining TNWs, primarily consistent with previous guidance. In addition, a significant nexus evaluation is required for the "other waters" category of the regulations (see item 3 in Section 2.1.1, Waters of the United States, above). The guidance divides these waters into two categories—those that are physically proximate to other jurisdictional waters and those that are not—and discusses how each category should be evaluated.

Finally, the guidance reiterated that certain aquatic areas are generally not considered WoUS, as follows:

- Wet areas that are not tributaries or open waters and do not meet the agencies' regulatory definition of "wetlands."
- Waters that are excluded from coverage under the CWA by existing regulations.
- Waters that lack a "significant nexus" where one is required for a water to be protected by the CWA.
- Artificially irrigated areas that would revert to upland should irrigation cease.
- Artificial lakes or ponds created by excavating and/or diking dry land and used exclusively for such purposes as stock watering, irrigation, settling basins, or rice growing.
- Artificial reflecting pools or swimming pools created by excavating and/or diking dry land.
- Small ornamental waters created by excavating and/or diking dry land for primarily aesthetic reasons.
- Water-filled depressions created incidental to construction activity.
- Groundwater drained through subsurface drainage systems.
- Erosional features (gullies and rills) and swales and ditches that are not tributaries or wetlands.

2.1.5 Section 10 of the Rivers and Harbors Act

Section 10 of the Rivers and Harbors Act gives the USACE regulatory and permitting authority over work in, over, or under "navigable WoUS." Regulated Section 10 activities include the construction of structures in or over navigable WoUS, the excavation/dredging or deposition of material in navigable WoUS, or any obstruction or alteration to a navigable WoUS. Section 10 navigable WoUS and Section 404 WoUS do overlap in some areas that involve wetlands and non-wetland waters associated with navigable WoUS.

The limits of Section 10 tidal WoUS are defined by the Mean High-Water (MHW) elevation, using MLLW as a baseline (MHW minus MLLW = Section 10 MHW).[2]

2.2 State Regulated Activities

2.2.1 Section 401 of the Clean Water Act

A federal permit or license cannot be issued that may result in a discharge to WoUS unless certification under Section 401 of the CWA is granted or waived by the EPA, state, or tribe where the discharge would originate (EPA 2010). Within the proposed project area, the ability to grant, grant with conditions, deny, or waive certification falls to three separate parties: the RWQCB or SWRCB and the EPA.

Pursuant to Section 401 of the CWA:

[2] Personal communication with USACE staff member Steven Estes on March 18, 2015.

> ...any applicant for a federal permit for activities that involve a discharge to waters of the United States shall provide the federal permitting agency a certification from the state in which the discharge is proposed that states that the discharge will comply with the applicable provisions under the federal Clean Water Act.

Before USACE will issue a Section 404 permit, applicants must apply for and receive a Section 401 water quality certification or waiver, as applicable. Under Section 401 of the CWA, all activities that are regulated at the federal level by USACE are also regulated at the state level. Therefore, state jurisdiction usually includes all waters or tributaries to waters that are determined to be WoUS and, similar to WoUS, typically delineated at the OHWM. However, if it is determined that the waters are not WoUS, they may still be subject to state jurisdiction based on the Porter-Cologne Act.

2.2.2 Porter-Cologne Water Quality Control Act

The state also regulates activities that would involve "discharging waste, or proposing to discharge waste, within any region that could affect waters of the State" (California Water Code 13260[a]), pursuant to provisions of the Porter-Cologne Act. Waters of the State (WoS) are defined as "any surface water or groundwater, including saline waters, within the boundaries of the state" (California Water Code 13050 [e]). Such waters may include waters that are not subject to regulation under Section 404 (i.e., isolated features). These waters may include isolated vernal pools, isolated wetlands, or other aquatic habitats that are not normally subject to federal regulation under Section 404 of the CWA.

2.2.3 State Water Resources Control Board/Regional Water Quality Control Boards

In California, the SWRCB and nine RWQCBs regulate activities within state and federal waters under Section 401 of the CWA and the Porter-Cologne Act. The SWRCB is responsible for setting statewide policy, coordinating and supporting RWQCB efforts, and reviewing petitions that contest RWQCB actions. Each semi-autonomous RWQCB sets water quality standards, issues Section 401 certifications and waste discharge requirements, and takes enforcement action for projects that occur within its boundary. However, when a project crosses multiple RWQCB jurisdictional boundaries, the SWRCB becomes the regulating agency and issues project permits.

2.3 California Department of Fish and Wildlife Regulated Activities

Pursuant to Sections 1600–1616 of the California Fish and Game Code, CDFW regulates any activity that will substantially divert or obstruct the natural flow—or substantially change or use any material from the bed, channel, or bank—of any river, stream, or lake. CDFW also regulates any activity that will deposit or dispose of debris, wastewater, or other material containing crumbled, flaked, or ground pavement that may pass into any river, stream, or lake. The applicant must notify CDFW prior to such activities and obtain a Lake or Streambed Alteration Agreement.

2.3.1 California Department of Fish and Wildlife Jurisdiction

CDFW jurisdiction includes ephemeral, intermittent, and perennial watercourses (including dry washes) and lakes that are characterized by the presence of (1) definable bed and banks and (2) existing fish or wildlife resources. Furthermore, CDFW jurisdiction often extends to habitats adjacent to watercourses, such as oak woodlands in canyon bottoms or willow woodlands that support hydrologic functions within the riparian system. CDFW jurisdiction typically does not include features without a discernible bed and bank, such as swales, vernal pools, or wet meadows.

2.3.2 California Fish and Game Code Section 1602

The California Fish and Game Code mandates that:

> ...it is unlawful for any person to substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated by the department, or use any material from the streambeds, without first notifying the department of such activity.

Historical court cases have further extended CDFW jurisdiction to include watercourses that seemingly disappear but re-emerge elsewhere. Under the CDFW definition, a watercourse need not exhibit evidence of an OHWM to be claimed as jurisdictional.

Water features such as vernal pools and other seasonal swales—where the defined bed and bank are absent and the feature is not contiguous or closely adjacent to other jurisdictional features—are generally not asserted to fall within state jurisdiction under Section 1602. CDFW generally does not assert jurisdiction over human-made water bodies unless they are located where such natural features were previously located or (importantly) where they are contiguous with existing or prior natural jurisdictional areas.

CDFW jurisdiction in altered or artificial waterways is based on the functions and values of those waterways to fish and wildlife. CDFW precedent is that CDFW will assert jurisdiction over altered or artificial waterways in the following cases:

- Modified natural waterways that support, or have the potential to support, fish, aquatic invertebrates, and/or riparian vegetation. Such waterways will normally be viewed as within the jurisdiction of CDFW under Section 1600 et seq. of the California Code of Regulations.
- Artificial waterways that have acquired the physical attributes of natural systems (bed and bank, riparian vegetation, or other habitat parameters). Such waterways will normally be viewed as within the jurisdiction of CDFW under Section 1600 et seq. of the California Code of Regulations.

2.4 California Coastal Act – California Coastal Commission

In 1972, the United States Congress passed the Coastal Zone Management Act (CZMA) (Title 16 United States Code 1451–1464). The CZMA declared a national policy "to preserve, protect, develop, and, where possible, restore or enhance the resources of the nation's Coastal Zone for this and succeeding generations." The CZMA sought to encourage and help states develop and implement

management programs for the use of coastal land and water resources, "giving full consideration to ecological, cultural, historic, and esthetic values as well as the need for compatible economic development." The Coastal Zone Conservation Act (Proposition 20), approved in 1972, prohibited development 1,000 yards inland from California's mean high tide without a permit from a regional or state coastal commission. Proposition 20 created a temporary California Coastal Zone Conservation Commission and six regional commissions to develop a statewide plan for coastal protection, which eventually led to the passage of the California Coastal Act in 1976. The California Coastal Act led to the permanent establishment of the CCC, the mandate of which is to protect and enhance the resources of the Coastal Zone.

To achieve maximum responsiveness to local conditions, accountability, and public accessibility, the California Coastal Act relies heavily on local government and local land use planning procedures and enforcement. Therefore, implementation of California Coastal Act policies is accomplished primarily through the preparation of Local Coastal Programs (LCPs), which are reviewed and approved by the CCC. An LCP typically consists of a Land Use Plan (LUP) and an Land Implementation Plan (LIP). The LUP indicates the kinds, locations, and intensities of land uses; the applicable resource protection and development policies; and, where necessary, a listing of implementing actions. The LIP consists of the zoning ordinances, zoning district maps, and other legal instruments that are necessary to implement the LUP. Any amendments to the certified LCP will require review and approval by the CCC prior to becoming effective. After certification of an LCP, coastal development permit authority is delegated to the appropriate local government. The CCC retains original permit jurisdiction over certain specified lands, such as submerged lands, tidelands, and public trust lands, and has appellate authority over development approved by local government in specified geographic areas and for major public works projects and major energy facilities.

In authorizing coastal development permits, the local government must find that the development conforms to the certified LCP. Furthermore, after certification of the LCP, city actions on applications for California Coastal Act authority to conduct certain types of development, as well as development within certain geographic areas, are appealable to the CCC.

2.4.1 Definition of Wetlands and Policy

Section 30121 of The California Coastal Act defines wetlands as such:

> *Wetland "means lands within the Coastal Zone may be covered periodically or permanently with shallow water and include saltwater marshes, freshwater marshes, open or closed brackish water marshes, swamps, mudflats, and fens."*

The CCC applies a one-parameter approach to defining wetlands. As such, any area with a preponderance of hydrophytic vegetation, the presence of hydric soils, or wetland hydrology meets the definition of a wetland in the Coastal Zone.

Section 13577(b) of Title 14, Division 5.5, Article 18, of The California Code of Regulations defines wetlands as such:

> *(1) Measured 100 feet landward from the upland limit of the wetland. Wetland shall be defined as land where the water table is at, near, or above the land surface long enough to promote the formation of hydric soils or to support the growth of hydrophytes and shall also include those types of wetlands where vegetation is lacking and soil is poorly developed or absent as a result of frequent and drastic fluctuations of surface water levels, wave action, water flow, turbidity, or high concentrations of salts or other substances in the substrate. Such wetlands can be*

recognized by the presence of surface water or saturated substrate at some time during each year and their location within, or adjacent to, vegetated wetlands or deep-water habitats. For purposes of this section, the upland limit of a wetland shall be defined as:

(A) The boundary between land with predominantly hydrophytic cover and land with predominantly mesophytic or xerophytic cover;

(B) The boundary between soil that is predominantly hydric and soil that is predominantly non-hydric; or

(C) In the case of wetlands without vegetation or soils, the boundary between land that is flooded or saturated at some time during years of normal precipitation and land that is not.

(2) For the purposes of this section, the term "wetland" shall not include wetland habitat created by the presence of and associated with agricultural ponds and reservoirs where:

(A) The pond or reservoir was in fact constructed by a farmer or rancher for agricultural purposes; and

(B) There is no evidence (e.g., aerial photographs, historical survey, etc.) showing that wetland habitat pre-dated the existence of the pond or reservoir. Areas with drained hydric soils that are no longer capable of supporting hydrophytes shall not be considered wetlands.

2.4.2 Environmentally Sensitive Habitat Areas

The California Coastal Act (California Public Resources Code Division 20, Section 30240a) restricts land uses within or adjacent to Environmentally Sensitive Habitat Areas (ESHAs). The California Coastal Act, Section 30107.5, defines an ESHA as:

> *...any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and could be easily disturbed or degraded by human activities and developments.*

Included within this definition are wetlands, estuaries, streams, riparian habitats, lakes, and portions of open coastal waters that meet the rare or valuable habitat criteria. Not all wetlands necessarily meet the "rare or valuable habitat criteria," and as set forth in Section 30233, "where there is no feasible less environmentally damaging alternative and where feasible mitigation measures have been provided to minimize adverse environmental effects," degraded or low-value wetlands that do not meet the rare or valuable habitat criteria may be subject to restoration in accordance with Section 30233.7.

Chapter 3
Methodology

3.1 Project Research

Prior to the field visit, a 200-foot-scale (1 inch = 200 feet) aerial photograph of the study area was obtained and compared with USGS 7.5-minute topographic quadrangles to identify drainage features within the study area as indicated by vegetation types, topographic changes, or visible drainage patterns. The National Hydrography Dataset (NHD) data for the study area (USGS/USACE 2015) and the National Wetlands Inventory (NWI) (USFWS 2015) were referenced to identify any mapped features such as streams and wetlands. Finally, the study area was carefully reviewed in Google Earth (Google Earth 2015) in various scales, and potential jurisdictional features were marked on field maps. In addition, the U.S. Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS), Soil Survey Geographic (SSURGO) database (USDA/NRCS 2015) was reviewed to identify the soil series that occur in the study area.

3.2 Field Investigation

Senior biologists Paul Schwartz and Shannon Crossen conducted the jurisdictional waters and wetland delineation for the study area on March 4 and 19, 2015. The March 4th effort focused on mapping the extent of the physical evidence (debris wrack, staining) in the study area. The March 19th effort focused on mapping the extent of the Section 404 and Section 10 waters. During both efforts, the study area was defined as the project site where impacts will occur plus a 50-foot buffer which totals approximately 0.67-acre (Appendix A, Figure 3). The March 4th delineation was conducted between 9:30 a.m. and 1 p.m. The tide on March 4th during the delineation was waning from a high tide of +5.3 feet mean sea level (msl) at 8:13 a.m. to a low tide of -0.23 feet msl at 2:48 p.m. The March 19th delineation was conducted between 9 and 10:30 a.m. The tide during the March 19th delineation peaked at 9:06 a.m. with a high tide of +5.86 feet msl.

The study areas were surveyed on foot, and jurisdictional limits were recorded by hand using transect tapes and aerial maps due to a lack of reception under the bridge by the Trimble Yuma global positioning satellite (GPS) unit.

Common plant species observed were identified by visual characteristics and morphology in the field. Taxonomic nomenclature for plants follows the National Wetlands Plant List (NWPL), which was accessed through the NWPL website (USACE 2014). If plants were unknown, the *Jepson Manual: Vascular Plants of California,* second edition (Baldwin et al. 2012), was used to identify plants to species level.

3.2.1 U.S. Army Corps of Engineers Jurisdiction

Potential Section 404 WoUS and wetlands were initially delineated using methods established in the *Wetland Delineation Manual* (Environmental Laboratory 1987), the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (USACE 2008a), *A Field Guide to the Identification of the Ordinary High-Water Mark (OHWM) in the Arid West Region of the Western*

United States (USACE 2008b), and 2007 and 2008 *Rapanos* guidance (USACE and EPA 2008).[3] In addition, USACE staff member Steven Estes was consulted on March 18, 2015 to determine the appropriate elevations to define the elevational limits of Section 404 and Section 10 tidal waters. Mr. Estes provided the following elevations to use to define the limits of Section 404 and Section 10 waters: +6.94 feet msl and +4.68 feet msl respectively. These elevations were then compared to tidal gauge data and site conditions for verification.

The delineation of non-wetland waters was initially based on the presence of observable OHWM indicators, consisting of debris wracking and staining. Following the initial field visit, USACE staff member Steven Estes directed ICF to use the maximum predicted annual tide (i.e., HTL) from the previous year (+6.94 feet msl) to map the limits of Section 404 WoUS.

The closest tidal gauge station is located at the entrance to Newport Harbor (Station 9410580) (NOAA 2015). The tidal gauge data and guidance from Mr. Estes was used to establish the elevational limits of Section 404 waters (+6.94 feet msl).

At each evaluation area, several parameters were considered to determine whether the sample point was within a wetland. Three criteria normally must be fulfilled to classify an area as a jurisdictional USACE wetland: (1) a predominance of hydrophytic vegetation, (2) the presence of hydric soils, and (3) the presence of wetland hydrology. Details regarding the application of these techniques are described below.

- **Hydrophytic Vegetation:** The hydrophytic vegetation criterion is satisfied at a location if greater than 50 percent of all the dominant species present within the vegetation unit have a wetland indicator status of obligate (OBL), facultative wetland (FACW), or facultative (FAC) (Environmental Laboratory 1987). An OBL indicator status refers to plants that have a 99 percent probability of occurring in wetlands under natural conditions. A FACW indicator status refers to plants that usually occur in wetlands (67–99 percent probability) but are occasionally found elsewhere. A FAC indicator status refers to plants that are equally likely to occur in wetlands or elsewhere (estimated probability 34–66 percent for each). An NI (no indicator) status designates that insufficient information was available to determine an indicator status. An NO (no occurrence) status indicates that the species does not occur in the region. When a plant with an NO status is found within a region, it usually indicates that the plant is ornamental. The wetland indicator status used for this report follows the *Arid West 2014 Regional Wetland Plant List* (USACE2014). 2014. *Arid West 2014 Regional Wetland Plant List.*
- **Hydric Soils:** The definition of a hydric soil is a soil that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (USDA/NRCS 1994). This determination is based on the various field indicators detailed in the *Arid West Supplement* and the *Field Indicators of Hydric Soils in the United States* (Version 7.0) (USDA/NRCS 2010).
- **Wetland Hydrology:** Wetland hydrology is determined using indicators of inundation or saturation (flooding, ponding, or tidally influenced) detailed in the *Wetland Delineation Manual* and the *Arid West Supplement.*

[3] On June 5, 2007, the USACE and EPA issued guidance related to the *Rapanos-Carabell* consolidated decisions to address the question of jurisdiction over attenuated tributaries to WoUS as well as wetlands adjacent to those tributaries. On December 2, 2008, the USACE and EPA issued guidance that incorporated revisions to the June 5, 2007, memorandum. The *Rapanos-Carabell* decision is discussed in further detail in Section 2.1.4, above.

Mudflats a Section 404 Special Aquatic Site, were defined as areas of mud and sediment that are routinely exposed during low tide events. Historic aerial imagery (Google Earth 2015) and observations made during the March 4, 2015 site visits conducted during a -0.23 feet msl low tide were used to determine the extent of USACE Section 404 Special Aquatic Site mudflats.

Potential Section 10 navigable waters were mapped using tidal gauge data from Station 9410580. The limits of Section 10 tidal WoUS were defined by the MHW using MLLW as a baseline (MHW minus MLLW = Section 10 MHW).[4] The elevational limits of Section 10 WoUS were established as +4.68 feet msl.

3.2.2 Regional Water Quality Control Board Jurisdiction

The evaluation of state jurisdiction followed guidance from Section 401 of the CWA and typically follows the same jurisdictional areas that are used to define the limits of Section 404 WoUS.

3.2.3 California Department of Fish and Wildlife Jurisdiction

CDFW jurisdiction typically includes water features with a defined bed and bank as well as the extent of any associated riparian vegetation. The evaluation of potential jurisdictional areas followed the guidance of relevant CDFW materials and standard practices by CDFW personnel. Briefly, CDFW jurisdiction was delineated by measuring the outer width and length boundaries of potential jurisdictional areas, consisting of the greater of either the top-of-bank measurement or the extent of associated riparian or wetland vegetation.

3.2.4 California Coastal Commission

CCC jurisdictional wetlands were mapped as the limits of one-parameter wetlands, consisting of the presence of a preponderance of hydrophytic vegetation, the presence of hydric soils, or wetland hydrology. Due to the lack of hydrophytic vegetation and hydric soils the hydrology parameter was used to define the limits of CCC wetlands. As such, the limits of CCC wetlands were defined as the limits of USACE Section 404 non-wetland WoUS which is +6.94 feet elevation which represents the HTL.

[4] Personal communication with USACE staff member Steven Estes on March 18, 2015.

Chapter 4
Environmental Setting

This chapter describes the topography, land use, hydrology, vegetation characteristics, and soils associated with the study area.

4.1 Topography and Land Use

The study area is located within the coastal low lands of Orange County, within Lower Newport Bay. The area includes the southwest abutment of the Newport Bay Bridge and a pedestrian path as well as a small outlet and wooden retention wall located southwest of the bridge. Newport Bay is a large, tidally influenced bay within southern Orange County. Waters within the bay located south of the Newport Bay Bridge are referred to as "Lower Newport Bay" and the waters within the bay located north of the bridge are referred to as "Upper Newport Bay" (OC Watersheds 2015).

The elevation within the study area ranges from approximately sea level to approximately 10 feet msl. The site experiences a wide range of tidal heights (Appendix B, Photos 1–7). At low tide, an extensive mud flat is exposed; at high tide, the water level may rise to just below the top of the concrete and asphalt slopes associated with the bridge abutment and pedestrian path.

The study area consists primarily of either open water associated with Newport Bay or developed lands associated with the Newport Bay Bridge/PCH and associated abutment and support features, a pedestrian path, and a wooden retaining wall on the southwestern side of the bridge. The study area is surrounded by the bay to the east and south, residential homes with boat docks to the southwest, PCH to the west and north, and a City of Newport Beach work yard to the north.

4.2 Hydrology

4.2.1 Precipitation

The regional climate is characterized by hot, dry summer months and mild winters. Seasonal rainfall averages 11 inches per year and occurs predominantly from only a few storm events between October and April. The following precipitation data (Table 4-1) for Newport Beach Harbor, California, were used for this analysis (Western Regional Climate Center 2015).

Table 4-1. Rainfall Data Summary for Newport Beach Harbor, California (in inches)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Average	2.19	2.30	1.72	0.92	0.23	0.07	0.01	0.06	0.21	0.38	1.08	1.85	**11**

Source: Western Regional Climate Center: http://www.wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca6175. Accessed: March 2015.

4.2.2 Hydrologic Unit

The study area is located within the Newport Bay-Frontal Pacific Ocean Hydrologic Unit Code (HUC) 10 watershed, which is included in the Newport Bay HUC 8 watershed. The Newport Bay-Frontal Pacific Ocean HUC 10 and Newport Bay HUC 8 watersheds terminate in the Pacific Ocean (Appendix A, Figures 4 and 5).

The Newport Bay HUC 8 watershed drains an area of approximately 150.02 square miles. Major sub-watersheds include 1) the Lower Bay, which encompasses all of the natural creeks and the storm drain system south and southwest of PCH; 2) the Upper Bay, which encompasses all portions of the bay north of PCH that drain to the upper portion of the bay, including Big Canyon Wash, Costa Mesa Channel, and Santa Isabella Channel, drain systems, and tributaries to Newport Bay, including San Diego Creek; 3) Santa Ana Delhi Channel and its tributaries that flow into the far northwestern end of the bay; and 4) San Diego Creek/Peter's Canyon Wash, which drain into the far northeastern portion of the bay (OC Watersheds 2015). Since the study area is located directly under and south of PCH it is considered to be within "Lower Newport Bay".

4.3 Vegetation/Land Cover Types

The study area is composed of the following vegetation/land cover types: developed lands, ornamental vegetation, and estuarine/open water. Each of these is discussed below. The NWI has mapped the following wetland types as occurring in the study area: Estuarine and Marine Deepwater, and Estuarine and Marine Wetland (Appendix A, Figure 6). Hydrophytic vegetation is not expected to occur in the area because of the tidal influence, which completely submerges any potential habitat for hydrophytic vegetation twice daily throughout most of the year.

4.3.1 Developed Lands

Developed areas within the study area consist of the bridge abutment and other support structures, PCH, the pedestrian path, and a small public works access facility on the extreme southwestern side of the study area. A storm drain/box culvert outlet is located between the bridge abutment and the pedestrian path.

4.3.2 Ornamental Vegetation

Ornamental vegetation exists in the southwestern portion of the study area, consisting of a small patch of iceplant (*Carprobrotus chilensis* [FACU], which is growing over an impenetrable concrete apron and a medium-sized ornamental pine tree (*Pinus* sp. [UPL]).[5] The remainder of the southwestern portion of the study area contains an assorted mix of ornamental vegetation that was not identified to species.

[5] The 2014 Arid West Regional Wetland Plant List includes only three pine species (*P. contorta, P. monticola* and *P. ponderosa*). It was confirmed that the pine tree in the study area was not one of these species; as such, it was determined that an upland (UPL) indicator status is appropriate for this individual.

4.3.3 Open Water

Open Water extends from the slopes associated with the bridge abutment and pedestrian path out toward the bay. During the time of the initial delineation visit, the tide was waning to a low tide of -0.23 feet msl, and a substantial amount of mud flat was exposed. Areas of mudflat were not included as open water but are discussed below. Appendix B, Photos 1,2 and 9 depict the open water observed during the site visits.

4.3.4 Mudflat

Mudflats within the study area consist of areas of mud and sediments that are routinely exposed during low tide events. The limits of mudflat were determined based on historic aerial imagery (Google Earth 2015) and verified during the March 4, 2015 field visit that was conducted during a low tide of -0.23 feet msl. Appendix B, Photos 3, 5 and 6 depict the mudflat observed during the March 4, 2015 site visit.

4.4 Soils

NRCS has mapped the following soil series as occurring within the study area: Beaches and Water (Appendix A, Figure 7). "Water" consists of the open water associated with Newport Bay and is not discussed further. "Beaches" are described by USDA/NRCS as consisting of course to fine, poorly drained sands.

Chapter 5
Jurisdictional Delineation Results

This chapter describes the delineated features and expected jurisdictional status within the study area. This report documents existing conditions within the study area. An impacts analysis is not included as a part of this report.

The information and results included herein document the investigation, best professional judgment, and conclusions of the investigators. It is correct and complete to the best of our knowledge. However, all jurisdictional determinations should be considered preliminary until reviewed and approved by the regulatory agencies.

Figures 8a and 8b depict the results of the jurisdictional delineation (Appendix A). Study area photographs are provided in Appendix B. Wetland Determination Data forms are provided in Appendix C, and a Preliminary JD form is included in Appendix D.

5.1 Delineated Feature Descriptions

One feature was observed and documented within the jurisdictional delineation study area: Newport Bay (Figures 8a and 8b). This feature is considered a potential USACE jurisdictional WoUS and subject to RWQCB/EPA jurisdiction. In addition, this feature was determined to be potentially subject to CDFW and CCC jurisdiction.

5.1.1 Newport Bay

5.1.1.1 USACE/RWQCB Potential Jurisdiction

Newport Bay is a perennial water feature, a direct tributary to the Pacific Ocean, and considered a TNW. The OHWM associated with Newport Bay within the study area was initially mapped as the extent of staining on the bridge abutment and pedestrian path structures. The elevation of the staining was measured to be +5.06 feet msl (Appendix B, Photos 3, 5, 6 and 8). Following the initial visit, tidal gauge data from the entrance to Newport Harbor (Station 9410580) were used to map the limits of potential Section 404 and Section 10 waters more accurately. Additionally, USACE staff member Steven Estes assisted in determining the appropriate elevations to use for mapping the limits of Section 404 and Section 10 jurisdictional elevations. These elevations were determined to be +6.94 feet msl and +4.68 feet msl, respectively. Two areas of Section 404 Special Aquatic Site mudflats were mapped in the study area. A wetland sample point was taken within the study area to document the lack of hydrophytic vegetation and the soil and hydrology conditions (Appendix B, Photo 5) (Appendix C, Sample Plot 1). This area did not meet the three-parameter definition of a USACE jurisdictional wetland.

USACE potential jurisdictional areas within the study area total approximately 0.195-acre of Section 404 non-wetland WoUS/WoS (Open Water) and 0.142-acre of Section 404 Special Aquatic Site occurring in the form of tidal mud flats. Additionally, 0.328-acre of USACE Section 10 WoUS was mapped in the study area. The upper elevational limits of Section 404 and Section 10 waters were

determined to occur on the existing concrete/asphalt slopes to be restored. Figure 8a depicts the limits of potential USACE jurisdiction in the study area.

5.1.1.2 RWQCB/EPA Potential Jurisdiction

The limits of RWQCB/EPA jurisdiction mirrors USACE Section 404 jurisdiction. As such RWQCB potential jurisdictional areas within the study area total approximately 0.195-acre of non-wetland WoS (Open Water) and 0.142-acre of Special Aquatic Site occurring in the form of tidal mud flats. Figure 8a depicts the limits of potential RWQCB jurisdiction in the study area.

5.1.1.3 CDFW Potential Jurisdiction

The limits of potential CDFW jurisdiction was determined to extend up to the top of the concrete and asphalt slopes associated with the bridge abutment and pedestrian path. Potential CDFW jurisdiction totaled approximately 0.340-acre of unvegetated tidal waters. No CDFW riparian vegetation was mapped in the study area. Appendix A, Figure 8b depicts the limits of potential jurisdiction for CDFW.

5.1.1.4 CCC Potential Jurisdiction

The limits of potential CCC jurisdictional 1-parameter wetland (presence of hydrology indicators) was determined to extend to the limit of the high tide line (+6.94 feet) which corresponds to the limits of Section 404 non-wetland WoUS. Potential CCC jurisdiction within the study area totaled approximately 0.337-acre of one-parameter wetlands. Figure 8b depicts the extent of potential CCC jurisdiction in the study area.

5.2 Delineation Results Summary

Within the entire 0.67-acre study area, one feature that could be subject to the jurisdiction of the USACE, RWQCB/EPA, CDFW, and CCC was delineated: Newport Bay. USACE and RWQCB/EPA potential jurisdictional areas within the study area total approximately 0.195-acre of Section 404 non-wetland WoUS/WoS and 0.142 acre of Section 404 Special Aquatic Site occurring in the form of tidal mud flats, was mapped within the study area. Additionally, 0.328-acre of potential USACE Section 10 WoUS was mapped in the study area. Figure 8a depicts the limits of potential USACE/RWQCB jurisdiction in the study area.

Potential CDFW jurisdiction totaled approximately 0.340-acre of unvegetated tidal waters. No CDFW riparian vegetation was mapped in the study area. Potential CCC jurisdiction within the study area totaled approximately 0.337-acre of one-parameter wetlands. Figure 8b depicts the limits of potential CDFW and CCC jurisdiction in the study area.

A portion of a shallow, concrete-lined "v-ditch" that appears to have been constructed as an erosion control feature to prevent erosion of the earthen bridge abutment extends from the north side of PCH and then under the bridge into the study area. The v-ditch conveys storm water flows from PCH to Newport Bay. Within the study area the shallow "v-ditch" is approximately 2-feet wide and is approximately 75 linear feet in length comprising approximately 0.003-acre. This "v-ditch" was determined to be a non-jurisdictional erosion control feature.

Table 5-1. Jurisdictional Delineation Summary (acres)

Feature	Section 404 Non-Wetland (Open Water) WoUS/WoS	Section 404 Special Aquatic Site (Mud Flat)	Section 10 Navigable WoUS	CDFW Unvegetated Tidal Waters	CCC 1-Parameter Wetlands
Newport Bay	0.195	0.142	0.328	0.340	0.337
Total	0.195	0.142	0.328	0.340	0.337

5.3 List of Delineators and Report Preparers/ Reviewer

Paul Schwartz, Senior Biologist—Lead Delineator/Report Preparer

Shannon Crossen, Senior Biologist—Delineator

Zack West, Senior Regulatory Specialist—Report Reviewer

Brittany Buscombe—GIS Specialist

Chapter 6
References

Baldwin, B. G., D. H. Goldman, D. J. Keil, R. Patterson, T. J. Rosatti, and D. H. Wilken (eds.). 2012. *The Jepson Manual: Vascular Plants of California.* Second edition. Berkeley, CA: University of California Press, 1,568 pp.

Environmental Laboratory. 1987. *Corps of Engineers Wetland Delineation Manual.* Technical Report Y-87-1. Vicksburg, MS: U.S. Army Waterways Experiment Station.

Google Earth. 2015. Aerial imagery for the study area. Date of image: April 23, 2014. Accessed: March 2015.

National Oceanic and Atmospheric Administration. 2015. *Tidal Datum's for Station 9410580, Newport Beach, Newport Harbor Entrance, California.* Available: <http://co-ops.nos.noaa.gov/datums.html?id=9410580>. Accessed: March 2015.

———. 2008a. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region.* Version 2.0. Vicksburg, MS: U.S. Army Engineer Research and Development Center. Report dated September 2008.

———. 2008b. *A Field Guide to the Identification of the Ordinary High-Water Mark (OHWM) in the Arid West Region of the Western United States: A Determination Manual.* August. Available: <http://www.crrel.usace.army.mil/library/technicalreports/ERDC-CRREL-TR-08-12.pdf>.

———. 2011. *Draft Guidance on Identifying Waters Protected by the Clean Water Act.*

———. 2014. *Arid West 2014 Regional Wetland Plant List.* Available: <http://rsgisias.crrel.usace.army.mil/NWPL/>. Accessed: March 2015.

Orange County Watersheds. 2015. Description of Newport Bay Watershed. Available at http://ocwatersheds.com/programs/ourws/npb/. Accessed March 2015.

U.S. Army Corps of Engineers and U.S. Environmental Protection Agency. 2008. Clean Water Act Jurisdiction Following the U.S. Supreme Court's Decision in *Rapanos v. United States & Carabell v. United States.* Memorandum.

U.S. Department of Agriculture, Natural Resources Conservation Service. 1994. *Changes in Hydric Soils of the United States.* Federal Register 59(133): 35680–35681, July 13, 1994.

———. 2010. *Field Indicators of Hydric Soils in the United States, Version 7.0.* L. M. Vasilas, G. W. Hurt, and C. V. Noble (eds.). USDA, NRCS, in cooperation with the National Technical Committee for Hydric Soils.

———. 2015. Soil Survey Geographic Database for Orange County, California. Prepared by Soil Survey Staff of the Natural Resources Conservation Service. Available: <http://soildatamart.nrcs.usda.gov>. Accessed: March, 2015.

U.S. Environmental Protection Agency. 2010. *Clean Water Act Section 401Water Quality Certification: A Water Quality Protection Tool for States and Tribes.* Available: http://water.epa.gov/lawsregs/guidance/cwa/upload/CWA_401_Handbook_2010_Interim.pdf.

U.S. Fish and Wildlife Service. 2015. *National Wetlands Inventory*. Washington, D.C. Available: <http://www.fws.gov/wetlands/>. Accessed: March 2015.

U.S. Geological Survey. 1965. *Newport Beach, California, 7.5-minute topographic map*. Reston, VA. Color, revised 1981, scale 1:24,000.

U.S. Geological Survey in cooperation with the U.S. Environmental Protection Agency. 2015. *Watershed Boundary Dataset for Orange County, California*. Available: <http://datagateway.nrcs.usda.gov>. Accessed: March 2015.

Western Regional Climate Center. 2015. *Period of Record Monthly Climate Summary Newport Beach, California*. Available: <http://www.wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca6175>. Accessed: March 2015.

Personal Communication

Steven Estes. Staff member with USACE. March 18 and 19, 2015—electronic discussion regarding Section 404 elevational limits and Section 10 limits in the tidal waters of Newport Bay.

Appendix A

Jurisdictional Delineation Maps

Figure 1
Regional Vicinity Map
State Route 1 Restoration Project

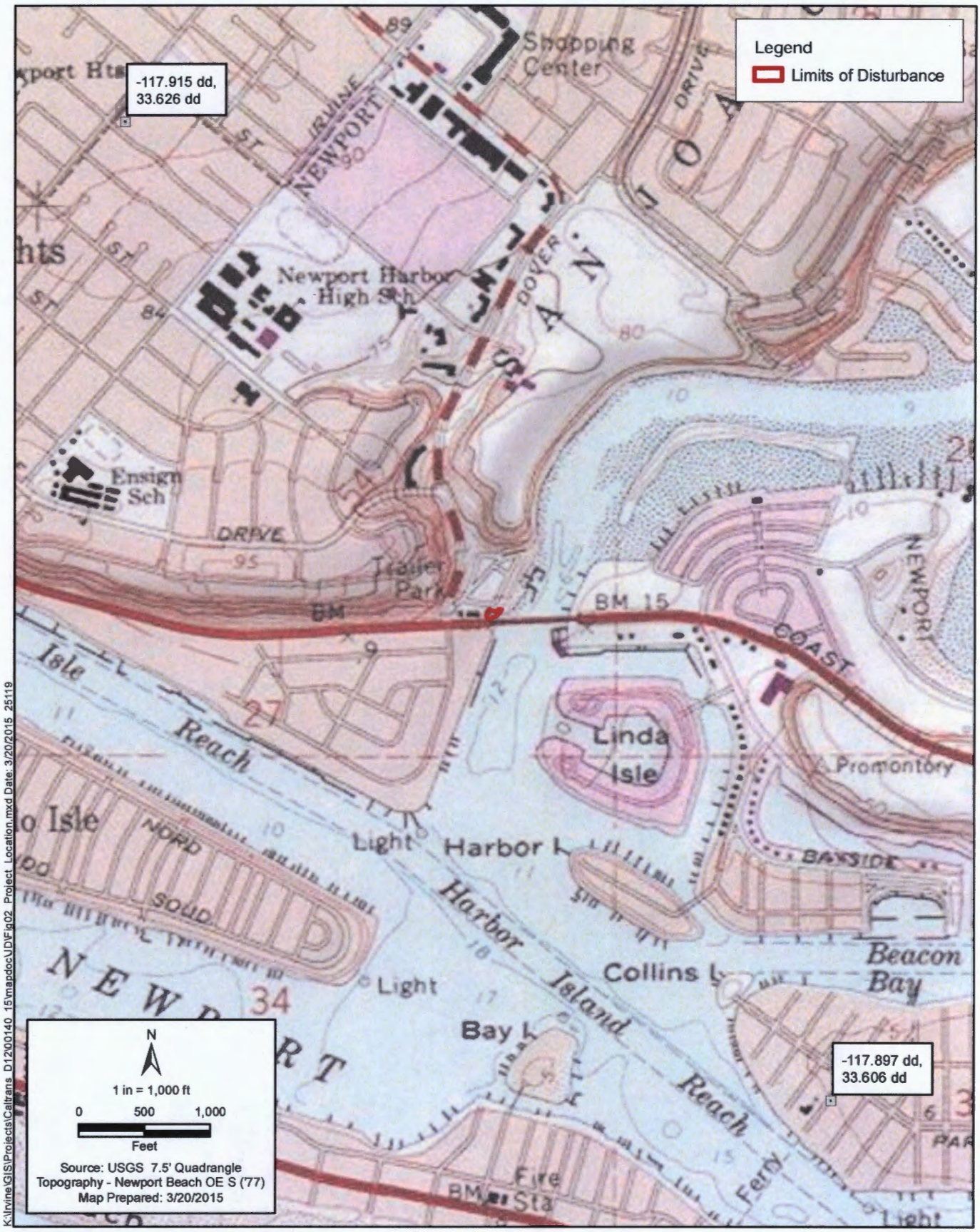
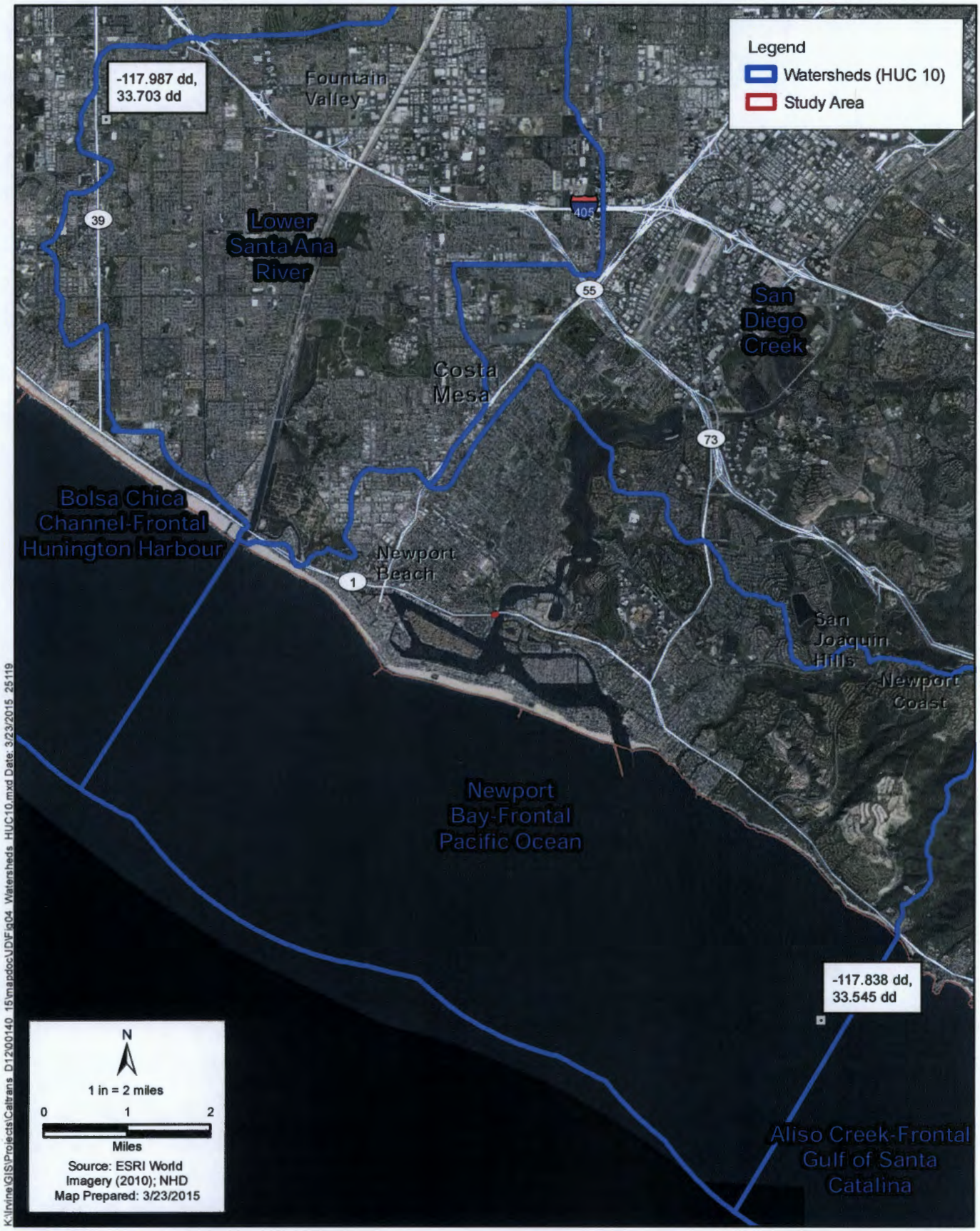


Figure 2
Project Location
State Route 1 Restoration Project

Figure 3
Study Area
State Route 1 Restoration Project



K:\Irvine\GIS\Projects\Caltrans D12\00140 15\mapdoc\UD\Fig04 Watersheds HUC10.mxd Date: 3/23/2015 25119

Figure 4
Watersheds - HUC 10
State Route 1 Restoration Project

Figure 5
Watersheds - HUC 8
State Route 1 Restoration Project

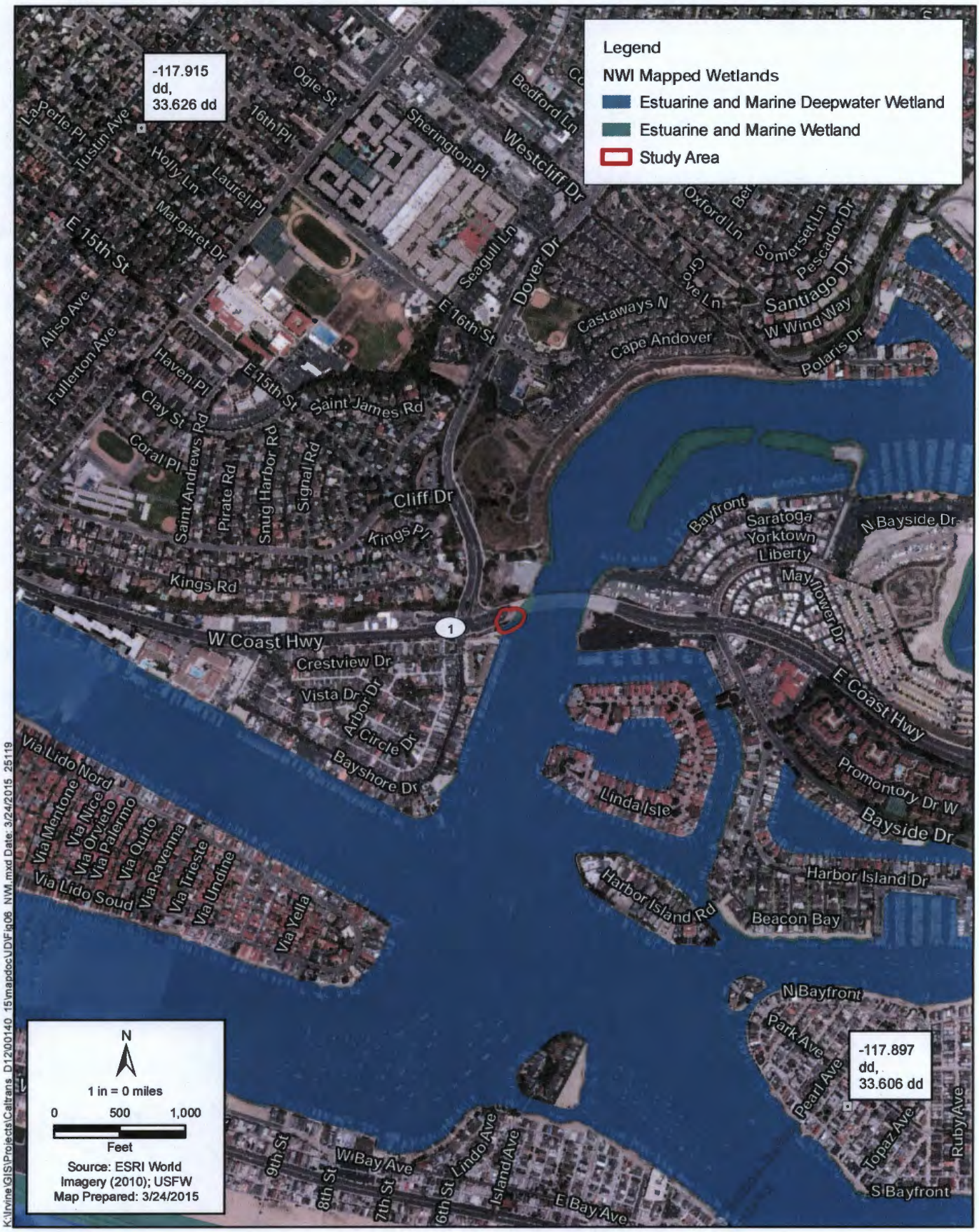


Figure 6
National Wetlands Inventory Map
State Route 1 Restoration Project

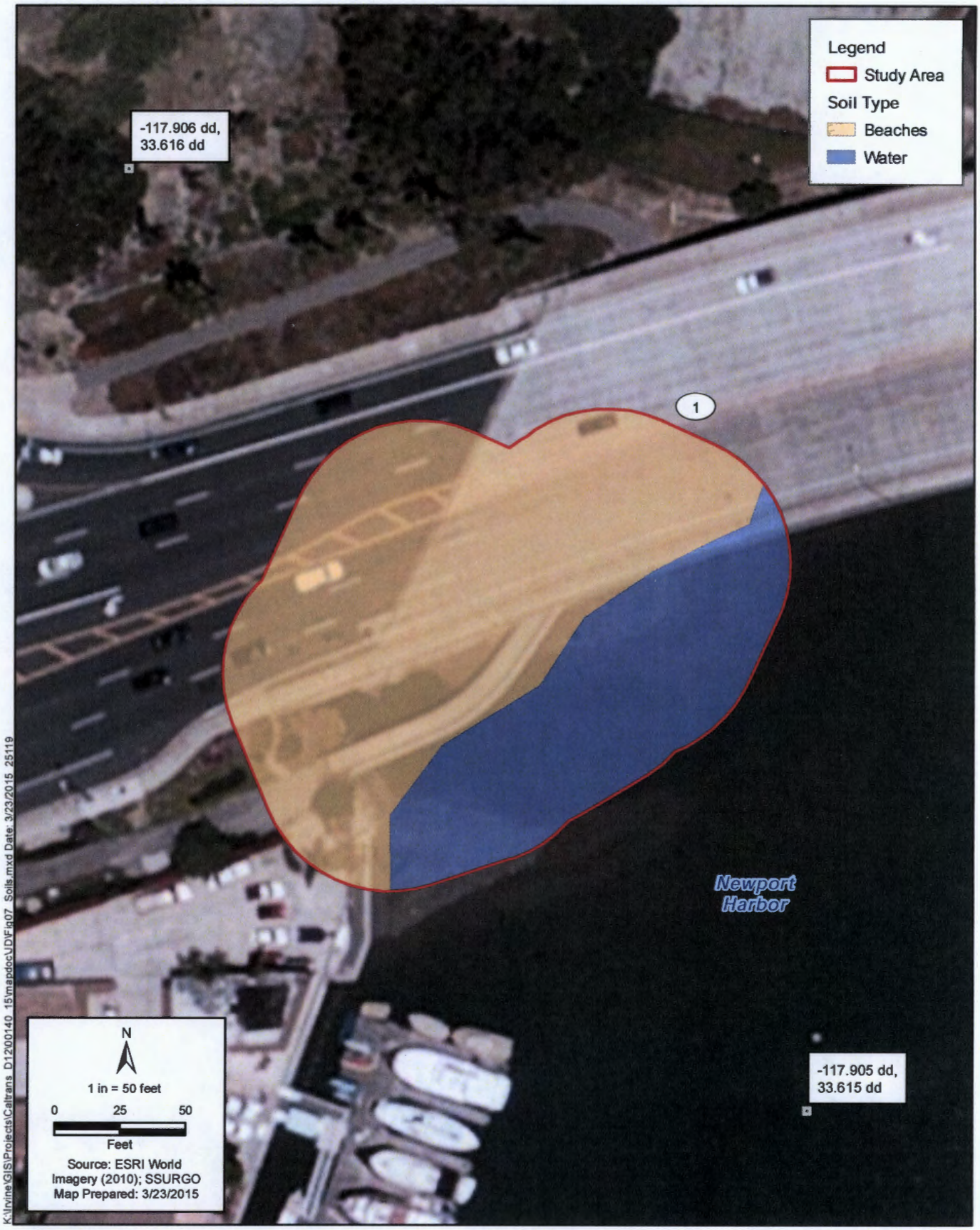


Figure 7
NRCS Soils Map
State Route 1 Restoration Project

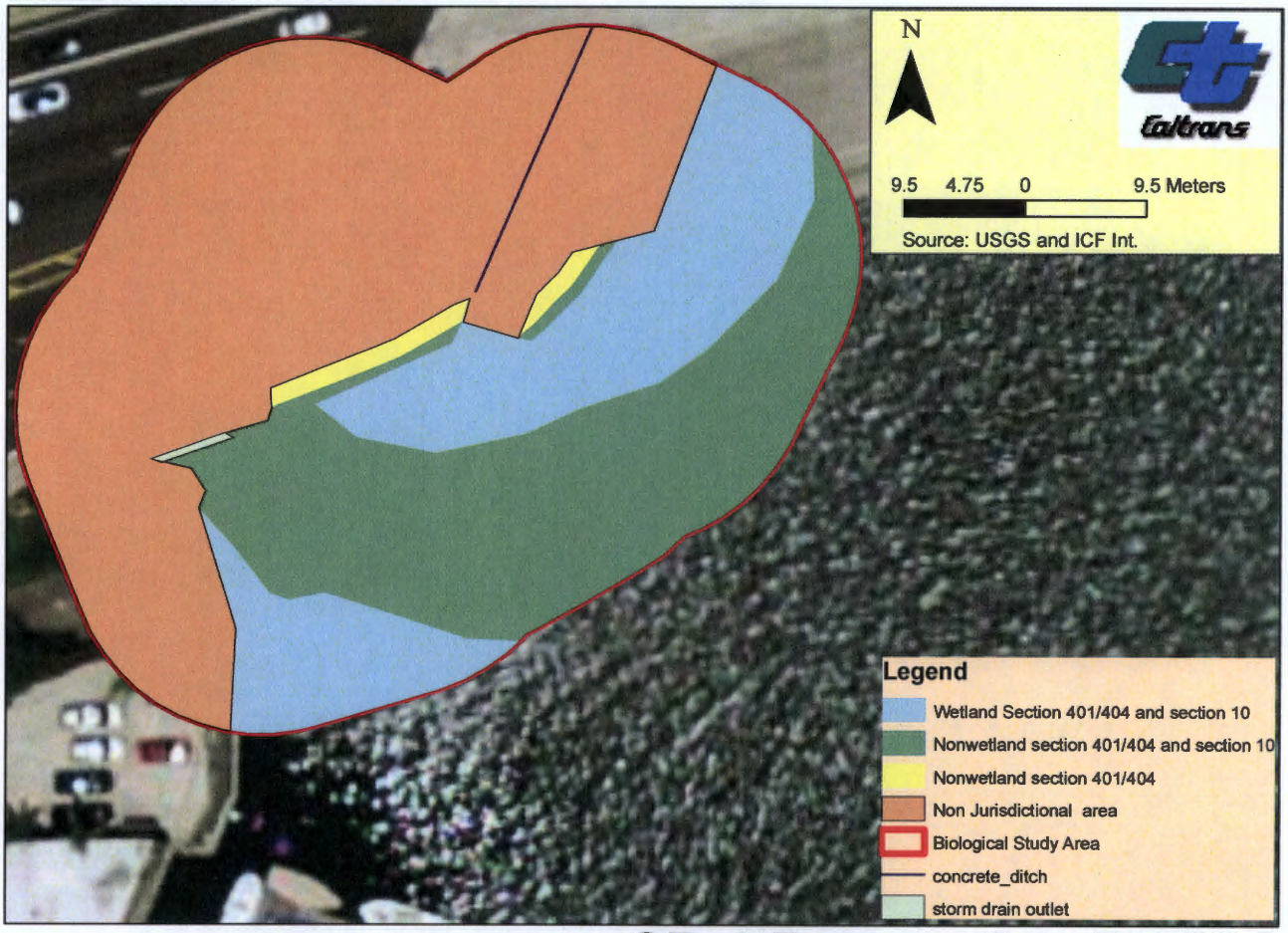


Figure 8a
USACE and RWQCB
Jurisdictional Delineation Results

SR-1 Restoration Project

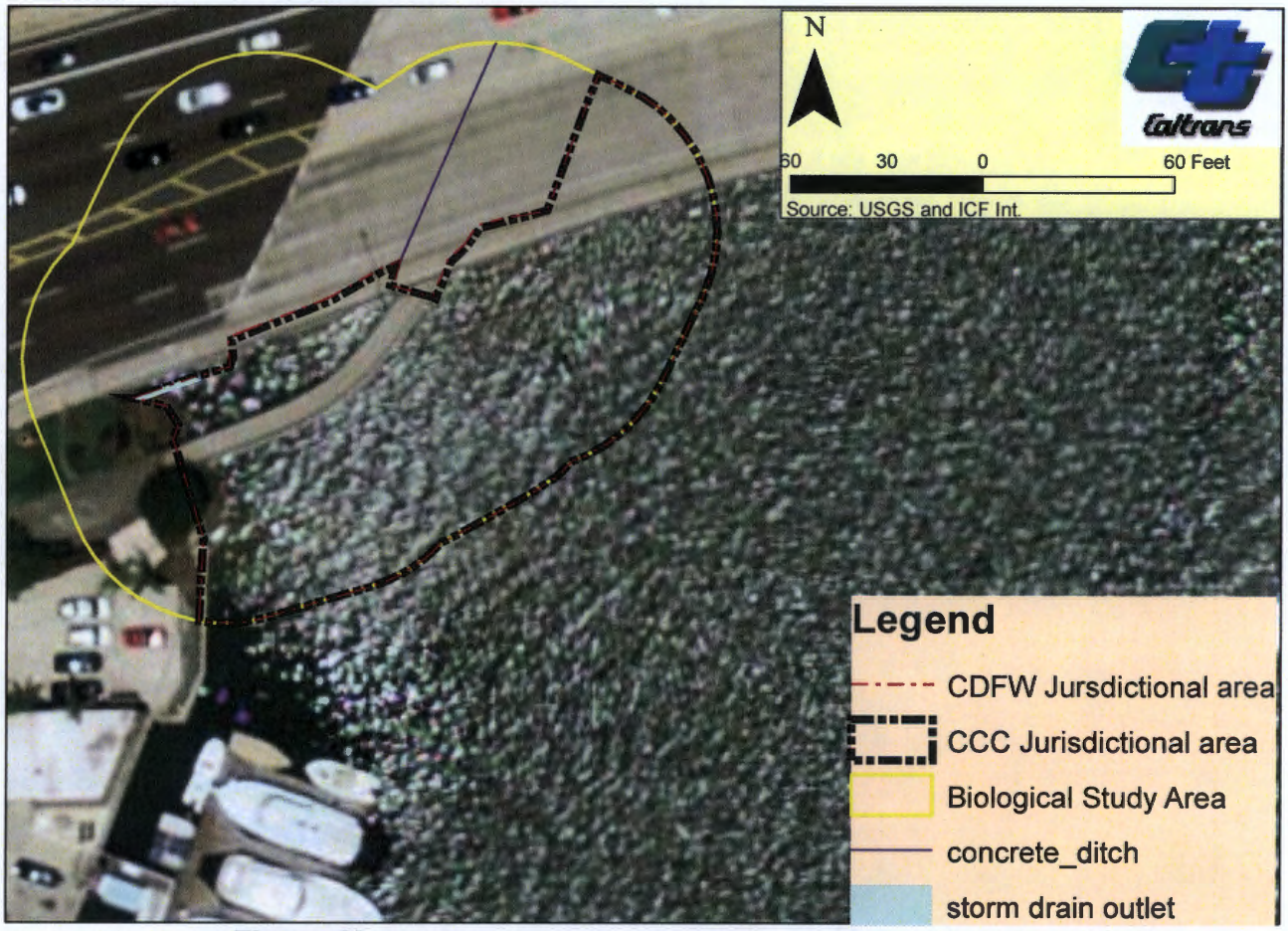
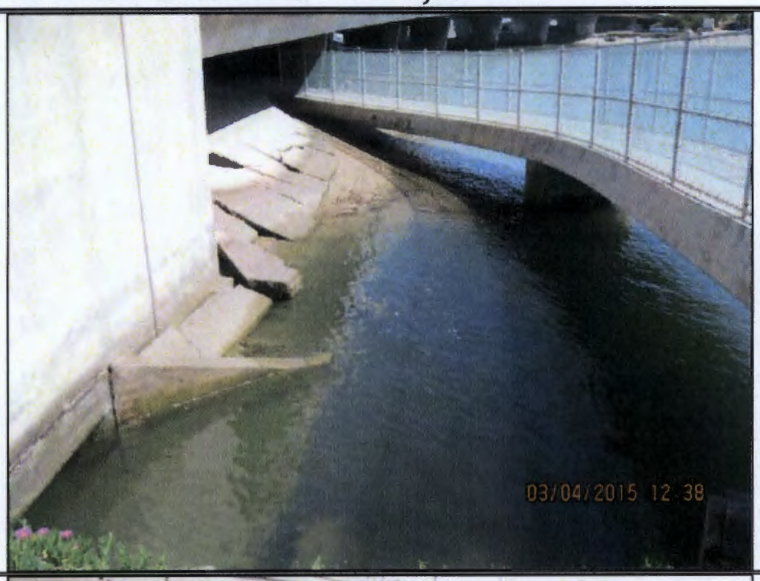


Figure 8b
CCC/CDFW Jurisdictional Results

SR-1 Restoration Project

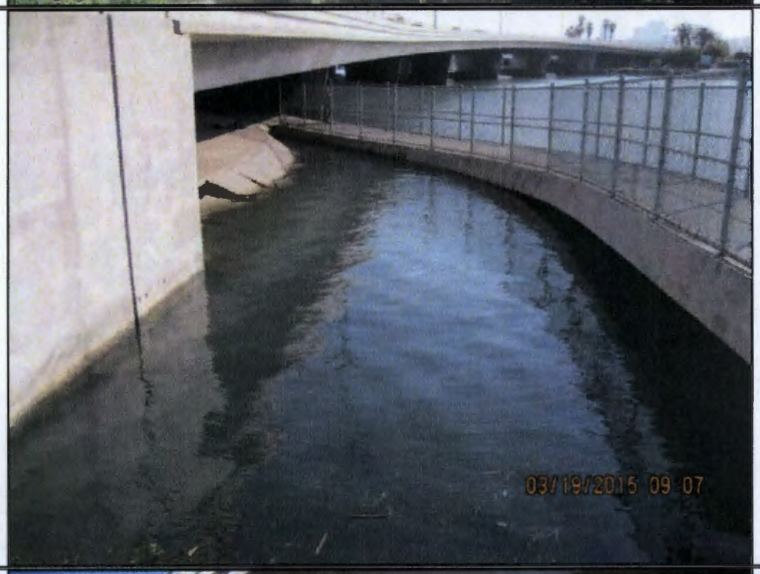
Appendix B

Study Area Photographs



Photograph: 1

Photo Date: March 4, 2015
Location: Southwestern side of Study Area.
Direction: Photo looking northeast.
Comment: Photo depicts the bridge abutment wall to be repaired. Photo taken approximately 2 hours before a low tide of -0.23 ft. MSL.



Photograph: 2

Photo Date: March 19, 2015
Location: Southwestern side of Study Area.
Direction: Photo looking northeast.
Comment: Photo depicts the bridge abutment wall to be repaired. Photo taken at high tide of +5.86 ft. MSL.

Photograph: 3

Photo Date: March 4, 2015
Location: Northeastern portion of the study area.
Direction: Photo looking west.
Comment: Photo depicts the pedestrian path and associated asphalt bank to be repaired. Photo taken approximately 1 hour 45 minutes before a low tide of -0.23 ft. MSL.

Photograph: 4

Photo Date: March 19, 2015
Location: Northeastern portion of the study area.
Direction: Photo looking north.
Comment: Photo depicts the edge of the pedestrian path and the associated asphalt bank to be repaired. Photo taken approximately 6 minutes prior to a high tide of +5.86 ft. MSL.

Photograph: 5

Photo Date: March 4, 2015
Location: Northeastern portion of the study area.
Direction: Photo looking west.
Comment: Photo depicts un-vegetated tidal mud flat where wetland sample point #1 was located. Photo taken approx. 27 minutes before a low tide of -0.23 ft. MSL.

Photograph: 6

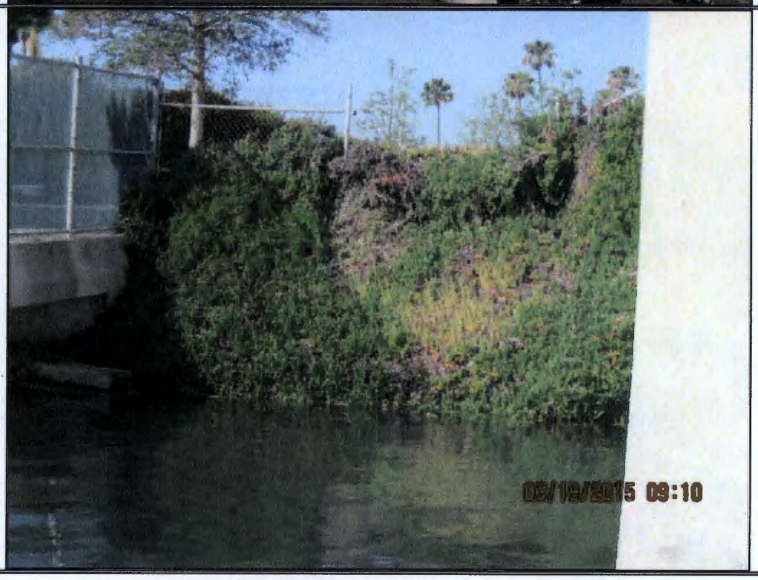
Photo Date: March 4, 2015
Location: Northeastern portion of the study area.
Direction: Photo looking northwest.
Comment: Photo depicts the bridge support structure that the pedestrian path asphalt bank ties into. Photo taken approx. 1 hour 45 minutes before a low tide of -0.23 ft. MSL. The height of the staining on the support structure is approximately +5.06 ft. MSL.

Photograph: 7

Photo Date: March 4, 2015
Location: Northeastern portion of the study area.
Direction: Photo looking north.
Comment: Photo depicts the pedestrian path asphalt bank to be repaired on the right side of the photo and a shallow concrete-lined channel that conveys flows from PCH to the harbor.

Photograph: 8

Photo Date: March 4, 2015
Location: Southern portion of the study area.
Direction: Photo looking northwest from the bike path.
Comment: Photo depicts the storm drain outlet located in the western portion of the study area.



Photograph: 9

Photo Date: March 19, 2015
Location: Northeast portion of the study area.
Direction: Photo looking southwest.
Comment: Photo depicts iceplant (*Carpobrotus chilensis*, FACU) growing over an impenetrable concrete apron between the pedestrian path and the bridge abutment.

Appendix C

Wetland Determination Data Forms

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: State Route 1 Restoration City/County: Newport Beach/Orange Sampling Date: 3/4/2015

Applicant/Owner: Caltrans District 12 State: CA Sampling Point: SP 1

Investigator(s): Paul Schwartz / Shannon Crossen Section, Township, Range: S27/T10W/R5S

Landform (hillslope, terrace, etc.): mud flat - tidal Local relief (concave, convex, none): slightly convex Slope (%): < 1

Subregion (LRR): C - Med. Lat: 33.616357 Long: -117.9060703 Datum: WGS 84

Soil Map Unit Name: Beaches / Water NWI classification: Estuarine Marine

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? No Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil ✓, or Hydrology _____ naturally problematic? Yes (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✓	Is the Sampled Area within a Wetland?	Yes ✓ */** No _____
Hydric Soil Present?	Yes _____	No ✓		
Wetland Hydrology Present?	Yes ✓	No _____		

Remarks: Soil naturally problematic due to landscape position w/n the active tidal zone
*Sample plot only meets one parameter (hydrology). Site is not considered a 3 parameter USACE wetland but is considered a one-parameter ecc wetland, however (**) the tidal flats w/n the study area are considered "Special aquatic sites" by USACE and are treated as USACE wetlands.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 15)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 10)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 5)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	0 = Total Cover		

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:	(A)		(B)

Prevalence Index = B/A = 0

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks: No vegetation present in sample plot or remainder of mudflat portion of study area.

SOIL

Sampling Point: SP1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 3/2	100	–	–	–	–	sand	
10-15	7.5YR 4/6	100	–	–	–	–	clay	*

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (LRR C)
- ___ 1 cm Muck (A9) (LRR D)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (LRR C)
- ___ 2 cm Muck (A10) (LRR B)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: None

Depth (inches): ___

Hydric Soil Present? Yes ___ No ✓

Remarks:

* Lots of shell material in upper 10" of soil, very sticky clay below 10" that has a orangish hue.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ✓ Water Marks (B1) (Nonriverine)
- ✓ Sediment Deposits (B2) (Nonriverine)
- ✓ Drift Deposits (B3) (Nonriverine)
- ___ Surface Soil Cracks (B6)
- ✓ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ✓ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (Riverine)
- ___ Sediment Deposits (B2) (Riverine)
- ___ Drift Deposits (B3) (Riverine)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): *

Water Table Present? Yes ✓ No ___ Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ✓ No ___ Depth (inches): ___

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

* Sample plot conducted at low tide of -0.23'. Area is within the tidal zone.

Appendix D

Preliminary Jurisdictional Determination Form

PRELIMINARY JURISDICTIONAL DETERMINATION FORM

This preliminary JD finds that there *"may be"* waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

District Office: Los Angeles District | File/ORM #: | PJD Date:

State: CA | City/County: Newport Beach/Orange County

Nearest Waterbody: Pacific Ocean

Location: TRS, LatLong or UTM: (WGS 84) 33.616357, -117.9060703

Name/ Address of Person Requesting PJD: California Department of Transportation (Caltrans) District 12

Identify (Estimate) Amount of Waters in the Review Area:

Non-Wetland Waters: linear ft | width 0.195 acres | Stream Flow: N/A

Wetlands: 0.142* acre(s) | Cowardin Class: Estuarine

Name of Any Water Bodies on the Site Identified as Section 10 Waters: Tidal: Pacific Ocean. See attached Aquatic Res. Table | Non-Tidal: Pacific Ocean. See attached Aquatic Res. Table

☐ Office (Desk) Determination
☑ Field Determination: Date of Field Trip:

SUPPORTING DATA: Data reviewed for preliminary JD (check all that apply - checked items should be included in case file and, where checked and requested, appropriately reference sources below):

- ☑ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: See attached JD report prepared for the project
- ☑ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  - ☐ Office concurs with data sheets/delineation report.
  - ☐ Office does not concur with data sheets/delineation report.
- ☐ Data sheets prepared by the Corps
- ☐ Corps navigable waters' study:
- ☑ U.S. Geological Survey Hydrologic Atlas:
  - ☑ USGS NHD data.
  - ☑ USGS 8 and 12 digit HUC maps.
- ☑ U.S. Geological Survey map(s). Cite quad name: Newport Beach, California
- ☑ USDA Natural Resources Conservation Service Soil Survey. Citation: http://soils.usda.gov/survey/geography/ssurgo/
- ☑ National wetlands inventory map(s). Cite name: http://www.fws.gov/wetlands/Data/Mapper.html
- ☐ State/Local wetland inventory map(s):
- ☐ FEMA/FIRM maps:
- ☐ 100-year Floodplain Elevation is:
- ☑ Photographs: ☑ Aerial (Name & Date): California Interagency Watershed Map of 1999
  - ☑ Other (Name & Date): Site Photographs from 3/4/2015 and 3/19/2015
- ☐ Previous determination(s). File no. and date of response letter:
- ☐ Other information (please specify):

IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.

Signature and Date of Regulatory Project Manager (REQUIRED)

Signature and Date of Person Requesting Preliminary JD (REQUIRED, unless obtaining the signature is impracticable)

EXPLANATION OF PRELIMINARY AND APPROVED JURISDICTIONAL DETERMINATIONS:

1. The Corps of Engineers believes that there may be jurisdictional waters of the United States on the subject site, and the permit applicant or other affected party who requested this preliminary JD i hereby advised of his or her option to request and obtain an approved jurisdictional determination (JD) for that site. Nevertheless, the permit applicant or other person who requested this preliminary JI has declined to exercise the option to obtain an approved JD in this instance and at this time.

2. In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "preconstruction notification" (PCN) or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an approved JD for the activity, the permit applicant is hereby made aware of th following: (1) the permit applicant has elected to seek a permit authorization based on a preliminary JD, which does not make an official determination of jurisdictional waters; (2) that the applicant ha the option to request an approved JD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an approved JD could possibly result in les compensatory mitigation being required or different special conditions; (3) that the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP o other general permit authorization; (4) that the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigatio requirements the Corps has determined to be necessary; (5) that undertaking any activity in reliance upon the subject permit authorization without requesting an approved JD constitutes the applicant' acceptance of the use of the preliminary JD, but that either form of JD will be processed as soon as is practicable; (6) accepting a permit authorization (e.g., signing a proffered individual permit) o undertaking any activity in reliance on any form of Corps permit authorization based on a preliminary JD constitutes agreement that all wetlands and other water bodies on the site affected in any way b that activity are jurisdictional waters of the United States, and precludes any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrativ appeal or in any Federal court; and (7) whether the applicant elects to use either an approved JD or a preliminary JD, that JD will be processed as soon as is practicable. Further, an approved JD, proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331, and that in any administrativ appeal, jurisdictional issues can be raised (see 33 C.F.R. 331.5(a)(2)). If, during that administrative appeal, it becomes necessary to make an official determination whether CWA jurisdiction exists over site, or to provide an official delineation of jurisdictional waters on the site, the Corps will provide an approved JD to accomplish that result, as soon as is practicable.

PRELIMINARY JURISDICTIONAL DETERMINATION FORM

This preliminary JD finds that there *"may be"* waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

Appendix A - Sites

District Office: Los Angeles District | File/ORM #: | PJD Date:

State: CA | City/County: Newport Beach/Orange County | Person Requestinq PJD:

Site Number	Latitude	Longitude	Cowardin Class	Est. Amount of Aquatic Resource in Review Area	Class of Aquatic Resource
1	33.616357	-117.9060703	Estuarine	0.195	Non-Section 10 non-wetlan
1	33.616357	-117.9060703	Estuarine	0.142*	Non-Section 10 wetland
1	33.616357	-117.9060703	Estuarine	0.328	Section 10 tidal

Notes:

*Non-Section 10 Special Aquatic Sites consisting of mud flat are referred to as Non-Section 10 wetlands on this form.

See attached jurisdictional delineation report for additional information.

Appendix E

Appendix E
Soils Map
State Route 1 Restoration Projec

Appendix F

Plant Species Detected

Scientific Name	Common Name	Special Status
EUDICOTS		
Aizoaceae - Fig-marigold family		
* *Carpobrotus chilensis*	Sea fig	
* *Mesembryanthemum crystallinum*	Crystalline iceplant	
Anacardiaceae - Sumac Or Cashew family		
Malosma laurina	Laurel sumac	
* *Schinus molle*	Peruvian pepper tree	
Apiaceae - Carrot family		
Daucus pusillus	Rattlesnake weed	
* *Foeniculum vulgare*	Fennel	
Araliaceae - Ginseng family		
* *Hedera helix*	English ivy	
Asteraceae - Sunflower family		
Baccharis pilularis ssp. pilularis	Coyote brush	
* *Bidens pilosa*	Common beggar-ticks	
* *Centaurea melitensis*	Tocalote	
* *Cotula australis*	Australian cotula	
Encelia californica	California encelia	
Erigeron sp.	Daisy	
* *Gazania linearis*	Treasureflower	
Heterotheca grandiflora	Telegraph weed	
Isocoma menziesii	Coastal goldenbush	
* *Pseudognaphalium luteoalbum*	White lamb everlasting	
* *Sonchus oleraceus*	Common sow thistle	
Brassicaceae - Mustard family		
* *Brassica nigra*	Black mustard	
* *Lobularia maritima*	Sweet alyssum	
* *Sisymbrium irio*	London rocket	
Chenopodiaceae - Goosefoot family		
Atriplex lentiformis	Big saltbush	
* *Salsola sp.*	Russian thistle	
Fabaceae - Legume family		
* *Acacia longifolia*	Sydney golden wattle	
* *Melilotus indicus*	Indian sweetclover	

Scientific Name	Common Name	Special Status
Trifolium sp.	Clover	
Geraniaceae - Geranium family		
* *Erodium cicutarium*	Redstem filaree	
Malvaceae - Mallow family		
* *Malva parviflora*	Cheeseweed	
Myrtaceae - Myrtle family		
* *Eucalyptus sp.*	Gum	
* *Melaleuca citrina*	Crimson bottlebrush	
Nyctaginaceae - Four O'clock family		
Bougainvillea sp.	Bougainvillea	
Oxalidaceae - Oxalis family		
Oxalis sp.	Wood-sorrel	
Scrophulariaceae - Figwort family		
* *Myoporum laetum*	Ngaio tree	
Verbenaceae - Vervain family		
* *Lantana montevidensis*	Trailing shrubverbena	
MONOCOTS		
Arecaceae - Palm family		
* *Phoenix dactylifera*	Date palm	
* *Washingtonia robusta*	Mexican fan palm	
Cyperaceae - Sedge family		
Cyperus eragrostis	Tall flatsedge	
Poaceae - Grass family		
Avena sp.	Oat	
* *Bromus catharticus*	Rescuegrass	
* *Bromus diandrus*	Ripgut brome	
* *Bromus madritensis ssp. rubens*	Red brome	
* *Cortaderia selloana*	Pampas grass	
* *Cynodon dactylon*	Bermuda grass	
Distichlis spicata	Salt grass	
* *Ehrharta erecta*	Panic veldt grass	
* *Hordeum vulgare*	Commercial barley	

Scientific Name	Common Name	Special Status

Legend

*= Non-native or invasive species

Special Status:

Federal:
FE = Endangered
FT = Threatened

State:
SE = Endangered
ST =Threatened

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

Table X. Wildlife Species Detected

Scientific Name	Common Name	Special Status
INVERTEBRATES		
Arthropods		
Ligia occidentalis	Rock Louse	
balanus sp.	balanus barnacle	
Molluscs		
Bulla gouldiana	Gould's Bubble Snail	
Crassostrea gigas	Pacific oyster	
Littorina sp.	littorina snail	
Lottia sp.	Limpet sp.	
Ostrea lurida	Olympia oyster	
Moths, Skippers and Butterflies		
Danaus plexippus	Monarch	
VERTEBRATES		
Reptiles		
Sceloporus occidentalis	Western Fence Lizard	
Birds		
Melanitta perspicillata	Surf Scoter	
Bucephala albeola	Bufflehead	
Podiceps auritus	Horned Grebe	
Aechmophorus occidentalis	Western Grebe	
Phalacrocorax auritus	Double-crested Cormorant	
Pelecanus occidentalis	Brown Pelican	
Ardea herodias	Great Blue Heron	
Cathartes aura	Turkey Vulture	
Buteo jamaicensis	Red-tailed Hawk	
Fulica americana	American Coot	
Tringa semipalmata	Willet	
Larus heermanni	Heermann's Gull	
Larus delawarensis	Ring-billed Gull	
Larus occidentalis	Western Gull	
Sterna forsteri	Forster's Tern	
Zenaida macroura	Mourning Dove	
Aeronautes saxatalis	White-throated Swift	

Scientific Name	Common Name	Special Status
Calypte anna	Anna's Hummingbird	
Falco sparverius	American Kestrel	
Sayornis nigricans	Black Phoebe	
Corvus brachyrhynchos	American Crow	
Tachycineta bicolor	Tree Swallow	
Stelgidopteryx serripennis	Northern Rough-winged Swallow	
Psaltriparus minimus	Bushtit	
Regulus calendula	Ruby-crowned Kinglet	
Mimus polyglottos	Northern Mockingbird	
**Sturnus vulgaris*	European Starling	
Setophaga coronata	Yellow-rumped Warbler	
Haemorhous mexicanus	House Finch	
Carduelis psaltria	Lesser Goldfinch	
Mammals		
Spermophilus beecheyi	California Ground Squirrel	
Procyon lotor	Northern Raccoon	

Legend

*= Non-native or invasive species

Special Status:

Federal:
FE = Endangered
FT = Threatened

State:
SE = Endangered
ST =Threatened
CSC = California Species of Special Concern
CFP = California Fully Protected Species

Appendix G

EELGRASS (*ZOSTERA MARINA*) AND *CAULERPA* SPECIES SURVEY
AND
ESSENTIAL FISH HABITAT REVIEW

IN THE VICINITY OF THE PROPOSED
NEWPORT BAY BRIDGE ABUTMENT RESTORATION PROJECT

NEWPORT BEACH, CALIFORNIA

March 23, 2015

Prepared For:
ICF Jones & Stokes, Inc.
Attention: Phillip Richards
630 K Street, Suite 400
Sacramento, CA 95814

Prepared By:
TRC

TRC Solutions, Inc.
123 Technology Drive West
Irvine, CA 92618

INTRODUCTION AND PROJECT DESCRIPTION

The California Department of Transportation (Caltrans) proposes to permanently restore the collapsed concrete slope paving at the abutment of the North Arm Newport Bay Bridge (Bridge No. 55-0614, henceforth referred to as the Newport Bay Bridge) and to repair the failed asphalt section of the bicycle and pedestrian path located at the southwest side of the bridge (Bridge No. 55-0621M, henceforth referred to as the bike path). The project is located on State Route 1, also known as West Coast Highway, in the city of Newport Beach, County of Orange (Figure 1).

At this segment of the roadway (PM 18.38) a Class 1 bike path runs under the Newport Bay Bridge perpendicular to the roadway above. The bike path provides a completely separated right of way for the exclusive use of bicycles and pedestrians who need to cross the highway at Dover Drive. The project is needed because the slope paving at the bridge's abutment has collapsed due to tidal erosion exposing timber piles, soil, and rebar. A portion of the bike path has also collapsed into the bay. The purpose of the project is to remove the failed concrete slope paving and asphalt and to replace this material with rock slope protection (RSP).

TRC Solutions, Inc. (TRC) was retained to assess the potential for eelgrass (*Zostera marina*) or invasive marine alga (*Caulerpa* sp.) to be affected by project construction, to review whether or not Essential Fish Habitat (EFH) has been designated in the area, and to recommend avoidance, minimization, or mitigation measures if these adverse effects might occur. The purpose of the study is to support the overall environmental impact analyses being prepared for the project.

The data and analyses provided in this document were derived from numerous sources. The project description information and conceptual scope of work utilized for this analysis have been provided by Caltrans and its project engineers. TRC conducted surveys using methods described below. Avoidance, minimization, and mitigation measures are recommended based on guidelines from Caltrans, the National Oceanic and Atmospheric Administration (NOAA), and other agencies.

REGULATORY REQUIREMENTS

RELEVANT PROJECT REGULATIONS

The proposed project will be required to comply with the following regulatory requirements:

- **Southern California Eelgrass Mitigation Policy (SCEMP).** This policy (NMFS 1991) is administered by the United State Fish and Wildlife Service (USFWS), National Marine Fisheries Service (NMFS, also referred to as NOAA Fisheries), and California Department of Fish and Wildlife (CDFW) in order to determine impacts to eelgrass (*Zostera marina*) resources. The policy's intent is to provide a starting point for recommendations for projects that may have the potential to impact existing eelgrass resources and to mitigate impacts to eelgrass resources. Compliance with this policy includes completion of pre- and post-construction eelgrass surveys, determination of impacts, and if required, development and implementation of a mitigation planting plan to offset impacts. The policy requires mitigation for the loss of existing vegetated eelgrass areas, loss of potential eelgrass habitat, and/or degradation of existing/potential eelgrass habitat. It is NMFS' policy to recommend no net loss of eelgrass habitat function in California (NMFS 2014).

- ***Caulerpa* Control Protocol.** This protocol calls for performance of a survey for *Caulerpa* to prevent it from being spread as a result of bottom-disturbing activities. A *Caulerpa* algae survey is conducted prior to construction activities to comply with permit applications from the United States Army Corps of Engineers (ACOE), including Section 404 of the Clean Water Act (CWA), and Section 10 of the Rivers and Harbors Act, and with the requirements of Section 305(b)(2) of the Magnuson-Stevens Act. If this species is found, then the 2008 *Caulerpa* Control Protocol (or the most recent version available from NMFS) for the eradication of *Caulerpa* is implemented to remove this species from the project area before construction activities commence.

- **The Magnuson-Stevens Act.** This act requires federal agencies to consult with NMFS when any activity proposed to be permitted, funded, or undertaken by a federal agency may have adverse effects on designated Essential Fish Habitat (EFH). Compliance includes completion of an EFH survey and report prior to project construction. NMFS' EFH regulations encourage Fishery Management Councils to identify Habitat Areas of Particular Concern (HAPCs) within areas designated as EFH to focus conservation priorities on specific habitat areas that play a particularly important role in the life cycles of federally managed fish species (Dobrzynski, T, and Johnson, K. 2001). Pursuant to this act, eelgrass has been designated as an EFH HAPC for various federally-managed fish species identified in the Pacific Coast Groundfish Fishery Management Plan (PFMC 2114).

OTHER RELATED REGULATIONS

Federal Regulations

- **Endangered Species Act**. Eelgrass is not a federally listed species. It is recognized as a protected resource; therefore the project will be required to avoid, minimize, or mitigate eelgrass habitat losses in accordance with the SCEMP. The project area is also not located within a federally designated Critical Habitat for this species.

State Regulations

- **California Endangered Species Act**. Eelgrass is not a state listed species. It is recognized as a protected resource; therefore the project will be required to avoid, minimize, or mitigate eelgrass habitat losses in accordance with the SCEMP.

- **California Coastal Act (CCA)**. Section 30230 of the act requires that special protection to marine resources shall be given to areas and species of special biological significance. Section 30235 provides that revetments, breakwaters, groins, harbor channels, seawalls, cliff retaining walls, and other such construction that alters natural shoreline processes shall be permitted when required to serve coastal-dependent uses or to protect existing structures or public beaches in danger from erosion.

ENVIRONMENTAL SETTING

Newport Bay

Newport Bay is located in southern California between the coastal cities of Huntington Beach to the northwest and Laguna Beach to the southeast (Figure 1). The project site is within the city limits of Newport Beach (Figure 2). Newport Bay is a combination of two geologically distinct bodies of water: Newport Harbor (Lower Newport Bay) and Upper Newport Bay. These two bodies of water are divided by the bridge that is the subject of this report.

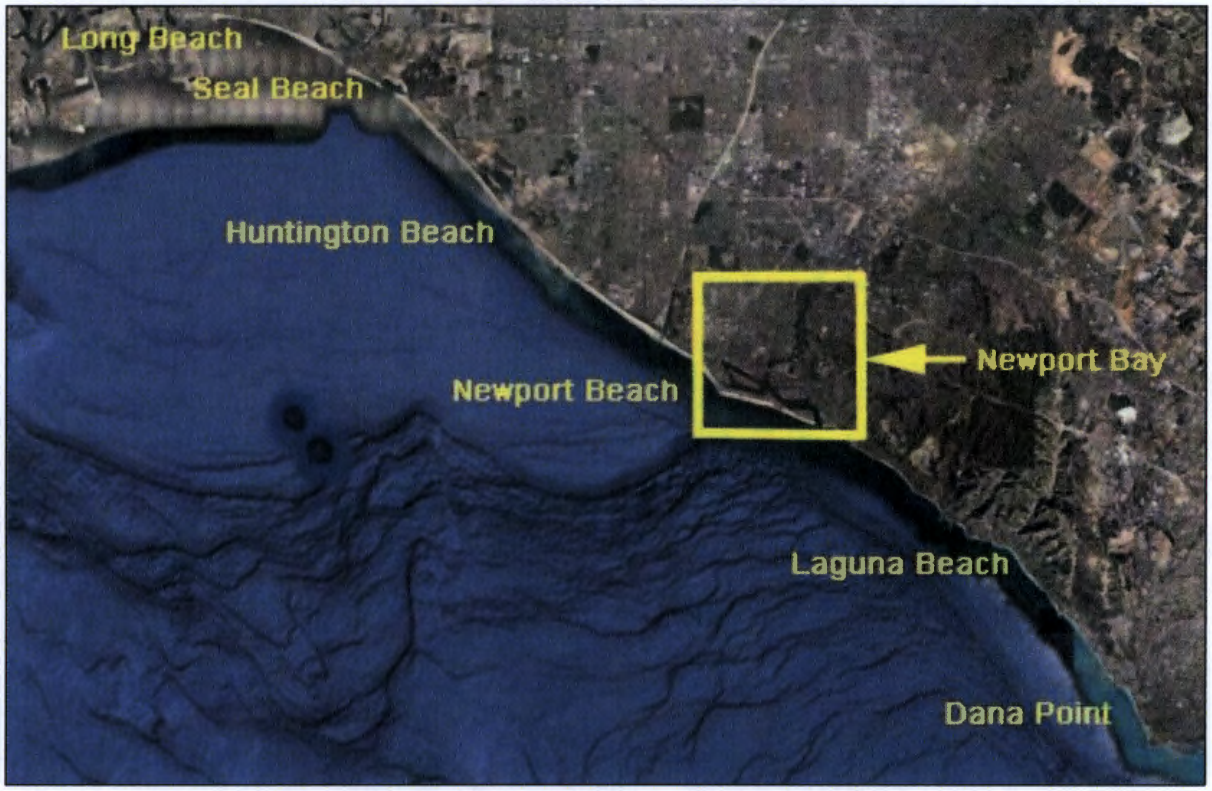


Figure 1: Regional Setting (Source: CRM 2011)

Upper Newport Bay extends in a north-to-northeasterly direction from the Newport Bay Bridge for a distance of about 3.5 miles and is bounded by the bluffs of the Newport Mesa on the west and the San Joaquin Terrace on the east. The project site for this report is within Lower Newport Bay and is located on the south side of the Newport Bay Bridge. Lower Newport Bay is four miles long and oriented in a northwest-to-southwest direction parallel to the coastline. The Newport Harbor is a multi-user system: a wildlife habitat that is transitional in nature between the tidal channel and marsh ecosystem of Upper Newport Bay and the open coastal marine environment; a major navigational harbor and anchorage for 9,000 small boats and larger vessels; and a center of business for marine-related activities and tourism.

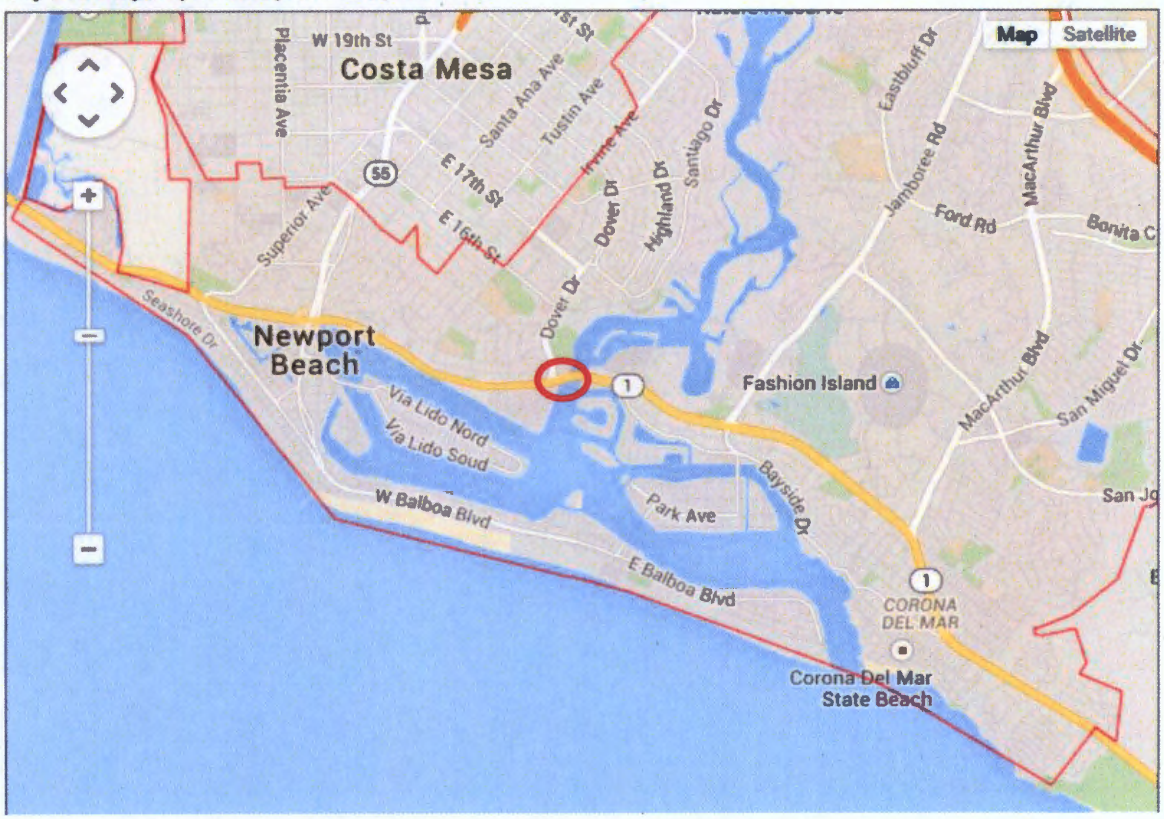
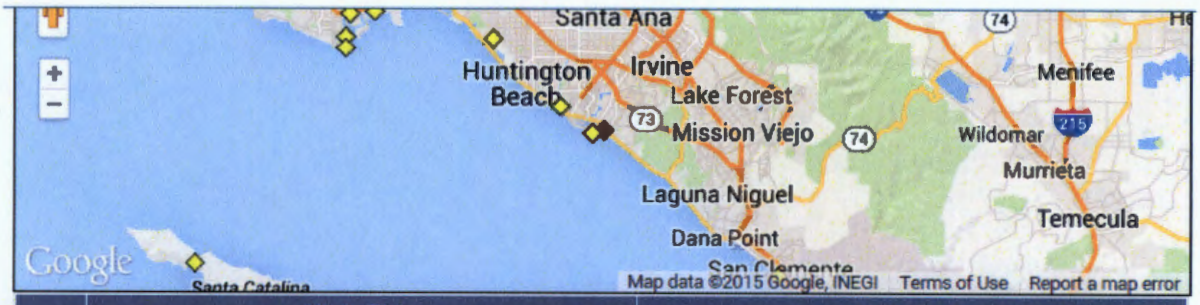


Figure 2: Local Setting (Source: Google 2015). Red circle identifies project location.

Some areas in the bay consist of sediments contaminated by historical releases from industrial sources and storm drains adjacent to the bay as well as ongoing runoff from the surrounding watershed. The County of Orange Health Care Agency has several water quality monitoring sites around Newport Bay and the two sites closest to the project location show the ocean water bacterial levels meet state health standards (County of Orange Health Care Agency 2015).

The bay experiences large tidal swings. Over a month period, the bay experiences tidal fluctuations from about 1 ft. below Mean Low Low Water, to about 6 ft. above Mean Low Low Water levels (see Figure 3).



Date (Mar)	High Tide				Low Tide			
	AM		PM		AM		PM	
	Time (PDT)	Height (ft)	Time (PDT)	Height (ft)	Time (PDT)	Height (ft)	Time (PDT)	Height (ft)
1	7:29 am	5.2	8:52 pm	4	1:30 am	1.9	2:29 pm	-0.3
2	8:08 am	5.3	9:16 pm	4.2	2:09 am	1.6	2:58 pm	-0.3
3	8:42 am	5.3	9:39 pm	4.3	2:42 am	1.3	3:24 pm	-0.3
4	9:13 am	5.3	10:01 pm	4.5	3:12 am	1.1	3:48 pm	-0.2
5	9:43 am	5.2	10:23 pm	4.6	3:42 am	0.9	4:10 pm	-0.1
6	10:14 am	5	10:47 pm	4.7	4:12 am	0.8	4:32 pm	0.1
7	10:45 am	4.7	11:11 pm	4.7	4:44 am	0.8	4:55 pm	0.4
8	11:18 am	4.3	11:38 pm	4.7	5:18 am	0.8	5:17 pm	0.7
9	11:55 am	3.9	---	---	5:57 am	0.9	5:41 pm	1.1
10	12:43 am	4.5	12:40 pm	3.4	6:43 am	1	6:05 pm	1.5
11	---	---	1:45 pm	2.9	7:44 am	1.1	6:35 pm	1.9
12	1:32 am	4.4	3:35 pm	2.6	9:11 am	1.1	7:21 pm	2.2
13	2:43 am	4.3	5:45 pm	2.8	10:50 am	0.8	9:11 pm	2.5
14	4:13 am	4.5	6:48 pm	3.2	---	---	12:02 pm	0.4
15	5:32 am	4.8	7:26 pm	3.6	12:27 am	1.9	12:54 pm	-0.1
16	6:35 am	5.2	7:59 pm	4.1	---	---	1:36 pm	-0.5
17	7:29 am	5.6	8:33 pm	4.6	1:22 am	1.3	2:16 pm	-0.8
18	8:19 am	5.8	9:07 pm	5.1	2:11 am	0.7	2:53 pm	-0.9
19	9:06 am	5.9	9:42 pm	5.5	2:58 am	0.2	3:30 pm	-0.8

Figure 3: Tides at the entrance of Newport Bay relative to Mean Low Low Water levels (Source: Weatherforyou. 2015). Circles note times associated with periods when TRC conducted on-site surveys.

ENVIRONMENTAL ANALYSIS

Summary of Eelgrass Biology

The genus *Zostera* (eelgrass) is a marine angiosperm (flowering plant) that can form extensive meadows in soft-bottom habitats and colonize in substrate ranging from firm sand to soft mud. Eelgrass is identified by the morphological features of the plant, which consists of long leafy shoots that extend vertically in the water column and have horizontal rhizomes that are buried in the substrate. The shoots typically consist of three to five ribbon-like leaves with leaf lengths varying from less than 0.5 m to almost 4 m (Phillips 1984). The leaf widths can range from 1.5-12 mm (Phillips and Meñez 1988). *Zostera* ranges along the U.S. West Coast from Alaska to Baja California, where it is typically found in bays and estuaries from the low intertidal zone to depths of about 6 m. In southern California, eelgrass has been reported to occur as deep as 30 m (Cottam and Munro 1954, Phillips 1984).

Summary of *Caulerpa* Biology

Caulerpa is a genus of alga that can be identified by morphological features such as feathered fronds, rubbery texture, and long stolons or stems. Nine species of *Caulerpa* are banned from California. One species that is of particular concern is *Caulerpa taxifolia.* Patches typically grow to lengths of 6-12 inches high and individual fronds can grow up to 24 inches long (CDFW and NOAA 2003). The species can grow in a variety of conditions and substrates including mud or sand where eelgrass is naturally found. They can be displayed as stolons extending out from the patch, secured to the substrate by rhizoids.

Onsite Field Investigation during Moderate Tide

TRC performed an onsite (on land) visual eelgrass and *Caulerpa* inspection of the marine environment adjacent to the proposed construction area at the project site during mid-morning of March 10, 2015. This period represents a mid-point between low and high tides (see Figure 3). An assessment of eelgrass and *Caulerpa* was performed by a presence-absence survey within the visually observable portion of a 50 foot buffer around the outer edge of the temporary work area at the project site (Figure 4). The survey included an observational study of the shoreline adjacent to the collapsed portions of the bridge's abutment and bike path.

Physical Site Conditions Found

The two areas of the project site where rock slope protection would be placed consist of the collapsed slope of the bridge's abutment on the north side of the bike path and the collapsed portion of the bike path on the east side of the bike path as it approaches the south side of the bridge. During moderate high tide, at the portion of the project site where the bridge's abutment has collapsed, approximately 5 feet by 28 feet of shoreline was found to be exposed (Figure 5). The rest of the intertidal zone including a storm drain outlet located west from the exposed shoreline was completely covered by water, encompassing a distance of about 28 feet. Visibility decreased after a few feet from the water's edge. Approximately 10 feet of the shoreline near the collapsed portion of the bike path was exposed with scattered pieces of asphalt and concrete extending as far out as into the shallow areas of the water (Figure 6). Visibility decreased as water clarity was diminished by turbidity beginning approximately 10-15 ft. from the water's edge.

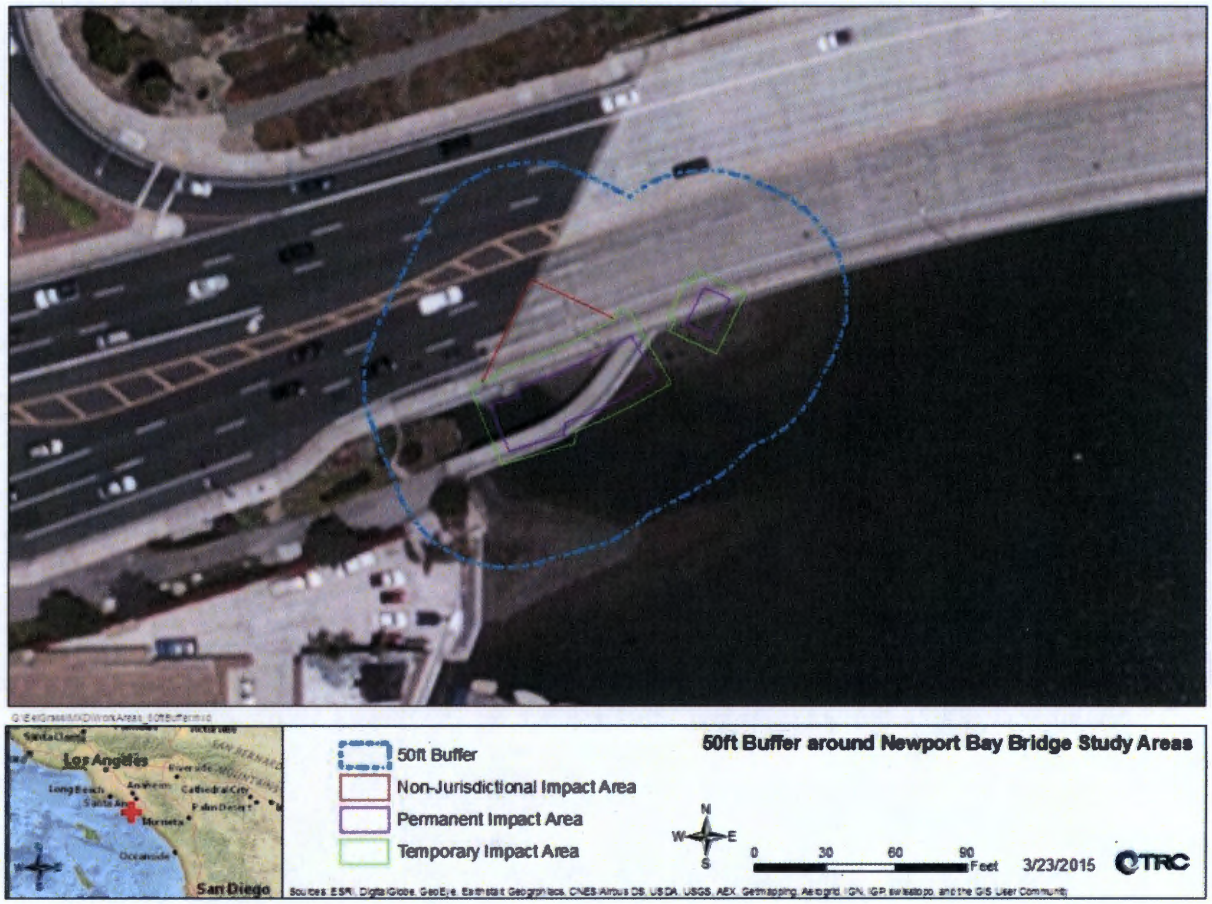


Figure 4: Newport Bay Bridge Project Permanent, Temporary, and Non-Jurisdictional Impact Study Areas, and 50 ft. Buffer.

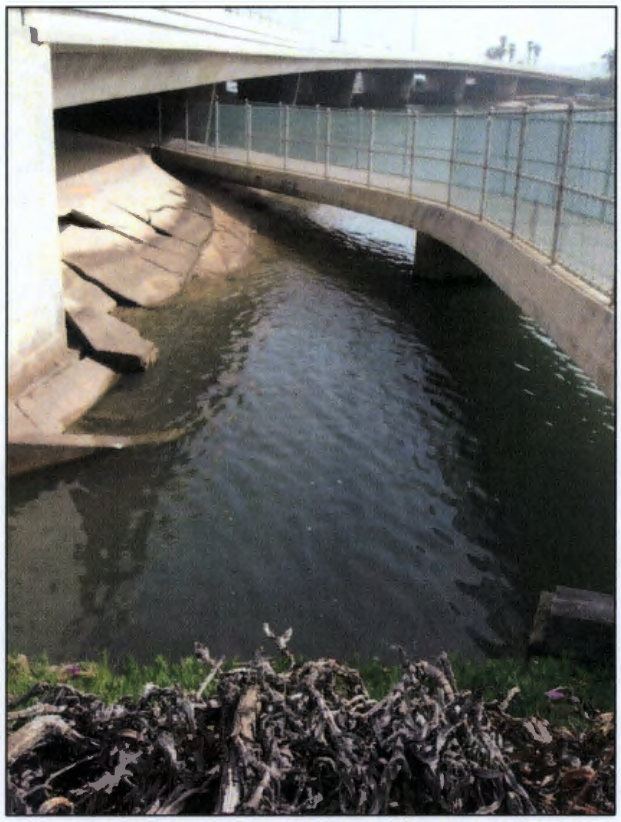


Figure 5: Collapsed bridge abutment on the north side of the bike path.

Figure 6: Collapsed portion of the east side of the bike path where it approaches the south side of the bridge.

Both areas of the shoreline were composed of intertidal sand/mud and had scarce patches of green macro-alga attached to the substrate, scattered throughout the shallow areas of the water (Figure 7).

Figure 7: Intertidal Substrate

Onsite Survey Results

The eelgrass survey conducted from land on March 10, 2015 determined that there is a presence of eelgrass within the 50 foot buffer of the project site. Eelgrass, mostly the blades and shoot, were found near the south side of the bike path. The eelgrass were found either washed up on land or floating in the shallow areas of the intertidal zone. A fully intact eelgrass body composed of the blade, shoot, and rhizome was found (Figure 8).

Upon initial observation of the physical site conditions, the scattered patches of green alga that were attached to the intertidal substrate were neither eelgrass nor *Caulerpa.*

At the construction laydown area, neither eelgrass nor *Caulerpa* were found within the buffer shown in Figure 4.

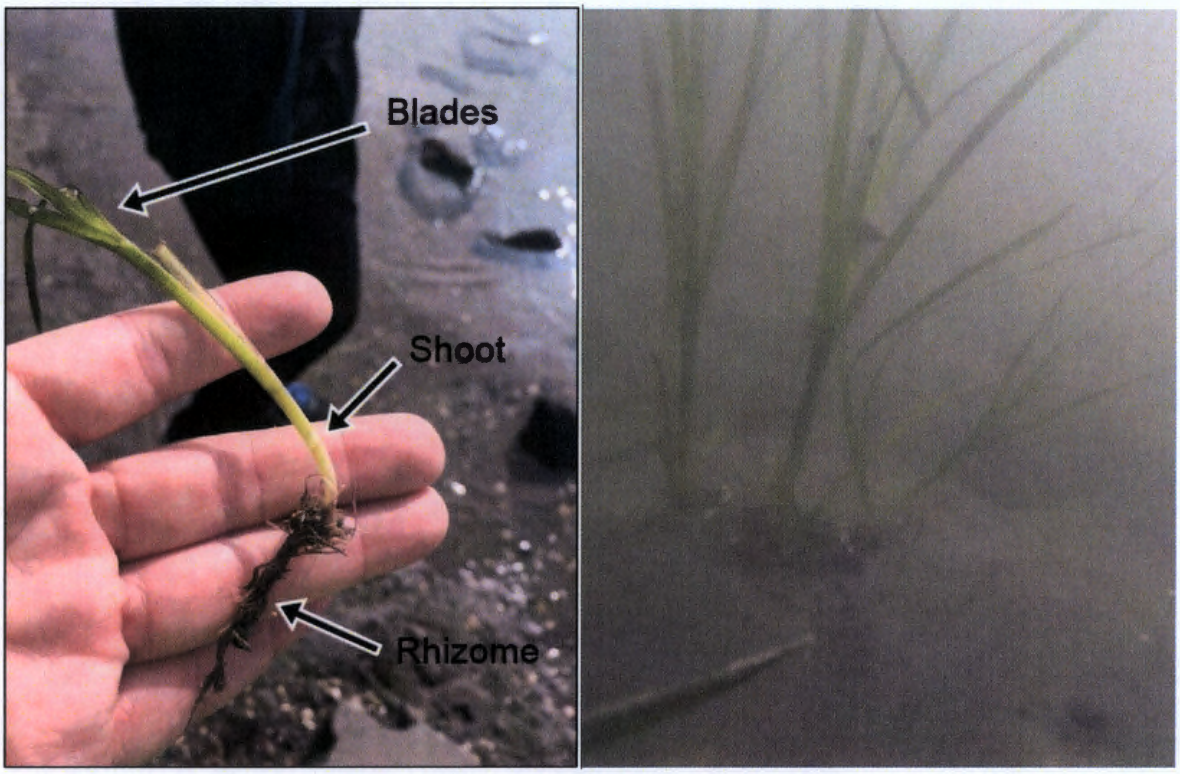


Figure 8: Fully intact eelgrass was found floating at the project site during moderate tide (left) and growing in inlet outside construction buffer (right). Morphology illustrated.

Onsite Field Investigation during Low Tide

Physical Site Conditions Found

TRC performed a second eelgrass and *Caulerpa* inspection of the marine environment adjacent to the proposed construction area at the project site during afternoon of March 19, 2015. This period represents low tide (see Figure 3). During this period, a majority of the shoreline within the 50 foot buffer was exposed (see Figure 9). Only the immediate area where the storm drain outlet is located was submerged, to a distance of approximately 10 feet from the outlet and a depth of 5 feet (see Figure 10). The substrate was mostly of mud and clay.

Figure 9: Shoreline is exposed during low tide beyond construction buffer area.

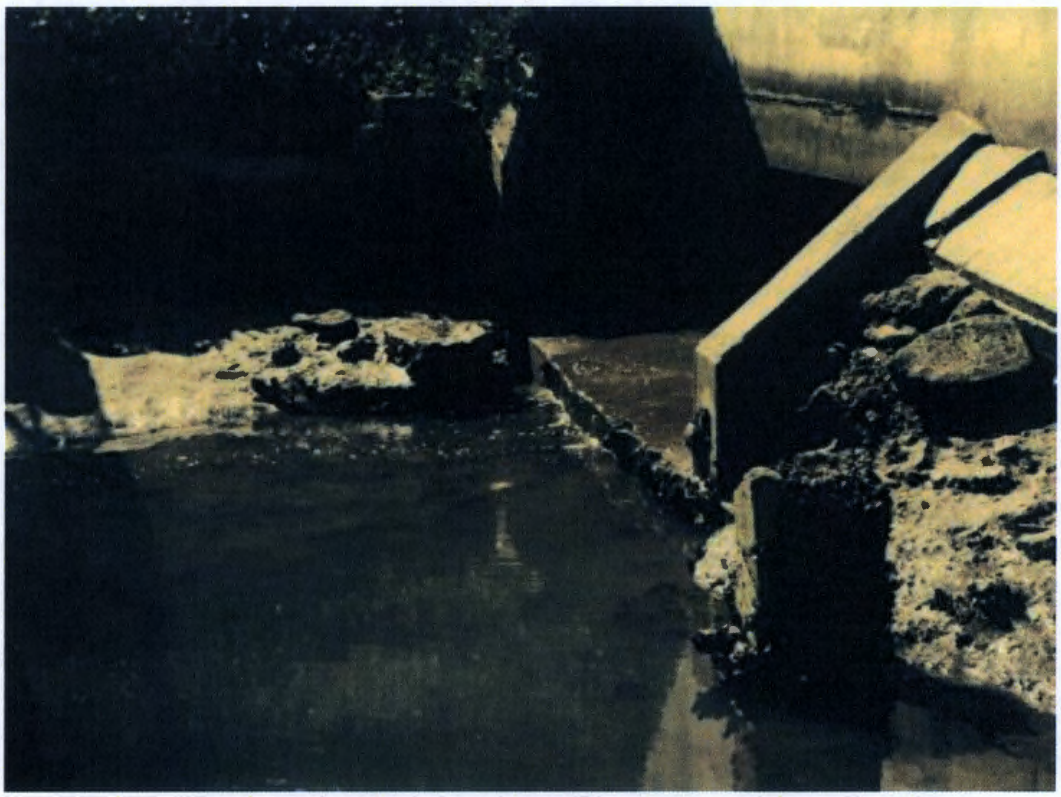


Figure 10: Water from storm drain is source of submerged area near construction site, even during low tide.

Onsite Survey Results

An assessment of eelgrass and *Caulerpa* was performed with a line-intercept method within the 50 foot buffer of the project site area. The survey area included 4 major transects that were 50 feet in length and separated at intervals of 30 feet. The surveyor walked each 50 foot transect to record if any eelgrass or *Caulerpa* had intercepted the line at any point. Snorkeling while performing the line-intercept method was conducted where the project area was submerged (Figure 10).

The eelgrass and *Caulerpa* survey conducted on March 19, 2015 determined that there is an absence of eelgrass and *Caulerpa* within the 50 foot buffer of the project site. All 4 transects contained no sign of live eelgrass or *Caulerpa* actively attached to the substrate. The submerged portion of the project area near the storm drain outlet had not shown any evidence of eelgrass or *Caulerpa* presence.

Eelgrass was found at the closest point 10 feet outside of the buffer zone in the water body emanating from the outlet (see Figure 11).

Figure 11: Eelgrass (left) was found in the water body beyond the 50 ft. buffer area, between the rocky slope in the foreground and the sandbar in the background (right).

Previous Survey Results

The latest quantitative surveys of known eelgrass presence in this project area were conducted in 2010 by Coastal Resources Management, Inc. In Figure 12, survey region 15 known as Bayshores in the 2003-2010 study encompasses the location of the project site for this survey (CRM 2011). From 2003-2008, eelgrass was found in the project area, but as shown in Table 1, no eelgrass was found in the Bayshores region for 2009-2010. CRM concluded that with the exception of two small patches of eelgrass in the vicinity (Figure 13), no eelgrass was found in the immediate project area for 2010. However, as shown in Figure 14, the project site is known to be a "Transitional Eelgrass Zone where eelgrass is susceptible to year-to-year variation in extent and density" (CRM 2011). Since the latest study was conducted 5 years ago, and current observations made from the presence-absence survey for this project showed signs of eelgrass in the area of a transitional eelgrass zone, presence should be assumed.

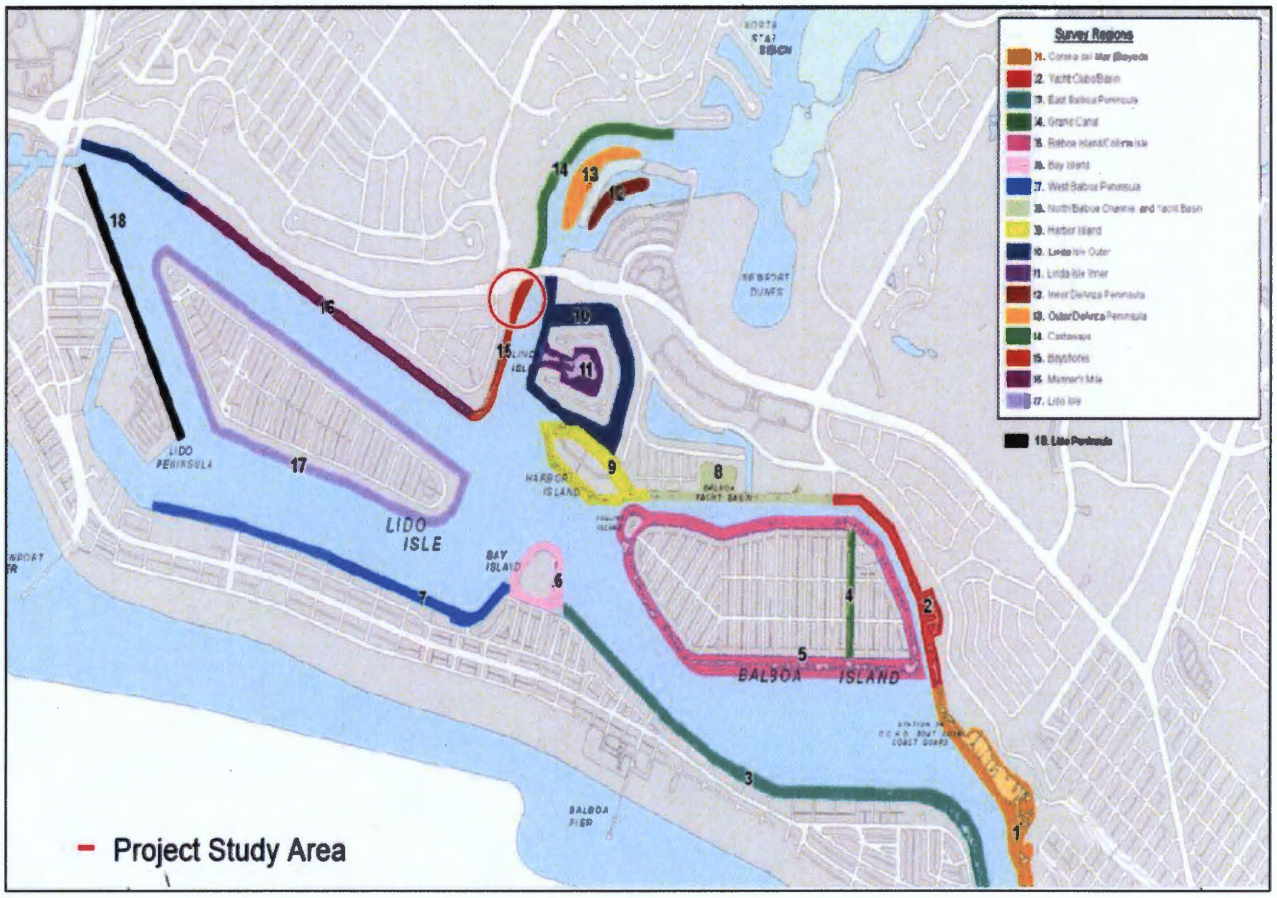


Figure 12: Previous Eelgrass Survey Region (Source: CRM 2011). Red circle identifies project location.

Table 1: Summary of Eelgrass Distribution and Acreage. 2003-2010

Region	Description	2003-2004 (acres)	2006-2008 (acres)	2009-2010 (acres)	Mean (acres) (2003-2010)	Difference (acres) Between 2003 and 2010
A*	Newport Harbor Deepwater Navigational Channels*	90.3[a]	45.86[b]	no survey		no comparison; surveyed by different sonar methods
	Shallow Water Habitat					
1	Corona del Mar/Bayside Drive to OCHD	9.521	9.075	10.363	9.653	0.842
2	Balboa Channel Yacht Basins	2.469	1.539	1.758	1.922	-0.711
3	Balboa Peninsula-East of Bay Island	1.672	1.557	1.391	1.540	-0.281
4	Grand Canal	0.898	1.143	0.623	0.888	-0.275
5	Balboa and Collins Islands	6.686	4.554	3.052	4.764	-3.634
6	Bay Island	0.132	0.051	0.041	0.075	-0.091
7	Balboa Peninsula-West of Bay Island	0.034	0.03	0.014	0.026	-0.020
8	North Balboa Channel and Yacht Basins	0.698	0.115	0.119	0.311	-0.579
9	Harbor Island	2.721	0.712	0.446	1.293	-2.275
10	Linda Isle (outer channels)	2.916	0.328	0.068	1.104	-2.848
11	Linda Isle (Inner basin)	0.281**	3.218	1.974	1.824	1.693
12	DeAnza/Bayside Peninsula (inner side)	0.209	0.009	0.000	0.073	-0.209
13	DeAnza/Bayside Peninsula (Outer)	0.792	0	0.001	0.264	-0.791
14	Castaways to Dover Shores	0.132	0	0.000	0.044	-0.132
15	Bayshores	0.991	0.664	0.000	0.552	-0.991
16	Mariner's Mile	0.234	0.066	0.070	0.123	-0.164
17	Lido Isle	0.025	0.004	0.000	0.010	-0.025
18	Lido Peninsula	not surveyed	0	0.0	0.0	
	*Deepwater and Shallow Water Regions	120.711	68.925	no deepwater survey		
	Shallow Water Regions Only	30.411	23.065	19.920	24.547	-10.491

[a] National Marine Fisheries Service, 2003
[b] Coastal Resources Management, Inc., 2010

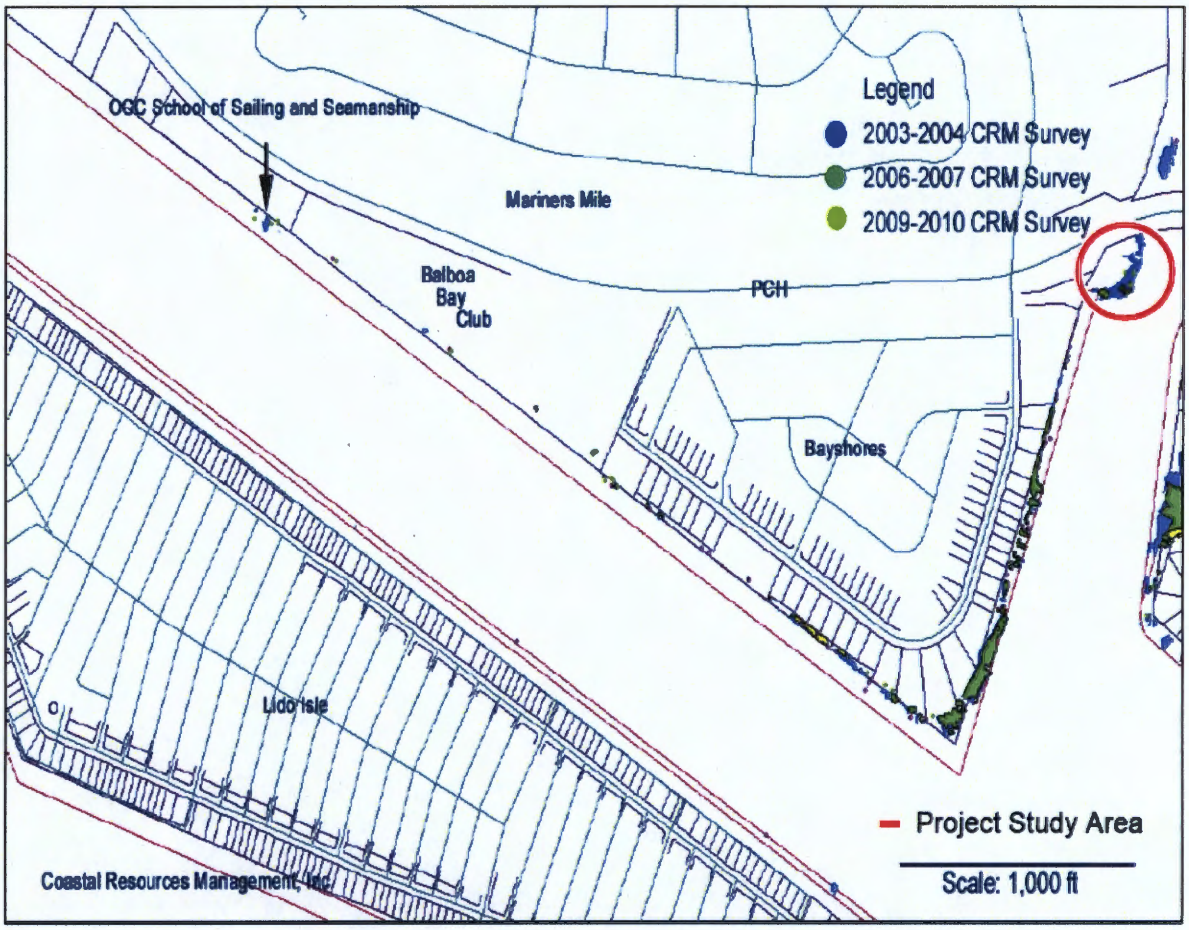


Figure 13: 2003-2004, 2006-2007, and 2009-2010 Eelgrass Surveys. Lido Isle Reach, North Lido Isle, and Bayshores (Source: CRM 2011). Red circle identifies project location.

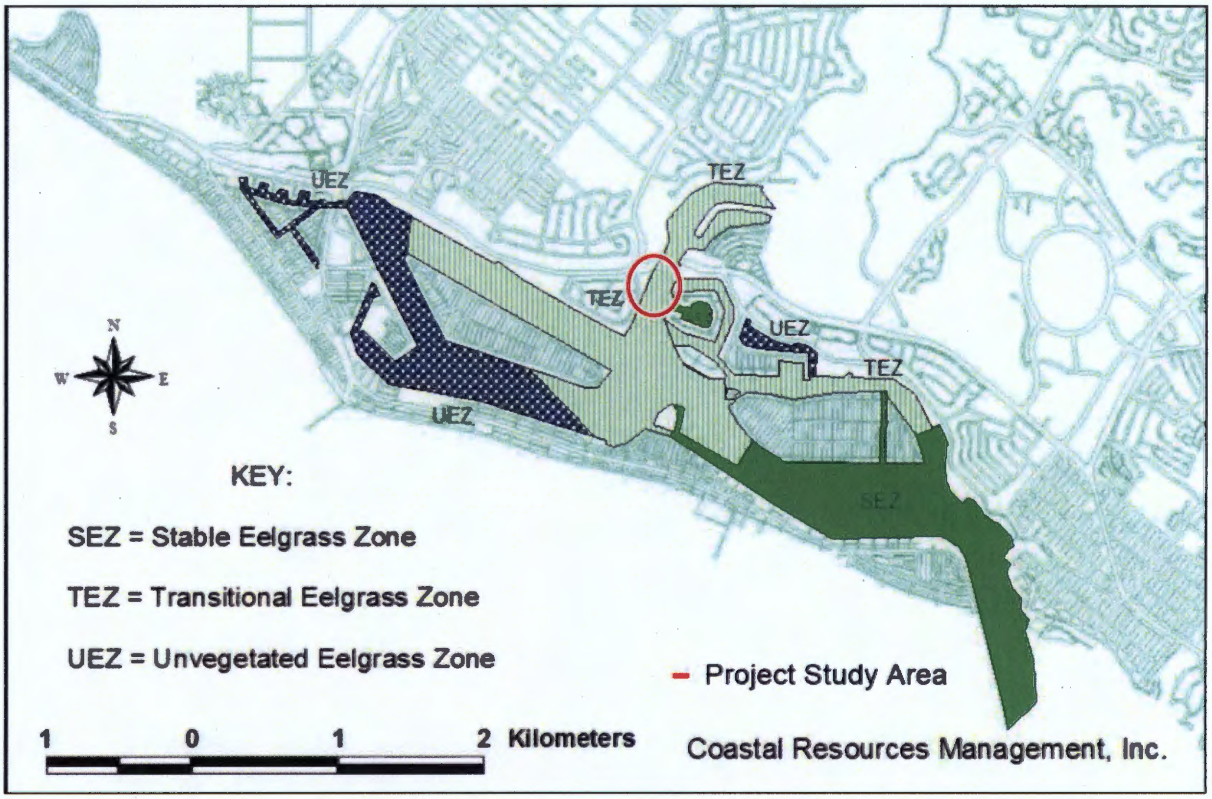


Figure 1: Eelgrass Zones in Newport Bay (Source: CRM 2011). Red circle identifies project location.

POTENTIAL IMPACTS

The proposed action for which this biological resources assessment has been prepared is to provide information on potential impacts and the mitigation measures that must be met to help make those impacts as minimal as possible. While project elements for construction have been identified, project plans and engineering have not progressed to a level sufficient to completely analyze impacts associated with this development. Specifically, construction methods and potential for discharges into adjacent jurisdictional waters are currently unknown; however, it is anticipated that a limited portion of the waterfront in the project area will require the input of RSP. The exact design and location of the proposed RSP has not been finalized, nor have the construction methods and types of equipment to be utilized. The following analysis provides a range of potential impacts and mitigation measures. However, it will be necessary to revisit the assumptions regarding project activities and potential impacts within jurisdictional waters at the time when detailed plans and specifications become available in order to determine whether proposed mitigation measures are appropriate. For the purposes of this report, the assumption has been made that the potential impacts will be based off of the RSP extending into the bay approximately 20 feet from the failed bike path and 30 feet from the existing concrete slope paving. It is also expected that all work will occur at low tide and out of the water, and all work will be conducted with the 50 foot buffer.

The following sections describe impacts of proposed project elements on eelgrass, the potential impact of the project to add *Caulerpa* to the project area, and the possibility of an Essential Fish Habitat occurring within the project area.

Eelgrass

Eelgrass productivity is extremely sensitive to specific environmental conditions and impacts including turbidity, shading, circulation patterns, nutrient loading, and sediment loading. Since no eelgrass was found within the 50 foot buffer, potential for direct impacts to eelgrass would be minimal. However, eelgrass was found outside of the buffer and potential impacts to those areas from the construction must be considered.

In regards to areas beyond the 50 foot buffer, eelgrass located farther from the project area would be impacted mostly by indirect effects. These effects should also be considered when caused by construction actions that occur away from the project site or effects occurring later in time. For instance, such project actions may cause elevated turbidity, increased shading, changes to circulation patterns, increased nutrient loading, or increased sediment loading (NMFS, 2014). Each of these potential effects are discussed below.

Turbidity

Turbidity would be the most likely of the five potential impacts to have adverse effects. Without mitigation, upon initial input of the riprap, turbidity will increase and gradually work its way to greater depths in the intertidal zone depending on the tide flow. Turbidity may occur within the immediate area, and could increase with time as construction continues. Turbidity can also lead to shading (see below). Suspension of sediments or runoff associated with construction can increase turbidity through the water column and affect the productivity of eelgrass. Since construction will occur at the shoreline, if mitigation measures are not provided, temporary increased turbidity in the immediate area is expected.

Shading

Shading effects can result from leaving equipment or other construction materials in the area over a long period of time, from placement of materials that are at higher elevation than the existing shoreline, and indirectly from increased turbidity. The project plan does not include any permanent overhanging or elevated elements. Construction from the bridge may require brief periods of crane use. Since cranes project a small shading profile and since the cranes would be north of the site, this activity would have no observable shading effects. Equipment involved in placing the RSP would be low to the ground and mobile, so no shading effects from this source are anticipated.

Circulation

It is anticipated that water barriers, if any, that may be placed along the shoreline to accommodate access to workers or equipment during construction would only extend a few feet into the bay, and therefore would not change circulation patterns in the vicinity.

Nutrient Loading

It is expected that discharge from the OCSD storm drain outlet dominates nutrient loading in the area. Proper protection against discharge of organics from construction equipment or workers would avoid nutrient loading impacts from this project.

Sediment Loading

Sediment loading is expected to be reduced in this case because the replacement of eroded slope with RSP can help alleviate sediment erosion.

Caulerpa

This species has been reported to grow to depths in excess of 10 feet and has the ability to survive in high energy areas, which gives reason for considering its potential to expand easily into California's native marine habitats. The dense cover that this species can form can smother natural communities on both soft and hard bottoms.

Since no *Caulerpa* was found within or outside the construction buffer area, no impacts from the project are expected.

Essential Fish Habitat

The 1996 Amendments to the Magnuson-Stevens Fishery Conservation and Management Act focused increased attention on the importance of habitat protection to achieving sustainable fisheries. Congress stated in the Act, "one of the greatest long-term threats to the viability of commercial and recreational fisheries is the continuing loss of marine, estuarine, and other aquatic habitats" (16 U.S.C. 1801). Based on this finding, Congress mandated that regional Fishery Management Councils (Councils) minimize to the extent practicable the adverse effects of fishing on EFH and identify other actions to conserve and enhance EFH. NMFS has developed regulations (50 CFR 600 Subpart J; 62 FR 665531) to guide Councils in the implementation of the EFH provisions. The intent of NMFS in encouraging the designation of HAPCs is to help focus conservation efforts on localized areas that are vulnerable to degradation or especially important ecologically. HAPCs are subsets of the total area necessary to support healthy stocks of fish throughout all of their life stages. Eelgrass is identified as a HAPC by the Pacific Fishery Council.

Since no eelgrass is located within the project buffer, no EFH would be directly affected. However, Newport Harbor and Upper Newport Bay are estuarine and eelgrass habitats, which are considered habitat areas of particular concern (HAPC) for various federally managed fish species within Coastal Pelagic and Pacific Groundfish Fisheries Management Plans (FMP), under Essential Fish Habitat (EFH) provisions of the 1996 amendments to the Magnuson–Stevens Fishery Management and Conservation Act (FR 62, 244, December 19, 1997). EFH is defined as "those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity". An adverse effect is "any impact which reduces the quality and/or quantity of EFH." Adverse effects may include direct or indirect physical, chemical, or biological alterations of the waters or substrate and loss of, or injury to benthic organisms, prey species, and their habitat, and other ecosystem components. Adverse effects may be sites specific or habitat-wide impacts, including individual, cumulative, or synergistic consequences of actions (50 CFR 600.910(a)). Designated HAPC,

including eelgrass, are not afforded any additional regulatory protection under the Magnuson–Stevens Fishery Conservation and Management Act (1997). However, federally permitted projects with potential adverse impacts to HAPC are more carefully scrutinized during the consultation process (NMFS 2008).

Based on The Third Newport Bay Eelgrass Survey (2005) and NMFS' EFH Mapper (NMFS 2015), the project area is not within any identified EFH or HAPC area for eelgrass; the nearest location of that area is approximately 800 feet southeast of the project site.

MITIGATION

As the project description indicates, direct eelgrass impacts will be avoided by avoiding in-water construction activities where eelgrass vegetation is present. To minimize indirect impacts on eelgrass vegetation in the vicinity of the project, the following measures should be taken:

- Schedule in-water work to occur over as short a duration as possible such that the duration of indirect impacts is minimized.
- Minimize impacts from turbidity on eelgrass vegetation within 250 meters of the work by use of turbidity curtains. These curtains should be placed in a semi-circular ring around the construction area before construction begins. Curtains should be of bright colored fabric so they can be seen by boaters and should be left in place for at least 6 hours after in-water work has been completed so any sediment can settle. For more details regarding appropriate use of this measure, see Caltrans' Clear Water Diversion Manual (Caltrans 2003).
- During all work activities involving RSP placement, assign a biologist to monitor the site to ensure work stays within the work limits.

Since no impacts involving *Caulerpa* or Essential Fish Habitat would occur, no mitigation is required involving these factors.

CONCLUSIONS

With mitigation measures incorporated, the proposed project should avoid any potential impacts to eelgrass and essential fish habitat. Any potential impacts are anticipated to occur during construction. Given that the project site has no sign of live eelgrass currently within the substrate, avoidance of eelgrass habitat and direct impacts associated with the RSP construction are not considered to be significant. However, eelgrass was found beyond the buffer zone and may be impacted by construction. Among the five potential impacts, turbidity is of the most relevant concern. The most likely potential impact would be indirectly from suspension of sediments or runoff associated with construction that can increase turbidity through the water column and effect eelgrass productivity outside the construction buffer zone. Mitigation measures would minimize these potential effects.

REFERENCES

California Department of Fish and Game and National Oceanic and Atmospheric Administration, (CDFW and NOAA). 2003. *Caulerpa taxifolia* Survey and Identification Information Package in support of the *Caulerpa* Control Protocol. PDF on the NOAA website at: http://www.westcoast.fisheries.noaa.gov/publications/habitat/Caulerpa_taxifolia/training_binder_online_1_.pdf.

California Department of Transportation (Caltrans). 2014. Attachment B, 1 of 2, Layout and Utility. December 19.

Caltrans. 2003. Storm Water Quality Handbooks, Section 7 Construction Site Best Management Practices Manual, Clear Water Diversion NS-5, March 1. 18 pp.

Coastal Resources Management, Inc. (CRM) 2010. Results of the second Newport Bay eelgrass (*Zostera marina*) bay-wide habitat mapping survey: Status and distribution between 2006-2008 and oceanographic conditions in Newport Bay between 2008 and 2009. Prepared for the City of Newport Beach Harbor Resources Division. August 18th. Survey maps on the City website at: http://www.city.newport-beach.ca.us/gis/gis_main.html.

CRM 2011. Results of the third Newport Bay eelgrass (*Zostera marina*) bay-wide habitat mapping survey: status and distribution between 2009 and 2010 with additional observations in 2011. Prepared for the City of Newport Beach Harbor Resources Division. November 16th, 2011.

Cottam, C. and D.A. Munro. 1954. Eelgrass status and environmental relations. Journal of Wildlife Management 18:449–460.

Dobrzynski, T, and Johnson, K. 2001. Regional Council Approaches to the Identification and Protection of Habitat Areas of Particular Concern. NOAA / National Marine Fisheries Service, Office of Habitat Conservation. May. 17 pp.

Google. 2015. Newport Beach Map Boundary. http://www.mapboundary.com/California/Orange_County/Newport_Beach.aspx. Accessed March 16, 2015.

County of Orange Health Care Agency. 2015. Environmental Health Bacteriological Monitoring Program, date posted March 20. 3pp.

Pacific Fishery Management Council. 2014. Pacific Coast Groundfish Fishery Management Plan for the California, Oregon, and Washington Groundfish Fishery, May

Phillips, R.C. 1984. The ecology of eelgrass meadows in the Pacific Northwest: a community profile. FWS/OBS–84/24. U.S. Fish and Wildlife Service, Washington, D.C., 85 pp.

Phillips, R.C. and E.G. Meñez. 1988. Seagrasses. Smithsonian Contributions to the Marine Sciences No. 34. Smithsonian Institution Press, Washington, D.C., 65 pp.

National Marine Fisheries Service (NMFS). 1991. Southern California Eelgrass Mitigation Policy. July 31. 8 pp.

NMFS. 2003. Newport Bay down-looking sonar survey maps of the harbor entrance channel and Corona del Mar Reach, Newport Harbor. Prepared for the City of Newport Beach Harbor Resources Division. Maps available on City website http://www6.city.newport-beach.ca.us/website/InteractiveMap/map.asp

NMFS. 2008. Essential Fish Habitat (EFH) evaluation for the Balboa Marina Project, Newport Beach, Ca. February, 2008. Prepared by Robert Hoffman, NMFS, Long Beach, CA. 4 pp.

NMFS. 2014. California Eelgrass Mitigation Policy and Implementing Guidelines. NOAA West Coast Region. October. 48 pp.

NMFS. 2015. EFH mapper. http://www.habitat.noaa.gov/protection/efh/efhmapper/. Accessed March 16.

Weatherforyou. 2015. Accessed at http://www.weatherforyou.com/reports/index.php?forecast=tides&place=upper+newport+bay+ecological+reserve&state=ca&zipcode=&country=&county=&zone=&icao=. March 10.

Appendix H

Ketsela, Kedest@DOT

From: Dillingham, Tim@Wildlife
Sent: Wednesday, October 21, 2015 3:38 PM
To: Ketsela, Kedest@DOT
Subject: RE: CFG code 1600 questions

Hi Kedest,
We have jurisdiction over the water quality as it may affect wildlife and fish (Fish and Game Code Section 5650), and of course over any impacts that may affect wildlife and fish, but we do not issue Streambed Alteration Agreements in what we consider an embayment or part of the ocean. Lower Newport Bay we consider an embayment so no notification is necessary for that area.
Thanks,

Tim Dillingham
Senior Environmental Scientist (Specialist)
California Department of Fish and Wildlife
3883 Ruffin Road
San Diego, CA 92123
(858) 467-4250

Every Californian should conserve water. Find out how at:

Save Our Water

SaveOurWater.com · Drought.CA.gov

From: Ketsela, Kedest@DOT
Sent: Tuesday, October 20, 2015 12:30 PM
To: Dillingham, Tim@Wildlife
Subject: CFG code 1600 questions

Hi Tim,
I have a project by the Lower Newport Bay at PCH and Newport bay bridge. The project is to repair bridge and bike path embankments on PCH bridge. The work is mainly located within the bay/harbor and want to clarify CDFW jurisdiction within the bay. Due to the fact that the California Fish and Game Code section 1600s refers to wetland resources associated with rivers, streams and lakes, does CDFW have jurisdiction over the works within the bay or harbor area?

I appreciate your response on this matter.

Kedest Ketsela
Associate Environmental Planner (NS)
Environmental Analysis
Caltrans D-12