

INDIVIDUAL BIOLOGICAL ASSESSMENT REPORT

Site Name/Facility: Tijuana River Pilot Channel and Smuggler's Gulch Channel

Master Program Map No.: 138a, 138b, 138c (Tijuana River Pilot Channel) and 138, 139 (Smuggler's Gulch Channel)

Date: June 1, 2015

Biologist Name/Cell Phone No.: Vipul Joshi / 619.985.2149

Instructions: This form must be completed for each storm water facility identified in the Annual Maintenance Needs Assessment report and prior to commencing any maintenance activity on the facility. The Existing Conditions information shall be collected prior to preparing of the Individual Maintenance Plan (IMP) to assist in developing the IMP. The remaining sections shall be completed after the IMP has been prepared. Attach additional sheets as needed.

EXISTING CONDITIONS

The City of San Diego (City) has developed the Master Storm Water System Maintenance Program (MMP, Master Maintenance Program) (City of San Diego 2011a) to govern channel operation and maintenance activities in an efficient, economic, environmentally and aesthetically acceptable manner to provide flood control for the protection of life and property. This document provides a summary of the Individual Biological Assessment (IBA) components conducted within the Tijuana River Pilot (Pilot) Channel and the Smuggler's Gulch (SG) Channel to comply with the MMP's Programmatic Environmental Impact Report (PEIR) (City of San Diego 2011b).

IBA procedures under the MMP provide the guidelines for an in-depth inspection of the proposed maintenance activity site including access routes, and temporary spoils storage and staging areas. A qualified biologist will determine whether or not sensitive biological resources could be affected by the proposed maintenance and potential ways to avoid impacts in accordance with the measures identified in the Mitigation, Monitoring and Reporting Program (MMRP) of the PEIR and the MMP protocols. This document provides a summary of the biological resources associated with the storm water facility, a quantification of impacts to sensitive biological resources, and the mitigation measures required to mitigate for those impacts, if any found.

Project Description

The channels associated with this assessment report are located in the Tijuana River Valley (Valley), within the jurisdiction of the City of San Diego (City) (Figure 1). The Tijuana River watershed covers an area of approximately 1,725 square miles, of which 73 percent is located in Mexico and 27 percent in the United States. The main Tijuana River flows in a north-westerly

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direction from the international border into the Valley and City jurisdiction. Approximately 21.9 square miles of the watershed (~1% of the total watershed area) is within City jurisdiction.

The Tijuana River National Estuarine Research Reserve (TRNERR) and a portion of the City of Imperial Beach are generally west of the project area located adjacent to the Tijuana River's discharge to the Pacific Ocean. The Otay-Nestor community and the United States Naval Outlying Landing Field Imperial Beach are located north of the project area; the community of San Ysidro is located to the east.

The Pilot Channel is included on MMP Maps 138a through 138c and the SG Channel is included on MMP Maps 138 and 139 (City of San Diego 2011a). The Pilot and SG Channels are generally located in the Valley roughly bordered by Hollister Street to the east and Monument Road to the south. The Tijuana River low flow channel splits into what are commonly referred to as the Tijuana River's Northern and Southern Channels approximately 800 feet east of Hollister Street. The Pilot Channel follows the Southern Channel.

The Valley, including the project area, is within the Federal Emergency Management Agency's (FEMA) Special Flood Hazard Areas Subject to Inundation by the 1-percent Annual Chance Flood (100-year floodplain). The project areas are zoned OF-1-1 (Open Space-Floodplain) and AR-1-1 (Agricultural/Residential); and are designated for Open Space and Agricultural land uses in the Tijuana River Valley Land Use Plan. In addition, the project area is within the boundaries of the County of San Diego's 2.7 square mile Tijuana River Valley Regional Park (Regional Park). The project area is also within the City's Multiple Species Conservation Program's Multi-Habitat Planning Area (MHPA) (Figure 2).

The project consists of maintenance and dredging of the Pilot and SG Channels to remove anthropogenic-derived sediment and trash that accumulates as a result of development and other practices in the upstream watershed. The removal of sediment and trash conducted to maintain flow conveyance capacities and reduce the risk of flooding to public and private infrastructure in the Valley.

Pilot Channel

The Pilot Channel was originally excavated in 1993 within the Southern Channel. It has been irregularly maintained since that time as an earthen trapezoidal channel that is approximately 5 feet deep, with a 23-foot top width, and a 15-foot streambed width. According to the PEIR, the Pilot Channel was constructed to divert wet-weather flows from 2- to 5-year storm events into the Southern Channel (City of San Diego 2011b). The Pilot Channel stretches from 100 feet east to 5,300 feet west of Hollister Street for a total length of 5,400 feet and it flows roughly in an east-west direction (Figure 3a).

SG Channel

The SG Channel is an existing historical agricultural channel with manufactured berms. The contributing sub-watershed area is approximately 6.7 square miles, primarily located south of the

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international border within Canon de los Mataderos. The SG Channel, as originally constructed, is an earthen channel approximately 20 feet wide and 15 feet deep. The SG Channel is tributary to the South Channel and flows in a northerly direction, from the international border past Monument Road until it confluences with the Pilot Channel. The portion of the SG Channel maintained by the City extends for a distance of approximately 3,040 feet (Figure 3b).

Survey Methods and Date:

In 2015 Dudek conducted research and review of existing project documentation as part of this biological assessment. Document review included the Master Storm Water System Maintenance Program, Army Corps of Engineers (ACOE) Permit SPL-2009-00719-RRS, United States Fish and Wildlife Service (USFWS) Formal Section 7 Consultation on the Tijuana River Valley Channel Maintenance Project (Biological Opinion) (FWS-SDG-08B0600-10F0001), Final Recirculated MMP PEIR, California Coastal Commission Coastal Development Permit A-6-NOC-11-086 and addendum, California Department of Fish and Game (CDFG) Streambed Alteration Agreement 1600-2011-0271-R5, California Regional Water Quality Control Board (RWQCB) Water Quality Certification 09C-077, Final Monitoring Report for the Tijuana River Valley Channel Maintenance Project (Dudek 2011a), Errata - Biological Resource Technical Report and Conceptual Wetlands Mitigation Plan (Dudek 2011b), and various Substantial Conformance Review documents prepared in 2012 (URS 2012).

The channels are located on property owned by the City of San Diego and County of San Diego, within the City of San Diego's Multiple Species Conservation Program's Multi-Habitat Planning Area (MHPA), as shown in Figure 2. The project site, located within the U.S. Geological Survey 7.5 minute Imperial Beach quadrangle, was evaluated for special-status plants and wildlife within the Imperial and surrounding quadrangles using the California Natural Diversity Database (CNDDDB) RareFind5 database (Figure 4).

Dudek conducted a biological survey and site assessment on February 27, 2015 for all portions of the Project Area (maintenance channels, staging areas, and access routes). The survey was conducted to update the previous (URS 2012) vegetation mapping and the mapping of singlewhorl burrobrush (*Ambrosia monogyra*) populations to reflect current conditions. The SG Channel was accessed from Monument Road and surveyed with 100 percent coverage from Monument Road to the junction with the Pilot Channel. The Pilot Channel was inundated with water from recent winter storms and therefore was inaccessible. The Pilot Channel was evaluated from two locations, at the confluence of the Pilot and SG Channel, and from Hollister Street where the Pilot Channel crosses under the bridge.

The vegetation mapping effort was based on site observations and interpretation of 2014 aerial photographic signatures, according to the R.F. Holland system (1986) as modified for San Diego County, in accordance with the City of San Diego "Guidelines for Conducting Biological Surveys" (2002). For consistency with the PEIR and original Biological Resources Technical

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Report, this IBA report has used the 1986 version of the Oberbauer modification for San Diego County with limited project-specific customization originally used in the Biological Technical Report. Vegetation communities and land cover types were updated in 2015 in the field directly onto a 200-foot-scale (1 inch = 200 feet), aerial photograph-based field map of the project area. Following completion of the fieldwork, all vegetation polygons were transferred to a topographic base and digitized using ArcGIS and a geographic information system (GIS) coverage was created. Once in ArcGIS, the acreage of each vegetation community and land cover present on site was determined.

Observed plant and animal species were recorded during all surveys. Observed sensitive species were documented and potential for sensitive species occurrence was evaluated based on site conditions. Representative photographs taken during the surveys are provided in this report. Potential limitations on the comprehensiveness of these biological surveys consist of survey timing: these fall and winter surveys could have missed spring-blooming annual plants, certain migratory bird species, and nocturnal wildlife.

Biological Resources:

Stream Type:	Perennial	<input type="checkbox"/>	Intermittent	<input checked="" type="checkbox"/>	Ephemeral	<input checked="" type="checkbox"/>
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Tijuana River Pilot Channel:

The 23-foot wide Pilot Channel maintenance area (Figure 3a) includes the following vegetation categories: Open Channel (13200), Southern Riparian Forest (61300), and Open Water (13100) (see PEIR Appendix D.1 [Biological Resources Report] for descriptions of vegetation categories).

At the time of the 2015 visit the Pilot Channel contained Open Water throughout the entire channel (photograph 1). The banks of the Pilot Channel east of the junction with SG Channel support Southern Riparian Forest dominated by tall, mature black willows (photographs 2 and 3) and were relatively hard to access due to a dense understory. The western end includes riparian habitat that has been enhanced/restored, and in this area fewer giant reed and castor bean plants were observed. The channel at the eastern-most end of Map 138a, on either side of the Hollister Street bridge, contained standing water (Open Water) at the time of the survey (photograph 3). The Pilot Channel at the junction with SG Channel and immediately to the west was inundated with water (Open Water) but typically contains a sandy- bottom and is relatively unvegetated (Open Channel). With increasing distance from the junction, giant reed became more abundant on the banks along the channel (up to approximately 30% relative cover), such that much of the large black willow-dominated riparian vegetation could be described as disturbed Southern Riparian Forest in Map 138b (Figure 3a). The west end of the channel is increasingly dominated by giant reed and filled with accumulated trash (photographs 1, 2 and 4). The understory of the Southern Riparian Forest contains increasing amounts of invasive castor bean and garden nasturtium (*Tropaeolum majus*) toward the western end of the maintenance area.

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The section of the Pilot Channel included in Maps 138a-c is mapped on the USGS 7.5 minute Imperial Beach quadrangle map as a blue-line stream and, based on prior observations, the channel conveys intermittent flows except for the area immediately around Hollister Street Bridge, which for the past several years has supported perennial open water.

Three equipment turnarounds adjacent to the Pilot Channel, measuring 25 by 30 feet, will be used during maintenance; all three areas were previously cleared and are currently mapped as unvegetated open channel, based on the lack of mature vegetation. These areas are slightly elevated above the low flow channel.

SG Channel:

SG Channel (covered by Map 139 and Map 138, Figure 3b) has a natural bottom of sand and small patches of cobble. Channel banks vary in steepness from nearly vertical to approximately 45 degrees. The 20-foot wide maintenance area is mapped as the following vegetation category (with Holland/Oberbauer classification numbers in parentheses): Open Channel (13200).

The Open Channel is almost entirely unvegetated with a sparse mix of weedy herbaceous plants such as Mexican tea (*Dysphania ambrosioides*) and wild radish (*Raphanus sativus*) (photographs 5 and 6). The banks of the channel are also mostly unvegetated given the recent removal of non-native invasive species. Large, old tamarisk trees (*Tamarix aphylla*) remain in a few locations along with patches of mule fat (*Baccharis salicifolia*). At the northern end of Map 138 (Figure 3b), near the junction with the Pilot Channel, the channel is bordered by Southern Riparian Forest, characterized by tall, mature black willows (*Salix gooddingii*), with an understory of mule fat (*Baccharis salicifolia*) and smaller willows.

SG channel is mapped on the United States Geological Survey (USGS) 7.5 minute Imperial Beach quadrangle map (1996 version) as a blue-line stream; the channel is best classified as ephemeral because it appears to only support surface flow during and relatively briefly after precipitation.

Access Routes and Staging Areas:

Four access routes will be used to move equipment from existing nearby unpaved roads or staging areas into the channels. Access Route 1 is an existing trail (Disturbed Habitat [11300]) that passes through adjacent disturbed Mule Fat Scrub (containing up to 30% relative cover of non-native species) between the Pilot Channel and the TRVRP staging area to the north (Figure 3a). Access Route 2 allows access into SG channel via an access ramp (Disturbed Habitat, 11300) between an existing dirt road and SG Channel, north of the Disney Crossing (Figure 3b). Access Route 3 is located along the eastern bank of SG Channel, south of the Disney Crossing (Figure 3b). Access Route 4 consists of an existing trail (Disturbed Habitat, 11300) east of Hollister Street and a 45-foot long by 15-foot wide section in Mule Fat Scrub (63310) on the south bank of the Pilot Channel (Figure 3b). Equipment will reach from the 45-foot long section on the south bank into the channel to perform channel maintenance, and riparian vegetation between the equipment and the channel may

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need to be trimmed or removed to allow activity. The access routes will be approximately 15 feet wide; only the access road east of Hollister Street would require removal of vegetation.

Maintenance will include use of two existing staging areas. Staging Area B is just east of the southern end of SG Channel (Figure 3b), and consists of upland Disturbed Habitat (11300) land, characterized by compacted soil that is bare to sparsely vegetated with ruderal non-native species such as garland daisy (*Glebionus coronaria*) and stinkwort (*Dittrichia graveolens*). Staging Area D is located to the east, near the South Bay International Wastewater Treatment Plant (Figure 3c). The portion of the Staging Area D parcel that will be used for this maintenance project consists of upland Disturbed Habitat (11300) land, characterized by gravelly and compacted soil that is bare to sparsely vegetated with ruderal non-native species such as garland daisy, filaree (*Erodium* sp.), and short-pod mustard (*Hirschfeldia incana*) (photograph 8).

Vegetation acreages within the project area (including the channel maintenance footprint, turnarounds, access routes, and staging areas) are summarized in Table 1, below.

Table 1. Vegetation Within the Project Area

Vegetation Community or Land Cover Type (Holland Code)	City MSCP Habitat Designation/Tier	Total Acreage
Jurisdictional Wetlands		
Open Channel (13200)	Natural Flood Channel	1.22
Open Water (13100)	Natural Flood Channel	3.05
Southern Riparian Forest (61300)	Riparian Forest	0.03
Mule Fat Scrub (63310)	Riparian Scrub	0.02
Mule Fat Scrub, disturbed (63310)	Riparian Scrub	0.05
Subtotal		4.37
Non-native Land Covers		
Disturbed Habitat (11300)	Disturbed (Tier IV)	10.12
Subtotal		10.12
	Total***	14.49

* Numbers may not total due to rounding

Sensitive species:

In February 2015, approximately eight individuals of singlewhorl burrobrush (*Ambrosia monogyra*), a California Rare Plant Rank 2B.2 species, were observed on the berm east of the unpaved access road that parallels the southern end of SG Channel, between the unpaved road and Staging Area B (Figure 3b). This is consistent with documentation of this sensitive plant species in the SG Channel area in CNDDDB records, as described in the Master Program PEIR Biological Resources Technical Report (Helix, 2011).

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During the 2012 surveys, two adult monarchs (*Danaus plexippus*), a CNDDDB Rank S3 species, were observed flying over the site (no larval host plants were observed). Yellow-Breasted Chat (*Icteria virens*) (California Species of Special Concern) was identified by call, but was not visually confirmed. One Coastal California Gnatcatcher (*Polioptila californica californica*) (federal Threatened, state Species of Special Concern) was seen and heard in the singlewhorl burrobrush shrubs between SG Channel and Staging Area B (Figure 3b). Raptors, including a female Northern Harrier (*Circus cyaneus*) (state Species of Special Concern), Red-Shouldered Hawk (*Buteo lineatus*) and a Red-Tailed Hawk (*Buteo jamaicensis*), were seen and heard in and over the maintenance area. The large black willows and occasional eucalyptus (*Eucalyptus* sp.) trees immediately adjacent to the Pilot Channel could support nests of raptors (these trees would not be removed by the channel maintenance). During the 2015 survey, a pair of Northern Harriers were observed flying above the north section of SG.

Riparian woodland and adjacent riparian scrub along the northern section of SG Channel and the Pilot Channel, where Southern Riparian Woodland lines the channels, contain suitable habitat for other sensitive species. Least Bell's Vireo (*Vireo bellii pusillus*) (state and federal Endangered) has been documented in the project area, and part of the Pilot Channel lies within designated critical habitat for this species; South-western Willow Flycatcher (*Empidonax trailii extimus*) (state and federal Endangered) and Western yellow-billed cuckoo (*Coccyzus americanus occidentalis*) (state Endangered, federal candidate for listing) have been documented further east in the same CNDDB quadrangle, and may use habitat in or near the project area. Yellow-breasted Chat has been documented in the same CNDDB quadrangle and, according to the San Diego Bird Atlas, has been observed in the Tijuana River, so this species may use suitable habitat in the project vicinity. Coastal California Gnatcatcher has been documented on mesa slopes near the southern end of the site, may use coastal sage scrub upslope of the southern end of SG Channel in Map 139, and may forage in shrubs near the maintenance area. Although the Light-Footed Clapper Rail (*Rallus longirostris levipes*) (state and federal Endangered) is unlikely to use habitat within the maintenance area, it has been documented nearby in the Tijuana River Valley (Dairy Mart Ponds and the Tijuana River estuary) and implementation of proposed project conservation measures will avoid and minimize potential adverse effects to this listed species, for which no incidental take is anticipated.

Wildlife value:

The channels themselves have limited wildlife value because they are mostly sandy or densely vegetated with invasive plants such as giant reed and castor bean. The bands of riparian woodland extending along the banks of the Pilot Channel and the northern end of SG Channel appear to provide relatively high quality habitat for birds and other wildlife. Wildlife observed in, along, and over the channels included:

Anna's Hummingbird (*Calypte anna*)

American Coot (*Fulica americana*)

American Crow (*Corvus brachyrhynchos*)

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Bank Swallow (*Riparia riparia*)
Black Phoebe (*Sayornis nigricans*)
Black-throated Magpie-jay (*Calocitta colliei*)
Bushtit (*Psaltriparus minimus*)
California Towhee (*Pipilo crissalis*)
Coastal California Gnatcatcher (*Polioptila californica californica*)*
Common Yellowthroat (*Geothlypis trichas*)
Cooper's Hawk (*Accipiter cooperii*)*
Downy Woodpecker (*Picoides pubescens*)
Green Heron (*Butorides virescens*)
House Finch (*Carpodacus mexicanus*)
Mallard (*Anas platyrhynchos*)
Mourning Dove (*Zenaida macroura*)
Northern Flicker (*Colaptes auratus*)
Northern Harrier (*Circus cyaneus*)*
Orange-Crowned Warbler (*Oreothlypis celata*)
Red-Shouldered Hawk (*Buteo lineatus*)
Red-Tailed Hawk (*Buteo jamaicensis*)
Red-winged Blackbird (*Agelaius phoeniceus*)
Song sparrow (*Melospiza melodia*)
Townsend's Warbler (*Dendroica townsendi*)
Turkey Vulture (*Cathartes aura*)
White-Crowned Sparrow (*Zonotrichia leucophrys*)
Yellow-Breasted Chat (*Icteria virens*)
Yellow-Rumped Warbler (*Dendroica coronata*)
Audubon's cottontail (*Silvilagus audubonii*)
California ground squirrel (*Spermophilus beecheyi*)
Raccoon (*Procyon lotor*) (tracks)
Red-eared Slider (*Trachemys scripta elegans*)

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Western Fence Lizard (*Sceloporus occidentalis*)

Monarch (*Danaus plexippus*)

*MSCP-covered species

The access routes have limited wildlife value because they are primarily bare ground. Staging Areas B and D likely support small mammals that could attract raptors. No animals were observed within the staging areas during the survey.

<u>Are there current levels of anthropogenic influences on habitat within the project footprint (e.g., homeless encampment, illegal dumping)?</u>	Yes	<input checked="" type="checkbox"/>
	No	<input type="checkbox"/>

If yes, describe the influence: Trash was observed in both SG Channel and the Pilot Channel during the most recent 2015 survey. Previous surveys have observed large quantities of trash, including vehicle tires, within the Pilot Channel starting approximately 550 feet west of the junction with SG Channel (see photographs 4 and 7); smaller amounts of trash occurred elsewhere in the channel.

<u>Are there any conservation easements which have been previously recorded within the maintenance area?</u>	Yes	<input type="checkbox"/>
	No	<input checked="" type="checkbox"/>

Please provide a written rationale for a “Yes” or “No” answer:

Based on a search of County parcel records on November 1, 2012, none of the parcels in which these channel segments occur has any conservation easement. Land ownership and parcel numbers are shown in Figure 2. The two channels, access routes, and Staging Area B are located on City and County-owned properties within the MHPA. The Pilot Channel and northern end of SG channel are within the County of San Diego’s TRVRP. Staging Area D is located on City-owned property and outside the MHPA.

Jurisdictional Areas:

A jurisdictional delineation completed by Helix Environmental in February 2011 was the basis for this evaluation of jurisdictional impacts, with minor modifications by Dudek in 2015 to reflect current site conditions. All channels and riparian and wetland communities within the maintenance area were considered to be regulated by ACOE, CDFW, and the City of San Diego. The impacts quantified below are based on SG Channel width of 20 feet, Pilot Channel width of 23 feet, turnaround dimensions of 25 by 30 feet, and access route widths of 15 feet. Staging areas did not include jurisdictional wetlands or waters. Jurisdictional impacts are shown in Table 2a and 2b.

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Table 2a
U.S. Army Corps of Engineers Jurisdictional Impact Acreages

Vegetation Community (including access routes and turnarounds)	Acreage Impacts
ACOE Wetland Waters of the U.S.	
Southern Riparian Forest	0.03
Mule Fat Scrub	0.01
Subtotal	0.04
ACOE Non-Wetland Waters of the U.S.	
Open Channel	1.22
Open Water	3.05
Subtotal	4.27
Total ACOE jurisdictional impacts	4.31

The total ACOE jurisdictional impact area of 4.31 acres does not exceed the previously permitted jurisdictional impact area of 4.31 acres.

Table 2b
CDFW/City of SD Jurisdictional Acreages

Vegetation Community (including access routes and turnarounds)	Acreage Impacts
Wetlands	0.04 (Same as Wetlands in Table 2a)
Streambed/Unvegetated Waters	4.27 (Same as Non-wetland Waters in Table 2a)
Total CDFW and City jurisdictional impacts	4.31

The total CDFW jurisdictional impact area of 4.31 acres does not exceed the previously permitted jurisdictional impact area of 4.31 acres.

(CDFW jurisdiction often extends further from the outer or upper limit of the water body than Army Corps of Engineers [ACOE] jurisdiction, but in this case the limits of both are set by the narrow extents of the maintenance area).

Attach documentation supporting the determination of jurisdictional areas:

Please refer to the 2011 PEIR jurisdictional wetland delineation for additional information.

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Sensitive Plant Species Observed/Detected				Sensitive Animal Species Observed/Detected:			
YES	<input checked="" type="checkbox"/>	NO	<input type="checkbox"/>	YES	<input checked="" type="checkbox"/>	NO	<input type="checkbox"/>
If yes, what species were observed and where?				If yes, what species were observed/detected and where?			
<p>Singlewhorl burrobrush (<i>Ambrosia monogyra</i>) – Eight plants detected outside of maintenance area, between SG Channel and Staging Area B, approximately 350 feet north of Monument Road; this location will not be impacted by maintenance, and the shrubs will be cordoned off and flagged to avoid potential direct impacts. (Although timing of surveys may have prevented detection of spring annuals or deciduous herbaceous perennials, none of such potentially occurring rare plants in CNDDDB records search is likely to occur within the maintenance area).</p>				<p>Coastal California Gnatcatcher (<i>Polioptila californica californica</i>) in cluster of four singlewhorl burrobrush adjacent to SG Channel; Northern Harrier (<i>Circus cyaneus</i>) over middle section of SG Channel; Yellow-Breasted Chat (<i>Icteria virens</i>) in east side of Pilot Channel near but outside maintenance area. Gnatcatcher will not be directly or indirectly impacted if maintenance is conducted outside breeding season (March 1 – August 15), and no suitable habitat occurs within maintenance area; if maintenance occurs after March 1, maintenance activity shall comply with all applicable mitigation measures as described in following sections. Northern Harrier is MSCP-covered species; project complies with relevant Specific Management Directives for the Tijuana River Valley. Northern Harrier nest in non-native grassland and marsh habitats and there is a low potential for their nesting or foraging habitat to be indirectly impacted if maintenance activities are conducted during their breeding/nesting season starting January 15 because nesting/foraging habitat does not occur immediately adjacent to the project area. Yellow-Breasted Chat will not be impacted because maintenance will not be performed between March 15 and September 15, outside the breeding season for this migratory species.</p>			
If yes, complete a California Native Species				If yes, complete a California Native Species			

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<u>Field Survey Form and submit it to the California Natural Diversity Database.</u>	<u>Field Survey Form and submit it to the California Natural Diversity Database.</u>		
California Native Species Field Survey Forms have been completed for submittal to the CNDDDB.	California Native Species Field Survey Forms have been completed for submittal to the CNDDDB.		
<u>*Sensitive species shall include those listed by state or federal agencies as well as species that could be considered sensitive under Sections 15380(b) and (c) and 15126(c) of the CEQA Guidelines.</u>	<u>*Sensitive species shall include those listed by state or federal agencies as well as species that could be considered sensitive under Sections 15380(b) and (c) and 15126(c) of the CEQA Guidelines.</u>		
Is any portion of the maintenance activity within an MHPA?	YES	<input checked="" type="checkbox"/>	NO <input type="checkbox"/>
<u>If yes, describe which portions are within an MHPA:</u>			
<p>The channel maintenance areas, access routes, and Staging Area B lie within the City of San Diego Multi-Habitat Planning Area (MHPA). Because of the location of these areas within the MHPA, maintenance at these locations must conform to Section 1.4.2 (General Planning Policies and Design Guidelines) of the City of San Diego MSCP Subarea Plan. MSCP conformance is summarized in Attachment 1. Staging Area D is outside and to the east of the MHPA; although it is not immediately adjacent to the MHPA because both the unused portion of the parcel and a road lie between it and the MHPA, Section 1.4.3 (Land Use Adjacency Guidelines) was also included in Attachment 1 and project use of Staging Area D will comply with these guidelines during this project.</p>			
Is there moderate or high potential for listed animal species to occur in or adjacent to the impact area?			
YES	<input checked="" type="checkbox"/>	NO	<input type="checkbox"/>

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If yes, which species (check all that apply) and describe any surveys which should be undertaken to determine whether those species could occur within the maintenance area:

<input checked="" type="checkbox"/>	Least Bell’s Vireo	<input type="checkbox"/>	Riverside fairy shrimp
<input checked="" type="checkbox"/>	Southwestern Willow Flycatcher	<input type="checkbox"/>	California Least Tern
<input type="checkbox"/>	Arroyo toad	<input type="checkbox"/>	Light-footed Clapper Rail
<input checked="" type="checkbox"/>	Coastal California Gnatcatcher	<input type="checkbox"/>	Western Snowy Plover
<input type="checkbox"/>	San Diego fairy shrimp	<input type="checkbox"/>	Other:

Although work is not proposed after March 14, if maintenance is scheduled during sensitive breeding seasons for any reason, the City shall complete all requisite surveys.

The USFWS Section 7 Consultation Biological Opinion (BO) contains specific conditions pertaining to avoidance and minimization measures for the Least Bell’s Vireo, such as the recommendation that maintenance be performed outside the Least Bell’s Vireo breeding season of March 15 - September 15 (with specific requirements if it is conducted during the breeding season), and retention of a biologist knowledgeable of vireo biology and ecology to oversee compliance with the conservation measures for the vireo and its designated critical habitat.

In compliance with the USFWS Section 7 BO and Master Program PEIR Mitigation Measure 4.1.2, protocol surveys for Least Bell’s Vireo are required if maintenance is proposed during the vireo breeding season (March 15 - September 15). In compliance with PEIR Mitigation Measure 4.1.2, and 4.1.8, Coastal California Gnatcatcher protocol surveys are required if maintenance and noise levels exceeding 60 dB(A) occur within the MHPA during the gnatcatcher breeding season (March 1 – August 15).

PEIR Mitigation Measure 4.1.2 would require protocol surveys for the Southwestern Willow Flycatcher if maintenance were scheduled during the flycatcher breeding season (May 1 - August 30).

The federal and state endangered Light-Footed Clapper Rail is considered to have a low potential to occur in or adjacent to the project area and is unlikely to use habitat within the maintenance area. This species has been documented nearby in the Tijuana River Valley (Dairy Mart Ponds and the Tijuana River estuary), and the project’s USFWS Section 7 BO has established conservations measures that will avoid and minimize potential adverse effects to the clapper rail. Implementation of these measures will reduce impacts to clapper rail to below a level of significance in which no incidental take is anticipated. These include the requirements that channel maintenance be performed outside of the Light-Footed Clapper Rail breeding season of

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March 15 - September 15 (based on the breeding season provided in the BO Enclosure), that pre-maintenance surveys be conducted by a biologist familiar with clapper rail biology and ecology to confirm that clapper rails are not present, that exclusionary fencing be installed around each area of the project footprint, and that the clapper rail biologist will oversee compliance with conservation measures for the clapper rail (see **Attachment 2** for complete requirements).

Attach documentation to support the determination of the presence or absence of listed animal species with a moderate or high potential to occur (e.g., California Natural Diversity Database records searches).

Attachment 3 contains CNDDDB animal records for project quadrangle and surrounding quadrangles.

Is there moderate or high potential for listed plant species to occur in or adjacent to the impact area?

YES	<input checked="" type="checkbox"/>	NO	<input type="checkbox"/>
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If yes, identify which species may occur and describe any surveys which should be undertaken to determine whether those species could occur within the maintenance area. If no, please provide a written rationale as to why species may not be present:

Approximately eight individuals of one sensitive plant species (singlewhorl burrobrush, *Ambrosia monogyra*) were observed adjacent to the impact area. These plants are outside the maintenance area and will be cordoned off and flagged to minimize and avoid potential direct and indirect impacts. Based on a review of CNDDDB plant records for the project quadrangle (Imperial Beach) and surrounding quadrangles, and observations during the survey, there is low potential for other sensitive plant species to occur within the maintenance area.

Attach documentation to support the determination of the presence or absence of listed plant species with a moderate or high potential to occur (e.g., California Natural Diversity Database records searches).

Attachment 3 contains CNDDDB plant records for the project quadrangle and surrounding quadrangles.

Could maintenance disrupt the integrity of an important habitat (i.e., disruption of a wildlife corridor and/or an extensive riparian woodland:

YES	<input type="checkbox"/>	NO	<input checked="" type="checkbox"/>
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EXISTING CONDITIONS

If yes, discuss which habitat could be impacted and how. If no, please provide a written rationale as to why the project would not disrupt the integrity of an important habitat:

A portion of the Pilot Channel between the junction with SG Channel and the east end of the Pilot Channel contains native riparian scrub vegetation. In this area, the channel appears to be less clearly defined, as if it has been at least several years since extensive flow passed through. Clearing of the channel in this area would result in removal of young native riparian trees and shrubs. However, because this was historically a channel through riparian habitat, and extensive surrounding native riparian vegetation would not be removed, loss of the young trees and shrubs within the channel is not expected to disrupt the integrity of the habitat or its function as a wildlife corridor. Installation of temporary 3- to 5-foot tall fencing around the active section(s) of the project footprint to exclude clapper rails may be a small-scale temporary obstacle within the larger riparian habitat, but this fencing will not be extensive enough to disrupt the integrity of the habitat or its function as a wildlife corridor.

Could work be conducted during the avian breeding season (January 15 – August 31 without the need for pre-construction nesting surveys:

YES	<input type="checkbox"/>	NO	<input checked="" type="checkbox"/>
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If yes, discuss which habitat could be impacted and how. If no, please provide a written rationale:

NOTE: PEIR Mitigation Measure 4.3.19 states: If SWD choose not to do the required surveys, then it shall be assumed that the appropriate avian species are present and all necessary protection and mitigation measures shall be required as described in Mitigation Measure 4.3.21.

Is it anticipated that maintenance activities would generate noise in excess of 60 dB(A) L_{eq} ?

YES	<input checked="" type="checkbox"/>	NO	<input type="checkbox"/>
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If yes, what measures should be taken to avoid adverse impacts on avian bird breeding within or adjacent to the maintenance?

EXISTING CONDITIONS

As described in the INA, temporary construction noise from the use of heavy equipment would generate noise in excess of 60 dB(A) Leq during the maintenance period. Maintenance conducted outside the breeding/nesting season for protected avian species would not result in a significant indirect noise impact and no noise attenuation mitigation is required.

As described above, Light-Footed Clapper Rail is considered to have a low potential to occur in or adjacent to the project area, and the USFWS BO has established conservation measures that will avoid and minimize potential impacts to this species, including the requirement that maintenance be performed outside the Light-Footed Clapper Rail breeding season. The Master Program PEIR Mitigation Measure 4.1.2 requires protocol surveys if maintenance is proposed during the vireo breeding season (March 15 – September 15) or flycatcher breeding season (May 1 – September 1). Therefore, channel maintenance excavations will not be conducted between March 15 and September 15 (based on the BO Enclosure).

The City is currently requesting concurrence from the Corps, USFWS, and CDFW that pumping can take place during the latter part of the breeding season, if surveys indicate that active nesting of special-status species has been completed or that active nests are far enough away from the proposed pumps that noise levels would not exceed 60dB(A) Leq at the active nest locations. No channel maintenance (i.e., excavation) would occur during the breeding season, but in order to ensure that conditions are dry enough to allow for maintenance, pumping may occur between approximately August 1 and September 15, in coordination with the wildlife agencies. Additional pumping may also occur, as needed, during the normal excavation work period between September 15 and March 15.

In compliance with Master Program PEIR Mitigation Measure 4.3.21, if work is proposed between January 15 (start of the raptor nesting season) and March 15 (start of the clapper rail breeding season), a pre-maintenance survey for active raptor nests shall be conducted by a qualified biologist in areas supporting suitable habitat, such as within the mature tall black willows and occasional eucalyptus trees along the Pilot Channel; if active raptor nests are found, maintenance shall not occur within 300 feet of a Cooper's Hawk (*Accipiter cooperii*) nest, 900 feet of a Northern Harrier's nest, or 500 feet of any other raptor's nest until any fledglings have left the nest.

In compliance with PEIR Mitigation Measure 4.1.2, 4.1.4, and 4.1.8, protocol surveys are required if maintenance and noise levels exceeding 60 dB(A) will occur within the MHPA during the Coastal California Gnatcatcher breeding season (March 1 – August 15). Therefore, if maintenance is proposed between March 1 and March 15 (start of the clapper rail breeding season), protocol surveys for Coastal California Gnatcatcher will be required within the area of suitable habitat subject to noise levels exceeding 60 dB(A). If Coastal California Gnatcatchers are present, the project must comply with all applicable noise control measures in PEIR Mitigation Measure 4.1.8.

EXISTING CONDITIONS

Biological Resource Conditions Relative to Original Survey Conducted for MASTER PROGRAM Final Program EIR (May 2010) (vegetation communities present, including adjacent uplands; general habitat quality/level of disturbance):

Biological resource conditions appear to be similar to 2010-2011 conditions as described in the PEIR and 2012 conditions as described in the 2012 version of this IBA, with some reductions in riparian habitat due to recent maintenance. The majority of the wetland vegetation communities have been converted to non-wetland waters (i.e., open channel and open water) due to removal of vegetation within the channels. The most recent work was conducted in Fall of 2014 which included a non-native species mitigation effort that removed the vast majority of invasive plant species along the SG Channel embankments and areas adjacent to the confluence area.

Vegetation categories were modified to reflect relatively minor distributional shifts or growth form shifts, but these changes do not constitute a substantive change in impacts as described in previous project documentation. Some vegetation originally mapped as Southern Willow Scrub was reclassified as Southern Riparian Forest because of the height/stature of the dominant mature black willows (“forest” rather than shrubby “scrub”) and subcanopy density that is dense in areas of invasive infestation, but more moderate to open in areas with less invasive plant infestation. Freshwater Marsh was removed from the eastern branch of the Pilot Channel between the junction with SG Channel and the Hollister Street Bridge because freshwater marsh was not observed in that location during the 2012 and 2015 surveys. The category of Open Water was used for the areas of standing water.

Uplands impacts are to Disturbed Habitat, which is a Tier IV and does not require mitigation per the MSCP and PEIR. Potential wetland and upland impacts have been adequately addressed in the PEIR, no new impacts were identified, and no new biological mitigation is required. The proposed project substantially conforms to the MMP PEIR, applicable mitigation measures, and maintenance protocols.

MAINTENANCE IMPACTS

Maintenance Methodology (based on IMP)

Pre-maintenance meeting to be held on site prior to commencement of any maintenance activity. Qualified specialists including a biologist shall identify and indicate by flagging any sensitive resources to be avoided during maintenance. The biologist will also review specific measures to be implemented to minimize direct/indirect impacts and direct crews of other personnel to protect sensitive resources. Training will be conducted for personnel responsible for the proper installation, inspection, and maintenance of on-site BMPs. Construction BMPs will be installed in accordance with the water pollution control plan.

The SG Channel north of the Disney Crossing will be completed first, then the Pilot Channel east of the confluence towards Hollister Street Bridge, the Pilot Channel west of the confluence to Saturn Boulevard will follow, and the maintenance will end with the southern portion of the SG Channel towards Monument Road.

Equipment will access the northern portion of SG by an access ramp north of Disney Crossing and the existing access route that continues north along the eastern bank. The SG portion south of the Disney Crossing will also be accessed from the existing access route at locations to be verified by the biologist in the field to avoid unnecessary impacts. The Pilot Channel will be accessed through the SG Channel at the confluence.

Bulldozers will push removed materials to a central location where an excavator will scoop out material and load into rock trucks. The rock trucks will use existing access routes to haul materials to Staging Area B. Materials will be transported daily to Staging Area D for sorting and then properly disposed of at a city approved facility.

Vegetation/Land Cover Impacts:	13.42 acres (including unvegetated uplands in staging areas and access routes)
Wetland/Waters:	4.31 acres
Upland:	9.11 acres
Jurisdictional Areas:	
U.S. Army Corps of Engineers, Regional Water Quality Control Board, California Department of Fish and Wildlife	
Wetlands:	0.04 acres
Non-wetland Waters of the U.S.:	4.27 acres

MAINTENANCE IMPACTS				
Other Jurisdictional Areas:				
California Department of Fish and Wildlife/City of San Diego:				
Wetlands:		0.04 acres		
Streambed/Unvegetated Waters:		4.27 acres		
Is there moderate or high potential for listed animal species to be impacted?		YES	<input checked="" type="checkbox"/>	NO <input type="checkbox"/>
If yes, which species (check all that apply):				
<input checked="" type="checkbox"/>	Least Bell's vireo	<input type="checkbox"/>	Riverside fairy shrimp	
<input checked="" type="checkbox"/>	Southwestern willow flycatcher	<input type="checkbox"/>	California least tern	
<input type="checkbox"/>	Arroyo toad	<input type="checkbox"/>	Light-footed clapper rail	
<input checked="" type="checkbox"/>	Coastal California gnatcatcher	<input type="checkbox"/>	Western snowy plover	
<input type="checkbox"/>	San Diego fairy shrimp	<input type="checkbox"/>	Other:	
<p>Although Least Bell's Vireo, Southwestern Willow Flycatcher, and Coastal California Gnatcatcher have a moderate to high potential to occur in or adjacent to the impact area, there is very low potential that these species would be impacted by the project because no maintenance activity (i.e., channel excavation) will take place between March 15 and September 15. Any maintenance activity between January 15 and March 1 will be subject to applicable raptor nesting and Coastal California Gnatcatcher mitigation measures, and mitigation and minimization and avoidance measures will be implemented in accordance with the PEIR, BO, and project permits and guidelines. Pumping may occur between approximately August 1 and September 15, if focused surveys indicate the absence of active vireo and flycatcher nests, and the absence of light-footed clapper rails from within the 60 dB(A) Leq noise contour of the pumps and with concurrence from the wildlife agencies (see Attachment 1, Attachment 2, and Attachment 2 of the IMP).</p>				

MITIGATION

Applicable Maintenance Protocols (list the applicable maintenance protocols based on the biological resources occurring or likely to occur on-site – include any special protocols required):

Bio-1 Restrict vehicles to access designated in the master program plan.

Bio-2 Flag and delineate all sensitive biological resources to remain within or adjacent to the maintenance area prior to initiation of maintenance activities in accordance with the site-specific IBA, IHHA, and/or IMP.

Bio-3 Conduct a pre-maintenance meeting on-site prior to the start of any maintenance activity that occurs within or adjacent to sensitive biological resources. The pre-maintenance meeting shall include the qualified biologist, field engineer/planner, equipment operators/superintendent and any other key personnel conducting or involved with the channel maintenance activities. The qualified biologist shall point out or identify sensitive biological resources to be avoided during maintenance, flag/delineate sensitive resources to be avoided, review specific measures to be implemented to minimize direct/indirect impacts, and direct crews or other personnel to protect sensitive biological resources as necessary. The biologist shall also review the proposed erosion control methods to confirm that they would not pose a risk to wildlife (e.g., non-biodegradable blankets which may entangle wildlife).

Bio-4 Avoid introduction of invasive plant species with physical erosion control measures (e.g., fiber mulch, rice straw, etc.).

Bio-5 Conduct appropriate pre-maintenance protocol surveys if maintenance is proposed during the breeding season of a special-status animal species. If sensitive animal species covered by the PEIR are identified, then applicable measures from the MMRP shall be implemented under the direction of a qualified biologist to avoid significant direct and/or indirect impacts to identified sensitive animal species. If sensitive animal species are identified during pre-maintenance surveys that are not covered by the PEIR, the SWD shall contact the appropriate wildlife agencies and additional environmental review under CEQA will be required.

Bio-6 Remove arundo through one, or a combination of, the following methods: (1) foliar spray (spraying herbicide on leaves and stems without cutting first) when arundo occurs in monotypic stands, or (2) cut and paint (cutting stems close to the ground and spraying or painting herbicide on cut stem surface) when arundo is intermixed with native plants. When sediment supporting arundo must be removed, the sediment shall be excavated to a depth sufficient to remove the rhizomes, wherever feasible. Following removal of sediment containing rhizomes, loose rhizome material shall be removed from the channel and disposed offsite. After the initial treatment, the area of removal shall be inspected on a quarterly basis for up two years, or until no resprouting is observed during an inspection. If resprouting is observed, the cut and paint method shall be applied to all resprouts.

Bio-7 Avoid mechanized maintenance within 300 feet of a Cooper's hawk nest, 900 feet of a

MITIGATION
northern harrier's nest, or 500 feet of any other raptor's nest until any fledglings have left the nest.
Applicable PEIR mitigation measures:
<p>General Mitigation 1, 2, 3, and 4;</p> <p>Biological Resources 4.3.1, 4.3.2, 4.3.3, 4.3.4, 4.3.5, 4.3.6, 4.3.7, 4.3.8, 4.3.9, 4.3.10, 4.3.13, 4.3.14, 4.3.15, 4.3.16, 4.3.17, 4.3.18, 4.3.19, 4.3.20, 4.3.21, 4.3.22, 4.3.24, 4.3.25*;</p> <p>Land Use 4.1.1, 4.1.2, 4.1.3, 4.1.4, 4.1.5, 4.1.6, 4.1.7. and 4.1.8.</p> <p>*but may occur between January 15 and March 15 if 4.3.21, 4.1.2, 4.1.3, 4.1.4, 4.1.5, and 4.1.8 are followed</p> <p>Applicable PEIR Mitigation Measures have been included in their entirety in Attachment 2.</p>
Other mitigation measures:
<p>Additional mitigation measures and conditions apply from the following sources :</p> <ol style="list-style-type: none"> 1. United States Fish and Wildlife Service Formal Section 7 Consultation on the Tijuana River Valley Channel Maintenance Project, San Diego County, California (Biological Opinion) 2. California Department of Fish and Wildlife Streambed Alteration Agreement 1600-2011-0271-R5, Tijuana River Valley Channel Maintenance Project 3. Department of the Army Permit SPL-2009-00719-RRS, Tijuana River Valley Pilot Channel and Smugglers Gulch Channel Maintenance Project 4. California Coastal Commission Coastal Development Permit and Amendment, #A-6-NOC-11-086 (San Diego Master Storm Water Maintenance Program) 5. California Regional Water Quality Control Board 401 Water Quality Certification for Tijuana River Valley Channel Maintenance Project, 09C-077 <p>These additional measures are provided as an Attachment 2 to the IMP.</p>
Environmental Mitigation Requirements (including wetland enhancement, restoration, creation, and/or purchase of wetland credits in a mitigation bank; off-site upland habitat acquisition/payment into the City's habitat acquisition fund):
The project will not result in impacts to upland habitat that would require mitigation. The project will not result in impacts to jurisdictional wetlands or waters beyond the acreage previously permitted and mitigated. The sections below describe mitigation that has been implemented for the construction of the channel and the mitigation that is in progress to compensate for ongoing maintenance.

MITIGATION

ACOE/RWQCB Jurisdictional Wetlands:

ACOE

Mitigation for original jurisdictional impacts in the Pilot Channel was successfully completed in 2000 at the 11.02-acre mitigation site near the western end of the Pilot Channel. Mitigation was not required for construction of the SG Channel because it was a historical agricultural ditch constructed prior to environmental regulation of the loss of wetlands and waters. However, maintenance of the two channels was not previously permitted. Verification that the site continues to meet its performance criteria has been documented (Dudek 2015).

Mitigation for ongoing maintenance impacts consists of exotics removal and control at a ratio of 2:1. Because the ACOE Permit SPL-2009-00719-RRS permits impacts to 4.31 acres of waters of the U.S., that permit requires mitigation through rehabilitation/enhancement of 8.62 acres of waters of the U.S. within a 96-acre area in and adjacent to the Pilot Channel, as described in the Final Wetlands Mitigation and Monitoring Plan (Dudek 2013). Mitigation occurs within the maintenance channels themselves (4.31 acres of “in-channel” mitigation) and in areas directly adjacent the channels (4.31 acres of “out-of-channel” mitigation).

RWQCB

In accordance with the California RWQBC 401 Water Quality Certification amendment for the Project (09C-077), mitigation consists of eradication of exotic invasive species within the project footprint (4.31 acres) and the additional eradication of 4.31 acres of exotic invasive species adjacent to the project footprint, with successful eradication to be maintained in perpetuity.

CDFW-only Jurisdictional Wetlands:

Original CDFG-jurisdictional impacts to the Pilot Channel were successfully mitigated at the 11.02-acre site. Mitigation was not required for construction of the SG Channel because it was a historical agricultural ditch constructed prior to environmental regulation of the loss of wetlands and waters. Though Streambed Alteration Agreement 1600-2011-0271-R5 does not require mitigation for maintenance impacts to 4.31 acres of CDFG-jurisdictional streambed, it does require reporting associated with ACOE permit mitigation requirements. .

Other Mitigation Requirements:

USFWS

In accordance with USFWS BO FWS-SDG-08B0600-10F0001, mitigation consists of enhancing 8.62 acres of wetlands within a 96-acre area in and along the Pilot Channel over a five year period; and using the remaining 0.11 acre of wetland creation from the City’s Tijuana River mitigation site that was completed under BO FWS-1-6-93-F-35.

MITIGATION

Mitigation Description/Location:

As required by the various Resource Agency permits and described in the Final Wetlands Mitigation and Monitoring Plan (Dudek 2013), mitigation for ongoing maintenance consists of restoration/enhancement of 4.31 acres within a 96-acre area adjacent to the Pilot Channel as well as up to 4.31 acres of restoration/enhancement in the channel. A complete description of the mitigation is described in the project's Final Wetlands Mitigation and Monitoring Plan. This is consistent with the PEIR Mitigation Measures 4.3.9 and 4.3.10, and no additional mitigation is required.

ADDITIONAL COMMENTS OR RECOMMENDATIONS

To avoid and minimize potential impacts to eight individuals of singlewhorl burrobrush (*Ambrosia monogyra*) located outside of but adjacent to the maintenance area, these shrubs will be cordoned off and marked with flagging, and maintenance vehicles moving from Staging Area B into the SG Channel will avoid driving directly in front of the shrubs.

Individual Biological Assessment Report Attachments:

Attachment 1: MSCP Conformance Review Table

Attachment 2: Applicable PEIR Mitigation Measures

Attachment 3: CNDDDB RareFind5 Records Search of Imperial Beach and Surrounding Quadrangles

References:

Army Corps of Engineers. 2012. Tijuana River Valley Pilot Channel and Smugglers Gulch Permit SPL-2009-00719-RRS. October 31, 2012.

California Coastal Commission. 2012. Addendum to Item Th23a, Coastal Commission Permit Application #A-6-NOC-11-086 (San Diego Master Storm Water Maintenance Program). November 13, 2012.

California Department of Fish and Game (CDFG). 2011. Streambed Alteration Agreement 1600-2011-0271-R5. San Diego, California: November 2011.

California Department of Fish and Wildlife (CDFW, formerly CDFG). 2015. California Natural Diversity Database (CNDDDB). Rarefind, Version 5 (Commercial Subscription). Sacramento, California: CDFW, Biogeographic Data Branch. Accessed March 2015.
<http://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp>.

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- City of San Diego. 2000. San Diego Municipal Code Land Development Code Biology Guidelines. San Diego, California: June 2000.
- City of San Diego. 2002. Guidelines for Conduction Biological Surveys. San Diego, California: October 1998, revised July 2002.
- City of San Diego. 2011a. Master Storm Water Maintenance Program. San Diego, California: October 2011.
- City of San Diego. 2011b. Final Recirculated Master Storm Water System Maintenance Program PEIR. San Diego, California: October 2011.
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- Dudek. 2011b. Errata, Biological Resource Technical Report and Conceptual Wetlands Mitigation Plan, Tijuana River Valley Channel Maintenance Project No. 230815. Encinitas, California: July 2011.
- Dudek. 2013. Final Wetland Mitigation and Monitoring Plan for Tijuana River Valley Channel Maintenance Project. Encinitas, CA: February.
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- United States Fish and Wildlife Service. 2012. Formal Section 7 Consultation on the Tijuana River Valley Channel Maintenance Project (FWS-SDG-08B0600-10F0001). Date-stamped August 24, 2012.
- URS Corporation 2012. Substantial Conformance Review Package for the Pilot Channel and Smuggler's Gulch Channel Maintenance Areas. October.

2015 Site Photos



Photo 1: Pilot Channel facing west. Arundo and mustard present along channel embankment.



Photo 2: At the confluence of the Pilot Channel and SG Channel, facing east. Trash present along banks and within standing water.



Photo 3: Hollister Street bridge facing west, dense vegetation along the Pilot channel where it crosses under the bridge.



Photo 4: Trash accumulation adjacent to the north-western portion of Pilot channel.



Photo 5: SG Channel facing south, toward Monument Road. Castor bean and other non-native species have been removed from the bank.



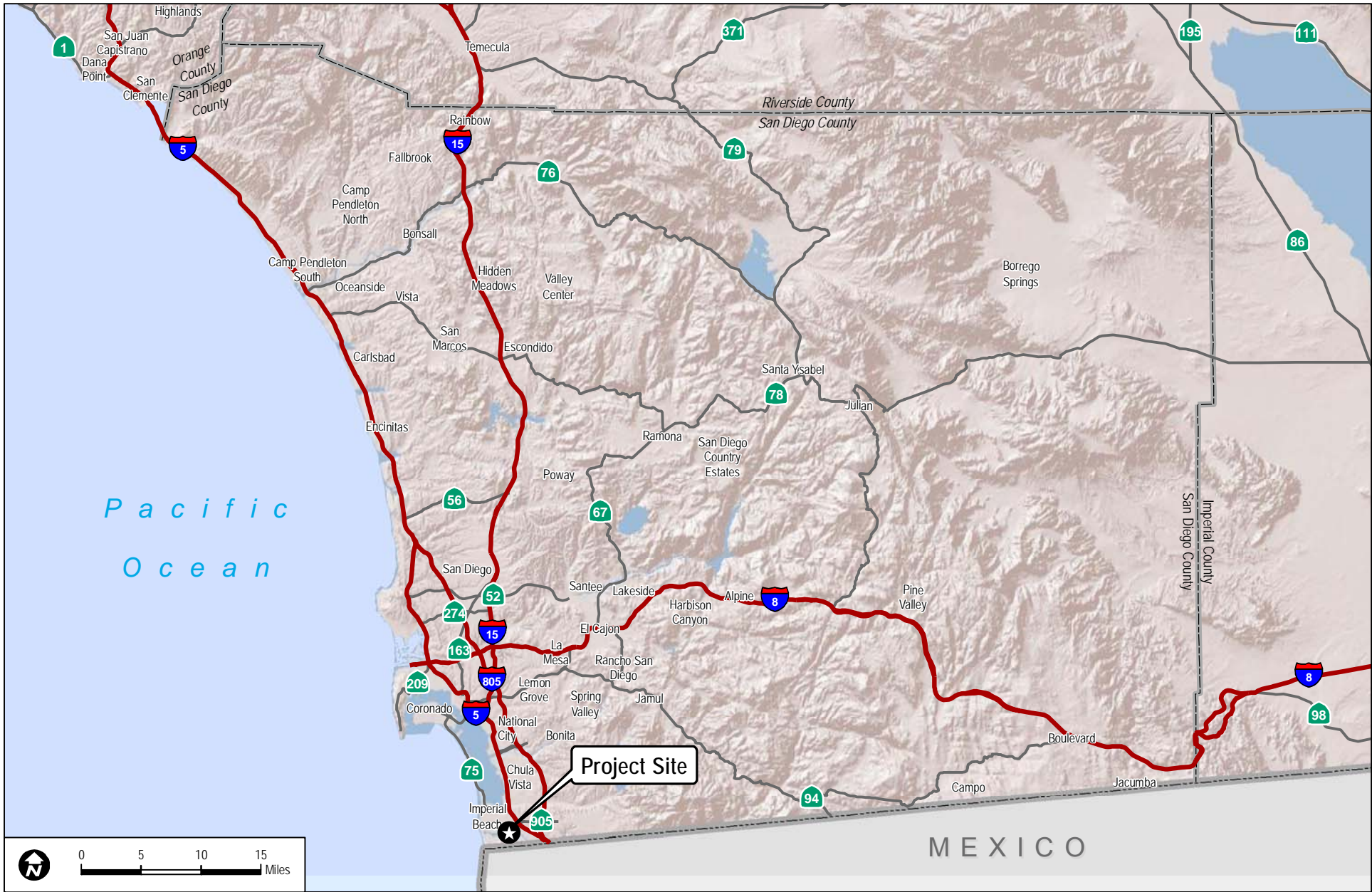
Photo 6: SG Channel, facing north at the Disney crossing. A few scattered willows and mule fat shrubs line the embankment.



Photo 7: Racking and trash accumulation within SG Channel at the Disney Crossing.



Photo 8: Staging Area D with mostly bare ground and compacted soil.

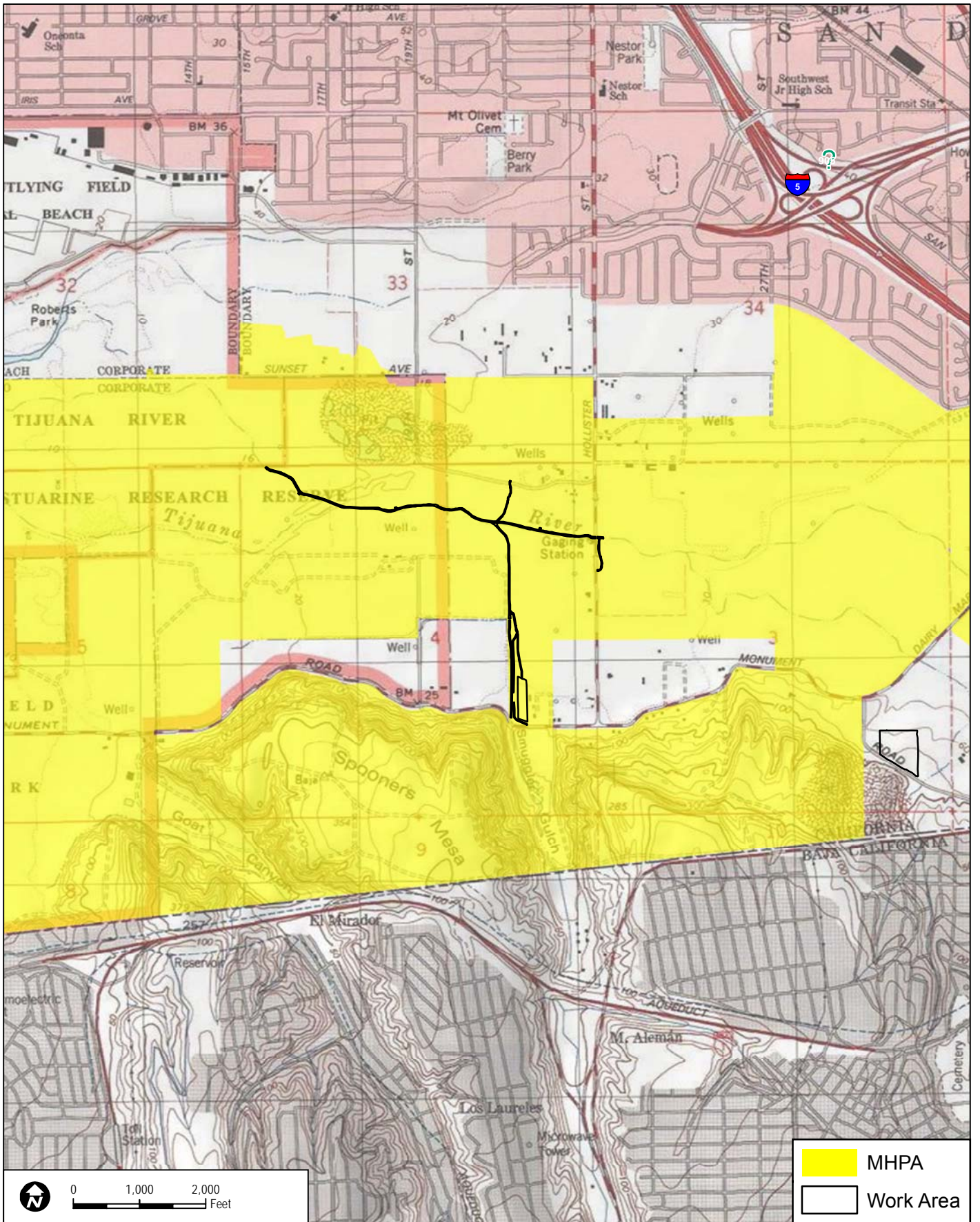




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Tijuana River Pilot Channel and Smuggler's Gulch Channel Maintenance Project

FIGURE 1
Regional Map



	MHPA
	Work Area

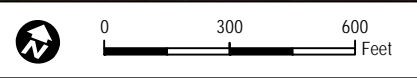
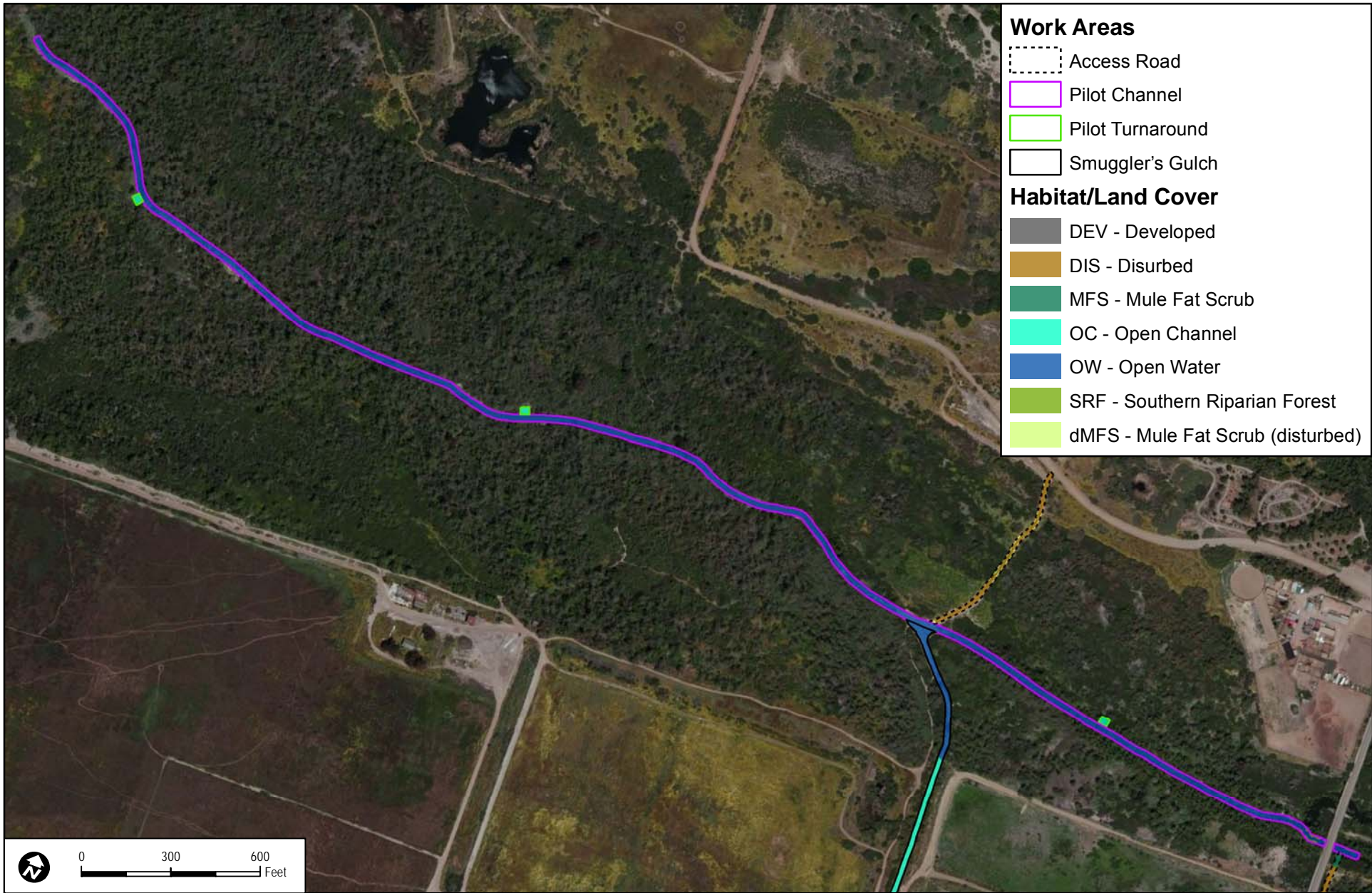
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SOURCE: USGS 7.5-Minute Series Imperial Beach Quadrangle.

FIGURE 2
Vicinity Map

Tijuana River Pilot Channel and Smuggler's Gulch Channel Maintenance Project



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SOURCE: BING Maps 2015

FIGURE 3a

Biological Resources

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Tijuana River Pilot Channel and Smuggler's Gulch Channel Maintenance Project

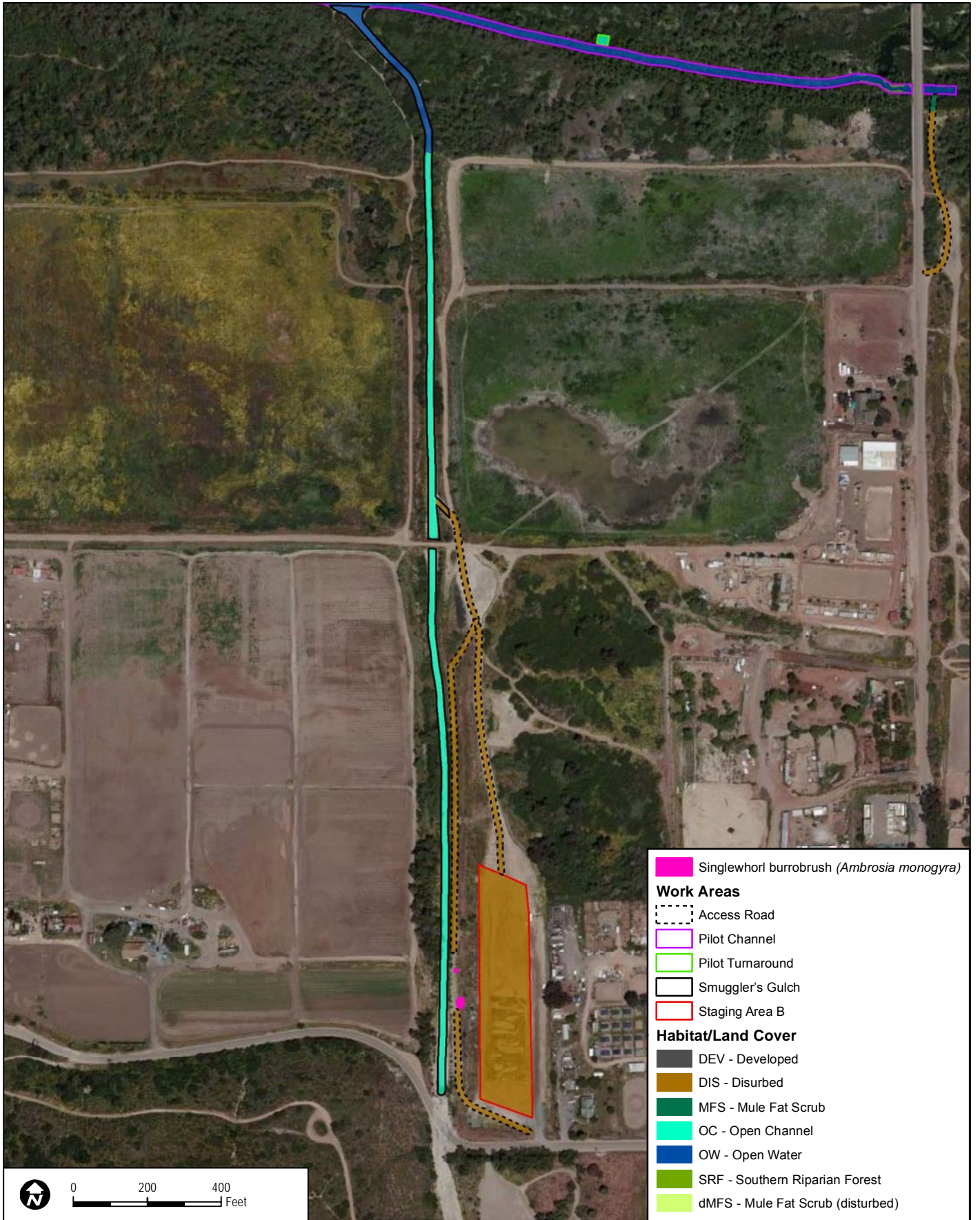


FIGURE 3b
Biological Resources

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SOURCE: BING 2015

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Tijuana River Pilot Channel and Smuggler's Gulch Channel Maintenance Project



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SOURCE: BING Maps 2015

FIGURE 3c

Biological Resources

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Tijuana River Pilot Channel and Smuggler's Gulch Channel Maintenance Project

Attachment 1

MSCP Conformance Review: Sections 1.4.2 and Section 1.4.3

Based on Biological Resources Technical Report and Conceptual Wetlands Mitigation Plan
Errata (Dudek 2011)

Section 1.4.2 - General Planning Policies and Design Guidelines	
Roads and Utilities - Construction and Maintenance Policies:	Compliance
1. All proposed utility lines (e.g., sewer, water, etc.) should be designed to avoid or minimize intrusion into the MHPA. These facilities should be routed through developed or developing areas rather than the MHPA, where possible. If no other routing is feasible, then the lines should follow previously existing roads, easements, rights-of-way and disturbed areas, minimizing habitat fragmentation.	The project follows existing constructed flood control channels and utilizes access routes and turnarounds, which minimize impacts to native plant communities.
2. All new development for utilities and facilities within or crossing the MHPA shall be planned, designed, located and constructed to minimize environmental impacts. All such activities must avoid disturbing the habitat of MSCP covered species, and wetlands. If avoidance is infeasible, mitigation will be required.	The project follows existing constructed flood control channels and utilizes access routes and turnarounds, which minimize impacts to native plant communities.
3. Temporary construction areas and roads, staging areas, or permanent access roads must not disturb existing habitat unless determined to be unavoidable. All such activities must occur on existing agricultural lands or in other disturbed areas rather than in habitat. If temporary habitat disturbance is unavoidable, then restoration of, and/or mitigation for, the disturbed area after project completion will be required.	Project staging areas are located within existing disturbed areas, and access routes utilize existing roads to the extent feasible.
4. Construction and maintenance activities in wildlife corridors must avoid significant disruption of corridor usage. Environmental documents and mitigation monitoring and reporting programs covering such development must clearly specify how this will be achieved, and construction plans must contain all the pertinent information and be readily available to crews in the field. Training of construction crews and field workers must be conducted to ensure that all conditions are met. A responsible party must be specified.	The project includes avoidance and minimization measures to reduce impacts to wildlife usage within the river valley, including environmental awareness training.
5. Roads in the MHPA will be limited to those identified in Community Plan Circulation Elements, collector streets essential for area circulation, and necessary maintenance/emergency access roads. Local streets should not cross the MHPA except where needed to access isolated development areas.	Not applicable.
6. Development of roads in canyon bottoms should be avoided whenever feasible. If an alternative location outside the MHPA is not feasible, then the road must be designed to cross the shortest length possible of the MHPA in order to minimize impacts and fragmentation of sensitive species and habitat. If roads cross the MHPA, they should provide for fully functional wildlife movement capability. Bridges are the preferred method of providing for movement, although culverts in selected locations may be acceptable. Fencing, grading and plant cover should be provided where needed to protect and shield animals, and guide them away from roads to appropriate crossings.	Not applicable.
7. Where possible, roads within the MHPA should be narrowed from existing design standards to minimize habitat fragmentation and disruption of wildlife movement and breeding areas. Roads must be located in lower quality habitat or disturbed areas to the extent possible.	Not applicable.
8. For the most part, existing roads and utility lines are considered a compatible use within the MHPA and, therefore, will be maintained. Exceptions may occur where underutilized or duplicative road systems are determined not to be necessary as identified in the Framework Management	Not applicable.

MSCP Conformance Review, continued

Fencing, Lighting, and Signage	Compliance
1. Fencing or other barriers will be used where it is determined to be the best method to achieve conservation goals and adjacent to land uses incompatible with the MHPA. For example, use chain link or cattle wire to direct wildlife to appropriate corridor crossings, natural rocks/boulders or split rail fencing to direct public access to appropriate locations, and chain link to provide added protection of certain sensitive species or habitats (e.g., vernal pools).	Silt fencing and/or construction fencing will be used on a temporary basis, as appropriate, around work areas and staging areas.
2. Lighting shall be designed to avoid intrusion into the MHPA and effects on wildlife. Lighting in areas of wildlife crossings should be of low-sodium or similar lighting. Signage will be limited to access and litter control and educational purposes.	No lighting will be installed as part of the project.
Materials Storage	Compliance
Prohibit storage of materials (e.g., hazardous or toxic, chemicals, equipment, etc.) within the MHPA and ensure appropriate storage per applicable regulations in any areas that may impact the MHPA, especially due to potential leakage.	Temporary storage of hazardous materials such as equipment fuel will follow all applicable rules and guidelines.
Mining, Extraction, and Processing Facilities	Compliance
1. Mining operations include mineral extraction, processing and other related mining activities (e.g. asphaltic processing). Currently permitted mining operations that have approved restoration plans may continue operating in the MHPA. New or expanded mining operations on lands conserved as part of the MHPA are incompatible with MSCP preserve goals for covered species and their habitat unless otherwise agreed to by the wildlife agencies at the time the parcel is conserved. New operations are permitted in the MHPA if: 1) impacts have been assessed and conditions incorporated to mitigate biological impacts and restore mined areas; 2) adverse impacts to covered species in the MHPA have been mitigated consistent with the Subarea Plan; and 3) requirements of other City land use policies and regulations (e.g. Adjacency Guidelines, Conditional Use Permit) have been satisfied. Existing and any newly permitted operations adjacent to or within the MHPA shall meet noise, air quality and water quality regulation requirements, as identified in the conditions of any existing or new permit, in order to adequately protect adjacent preserved areas and covered species. Such facilities shall also be appropriately restored upon cessation of mining activities.	Not applicable.
2. All mining and other related activities must be consistent with the objectives, guidelines, and recommendations in the MSCP plan, the City of San Diego's Environmentally Sensitive Lands Ordinance, all relevant long-range plans, as well as with the State Surface Mining and Reclamation Act (SMARA) of 1975.	Not applicable.
3. Any sand removal activities should be monitored for noise impacts to surrounding sensitive habitats, and all new sediment removal or mining operations proposed in proximity to the MHPA, or changes in existing operations must include noise reduction methods that take into consideration the breeding and nesting seasons of sensitive bird species.	Not applicable.
4. All existing and future mined lands adjacent to or within the MHPA shall be reclaimed pursuant to SMARA. Ponds are considered compatible uses where they provide native wildlife and wetland habitats and do not conflict with conservation goals of the MSCP and Subarea Plan.	Not applicable.
5. Any permitted mining activity including reclamation of sand must consider changes and impacts to water quality, water table level, fluvial hydrology, flooding, and wetland and habitats upstream and downstream, and provide adequate mitigation.	Not applicable.

MSCP Conformance Review, continued

Flood Control	Compliance
<p>1. Flood control should generally be limited to existing agreements with resource agencies unless demonstrated to be needed based on a cost benefit analysis and pursuant to a restoration plan. Floodplains within the MHPA, and upstream from the MHPA if feasible, should remain in a natural condition and configuration in order to allow for the ecological, geological, hydrological, and other natural processes to remain or be restored.</p>	<p>The project is consistent with flood control maintenance that occurred when the MSCP was established. Flood control maintenance involves the minimum amount of sediment/trash removal in order to allow for natural processes and to minimize erosion and sedimentation. The staging areas were permitted through previous and existing regulatory permits (ACOE 404 and RWQCB 401).</p>
<p>2. No berming, channelization, or man-made constraints or barriers to creek, tributary, or river flows should be allowed in any floodplain within the MHPA unless reviewed by all appropriate agencies, and adequately mitigated. Review must include impacts to upstream and downstream habitats, flood flow volumes, velocities and configurations, water availability, and changes to the water table level.</p>	<p>The project does not include the construction of man-made barriers or substantial modification of the channels.</p>
<p>3. No riprap, concrete, or other unnatural material shall be used to stabilize river, creek, tributary, and channel banks within the MHPA. River, stream, and channel banks shall be natural, and stabilized where necessary with willows and other appropriate native plantings. Rock gabions may be used where necessary to dissipate flows and should incorporate design features to ensure wildlife</p>	<p>The project does not include the placement of riprap, concrete, or other unnatural materials. The existing rock gabion structure at the confluence may be repaired if necessary.</p>
Section 1.4.3 – Land Use Adjacency Guidelines	
Drainage	Compliance
<p>1. All new and proposed parking lots and developed areas in and adjacent to the preserve must not drain directly into the MHPA. All developed and paved areas must prevent the release of toxins, chemicals, petroleum products, exotic plant materials and other elements that might degrade or harm the natural environment or ecosystem processes within the MHPA. This can be accomplished using a variety of methods including natural detention basins, grass swales or mechanical trapping devices. These systems should be maintained approximately once per year, or as often as needed, to ensure proper functioning. Maintenance should include dredging out of sediments if needed, removing exotic plant materials, and adding chemical-neutralizing compounds (e.g. clay compounds) when necessary and appropriate.</p>	<p>All maintenance of construction equipment (e.g., refueling, oil changing, hydraulic maintenance) will be conducted within designated BMP fortified areas in the staging areas or off site in a manner that will not allow the release of toxins, chemicals, petroleum.</p>
Toxics	Compliance
<p>2. Land uses, such as recreation and agriculture, that use chemicals or generate by-products such as manure, that are potentially toxic or impactful to wildlife, sensitive species, habitat, or water quality need to incorporate measures to reduce impacts caused by the application and/or drainage of such materials into the MHPA. Such measures should include drainage/detention basins, swales, or holding areas with non-invasive grasses or wetland-type native vegetation to filter out the toxic materials. Regular maintenance should be provided. Where applicable, this requirement should be incorporated into leases on publicly owned property as leases come up for renewal.</p>	<p>See response above. No domestic pets are allowed on the construction site.</p>
Lighting	Compliance
<p>3. Lighting of all developed areas adjacent to the MHPA should be directed away from the MHPA. Where necessary, development should provide adequate shielding with non-invasive plant materials (preferably native), berming, and/or other methods to protect the MHPA and sensitive species from night lighting.</p>	<p>No lighting will be installed as part of the project.</p>

MSCP Conformance Review, continued

Noise	Compliance
<p>4. Uses in or adjacent to the MHPA should be designed to minimize noise impacts. Berms or walls should be constructed adjacent to commercial areas, recreational areas, and any other use that may introduce noises that could impact or interfere with wildlife utilization of the MHPA. Excessively noisy uses or activities adjacent to breeding areas must incorporate noise reduction measures and be curtailed during the breeding season of sensitive species. Adequate noise reduction measures should also be incorporated for the remainder of the year.</p>	<p>Project activities will be conducted outside the sensitive bird breeding season in order that the effects of noise are not adverse.</p>
Barriers	Compliance
<p>5. New development adjacent to the MHPA may be required to provide barriers (e.g., non-invasive vegetation, rocks/boulders, fences, walls, and/or signage) along the MHPA boundaries to direct public access to appropriate locations and reduce domestic animal predation.</p>	<p>Not applicable.</p>
Invasives	Compliance
<p>6. No invasive non-native plant species shall be introduced into areas adjacent to the MHPA.</p>	<p>The project will not include introduction of invasive species, and does include removal of invasive species.</p>
Brush Management	Compliance
<p>7. New residential development located adjacent to and topographically above the MHPA (e.g., along canyon edges) must be set back from slope edges to incorporate Zone 1 brush management areas on the development pad and outside of the MHPA. Zones 2 and 3 will be combined into one zone (Zone 2) and may be located in the MHPA upon granting of an easement to the City (or other acceptable agency) except where narrow wildlife corridors require it to be located outside of the MHPA. Zone 2 will be increased by 30 feet, except in areas with a low fire hazard severity rating where no Zone 2 would be required. Brush management zones will not be greater in size that is currently required by the City's regulations. The amount of woody vegetation clearing shall not exceed 50 percent of the vegetation existing when the initial clearing is done. Vegetation clearing shall be done consistent with City standards and shall avoid/minimize impacts to covered species to the maximum extent possible. For all new development, regardless of the ownership, the brush management in the Zone 2 area will be the responsibility of a homeowners association or other private party. For existing project and approved projects, the brush management zones, standards and locations, and clearing techniques will not change from those required under existing regulations.</p>	<p>Not applicable.</p>
Grading/Land Development	Compliance
<p>8. Manufactured slopes associated with site development shall be included within the development footprint for projects within or adjacent to the MHPA.</p>	<p>Not applicable.</p>

Attachment 2

Applicable PEIR Mitigation Measures

GENERAL

General Mitigation 1: Prior to commencement of work, the Assistant Deputy Director (ADD) Environmental Designee of the Entitlements Division shall verify that mitigation measures for impacts to biological resources (Mitigation Measures 4.3.1 through 4.3.20), historical resources (Mitigation Measures 4.4.1 and 4.4.2), land use policy (Mitigation Measures 4.1.1 through 4.1.13), paleontological resources (Mitigation Measure 4.7.1), and water quality (Mitigation Measures 4.8.1 through 4.8.3) have been included in entirety on the submitted maintenance documents and contract specifications, and included under the heading, "Environmental Mitigation Requirements." In addition, the requirements for a Pre-maintenance Meeting shall be noted on all maintenance documents.

General Mitigation 2: Prior to the commencement of work, a Pre-maintenance Meeting shall be conducted and include, as appropriate, the MMC, SWD Project Manager, Biological Monitor, Historical Monitor, Paleontological Monitor, Water Quality Specialist, and Maintenance Contractor, and other parties of interest.

General Mitigation 3: Prior to the commencement of work, evidence of compliance with other permitting authorities is required, if applicable. Evidence shall include either copies of permits issued, letters of resolution issued by the Responsible Agency documenting compliance, or other evidence documenting compliance and deemed acceptable by the ADD Environmental Designee.

BIOLOGICAL RESOURCES

Mitigation Measure 4.3.1: Prior to commencement of any activity within a specific annual maintenance program, a qualified biologist shall prepare an IBA for each area proposed to be maintained. The IBA shall be prepared in accordance with the specifications included in the Master Program.

Mitigation Measure 4.3.2: No maintenance activities within a proposed annual maintenance program shall be initiated before the City's Assistant Deputy Director (ADD) Environmental Designee and state and federal agencies with jurisdiction over maintenance activities have approved the IMPs and IBAs including proposed mitigation for each of the proposed activities. In their review, the ADD Environmental Designee and agencies shall confirm that the appropriate maintenance protocols have been incorporated into each IMP.

Mitigation Measure 4.3.3: No maintenance activities within a proposed annual maintenance program shall be initiated until the City's ADD Environmental Designee and Mitigation Monitoring Coordinator (MMC) have approved the qualifications for biologist(s) who shall be responsible for monitoring maintenance activities which may impact sensitive biological resources.

Mitigation Measure 4.3.4: Prior to undertaking any maintenance activity included in an annual maintenance program, a mitigation account shall be established to provide sufficient funds to implement

all biological mitigation associated with the proposed maintenance activities. The fund amount shall be determined by the ADD Environmental Designee. The account shall be managed by the City's SWD, with quarterly status reports submitted to DSD. The status reports shall separately identify upland and wetland account activity. Based upon the impacts identified in the IBAs, money shall be deposited into the account, as part of the project submittal, to ensure available funds for mitigation.

Mitigation Measure 4.3.5: Prior to commencing any activity that could impact wetlands, evidence of compliance with other permitting authorities is required, if applicable. Evidence shall include copies of permits issued, letters of resolution issued by the Responsible Agency documenting compliance, or other evidence documenting compliance and deemed acceptable by the ADD Environmental Designee.

Mitigation Measure 4.3.6: Prior to commencing any activity where the IBA indicates significant impacts to biological resources may occur, a pre-maintenance meeting shall be held on site with the following in attendance: City's SWD Maintenance Manager (MM), MMC, and Maintenance Contractor (MC). The biologist selected to monitor the activities shall be present. At this meeting, the monitoring biologist shall identify and discuss the maintenance protocols that apply to the maintenance activities. At the pre-maintenance meeting, the monitoring biologist shall submit to the MMC and MC a copy of the maintenance plan (reduced to 11"x17") that identifies areas to be protected, fenced, and monitored. This data shall include all planned locations and design of noise attenuation walls or other devices. The monitoring biologist also shall submit a maintenance schedule to the MMC and MC indicating when and where monitoring is to begin and shall notify the MMC of the start date for monitoring.

Mitigation Measure 4.3.7: Within three months following the completion of mitigation monitoring, two copies of a written draft report summarizing the monitoring shall be prepared by the monitoring biologist and submitted to the MMC for approval. The draft monitoring report shall describe the results including any remedial measures that were required. Within 90 days of receiving comments from the MMC on the draft monitoring report, the biologist shall submit one copy of the final monitoring report to the MMC.

Mitigation Measure 4.3.8: Within six months of the end of an annual storm water facility maintenance program, the monitoring biologist shall complete an annual report which shall be distributed to the following agencies: the City of San Diego DSD, CDFG, RWQCB, USFWS, and Corps. At a minimum, the report shall contain the following information:

- Tabular summary of the biological resources impacted during maintenance and the mitigation;
- Master table containing the following information for each individual storm water facility or segment which is regularly maintained;
- Date and type of most recent maintenance;
- Description of mitigation which has occurred; and
- Description of the status of mitigation which has been implemented for past maintenance activities.

Mitigation Measure 4.3.9: Wetland impacts resulting from maintenance shall be mitigated in one of the following two ways: (1) habitat creation, restoration, and/or enhancement, or (2) mitigation credits. The amount of mitigation shall be in accordance with ratios in Table 4.3-10 unless different mitigation ratios are required by state or federal agencies with jurisdiction over the impacted wetlands. In this event, the mitigation ratios required by these agencies will supersede, and not be in addition to, the ratios defined in Table 4.3-10. No maintenance shall commence until the ADD Environmental Designee has determined

that mitigation proposed for a specific maintenance activity meets one of these two options.

Table 4.3-10 WETLAND MITIGATION RATIOS	
WETLAND TYPE	MITIGATION RATIO
Southern riparian forest	3:1
Southern sycamore riparian forest	3:1
Riparian woodland	3:1
Coastal saltmarsh	4:1
Coastal brackish marsh	4:1
Southern willow scrub	2:1
Mule fat scrub	2:1
Riparian scrub ¹	2:1
Freshwater marsh ²	2:1
Cismontane alkali marsh	4:1
Disturbed wetland	2:1
Streambed/natural flood channel	2:1

¹ Mitigation ratio within the Coastal Zone will be 3:1

² Mitigation ratio within the Coastal Zone will be 4:1

Mitigation locations for wetland impacts shall be selected using the following order of preference, based on the best mitigation value to be achieved.

1. Within impacted watershed, within City limits.
2. Within impacted watershed, outside City limits on City-owned or other publicly-owned land.
3. Outside impacted watershed, within City limits.
4. Outside impacted watershed, outside City limits on City-owned or other publically-owned land.

In order to mitigate for impacts in an area outside the limits of the watershed within which the impacts occur, the SWD must demonstrate to the satisfaction of the ADD Environmental Designee in consultation with the Resource Agencies that no suitable location exists within the impacted watershed.

Mitigation Measure 4.3.10: Whenever maintenance will impact wetland vegetation, a wetland mitigation plan shall be prepared in accordance with the Conceptual Wetland Restoration Plan contained in Appendix H of the Biological Technical Report, included as Appendix D.3 of the PEIR.

Mitigation which involves habitat enhancement, restoration or creation shall include a wetland mitigation plan containing the following information:

- Conceptual planting plan including planting zones, grading, and irrigation;
- Seed mix/planting palette;
- Planting specifications;
- Monitoring program including success criteria; and
- Long-term maintenance and preservation plan.

Mitigation which involves the use of mitigation credits shall include the following:

- Location of the mitigation bank;

- Description of the credits to be acquired including support for the conclusion that the acquired habitat mitigates for the specific maintenance impact; and
- Documentation that the credits are associated with a mitigation bank which has been approved by the appropriate Resource Agencies.

(Mitigation Measure 4.3.11 not applicable)

(Mitigation Measure 4.3.12 not applicable)

Mitigation Measure 4.3.13: Prior to commencing any maintenance activity which may impact sensitive biological resources, the monitoring biologist shall verify that the following actions have been taken, as appropriate:

- Fencing, flagging, signage, or other means to protect sensitive resources to remain after maintenance have been implemented;
- Noise attenuation measures needed to protect sensitive wildlife are in place and effective; and/or
- Nesting raptors have been identified and necessary maintenance setbacks have been established if maintenance is to occur between January 15 and August 31.

The designated biological monitor shall be present throughout the first full day of maintenance, whenever mandated by the associated IBA. Thereafter, through the duration of the maintenance activity, the monitoring biologist shall visit the site weekly to confirm that measures required to protect sensitive resources (e.g., flagging, fencing, noise barriers) continue to be effective. The monitoring biologist shall document monitoring events via a Consultant Site Visit Record. This record shall be sent to the MM each month. The MM will forward copies to MMC.

Mitigation Measure 4.3.14: Whenever off-site mitigation would result in a physical disturbance to the proposed mitigation area, the City will conduct an environmental review of the proposed mitigation plan in accordance with CEQA. If the off-site mitigation would have a significant impact on biological resources associated with the mitigation site, mitigation measures will be identified and implemented in accordance with the MMRP resulting from that CEQA analysis.

Mitigation Measure 4.3.15: Impacts to listed or endemic sensitive plant species shall be offset through implementation of one or a combination of the following actions:

- Impacted plants would be salvaged and relocated;
- Seeds from impacted plants would be collected for use at an off-site location;
- Off-site habitat that supports the species impacted shall be enhanced and/or supplemented with seed collected on site; and/or
- Comparable habitat at an off-site location shall be preserved.

Mitigation which involves relocation, enhancement or transplanting sensitive plants shall include the following:

- Conceptual planting plan including grading and, if appropriate, temporary irrigation;
- Planting specifications;
- Monitoring Program including success criteria; and
- Long-term maintenance and preservation plan.

Maintenance Measure 4.3.16: Maintenance activities shall not occur within the following areas:

- 300 feet from any nesting site of Cooper's hawk (*Accipiter cooperii*);
- 1,500 feet from known locations of the southern pond turtle (*Clemmys marmorata pallida*);
- 900 feet from any nesting sites of northern harriers (*Circus cyaneus*);
- 4,000 feet from any nesting sites of golden eagles (*Aquila chrysaetos*); or
- 300 feet from any occupied burrow or burrowing owls (*Athene cunicularia*).

(Mitigation Measure 4.3.17 not applicable)

Mitigation Measure 4.3.18: If a subject species is not detected during the protocol survey, the qualified biologist shall submit substantial evidence to the ADD Environmental Designee and an applicable resource agency which demonstrates whether or not mitigation measures such as noise walls are necessary between the dates stated for each species. If this evidence concludes that no impacts to this species are anticipated, no mitigation measures would be necessary.

Mitigation Measure 4.3.19: If the SWD chooses not to do the required surveys, then it shall be assumed that the appropriate avian species are present and all necessary protection and mitigation measures shall be required as described in Mitigation Measure 4.3.21.

Mitigation Measure 4.3.20: If no surveys are completed and no sound attenuation devices are installed, it will be assumed that the habitat in question is occupied by the appropriate species and that maintenance activities would generate more than 60dB(A) L_{eq} within the habitat requiring protection. All such activities adjacent to protected habitat shall cease for the duration of the breeding season of the appropriate species and a qualified biologist shall establish a limit of work.

Mitigation Measure 4.3.21: If maintenance occurs during the raptor breeding season (January 15 to August 31), a pre-maintenance survey for active raptor nests shall be conducted in areas supporting suitable habitat. If active raptor nests are found, maintenance shall not occur within 300 feet of a Cooper's hawk nest, 900 feet of a northern harrier's nest, or 500 feet of any other raptor's nest until any fledglings have left the nest.

Mitigation Measure 4.3.22: If removal of any eucalyptus trees or other trees used by raptors for nesting within a maintenance area is proposed during the raptor breeding season (January 15 through August 31), a qualified biologist shall ensure that no raptors are nesting in such trees. If maintenance occurs during the raptor breeding season, a pre-maintenance survey shall be conducted and no maintenance shall occur within 300 feet of any nesting site of Cooper's hawk or other nesting raptor until the young fledge. Should the biologist determine that raptors are nesting, the trees shall not be removed until after the breeding season. In addition, if removal of grassland or other habitat appropriate for nesting by northern harriers, a qualified biologist shall ensure that no harriers are nesting in such areas. If maintenance occurs during the raptor breeding season, a pre-maintenance survey shall be conducted and no maintenance shall occur within 900 feet of any nesting site of northern harrier until the young fledge.

(Mitigation Measure 4.3.23 not applicable)

Mitigation Measure 4.2.24: If maintenance activities will occur within areas supporting listed and/or

narrow endemic plants, the boundaries of the plant populations designated sensitive by the resource agencies will be clearly delineated with flagging or temporary fencing that must remain in place for the duration of the activity.

Mitigation Measure 4.2.25: In order to avoid impacts to nesting avian species, including those species not covered by the MSCP, maintenance within or adjacent to avian nesting habitat shall occur outside of the avian breeding season (January 15 to August 31) unless postponing maintenance would result in a threat to human life or property.

LAND USE

Mitigation Measure 4.1.1: Prior to commencing maintenance on any storm water facility within, or immediately adjacent to, a Multi-Habitat Planning Area (MHPA), the ADD Environmental Designee shall verify that all MHPA boundaries and limits of work have been delineated on all maintenance documents.

(Mitigation Measure 4.1.2: A qualified biologist (possessing a valid Endangered Species Act Section 10(a)(1)(a) recovery permit) shall survey those habitat areas inside and outside the MHPA suspected to serve as habitat (based on historical records of site conditions) for the coastal California gnatcatcher, least Bell's vireo and/or other listed species. Surveys for the appropriate species shall be conducted pursuant to the protocol survey guidelines established by the U.S. Fish and Wildlife Service. When other sensitive species, including, but not limited to, the arroyo toad, burrowing owl, or Quino checkerspot butterfly are known or suspected to be present all appropriate protocol surveys and mitigation measures identified in Subchapter 4.3, Biological Resources, required shall be implemented.

Mitigation Measure 4.1.3: If a listed species is located within 500 feet of a proposed maintenance activity and maintenance would occur during the associated breeding season, an analysis of the noise generated by maintenance activity shall be completed by a qualified acoustician (possessing current noise engineer license or registration with monitoring noise level experience with listed animal species) and approved by the ADD Environmental Designee. The analysis shall identify the location of the 60dB(A) L_{eq} noise contour on the maintenance plan. The report shall also identify measures to be undertaken during maintenance to reduce noise levels.

Mitigation Measure 4.1.4: Based on the location of the 60 dB(A) L_{eq} noise contour and the results of the protocol surveys, the Project Biologist shall determine if maintenance has the potential to impact breeding activities of listed species. If one or more of the following species are determined to be significantly impacted by maintenance, then maintenance (inside and outside the MHPA) shall avoid the following breeding seasons unless it is determined that maintenance is needed to protect life or property.

- Coastal California gnatcatcher (between March 1 and August 15 inside the MHPA only; no restrictions outside MHPA);
- Least Bell's vireo (between March 15 and September 15); and
- Southwestern willow flycatcher (between May 1 and September 1).

Mitigation Measure 4.1.5: If maintenance is required during the breeding season for a listed bird to protect life or property, then the following conditions must be met:

- At least two weeks prior to the commencement of maintenance activities, under the direction of a

qualified acoustician, noise attenuation measures (e.g., berms, walls) shall be implemented to ensure that noise levels resulting from maintenance activities shall not exceed 60 dB(A) hourly average at the edge of occupied habitat. Concurrent with the commencement of maintenance activities and the maintenance of necessary noise attenuation facilities, noise monitoring shall be conducted at the edge of the occupied habitat area to ensure that noise levels do not exceed 60 dB(A) hourly average. If the noise attenuation techniques implemented are determined to be inadequate by the qualified acoustician or biologist, then the associated maintenance activities shall cease until such time that adequate noise attenuation is achieved or until the end of the breeding season of the subject species, as noted above.

- Maintenance noise shall continue to be monitored at least twice weekly on varying days, or more frequently depending on the maintenance activity, to verify that noise levels at the edge of occupied habitat are maintained below 60 dB(A) hourly average. If not, other measures shall be implemented in consultation with the biologist and the ADD, as necessary, to reduce noise levels to below 60 dB(A) hourly average or to the ambient noise level if it already exceeds 60 dB(A) hourly average. Such measures may include, but are not limited to, limitations on the placement of maintenance equipment and the simultaneous use of equipment.
- Prior to the commencement of maintenance activities that would disturb sensitive resources during the breeding season, the biologist shall ensure that all fencing, staking and flagging identified as necessary on the ground have been installed properly in the areas restricted from such activities.
- If noise attenuation walls or other devices are required to assure protection to identified wildlife, then the biologist shall make sure such devices have been properly constructed, located, and installed.

Mitigation Measure 4.1.6: A pre-maintenance meeting shall be held with the Maintenance Contractor, City representative and the Project Biologist. The Project Biologist shall discuss the sensitive nature of the adjacent habitat with the crew and subcontractor. Prior to the pre-maintenance meeting, the following shall be completed:

- The Storm Water Division (SWD) shall provide a letter of verification to the Mitigation Monitoring Coordination Section stating that a qualified biologist, as defined in the City of San Diego Biological Resources Guidelines, has been retained to implement the projects MSCP monitoring Program. The letter shall include the names and contact information of all persons involved in the Biological Monitoring of the project. At least thirty days prior to the pre-maintenance meeting, the qualified biologist shall submit all required documentation to MMC, verifying that any special reports, maps, plans and time lines, such as but not limited to, revegetation plans, plant relocation requirements and timing, MSCP requirements, avian or other wildlife protocol surveys, impact avoidance areas or other such information has been completed and updated.
- The limits of work shall be clearly delineated. The limits of work, as shown on the approved maintenance plan, shall be defined with orange maintenance fencing and checked by the biological monitor before initiation of maintenance. All native plants or species of special concern, as identified in the biological assessment, shall be staked, flagged and avoided within Brush Management Zone 2, if applicable.

Mitigation Measure 4.1.7: Maintenance plans shall be designed to accomplish the following.

- Invasive non-native plant species shall not be introduced into areas adjacent to the MHPA.

Landscape plans shall contain non-invasive native species adjacent to sensitive biological areas, as shown on the approved maintenance plan.

- All lighting adjacent to, or within, the MHPA shall be shielded, unidirectional, low pressure sodium illumination (or similar) and directed away from sensitive areas using appropriate placement and shields. If lighting is required for nighttime maintenance, it shall be directed away from the preserve and the tops of adjacent trees with potentially nesting raptors, using appropriate placement and shielding.
- All maintenance activities (including staging areas and/or storage areas) shall be restricted to the disturbance areas shown on the approved maintenance plan. The project biologist shall monitor maintenance activities, as needed, to ensure that maintenance activities do not encroach into biologically sensitive areas beyond the limits of work as shown on the approved maintenance plan.
- No trash, oil, parking or other maintenance-related activities shall be allowed outside the established maintenance areas including staging areas and/or storage areas, as shown on the approved maintenance plan. All maintenance related debris shall be removed off-site to an approved disposal facility.
- Access roads through MHPA-designated areas shall comply with the applicable policies contained in the “Roads and Utilities Construction and Maintenance Policies” identified in Section 1.4.2 of the City’s Subarea Plan.

Mitigation Measure 4.1.8: Prior to commencing any maintenance in, or within 500 feet of any area determined to support coastal California gnatcatchers, the ADD Environmental Designee shall verify that the MHPA boundaries and the following project requirements regarding the coastal California gnatcatcher are shown on the maintenance plans:

NO MAINTENANCE ACTIVITIES SHALL OCCUR BETWEEN MARCH 1 AND AUGUST 15, THE BREEDING SEASON OF THE COASTAL CALIFORNIA GNATCATCHER, UNTIL THE FOLLOWING REQUIREMENTS HAVE BEEN MET TO THE SATISFACTION OF THE ADD ENVIRONMENTAL DESIGNEE:

- a. A QUALIFIED BIOLOGIST (POSSESSING A VALID ENDANGERED SPECIES ACT SECTION 10(a)(1)(A) RECOVERY PERMIT) SHALL SURVEY THOSE HABITAT AREAS WITHIN THE MHPA THAT WOULD BE SUBJECT TO MAINTENANCE NOISE LEVELS EXCEEDING 60 DECIBELS [dB(A)] HOURLY AVERAGE FOR THE PRESENCE OF THE COASTAL CALIFORNIA GNATCATCHER. SURVEYS FOR THE COASTAL CALIFORNIA GNATCATCHER SHALL BE CONDUCTED PURSUANT TO THE PROTOCOL SURVEY GUIDELINES ESTABLISHED BY THE U.S. FISH AND WILDLIFE SERVICE WITHIN THE BREEDING SEASON PRIOR TO THE COMMENCEMENT OF ANY MAINTENANCE. IF GNATCATCHERS ARE PRESENT, THEN THE FOLLOWING CONDITIONS MUST BE MET:
 1. BETWEEN MARCH 1 AND AUGUST 15, MAINTENANCE OF OCCUPIED GNATCATCHER HABITAT SHALL BE PERMITTED. AREAS RESTRICTED FROM SUCH ACTIVITIES SHALL BE STAKED OR FENCED UNDER THE SUPERVISION OF A QUALIFIED BIOLOGIST; AND
 2. BETWEEN MARCH 1 AND AUGUST 15, NO MAINTENANCE ACTIVITIES SHALL OCCUR WITHIN ANY PORTION OF THE SITE WHERE MAINTENANCE ACTIVITIES WOULD RESULT IN NOISE LEVELS EXCEEDING 60 dB(A)

HOURLY AVERAGE AT THE EDGE OF OCCUPIED GNATCATCHER HABITAT. AN ANALYSIS SHOWING THAT NOISE GENERATED BY MAINTENANCE ACTIVITIES WOULD NOT EXCEED 60 dB(A) HOURLY AVERAGE AT THE EDGE OF OCCUPIED HABITAT MUST BE COMPLETED BY A QUALIFIED ACOUSTICIAN (POSSESSING CURRENT NOISE ENGINEER LICENSE OR REGISTRATION WITH MONITORING NOISE LEVEL EXPERIENCE WITH LISTED ANIMAL SPECIES) AND APPROVED BY THE CITY MANAGER AT LEAST TWO WEEKS PRIOR TO THE COMMENCEMENT OF MAINTENANCE ACTIVITIES. PRIOR TO THE COMMENCEMENT OF MAINTENANCE ACTIVITIES DURING THE BREEDING SEASON, AREAS RESTRICTED FROM SUCH ACTIVITIES SHALL BE STAKED OR FENCED UNDER THE SUPERVISION OF A QUALIFIED BIOLOGIST; OR

3. AT LEAST TWO WEEKS PRIOR TO THE COMMENCEMENT OF MAINTENANCE ACTIVITIES, UNDER THE DIRECTION OF A QUALIFIED ACOUSTICIAN, NOISE ATTENUATION MEASURES (e.g., BERMS, WALLS) SHALL BE IMPLEMENTED TO ENSURE THAT NOISE LEVELS RESULTING FROM MAINTENANCE ACTIVITIES WILL NOT EXCEED 60 dB(A) HOURLY AVERAGE AT THE EDGE OF HABITAT OCCUPIED BY THE COASTAL CALIFORNIA GNATCATCHER. CONCURRENT WITH THE COMMENCEMENT OF MAINTENANCE ACTIVITIES AND THE MAINTENANCE OF NECESSARY NOISE ATTENUATION FACILITIES, NOISE MONITORING* SHALL BE CONDUCTED AT THE EDGE OF THE OCCUPIED HABITAT AREA TO ENSURE THAT NOISE LEVELS DO NOT EXCEED 60 dB(A) HOURLY AVERAGE. IF THE NOISE ATTENUATION TECHNIQUES IMPLEMENTED ARE DETERMINED TO BE INADEQUATE BY THE QUALIFIED ACOUSTICIAN OR BIOLOGIST, THEN THE ASSOCIATED MAINTENANCE ACTIVITIES SHALL CEASE UNTIL SUCH TIME THAT ADEQUATE NOISE ATTENUATION IS ACHIEVED OR UNTIL THE END OF THE BREEDING SEASON (AUGUST 16).

* Maintenance noise shall continue to be monitored at least twice weekly on varying days, or more frequently depending on the maintenance activity, to verify that noise levels at the edge of occupied habitat are maintained below 60 dB(A) hourly average or to the ambient noise level if it already exceeds 60 dB(A) hourly average. If not, other measures shall be implemented in consultation with the biologist and the ADD environmental designee, as necessary, to reduce noise levels to below 60 dB(A) hourly average or to the ambient noise level if it already exceeds 60 dB(A) hourly average. Such measures may include, but are not limited to, limitations on the placement of maintenance equipment and the simultaneous use of equipment.

- b. IF COASTAL CALIFORNIA GNATCATCHERS ARE NOT DETECTED DURING THE PROTOCOL SURVEY, THE QUALIFIED BIOLOGIST SHALL SUBMIT SUBSTANTIAL EVIDENCE TO THE CITY MANAGER AND APPLICABLE RESOURCE AGENCIES WHICH DEMONSTRATES WHETHER OR NOT MITIGATION MEASURES SUCH AS NOISE WALLS ARE NECESSARY BETWEEN MARCH 1 AND AUGUST 15 AS FOLLOWS:
 1. IF THIS EVIDENCE INDICATES THE POTENTIAL IS HIGH FOR COASTAL

CALIFORNIA GNATCATCHER TO BE PRESENT BASED ON HISTORICAL RECORDS OR SITE CONDITIONS, THEN CONDITION A.III SHALL BE ADHERED TO AS SPECIFIED ABOVE.

2. IF THIS EVIDENCE CONCLUDES THAT NO IMPACTS TO THIS SPECIES ARE ANTICIPATED, NO MITIGATION MEASURES WOULD BE NECESSARY.



Selected Elements by Scientific Name
California Department of Fish and Wildlife
California Natural Diversity Database



Query Criteria: Quad is (Imperial Beach (3211751) or Otay Mesa (3211658) or Jamul Mountains (3211668) or National City (3211761) or Point Loma (3211762))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Acanthomintha ilicifolia</i> San Diego thorn-mint	PDLAM01010	Threatened	Endangered	G1	S1	1B.1
<i>Accipiter cooperii</i> Cooper's hawk	ABNKC12040	None	None	G5	S4	WL
<i>Acmispon prostratus</i> Nuttall's acmispon	PDFAB2A0V0	None	None	G1	S1	1B.1
<i>Adolphia californica</i> California adolphia	PDRHA01010	None	None	G3	S2	2B.1
<i>Agave shawii</i> var. <i>shawii</i> Shaw's agave	PMAGA010P1	None	None	G2G3T2T3	S1	2B.1
<i>Agelaius tricolor</i> tricolored blackbird	ABPBXB0020	None	Endangered	G2G3	S1S2	SSC
<i>Aimophila ruficeps canescens</i> southern California rufous-crowned sparrow	ABPBX91091	None	None	G5T3	S2S3	WL
<i>Ambrosia chenopodiifolia</i> San Diego bur-sage	PDAST0C080	None	None	G2G3	S1	2B.1
<i>Ambrosia monogyra</i> singlewhorl burrobrush	PDAST50010	None	None	G5	S2	2B.2
<i>Ambrosia pumila</i> San Diego ambrosia	PDAST0C0M0	Endangered	None	G1	S1	1B.1
<i>Anaxyrus californicus</i> arroyo toad	AAABB01230	Endangered	None	G2G3	S2S3	SSC
<i>Anniella pulchra pulchra</i> silvery legless lizard	ARACC01012	None	None	G3G4T3T4Q	S3	SSC
<i>Antrozous pallidus</i> pallid bat	AMACC10010	None	None	G5	S3	SSC
<i>Aphanisma blitoides</i> aphanisma	PDCHE02010	None	None	G3G4	S3	1B.2
<i>Arctostaphylos otayensis</i> Otay manzanita	PDERI040Y0	None	None	G2	S2	1B.2
<i>Artemisia palmeri</i> San Diego sagewort	PDAST0S160	None	None	G3G4	S3?	4.2
<i>Artemisiospiza belli belli</i> Bell's sage sparrow	ABPBX97021	None	None	G5T2T4	S2?	WL
<i>Aspidoscelis hyperythra</i> orangethroat whiptail	ARACJ02060	None	None	G5	S2	SSC
<i>Aspidoscelis tigris stejnegeri</i> coastal whiptail	ARACJ02143	None	None	G5T3T4	S2S3	



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<i>Astragalus deanei</i> Dean's milk-vetch	PDFAB0F2R0	None	None	G1	S1	1B.1
<i>Astragalus tener var. titi</i> coastal dunes milk-vetch	PDFAB0F8R2	Endangered	Endangered	G2T1	S1	1B.1
<i>Athene cunicularia</i> burrowing owl	ABNSB10010	None	None	G4	S3	SSC
<i>Atriplex coulteri</i> Coulter's saltbush	PDCHE040E0	None	None	G2	S2	1B.2
<i>Atriplex pacifica</i> south coast saltscale	PDCHE041C0	None	None	G3G4	S2	1B.2
<i>Bergerocactus emoryi</i> golden-spined cereus	PDCAC11010	None	None	G2	S2	2B.2
<i>Bloomeria clevelandii</i> San Diego goldenstar	PMLIL1H010	None	None	G2	S2	1B.1
<i>Branchinecta sandiegonensis</i> San Diego fairy shrimp	ICBRA03060	Endangered	None	G2	S2	
<i>Brodiaea orcuttii</i> Orcutt's brodiaea	PMLIL0C0B0	None	None	G2	S2	1B.1
<i>Buteo swainsoni</i> Swainson's hawk	ABNKC19070	None	Threatened	G5	S3	
<i>California macrophylla</i> round-leaved filaree	PDGER01070	None	None	G2	S2	1B.1
<i>Callophrys thornei</i> Thorne's hairstreak	IILEPE2150	None	None	G1	S1	
<i>Calochortus dunnii</i> Dunn's mariposa-lily	PMLIL0D0C0	None	Rare	G2?	S2?	1B.2
<i>Campylorhynchus brunneicapillus sandiegonensis</i> coastal cactus wren	ABPBG02095	None	None	G5T3Q	S3	SSC
<i>Ceanothus cyaneus</i> Lakeside ceanothus	PDRHA04070	None	None	G2	S2	1B.2
<i>Ceanothus otayensis</i> Otay Mountain ceanothus	PDRHA04430	None	None	G1	S1	1B.2
<i>Ceanothus verrucosus</i> wart-stemmed ceanothus	PDRHA041J0	None	None	G3	S2	2B.2
<i>Chaenactis glabriuscula var. orcuttiana</i> Orcutt's pincushion	PDAST20095	None	None	G5T1	S1	1B.1
<i>Chaetodipus fallax fallax</i> northwestern San Diego pocket mouse	AMAFD05031	None	None	G5T3T4	S3S4	SSC
<i>Charadrius alexandrinus nivosus</i> western snowy plover	ABNNB03031	Threatened	None	G3T3	S2	SSC
<i>Charina trivirgata</i> rosy boa	ARADA01020	None	None	G4G5	S3S4	



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<i>Chelonia mydas</i> green turtle	ARAAA02010	Threatened	None	G3	S1	
<i>Chloropyron maritimum ssp. maritimum</i> salt marsh bird's-beak	PDSCR0J0C2	Endangered	Endangered	G4?T1	S1	1B.2
<i>Choeronycteris mexicana</i> Mexican long-tongued bat	AMACB02010	None	None	G4	S1	SSC
<i>Chorizanthe orcuttiana</i> Orcutt's spineflower	PDPGN040G0	Endangered	Endangered	G1	S1	1B.1
<i>Chorizanthe polygonoides var. longispina</i> long-spined spineflower	PDPGN040K1	None	None	G5T3	S3	1B.2
<i>Cicindela gabbii</i> western tidal-flat tiger beetle	IICOL02080	None	None	G2G4	S1	
<i>Cicindela hirticollis grvida</i> sandy beach tiger beetle	IICOL02101	None	None	G5T2	S1	
<i>Cicindela latesignata latesignata</i> western beach tiger beetle	IICOL02113	None	None	G2G4T1T2	S1	
<i>Cicindela senilis frosti</i> senile tiger beetle	IICOL02121	None	None	G2G3T1T3	S1	
<i>Circus cyaneus</i> northern harrier	ABNKC11010	None	None	G5	S3	SSC
<i>Clarkia delicata</i> delicate clarkia	PDONA050D0	None	None	G3	S3	1B.2
<i>Clinopodium chandleri</i> San Miguel savory	PDLAM08030	None	None	G2	S2	1B.2
<i>Coccyzus americanus occidentalis</i> western yellow-billed cuckoo	ABNRB02022	Threatened	Endangered	G5T3Q	S1	
<i>Coelus globosus</i> globose dune beetle	IICOL4A010	None	None	G1G2	S1S2	
<i>Comarostaphylis diversifolia ssp. diversifolia</i> summer holly	PDERI0B011	None	None	G3T2	S2	1B.2
<i>Corethrogyne filaginifolia var. incana</i> San Diego sand aster	PDAST2M025	None	None	G4T1Q	S1	1B.1
<i>Corynorhinus townsendii</i> Townsend's big-eared bat	AMACC08010	None	Candidate Threatened	G3G4	S2	SSC
<i>Crotalus ruber</i> red-diamond rattlesnake	ARADE02090	None	None	G4	S2?	SSC
<i>Cylindropuntia californica var. californica</i> snake cholla	PDCAC0D2Y1	None	None	G3T2	S1	1B.1
<i>Danaus plexippus</i> monarch butterfly	IILEPP2010	None	None	G5	S3	
<i>Deinandra conjugens</i> Otay tarplant	PDAST4R070	Threatened	Endangered	G1	S1	1B.1



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<i>Diadophis punctatus similis</i> San Diego ringneck snake	ARADB1001A	None	None	G5T2T3	S2?	
<i>Dicranostegia orcuttiana</i> Orcutt's bird's-beak	PDSCR0J0G0	None	None	G2?	S1	2B.1
<i>Dudleya attenuata ssp. attenuata</i> Orcutt's dudleya	PDCRA04032	None	None	G4T2	S1	2B.1
<i>Dudleya blochmaniae ssp. blochmaniae</i> Blochman's dudleya	PDCRA04051	None	None	G2T2	S2	1B.1
<i>Dudleya variegata</i> variegated dudleya	PDCRA040R0	None	None	G2	S2	1B.2
<i>Dudleya viscida</i> sticky dudleya	PDCRA040T0	None	None	G2	S2	1B.2
<i>Empidonax traillii extimus</i> southwestern willow flycatcher	ABPAE33043	Endangered	Endangered	G5T2	S1	
<i>Eremophila alpestris actia</i> California horned lark	ABPAT02011	None	None	G5T3Q	S3	WL
<i>Ericameria palmeri var. palmeri</i> Palmer's goldenbush	PDAST3L0C1	None	None	G4T2?	S1	1B.1
<i>Eryngium aristulatum var. parishii</i> San Diego button-celery	PDAP10Z042	Endangered	Endangered	G5T1	S1	1B.1
<i>Eumops perotis californicus</i> western mastiff bat	AMACD02011	None	None	G5T4	S3S4	SSC
<i>Euphorbia misera</i> cliff spurge	PDEUP0Q1B0	None	None	G5	S2	2B.2
<i>Euphydryas editha quino</i> quino checkerspot butterfly	IILEPK405L	Endangered	None	G5T1T2	S1	
<i>Falco peregrinus anatum</i> American peregrine falcon	ABNKD06071	Delisted	Delisted	G4T4	S3S4	FP
<i>Ferocactus viridescens</i> San Diego barrel cactus	PDCAC08060	None	None	G3	S3	2B.1
<i>Frankenia palmeri</i> Palmer's frankenia	PDFRA01040	None	None	G3G4	S1	2B.1
<i>Fremontodendron mexicanum</i> Mexican flannelbush	PDSTE03020	Endangered	Rare	G1	S1	1B.1
<i>Galium proliferum</i> desert bedstraw	PDRUB0N1V0	None	None	G5	S2	2B.2
<i>Geothallus tuberosus</i> Campbell's liverwort	NBHEP1C010	None	None	G1	S1	1B.1
<i>Grindelia hallii</i> San Diego gumplant	PDAST470D4	None	None	G2	S2	1B.2
<i>Harpagonella palmeri</i> Palmer's grapplinghook	PDBOR0H010	None	None	G4	S3	4.2



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<i>Hesperocyparis forbesii</i> Tecate cypress	PGCUP040C0	None	None	G2	S2	1B.1
<i>Heterotheca sessiliflora</i> ssp. <i>sessiliflora</i> beach goldenaster	PDAST4V0K2	None	None	G4T2T3	S1	1B.1
<i>Icteria virens</i> yellow-breasted chat	ABPBX24010	None	None	G5	S3	SSC
<i>Isocoma menziesii</i> var. <i>decumbens</i> decumbent goldenbush	PDAST57091	None	None	G3G5T2T3	S2	1B.2
<i>Iva hayesiana</i> San Diego marsh-elder	PDAST580A0	None	None	G3?	S2	2B.2
<i>Lasionycteris noctivagans</i> silver-haired bat	AMACC02010	None	None	G5	S3S4	
<i>Lasiurus blossevillii</i> western red bat	AMACC05060	None	None	G5	S3	SSC
<i>Lasiurus cinereus</i> hoary bat	AMACC05030	None	None	G5	S4	
<i>Lasiurus xanthinus</i> western yellow bat	AMACC05070	None	None	G5	S3	SSC
<i>Lasthenia glabrata</i> ssp. <i>coulteri</i> Coulter's goldfields	PDAST5L0A1	None	None	G4T2	S2	1B.1
<i>Laterallus jamaicensis coturniculus</i> California black rail	ABNME03041	None	Threatened	G3G4T1	S1	FP
<i>Lepechinia ganderi</i> Gander's pitcher sage	PDLAM0V040	None	None	G3?	S3	1B.3
<i>Lepidium virginicum</i> var. <i>robinsonii</i> Robinson's pepper-grass	PDBRA1M114	None	None	G5T3	S3	4.3
<i>Leptosyne maritima</i> sea dahlia	PDAST2L0L0	None	None	G3	S1	2B.2
<i>Lepus californicus bennettii</i> San Diego black-tailed jackrabbit	AMAEB03051	None	None	G5T3T4	S3S4	SSC
<i>Lycaena hermes</i> Hermes copper butterfly	IILEPC1160	Candidate	None	G1	S1	
<i>Maritime Succulent Scrub</i> Maritime Succulent Scrub	CTT32400CA	None	None	G2	S1.1	
<i>Melitta californica</i> California mellitid bee	IIHYM74010	None	None	G4?	S2?	
<i>Mobergia calculiformis</i> light gray lichen	NLT0018660	None	None	G1	S1	3
<i>Monardella hypoleuca</i> ssp. <i>lanata</i> felt-leaved monardella	PDLAM180A2	None	None	G4T3	S3	1B.2
<i>Monardella stoneana</i> Jennifer's monardella	PDLAM180Y0	None	None	G2	S1	1B.2



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<i>Monardella viminea</i> willow monardella	PDLAM18140	Endangered	Endangered	G1	S1	1B.1
<i>Myosurus minimus ssp. apus</i> little mousetail	PDRAN0H031	None	None	G5T2Q	S2	3.1
<i>Myotis ciliolabrum</i> western small-footed myotis	AMACC01140	None	None	G5	S3	
<i>Myotis evotis</i> long-eared myotis	AMACC01070	None	None	G5	S3	
<i>Myotis yumanensis</i> Yuma myotis	AMACC01020	None	None	G5	S4	
<i>Nama stenocarpum</i> mud nama	PDHYD0A0H0	None	None	G4G5	S1S2	2B.2
<i>Navarretia fossalis</i> spreading navarretia	PDPLM0C080	Threatened	None	G1	S1	1B.1
<i>Navarretia prostrata</i> prostrate vernal pool navarretia	PDPLM0C0Q0	None	None	G2	S2	1B.1
<i>Nemacaulis denudata var. denudata</i> coast woolly-heads	PDPGN0G011	None	None	G3G4T2	S2	1B.2
<i>Nemacaulis denudata var. gracilis</i> slender cottonheads	PDPGN0G012	None	None	G3G4T3?	S2	2B.2
<i>Neotoma lepida intermedia</i> San Diego desert woodrat	AMAFF08041	None	None	G5T3T4	S3S4	SSC
<i>Nyctinomops femorosaccus</i> pocketed free-tailed bat	AMACD04010	None	None	G4	S3	SSC
<i>Nyctinomops macrotis</i> big free-tailed bat	AMACD04020	None	None	G5	S3	SSC
<i>Orcuttia californica</i> California Orcutt grass	PMPOA4G010	Endangered	Endangered	G1	S1	1B.1
<i>Ornithostaphylos oppositifolia</i> Baja California birdbush	PDERI0W010	None	Endangered	G4	S1	2B.1
<i>Orobanche parishii ssp. brachyloba</i> short-lobed broomrape	PDORO040A2	None	None	G4?T4	S3	4.2
<i>Pandion haliaetus</i> osprey	ABNKC01010	None	None	G5	S4	WL
<i>Panoquina errans</i> wandering (=saltmarsh) skipper	IILEP84030	None	None	G4G5	S2	
<i>Passerculus sandwichensis beldingi</i> Belding's savannah sparrow	ABPBX99015	None	Endangered	G5T3	S3	
<i>Pelecanus occidentalis californicus</i> California brown pelican	ABNFC01021	Delisted	Delisted	G4T3	S3	FP
<i>Perognathus longimembris pacificus</i> Pacific pocket mouse	AMAFD01042	Endangered	None	G5T1	S1	SSC



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<i>Phacelia stellaris</i> Brand's star phacelia	PDHYD0C510	None	None	G1	S1	1B.1
<i>Phalacrocorax auritus</i> double-crested cormorant	ABNFD01020	None	None	G5	S4	WL
<i>Phrynosoma blainvillii</i> coast horned lizard	ARACF12100	None	None	G3G4	S3S4	SSC
<i>Plestiodon skiltonianus interparietalis</i> Coronado Island skink	ARACH01114	None	None	G5T2T3Q	S1S2	SSC
<i>Pogogyne abramsii</i> San Diego mesa mint	PDLAM1K010	Endangered	Endangered	G1	S1	1B.1
<i>Pogogyne nudiuscula</i> Otay Mesa mint	PDLAM1K040	Endangered	Endangered	G1	S1	1B.1
<i>Polioptila californica californica</i> coastal California gnatcatcher	ABPBJ08081	Threatened	None	G3T2	S2	SSC
<i>Quercus dumosa</i> Nuttall's scrub oak	PDFAG050D0	None	None	G3	S3	1B.1
<i>Rallus longirostris levipes</i> light-footed clapper rail	ABNME05014	Endangered	Endangered	G5T1T2	S1	FP
<i>Ribes viburnifolium</i> Santa Catalina Island currant	PDGRO021P0	None	None	G2?	S2?	1B.2
<i>Rosa minutifolia</i> small-leaved rose	PDR0S1J1B0	None	Endangered	G3	SX	2B.1
<i>Salvadora hexalepis virgultea</i> coast patch-nosed snake	ARADB30033	None	None	G5T4	S2S3	SSC
<i>Salvia munzii</i> Munz's sage	PDLAM1S140	None	None	G3	S2	2B.2
<i>San Diego Mesa Claypan Vernal Pool</i> San Diego Mesa Claypan Vernal Pool	CTT44322CA	None	None	G2	S2.1	
<i>Senecio aphanactis</i> chaparral ragwort	PDAST8H060	None	None	G3?	S2	2B.2
<i>Setophaga petechia</i> yellow warbler	ABPBX03010	None	None	G5	S3S4	SSC
<i>Southern Coastal Salt Marsh</i> Southern Coastal Salt Marsh	CTT52120CA	None	None	G2	S2.1	
<i>Southern Interior Cypress Forest</i> Southern Interior Cypress Forest	CTT83230CA	None	None	G2	S2.1	
<i>Southern Riparian Scrub</i> Southern Riparian Scrub	CTT63300CA	None	None	G3	S3.2	
<i>Southern Willow Scrub</i> Southern Willow Scrub	CTT63320CA	None	None	G3	S2.1	
<i>Spea hammondi</i> western spadefoot	AAABF02020	None	None	G3	S3	SSC



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<i>Sphaerocarpos dreweii</i> bottle liverwort	NBHEP35030	None	None	G1	S1	1B.1
<i>Stemodia durantifolia</i> purple stemodia	PDSCR1U010	None	None	G5	S2	2B.1
<i>Sternula antillarum browni</i> California least tern	ABNNM08103	Endangered	Endangered	G4T2T3Q	S2	FP
<i>Streptanthus bernardinus</i> Laguna Mountains jewelflower	PDBRA2G060	None	None	G3	S3	4.3
<i>Streptocephalus woottoni</i> Riverside fairy shrimp	ICBRA07010	Endangered	None	G1G2	S1S2	
<i>Stylocline citroleum</i> oil neststraw	PDAST8Y070	None	None	G2	S2	1B.1
<i>Suaeda esteroa</i> estuary seablite	PDCHE0P0D0	None	None	G3	S2	1B.2
<i>Taxidea taxus</i> American badger	AMAJF04010	None	None	G5	S3	SSC
<i>Tetracoccus dioicus</i> Parry's tetracoccus	PDEUP1C010	None	None	G3?	S2	1B.2
<i>Thamnophis hammondi</i> two-striped garter snake	ARADB36160	None	None	G4	S3S4	SSC
<i>Tortula californica</i> California screw moss	NBMUS7L090	None	None	G2?	S2	1B.2
<i>Tryonia imitator</i> mimic tryonia (=California brackishwater snail)	IMGASJ7040	None	None	G2	S2	
<i>Vireo bellii pusillus</i> least Bell's vireo	ABPBW01114	Endangered	Endangered	G5T2	S2	

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