# Chapter 6
# BIOLOGICAL RESOURCES (TERRESTRIAL)

## 6.1 Introduction

This chapter describes the existing environmental and regulatory settings for terrestrial biological resources, analyzes the potential impacts on habitat and species that would result from the implementation of the program elements and project elements, and determines the significance of those impacts. Where feasible and if necessary, mitigation measures are provided to reduce or avoid impacts.

Biological resource issues refer to the compatibility of development with biological resources. This includes potential impacts on federally or state-listed threatened or endangered species and their designated critical habitat, and impacts on migratory birds and sensitive natural communities, such as riparian habitat, wetlands, wildlife corridors, and plant communities, regulated by federal, state, or local legislation. This chapter discusses these issues associated with the construction and operation of program and project elements of the Sanitation Districts of Los Angeles County (Sanitation Districts) Clearwater Program.

As discussed in Section 3.6.1, a Preliminary Screening Analysis (Appendix 1-A) was performed to determine impacts associated with the construction and operation of program and project elements by resource area. During preliminary screening, each element was determined to have no impact, a less than significant impact, or a potentially significant impact. Those elements determined to be potentially significant were further analyzed in this environmental impact report/environmental impact statement (EIR/EIS). This EIR/EIS analysis discloses the final impact determination for those elements deemed potentially significant in the Preliminary Screening Analysis. The location of the terrestrial biological resources impact analysis for each program element is summarized by alternative in Table 6-1.

**Table 6-1. Impact Analysis Location of Program Elements by Alternative**

| | Alternative | | | | | | Analysis Location | |
|---|---|---|---|---|---|---|---|---|
| **Program Element** | **1** | **2** | **3** | **4** | **5[a]** | **6[b]** | **PSA** | **EIR/EIS** |
| **Conveyance System** | | | | | | | | |
| Conveyance Improvements | X | X | X | X | X | N/A | C,O | C |
| **SJCWRP** | | | | | | | | |
| Plant Expansion | X | X | X | X | X | N/A | C,O | C |
| Process Optimization | X | X | X | X | N/A | N/A | C,O | C |
| WRP Effluent Management | X | X | X | X | X | N/A | O | O |
| **POWRP** | | | | | | | | |
| Process Optimization | X | X | X | X | N/A | N/A | C,O | C |
| WRP Effluent Management | X | X | X | X | X | N/A | O | O |
| **LCWRP** | | | | | | | | |
| Process Optimization | X | X | X | X | N/A | N/A | C,O | - |
| WRP Effluent Management | X | X | X | X | X | N/A | O | - |

**Table 6-1 (Continued)**

| | Alternative | | | | | | Analysis Location | |
|---|---|---|---|---|---|---|---|---|
| **Program Element** | **1** | **2** | **3** | **4** | **5[a]** | **6[b]** | **PSA** | **EIR/EIS** |
| **LBWRP** | | | | | | | | |
| Process Optimization | X | X | X | X | N/A | N/A | C,O | C |
| WRP Effluent Management | X | X | X | X | X | N/A | O | - |
| **WNWRP** | | | | | | | | |
| WRP Effluent Management | X | X | X | X | X | N/A | O | O |
| **JWPCP** | | | | | | | | |
| Solids Processing | X | X | X | X | X | N/A | C,O | C |
| Biosolids Management | X | X | X | X | X | N/A | O | - |
| JWPCP Effluent Management | X | X | X | X | N/A | N/A | Evaluated at the project level. See Table 6-2. | |

WRP effluent management and biosolids management do not include construction.
[a] See Section 6.4.7 for a discussion of the No-Project Alternative.
[b] See Section 6.4.8 for a discussion of the No-Federal-Action Alternative.
PSA = Preliminary Screening Analysis
C = construction
O = operation
N/A = not applicable

As discussed in Section 3.2.2, Joint Water Pollution Control Plant (JWPCP) effluent management was the one program element that was carried forward as a project. The location of the terrestrial biological resources impact analysis for each project element is summarized by alternative in Table 6-2.

**Table 6-2. Impact Analysis Location of Project Elements by Alternative**

| | Alternative | | | | | | Analysis Location | |
|---|---|---|---|---|---|---|---|---|
| **Project Element** | **1** | **2** | **3** | **4** | **5[a]** | **6[b]** | **PSA** | **EIR/EIS** |
| **Tunnel Alignment** | | | | | | | | |
| Wilmington to SP Shelf (onshore) | X | | | | N/A | N/A | C,O | - |
| Wilmington to SP Shelf (offshore) | X | | | | N/A | N/A | C,O | - |
| Wilmington to PV Shelf (onshore) | | X | | | N/A | N/A | C,O | - |
| Wilmington to PV Shelf (offshore) | | X | | | N/A | N/A | C,O | - |
| Figueroa/Gaffey to PV Shelf (onshore) | | | X | | N/A | N/A | C,O | - |
| Figueroa/Gaffey to PV Shelf (offshore) | | | X | | N/A | N/A | C,O | - |
| Figueroa/ Western to Royal Palms (onshore) | | | | X | N/A | N/A | C,O | - |
| **Shaft Sites** | | | | | | | | |
| JWPCP East | X | X | | | N/A | N/A | C,O | C |
| JWPCP West | | | X | X | N/A | N/A | C,O | C |
| TraPac | X | X | | | N/A | N/A | C,O | - |
| LAXT | X | X | | | N/A | N/A | C,O | C |
| Southwest Marine | X | X | | | N/A | N/A | C,O | - |
| Angels Gate | | | X | | N/A | N/A | C,O | C |
| Royal Palms | | | | X | N/A | N/A | C,O | C |

**Table 6-2 (Continued)**

| | Alternative | | | | | | Analysis Location | |
|---|---|---|---|---|---|---|---|---|
| **Project Element** | **1** | **2** | **3** | **4** | **5[a]** | **6[b]** | **PSA** | **EIR/EIS** |
| **Riser/Diffuser Areas** | | | | | | | | |
| SP Shelf | X | | | | N/A | N/A | See Chapter 13. | |
| PV Shelf | | X | X | | N/A | N/A | See Chapter 13. | |
| Existing Ocean Outfalls | X | X | X | X | N/A | N/A | See Chapter 13. | |

[a] See Section 6.4.7 for a discussion of the No-Project Alternative.
[b] See Section 6.4.8 for a discussion of the No-Federal-Action Alternative.
PSA = Preliminary Screening Analysis
C = construction
O = operation
N/A = not applicable

Special-status species with no potential to occur in the study area are discussed in the Preliminary Screening Analysis (Appendix 1-A). The Preliminary Screening Analysis also provides a discussion of special-status species that occur in the study area. It was determined during preliminary screening that the Clearwater Program would result in less than significant impacts on special-status plant species and the federally and state-listed endangered Palos Verdes blue butterfly; therefore, these species are not discussed further in this chapter. For additional information regarding these species, refer to the Preliminary Screening Analysis (Appendix 1-A).

# 6.2 Environmental Setting

## 6.2.1 Regional Setting

The Joint Outfall System (JOS) is located in the central, southern, and eastern portions of Los Angeles County. Its boundaries extend from the San Gabriel Mountain foothills south to the Palos Verdes Peninsula and San Pedro Bay, and from the San Bernardino County and Orange County borders west to the cities of Glendale and Los Angeles and to Santa Monica Bay. The three major rivers in the JOS are the Rio Hondo, Los Angeles, and San Gabriel. Major creeks include San Jose and Coyote. Refer to Figure 2-1 in Section 2.2.3 for an illustration of the region and its water features.

Much of the region has become urbanized, but many biologically important and extensive spaces remain, including Arroyo Seco (Devils Gate) Park, Hahamonga Watershed Park, Eaton Canyon Park, Santa Fe Flood Control Basin, Whittier Narrows Recreation Area, Puente Hills (under the Puente Hills Landfill Native Habitat Preservation Authority), San Jose Hills (Puddingstone Reservoir and Frank G. Bonnelli Park), El Dorado Regional Park, Ken Malloy Regional Park, and Palos Verdes Hills. Along the coast, the Palos Verdes Peninsula is biologically important, containing the area managed under the City of Rancho Palos Verdes Multi-Species Habitat Conservation Plan (MSHCP). Dozens of smaller areas provide stepping-stones among the larger open spaces; many of these are designated as significant ecological areas (SEAs) by Los Angeles County.

Natural vegetation communities present within the region include pine forest, chaparral, sage scrub, grassland, woodland (e.g., walnut, oak), riparian (e.g., southern willow scrub), and marsh (e.g., freshwater, salt). These areas support special-status species as well as populations of common native plants and animals. The capacity for open space areas to continue to support native plants and animals relies on the viability of the existing open space network through wildlife corridors and landscape-level functions and values.

The Los Angeles and San Gabriel Rivers are predominately conveyed within lined concrete channels, but both have sections with important biological resources and can provide some degree of connectivity across urban spaces. The San Gabriel River channel is concrete-lined from about 0.25 mile upstream of Firestone Boulevard to a point about 0.25 mile upstream of Interstate (I-) 405. The lower 4 miles of the river is the tidal estuary. The estuarine channel has riprap banks and a fairly uniform sandy bottom (Rosenberger 2007). Salinity in the estuary fluctuates with the tide and large precipitation events, but was generally between 20 and 33 parts per thousand (ppt) during a study of the estuary conducted in July through October 2005 (Rosenberger 2007). Salinity is somewhat lower at the upper end of the estuary where salinity was about 25 ppt at the surface and about 30 ppt near the bottom, than at the downstream end where salinity was typically 27 to 33 ppt (Rosenberger 2007). Estuary waters are warm during summer months, reaching as high as 95 degrees Fahrenheit during the summer of 2005 (Rosenberger 2007). At times when there is a large volume of freshwater discharged from the San Gabriel River, salinity as low as 1 ppt has been reported in some portions of the estuary (LASGRWC and ABCL 2009).

A survey of recreational fishers indicated that the following fish species (all marine) have been caught in the estuary: gray smoothhound (*Mustelus californicus*), round stingray (*Urobatis halleri*), kelp bass (*Paralabrax clathratus*), barred sand bass (*Paralabrax nebulifer*), black perch (*Embiotoca jacksoni*), California halibut (*Paralichthys californicus*), and diamond turbot (*Pleuronichthys guttatus*) (Allen et al. 2008). In addition, three species with a wide salinity tolerance (common carp [*Cyprinus carpio carpio*], striped mullet [*Mugil cephalis*], and tilapia [*Oreochromis sp*.]) have been collected in the estuary (LASGRWC and ABCL 2009). While mullet prefer estuarine habitats and are unlikely to venture upstream into the freshwater portion of the river, carp and tilapia are less tolerant of full salinity and would only be found in the estuary when there is sufficient freshwater discharge to lower salinity. Two power plants are located along the estuary and discharge cooling water into the estuary (Rosenberger 2007).

## 6.2.2 Program Setting

Existing conditions with respect to biological resources within each program element are described in the following section. A discussion of hydrology relevant to aquatic and riparian habitat is also presented, with further details on hydrology provided in Chapter 11.

### 6.2.2.1 Conveyance System

The conveyance system consists of the Joint Outfall Trunk Sewer System depicted on Figure 2-3. The conveyance system is typically located between 5 and 25 feet below ground surface generally within public right-of-way of existing streets throughout the entire JOS service area. The biological setting for the conveyance system is, therefore, the same as the regional setting previously described. Because the conveyance system is located within developed areas, relatively few biological resources are expected to occur within the footprint of the conveyance system. However, biological resources typical of urban settings, such as habitat for nesting birds, could exist above or adjacent to portions of the conveyance system. Specific and as yet undetermined conveyance system maintenance or improvement activities would be subject to project-level review.

### 6.2.2.2 Water Reclamation Plants

Rivers adjacent to the water reclamation plants (WRPs) in the JOS are described in the following section. The rivers support habitat that is important to biological resources. Therefore, the rivers are first discussed, and then the habitat characteristics associated with each WRP are discussed. Major river

systems and the location of the WRPs are shown on Figure 6-1. For a broad overview of the watershed and the hydrology of the JOS, see Chapter 11.

## Hydrology Relevant to Biological Resources

### San Gabriel River and San Jose Creek

The San Gabriel River has an unlined channel from its origin in the San Gabriel Mountains to just north of Firestone Boulevard in the city of Downey approximately 9 miles south of the San Jose Creek Water Reclamation Plant (SJCWRP), where it becomes a concrete-lined channel. Water management structures that modulate the volume and timing of flows in these water courses include the San Gabriel Dam, located about 17.5 miles upstream of the SJCWRP; Morris Dam, located approximately 14 miles upstream; Santa Fe Dam, located approximately 6 miles upstream of the SJCWRP; Whittier Narrows Dam, located approximately 1.75 miles downstream of the SJCWRP; San Gabriel Coastal Spreading Grounds, located south of Whittier Boulevard in the city of Pico Rivera approximately 4 miles downstream of the SJCWRP; and seven rubber dams, located in the unlined channel south of the Whittier Narrows Dam. Four small grade-control weirs span the San Gabriel River channel at 1,300-to-1,400-foot intervals between the SJCWRP and the Whittier Narrows Dam. Another two small weirs are spaced 3,700 to 4,100 feet apart between the Whittier Narrows Dam and the rubber dam for the San Gabriel Coastal Spreading Grounds. The SJCWRP is located southeast of the confluence of the San Gabriel River and San Jose Creek.

The San Gabriel River and San Jose Creek are important components of flood control in the region. The Los Angeles County Flood Control District performs essential annual maintenance within the channels to maintain their design capacities. This maintenance includes annual vegetation clearing and sediment removal within approximately 507 acres of the unlined portions of the San Gabriel River and San Jose Creek. This clearing occurs in of the San Gabriel River (see Figure 6-2) from its confluence with San Jose Creek downstream to the Zone 1 Ditch and from the Whittier Narrows Dam downstream to the end of the unlined portion of the river (near discharge location SJC001). The United States (U.S.) Army Corps of Engineers (Corps) also clears channel vegetation as part of maintaining the San Gabriel River channel from the Zone 1 Ditch to the Whittier Narrows Dam. In addition, there is a small, 80-foot-long segment of San Jose Creek (Segment 1, south of Workman Mill Road approximately between Dovey Avenue and Oakman Drive) that is also cleared annually by the Los Angeles County Flood Control District.

The San Gabriel River upstream of the SJCWRP is ephemeral, carrying flows only after rainfall events, when water is being delivered for spreading from the Morris and San Gabriel Dams, and during intermittent deliveries of imported water. Downstream of the SJCWRP, flows persist during dry weather due to groundwater upwelling in San Jose Creek, WRP effluent discharges, and ambient urban runoff.

A small weir is located on the San Gabriel River approximately 4,700 feet upstream of the Whittier Narrows Dam. Here a diversion structure transfers flows from the San Gabriel River to the Rio Hondo behind the Whittier Narrows Dam via the Zone 1 Ditch. The Zone 1 Ditch is operated by the Los Angeles County Department of Public Works (LACDPW) in cooperation with the Los Angeles County Flood Control District to maximize water conservation consistent with operational needs and constraints. There is no set or predictable schedule for the quantity or timing of flow through the Zone 1 Ditch except that stormwater is not routed through the Zone 1 Ditch from the upper end (Willardson pers. comm.). A second east-west crossover channel occurs at the Whittier Narrows Dam. During storm events, the dam is closed, and water is diverted via this channel west behind the Whittier Narrows Dam where it joins the Zone 1 Ditch and flows to the Rio Hondo. The Whittier Narrows Dam is typically open during non-storm events and does not impede downstream flows.

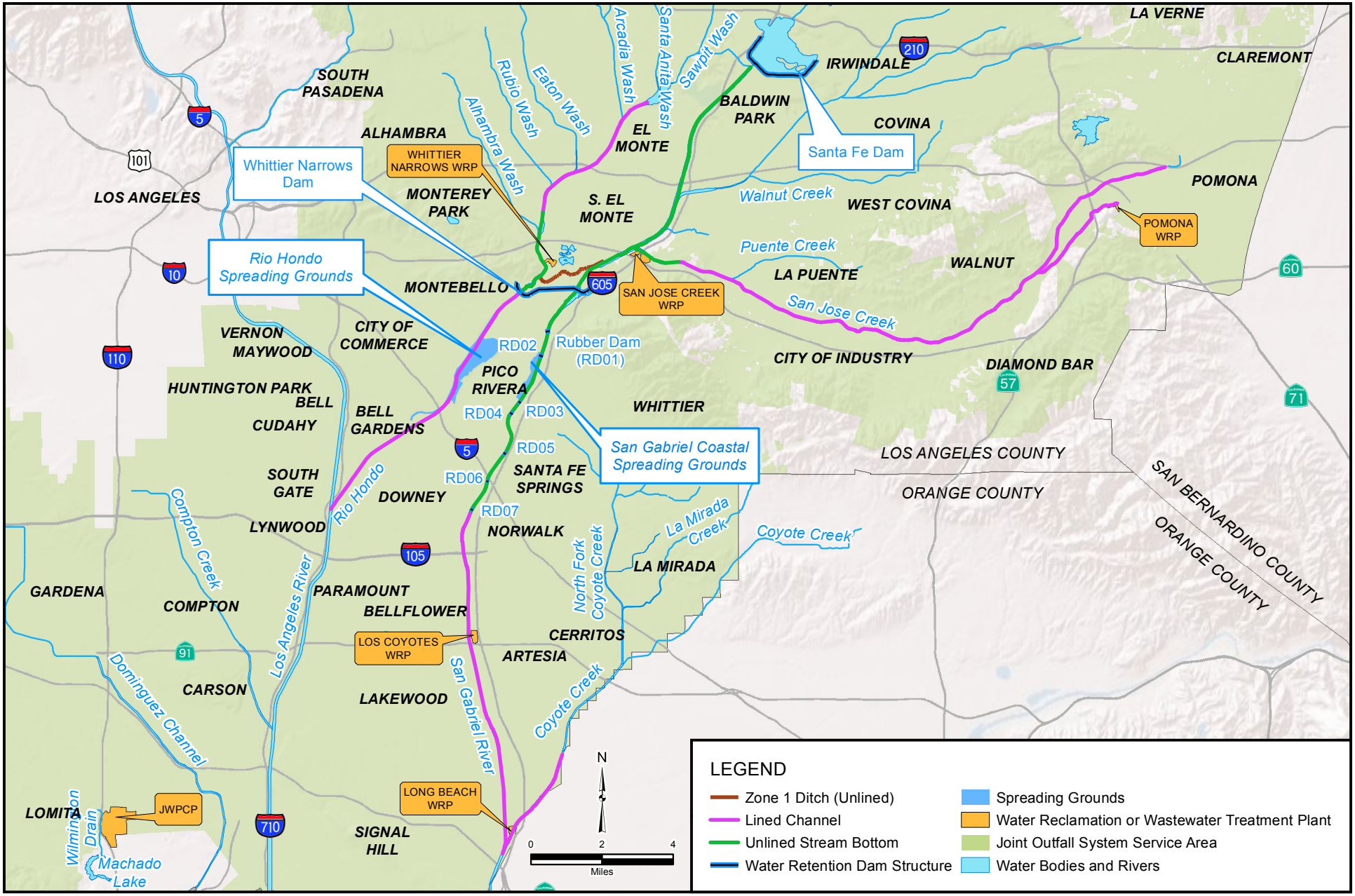


**FIGURE 6-1**

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## River Systems and Water Reclamation Plants

Source: Sanitation Districts of Los Angeles County 2011, Thomas Bros. 2011, ESRI 2011

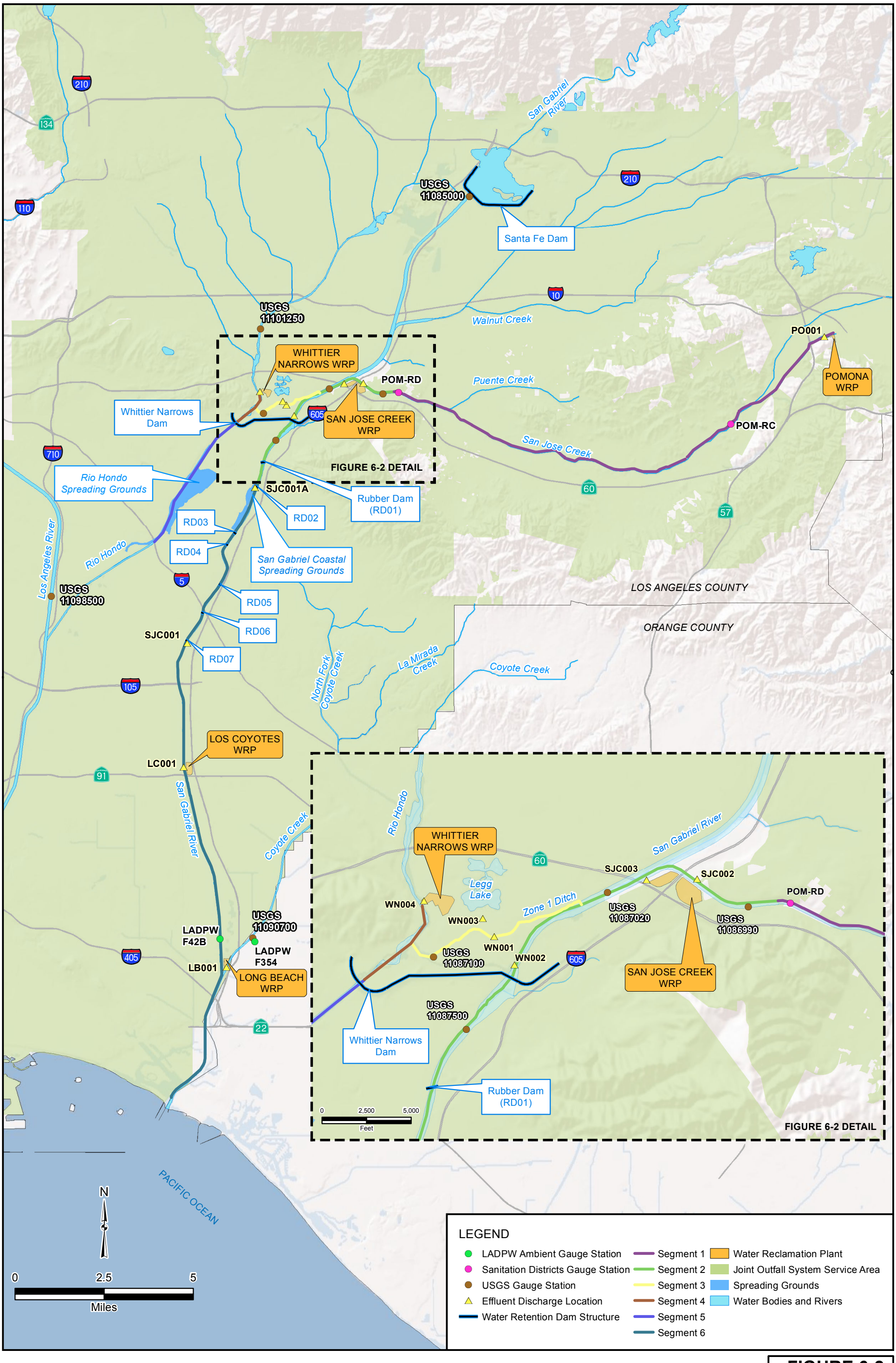


**FIGURE 6-2**

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## Water Reclamation Plants, Gauge Stations, and Discharge Points in the San Gabriel-Rio Hondo Watershed

Source: Sanitation Districts of Los Angeles County 2011, Thomas Bros. 2011, ESRI 2011, USGS 2011, LA County DPW 2011

### Whittier Narrows and the Rio Hondo

The Rio Hondo originates at Peck Pit in North El Monte and is contained within a concrete-lined channel for approximately 4.5 miles south to Rush Street in Whittier Narrows. At this point, it transitions to an unlined channel and continues to the Whittier Narrows Dam approximately 2.5 miles south of Rush Street. Downstream of the Whittier Narrows Dam, the Rio Hondo is concrete-lined until its confluence with the Los Angeles River. The Sawpit, Santa Anita, Arcadia, Eaton, Rubio, and Alhambra Washes all drain into the lined channel of the Rio Hondo. The Rio Hondo upstream of the Whittier Narrows Water Reclamation Plant (WNWRP) is ephemeral, carrying flows only after rainfall events, when water is being delivered for spreading from the Morris and San Gabriel Dams, and during intermittent imported water deliveries. As discussed in the San Gabriel River and San Jose Creek section, water is diverted from the San Gabriel River in two locations and is transported to the Rio Hondo just north of the Whittier Narrows Dam. The Rio Hondo Coastal Spreading Grounds are located approximately 2 miles south of the Whittier Narrows Dam.

As shown on Figure 6-2, the lower San Gabriel River-Rio Hondo Watershed can be organized into six segments based on habitat, discharge points from the WRPs, and the United States Geological Survey (USGS) and Sanitation Districts gauge station locations. Tertiary-treated effluent discharge points from the WRPs in relationship to the river segments are located on Figure 6-2 and described in Table 6-3. Discharge points are listed from upstream to downstream.

**Table 6-3. Effluent Discharge Locations**

| WRP | Effluent Discharge Location | Effluent Discharge Location Description | Stream Segment |
|---|---|---|---|
| POWRP | PO001 | Lined channel of the South Fork of San Jose Creek near the POWRP | 1 |
| SJCWRP East | SJC002 | Unlined channel of the San Jose Creek above the confluence with the San Gabriel River | 2 |
| SJCWRP West | SJC003 | Unlined channel of the San Gabriel River below the confluence with the San Jose Creek | 2 |
| WNWRP | WN001 | Unlined channel of the San Gabriel River near the Whittier Narrows Dam | 2 |
| WNWRP | WN002 | Zone 1 Ditch | 3 |
| WNWRP | WN003 | Test basin near Zone 1 Ditch – no longer in service | 3 |
| WNWRP | WN004 | Unlined channel of the Rio Hondo upstream of the Whittier Narrows Dam | Upstream of 4 |
| SJCWRP | SJC001A | Unlined channel of the San Gabriel River near the headworks of the San Gabriel Coastal Spreading Grounds | 6 |
| SJCWRP | SJC001 | Lined channel of the San Gabriel River just upstream of Firestone Boulevard | 6 |
| LCWRP | LC001 | Lined channel of the San Gabriel River upstream of SR-91 | 6 |
| LBWRP | LB001 | Lined channel of Coyote Creek just above its confluence with the San Gabriel River | 6 |

Site conditions at the WRPs are described in the following section, and the focus is on the presence of any sensitive plant or animal species and regulated habitats. As indicated in the following discussion, there are no sensitive biological resources at any of the WRPs; however, there is the potential for the presence of sensitive species in the San Gabriel River and the Rio Hondo adjacent to some of the WRPs.

## San Jose Creek Water Reclamation Plant

The SJCWRP (Figure 6-3) is located within unincorporated Los Angeles County, near the city of Whittier, and is bisected by I-605 into two independent but hydraulically interconnected plants known as the SJCWRP East and the SJCWRP West. Within the limits of the SJCWRP, the majority of the area is developed and includes some turf grass areas and ornamental landscaping. The sites are bound by San Jose Creek to the north, State Route (SR-) 60 to the south, and the San Gabriel River to the west. Land uses surrounding the plant consist mostly of low-density residential areas that are intermixed with an industrial area to the south. The California Country Club is located to the northeast. The SJCWRP has the following discharges: SJC001 discharges 41 to 69 million gallons per day (MGD) on an annual average basis to the lined portion of the San Gabriel River approximately 1,000 feet upstream of Firestone Boulevard, SJC001A discharges to the unlined portion of San Gabriel River adjacent to the San Gabriel Coastal Spreading Grounds, SJC002 discharges 6 to 15 MGD annually to the unlined portion of San Jose Creek adjacent to the SJCWRP East, and SJC003 discharges 24 MGD on an annual average basis to the unlined portion of the San Gabriel River adjacent to the SJCWRP West.

San Jose Creek is concrete-lined for many miles upstream of the SJCWRP, but the lowermost 6,000 feet of the channel is unlined and supports limited riparian habitat. The San Gabriel River channel also supports riparian habitat from approximately 2,200 feet upstream of the confluence with San Jose Creek to approximately 2,600 feet upstream of the San Gabriel Coastal Spreading Grounds rubber dams (approximately 22,000 linear feet or 4.2 miles) (Figure 6-3). The quality of the riparian habitat varies from sparse (low) to dense (high). The riparian habitat within the San Gabriel River provides suitable habitat for the following listed species: least Bell's vireo (federally and state-listed endangered), yellow-breasted chat and yellow warbler (state species of special concern), and western pond turtle (state species of special concern). Least Bell's vireo has been identified as occurring in the San Gabriel River during various biological surveys (BonTerra 2003; Aspen 2009; EDAW 2010; Biogeographic Information and Observation System [BIOS] 2010).

The Whittier Narrows Recreation Area is located immediately downstream of the SJCWRP and is listed as SEA-42 (Los Angeles County Department of Regional Planning 2009) (see discussion under the Whittier Narrows Water Reclamation Plant). The Rio Hondo College Wildlife Sanctuary is another SEA shown on Figure 6-3; however, this sanctuary is too distant and separated from the program elements by highways and roads to be affected by any program elements. The San Gabriel River downstream of the Whittier Narrows Dam does not support native fish, although non-native carp (*Cyprinus carpio*), green sunfish (*Lepomis cyanellus*), bluegill (*Lepomis macrochirus*), tilapia (*Oreochromis mossambicus*), and catfish (*Ameiurus sp.*) have been found (DeShazo 2007). As discussed in Chapter 11, tilapia have a high salinity tolerance and inhabit both the estuary and influent streams, including the San Gabriel River and Coyote Creek. Tilapia are non-native, and they are regarded by the California Department of Fish and Game (CDFG) as an invasive and undesirable species. The Sanitation Districts and CDFG have agreed to manage flows in the San Gabriel River in a manner to avoid fish kills of these species because such kills would be a nuisance (Markle pers. comm.).

## Pomona Water Reclamation Plant

The Pomona Water Reclamation Plant (POWRP) is located 2.3 miles up a southern tributary to San Jose Creek in the city of Pomona (Figure 6-4). The Union Pacific Railroad is located along the north boundary of the POWRP. Undeveloped land with native vegetation, shown as Elephant Hill on the USGS topographic quadrangle, rises to an approximately 1,140-foot elevation to the south of the POWRP. The remaining vicinity is developed with industrial uses to the north and residential development to the south. Within the limits of the POWRP, the majority of the area is developed and includes turf grass and other ornamental landscaping.

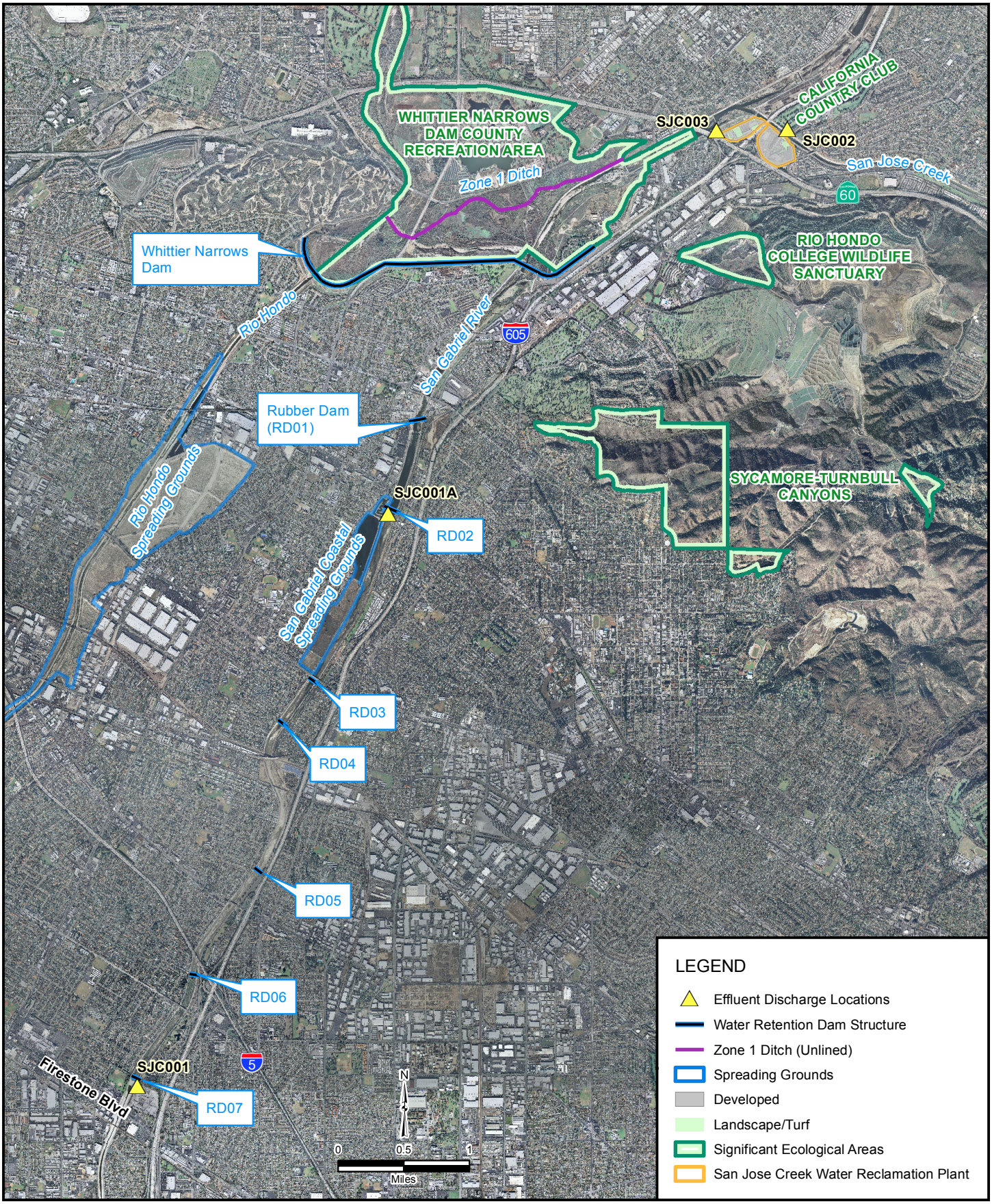


**FIGURE 6-3**

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## Locations of Effluent Discharge at SJCWRP

Source: Sanitation Districts of Los Angeles County 2011, LARIAC 2007, Los Angeles County DRP 2011


**FIGURE 6-4**

CLEARWATER Program

## Locations of Effluent Discharge at POWRP

Source: Sanitation Districts of Los Angeles County 2011, LARIAC 2007, Los Angeles County DRP 2011

Based on the USGS San Dimas topographic quadrangle, the San Jose Creek tributary is underground at the POWRP and daylights immediately west of the POWRP as a concrete-lined channel. This channel has some areas with deposited fine sediment and debris, and supports two non-native fish: carp and mosquitofish (*Gambusia affinus*) (DeShazo 2007). The POWRP is located approximately 15 miles upstream of the San Gabriel River and discharges 5 to 12 MGD on an annual average basis to the concrete-lined portion of San Jose Creek.

## Los Coyotes Water Reclamation Plant

The Los Coyotes Water Reclamation Plant (LCWRP) is located northwest of the I-605 and SR-91 interchange in the city of Cerritos as shown on Figure 6-5. The San Gabriel River flows within a concrete-lined channel just west of the LCWRP. The LCWRP discharges 25 to 34 MGD on an annual average basis to the river. At the discharge point (LC001), the San Gabriel River provides no aquatic or riparian habitat. West of the San Gabriel River is Ruth R. Caruthers Park. Industrial development occurs to the south of the LCWRP, and residential development occurs to the east. The Iron-Wood Nine Golf Course is adjacent to the LCWRP to the west and north. Within the limits of the LCWRP, the majority of the area is developed and includes some turf grass areas associated with a golf course driving range and ornamental landscaping.

## Long Beach Water Reclamation Plant

As shown on Figure 6-6, the Long Beach Water Reclamation Plant (LBWRP) is located just north of the San Gabriel River and Coyote Creek confluence in the city of Long Beach. The El Dorado Golf Course and the San Gabriel River are located to the west of the LBWRP; El Dorado Park is located to the north; Coyote Creek, I-605, and residential development occur to the east; and residential development occurs to the south. The LBWRP discharges 12 to 19 MGD on an annual average basis into the lined portion of Coyote Creek at LB001, located approximately 1,500 feet upstream from the confluence of Coyote Creek and the San Gabriel River. At the discharge point, Coyote Creek provides no aquatic or riparian habitat. Within the limits of the LBWRP, the majority of the area is developed and includes some turf grass areas and ornamental landscaping. The northwest corner of the property contains ruderal vegetation and is connected to an existing debris basin.

## Whittier Narrows Water Reclamation Plant

As shown on Figure 6-7, the WNWRP is located within the Whittier Narrows Recreation Area with the Whittier Narrows Dam to the south. The Rio Hondo is located just west of the WNWRP and the San Gabriel River to the southeast. The WNWRP is mostly developed with over one-half the site occupied by nurseries. The remainder of the site is developed with buildings, hardscape, and ornamental planting. The Whittier Narrows Recreation Area is listed as SEA-42 (Los Angeles County Department of Regional Planning 2009). This SEA contains extensive lowland riparian and freshwater marsh habitat supporting a rich and diverse flora and fauna (Los Angeles County Department of Regional Planning 1980).

The WNWRP discharges 5 to 14 MGD on an annual average basis to unlined channels of the Rio Hondo and the San Gabriel River. There are currently three active discharge locations: one at the San Gabriel River (WN001), one at the Rio Hondo (WN004), and one at the Zone 1 Ditch (WN002) (located between the Rio Hondo and San Gabriel River). A fourth location (WN003) is no longer used for discharge and will not be used in the future.

Riparian vegetation occurs within the Rio Hondo from Rush Street, north of SR-60, to the Whittier Narrows Dam. Riparian vegetation also occurs in the Zone 1 Ditch downstream of the discharge location. The quality of the riparian habitat varies from sparse (low) to dense (high). Least Bell's vireo has been identified as occurring in the San Gabriel River and the Rio Hondo during various biological surveys (BonTerra 2003; Aspen 2009; EDAW 2010; BIOS 2010).


**FIGURE 6-5**

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## Locations of Effluent Discharge at LCWRP

Source: Sanitation Districts of Los Angeles County 2011, LARIAC 2007, Los Angeles County DRP 2011


**FIGURE 6-6**

CLEARWATER Program

## Locations of Effluent Discharge at LBWRP

Source: Sanitation Districts of Los Angeles County 2011, ESRI 2011, Los Angeles County DRP 2011

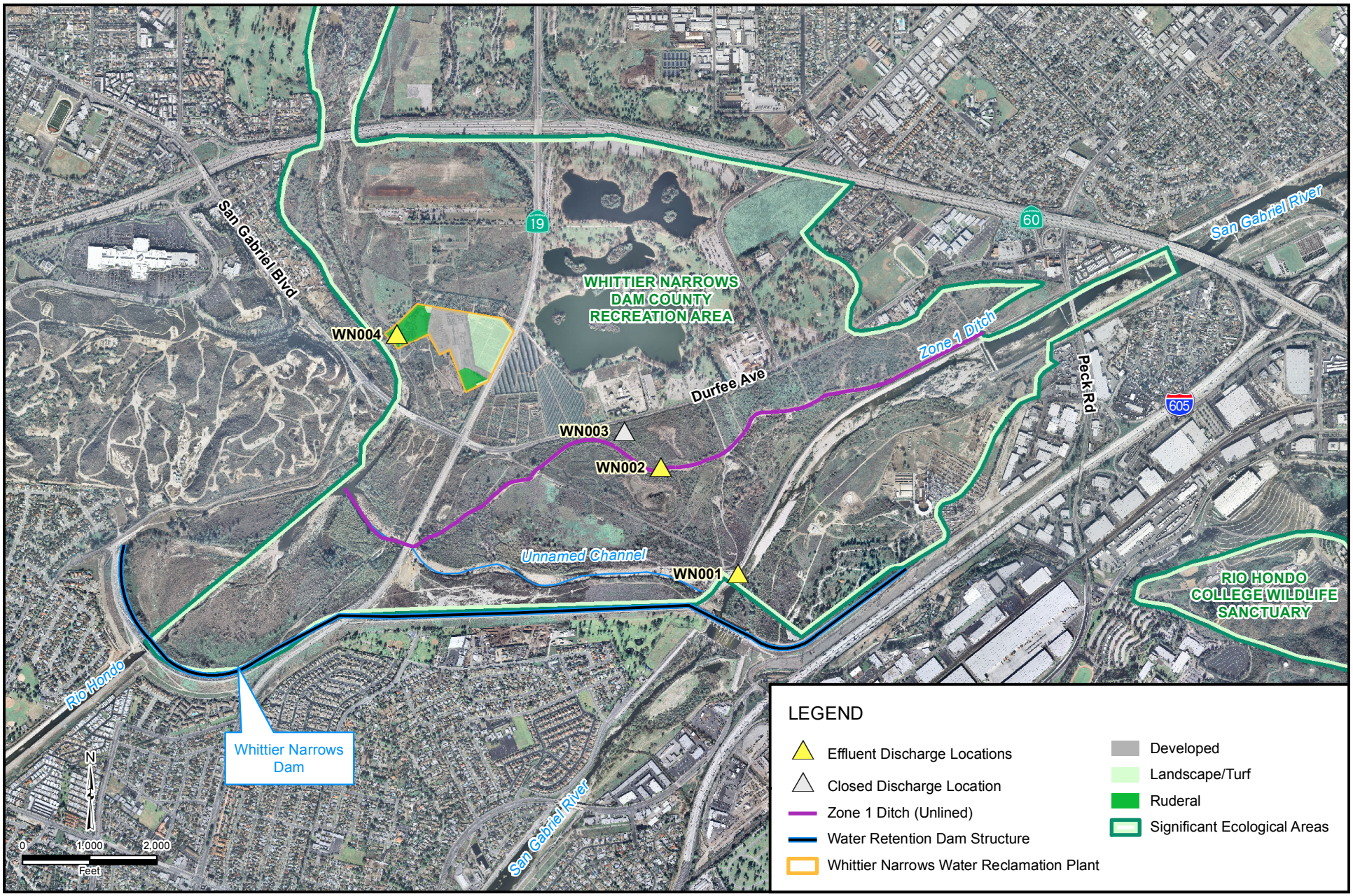



**FIGURE 6-7**

CLEARWATER Program

## Locations of Effluent Discharge at WNWRP

Source: Sanitation Districts of Los Angeles County 2011, LARIAC 2007, Los Angeles County DRP 2011

The Rio Hondo upstream of the Whittier Narrows Dam supports non-native fish including carp, green sunfish, catfish, mosquitofish, and tilapia (DeShazo 2007).

#### 6.2.2.3 Joint Water Pollution Control Plant

The JWPCP is located in the city of Carson east of I-110, generally between West Sepulveda Boulevard to the north and West Lomita Boulevard to the south (Figure 6-8). The JWPCP is surrounded by residential development. The JWPCP site is mostly developed with treatment facilities. Two undeveloped areas are proposed for shaft sites and are discussed in Section 6.2.3. The Wilmington Athletic Complex, east of Figueroa Street and south of West Lomita Boulevard, comprises turf, ornamental plantings, and ball fields. The Bixby Marshland, located west of Figueroa Street and south of West Sepulveda Boulevard, is a restoration site that provides marsh and sage scrub habitat. Other natural areas in the vicinity include the Wilmington Drain to the west and Machado Lake to the southwest.

### 6.2.3 Project Setting

Existing conditions with respect to biological resources within each project element are described in the following section.

#### 6.2.3.1 Tunnel Alignment

The onshore tunnel alignments would be constructed well below the ground surface; therefore, terrestrial biological resources would not be affected by the construction and operation of the onshore tunnel alignments. The offshore tunnel alignments are discussed in Chapter 13.

#### 6.2.3.2 Shaft Sites

Shaft sites would be required along each alignment to facilitate tunnel construction as shown on Figure 6-9.

##### JWPCP East

The footprint for the JWPCP East shaft site (Figure 6-10) is located along the east side of the JWPCP. It is surrounded by the JWPCP to the north and west, residential development to the south, and industrial and residential development to the east. It currently supports ruderal vegetation and developed areas. Based on aerial imagery (Google Earth Pro 2010), the site was completely developed in 1999. Between 1999 and 2002, structures on the site were demolished. By 2003, it appears that ruderal vegetation was beginning to colonize the site. Based on a 2010 site visit, the site is vegetated with early colonizing non-native annuals around the developed areas.

##### JWPCP West

The footprint for the JWPCP West shaft site (Figure 6-11) is located along the southwest side of the JWPCP. It is bordered to the west by I-110, to the north by the JWPCP, to the east by the Wilmington Athletic Complex, and to the south by residential development. The Wilmington Drain is located approximately 0.2 mile west of the site. The site supports ruderal vegetation and developed areas. Based on aerial imagery (Google Earth 2010), the site was developed in 2004. Between 2004 and 2010, ruderal vegetation increased but the site remains dominated by developed and barren areas. Based on a 2010 field visit, the site supports early colonizing non-native annuals, a row of eucalyptus trees in the center of the site, and a row of ornamental landscaping along the eastern border.

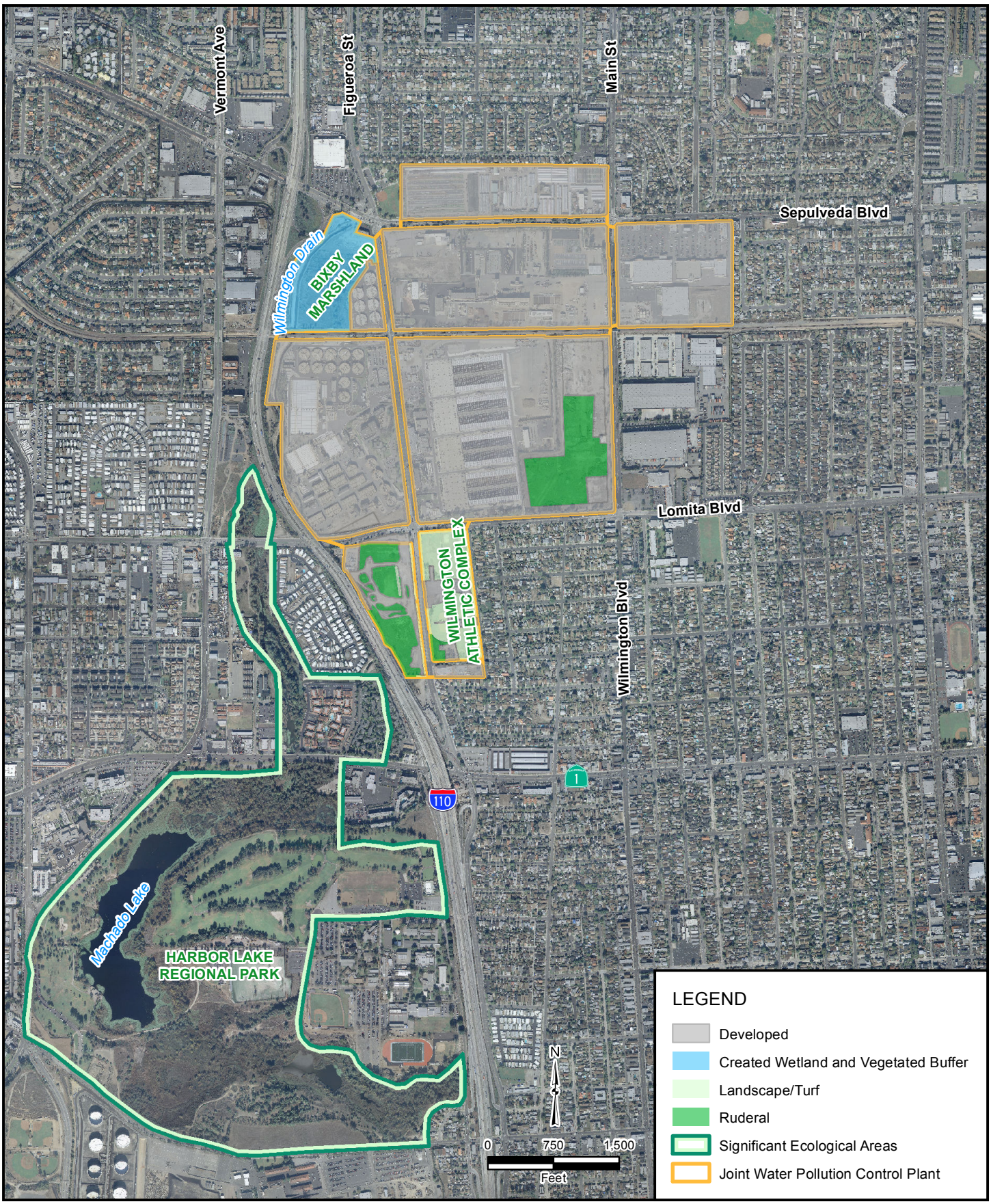



**FIGURE 6-8**

CLEARWATER Program

## Joint Water Pollution Control Plant

Source: Sanitation Districts of Los Angeles County 2011, LARIAC 2007, Los Angeles County DRP 2011


**FIGURE 6-9**

CLEARWATER Program

## Location of Shaft Sites

Source: Sanitation Districts of Los Angeles County 2011, Thomas Bros. 2011, ESRI 2011


**FIGURE 6-10**

CLEARWATER Program

## Biological Resources at JWPCP East Shaft Site

Source: Sanitation Districts of Los Angeles County 2011, LARIAC 2007, Los Angeles County DRP 2011


**FIGURE 6-11**

CLEARWATER Program

## Biological Resources at JWPCP West Shaft Site

Source: Sanitation Districts of Los Angeles County 2011, LARIAC 2007, Los Angeles County DRP 2011

## TraPac

The Trans Pacific Container Service Corporation (TraPac) shaft site (Figure 6-12) is located just north of the Northwest Slip of San Pedro Bay. The site is surrounded by industrial and residential development to the north, east, and west, with Harry Bridges Boulevard immediately to the north. To the south is a truck container storage area. The footprint of the TraPac shaft site is completely developed as a truck container storage area.

## LAXT

The Los Angeles Export Terminal (LAXT) shaft site (Figure 6-13) is located on Terminal Island of San Pedro Bay. The site is surrounded on all sides by industrial development associated with the bay. The footprint of the LAXT shaft site is mostly developed and includes some ruderal and landscape vegetation. A row of eucalyptus trees (20 to 30 feet in height) are situated along the west border of the shaft site adjacent to Ferry Street. There is also an area of open water, which appears to have been part of a water treatment process.

Areas adjacent to the site are mostly developed although ruderal vegetation and ornamental landscaping occur to the south. Landscape species that were observed during a field visit in 2010 include ice plant (*Carpobrotus chilensis*), ornamental pines (*Pinus* spp.), eucalyptus (*Eucalyptus* spp.), and blackwood acacia (*Acacia melanoxylon*). A few scattered mule fat (*Baccharis salicifolia*) shrubs were also observed. Large trees (predominantly eucalyptus and pine) are planted along Ferry Street and Terminal Way.

## Southwest Marine

The Southwest Marine shaft site (Figure 6-14) is located in the Port of Los Angeles between the Main Channel and Fish Harbor of San Pedro Bay, on a peninsula developed with water-oriented industrial uses. The footprint for the Southwest Marine shaft site is completely developed with concrete, asphalt, and a small storage shed.

Two piers with mechanical cranes are located just west of the site. The Terminal Island Federal Correctional Facility is located south of and adjacent to the site. Across Seaside Avenue to the east of the Southwest Marine shaft site is a boulder breakwater. During a field visit in 2010, approximately 8 to 10 brown pelicans (*Pelecanus occidentalis californicus*) were observed flying over the project area and/or perched on the breakwater. In addition, the nest of an unknown bird species was observed in a light stand at the far end of the breakwater, approximately 900 feet from the shaft site at the closest point. No access was available to this area. The western portion of the breakwater is located, at the closest approach, approximately 400 feet from the shaft site.

In addition to brown pelicans, the only other wildlife species detected were California sea lion (*Zalophus californianus*) (swimming between the piers west of the site) and gulls (*Larus* spp.). The site is located approximately 1.4 miles northwest of a documented least tern (*Sternula antillarum*) breeding colony. Within the Port of Los Angeles, developed areas can provide nesting opportunities for species such as least tern; however, the Southwest Marine shaft site is not known to provide this function. The open water habitat may occasionally provide foraging opportunities for piscivorous birds.

## Angels Gate

The Angels Gate shaft site (Figure 6-15) is located within the historic Fort MacArthur Upper Reservation west of the Los Angeles Outer Harbor. The site is surrounded by park uses to the north, south, and west; the San Pedro Channel is located farther to the south and west. To the east is residential development. The Palos Verdes coastline, located west of the site, is designated as an SEA. The majority of the site is covered by an asphalt parking lot. The northern portion of the site is dominated by mowed grasses and other herbaceous species associated with the park. The species found in this turf include non-native

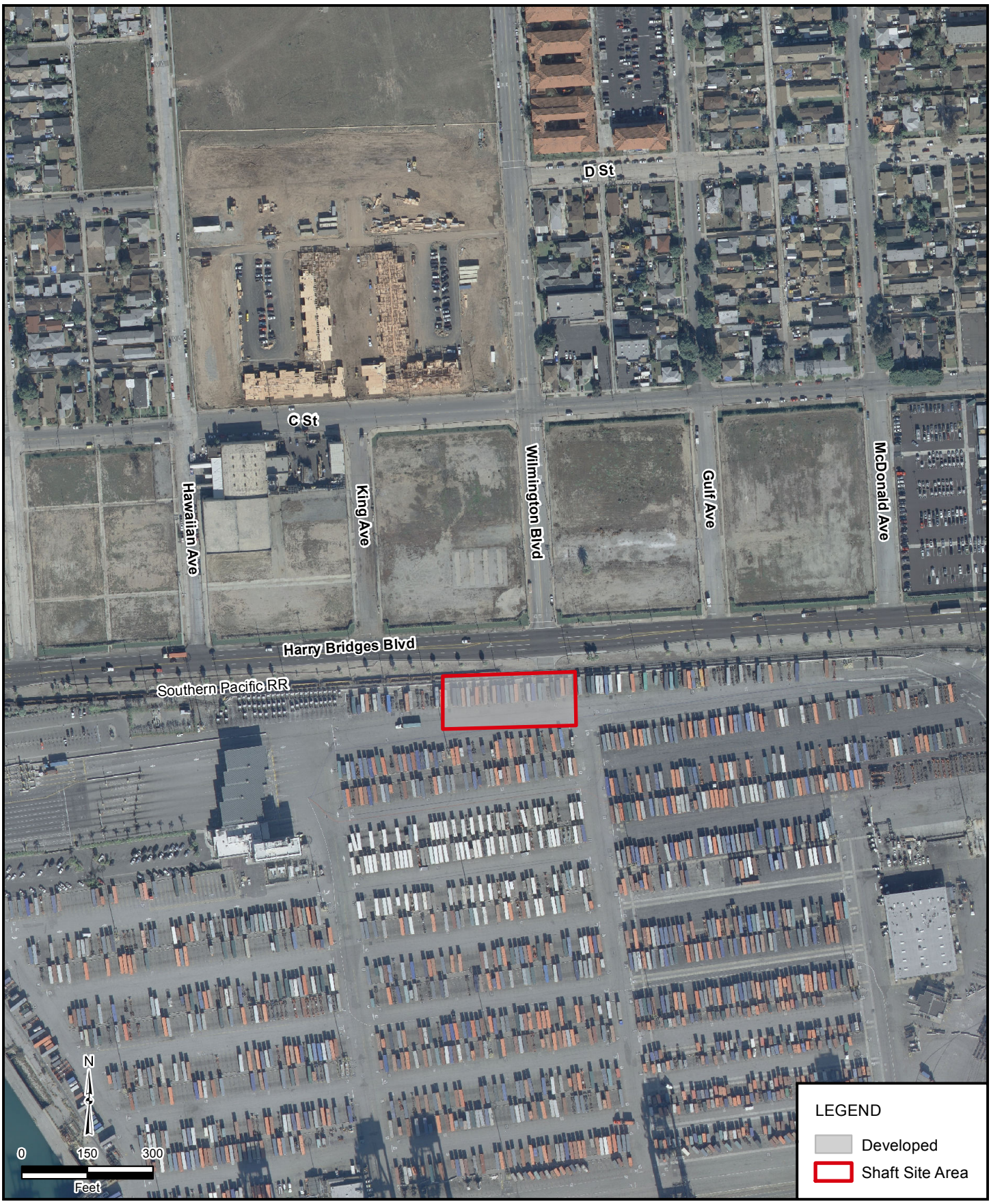



**FIGURE 6-12**

## Biological Resources at TraPac Shaft Site

Source: Sanitation Districts of Los Angeles County 2011, LARIAC 2007, Los Angeles County DRP 2011

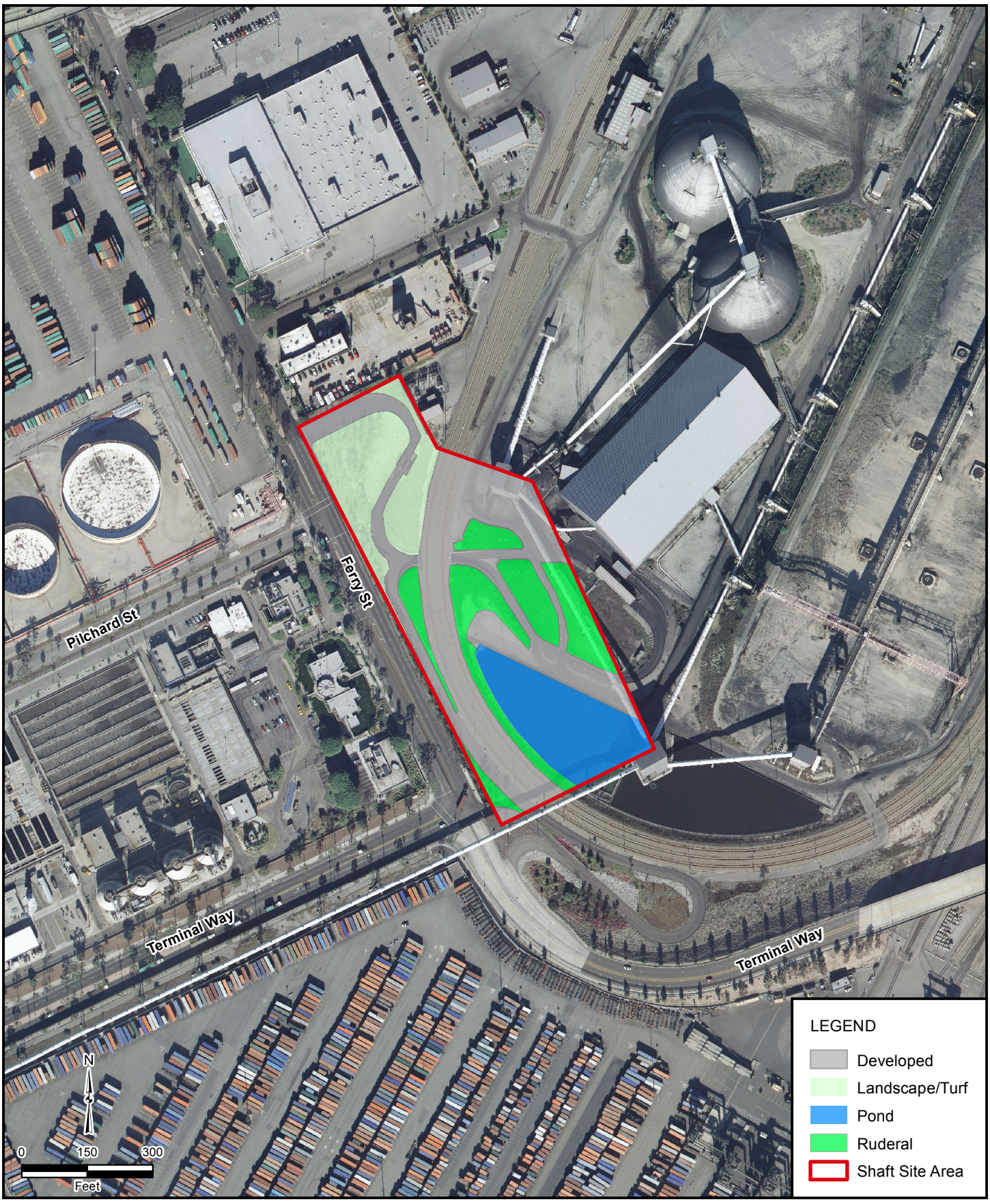



**FIGURE 6-13**

CLEARWATER Program

## Biological Resources at LAXT Shaft Site

Source: Sanitation Districts of Los Angeles County 2011, LARIAC 2007, Los Angeles County DRP 2011


**FIGURE 6-14**

CLEARWATER Program

## Biological Resources at Southwest Marine Shaft Site

Source: Sanitation Districts of Los Angeles County 2011, LARIAC 2007, Los Angeles County DRP 2011


**FIGURE 6-15**

CLEARWATER Program

## Biological Resources at Angels Gate Shaft Site

Source: Sanitation Districts of Los Angeles County 2011, LARIAC 2007, Los Angeles County DRP 2011

grasses and ruderal species including black mustard (*Brassica nigra*), wild radish (*Raphanus sativus*), cheeseweed (*Malva parviflora*), London rocket (*Sisymbrium irio*), and ripgut brome (*Bromus diandrus*). A row of palms, both Mexican fan palm (*Washingtonia robusta*) and Canary Island date palm (*Phoenix canariensis*), is planted along Gaffey Street on the eastern edge of the site. Ground squirrels and ground squirrel burrows were found throughout the site and on the northeast side of Paseo Del Mar. The presence of ground squirrel burrows at the site indicates potential habitat for burrowing owls (*Athene cunicularia*), a state species of special concern; however, there are no records of burrowing owls at this site.

Point Fermin Park is adjacent and south of the shaft site, across Paseo Del Mar. The park is completely landscaped with large trees including fig (*Ficus carica*), pine, and eucalyptus. South and west of the landscaped area are a series of cliffs and the open ocean. The cliffs support a known nesting location for American peregrine falcon (*Falco peregrinus*), a state fully protected species and federal species of concern. During a site visit on February 23, 2010, two peregrine falcons were observed south of the site. One was foraging and flying from a point just south of the shaft site to a steep rock-faced cliff near Point Fermin Park. The shaft site is approximately 200 feet east of the northern extent of the cliffs.

### Royal Palms

The Royal Palms shaft site (Figure 6-16) is located along Royal Palms Beach just south of the intersection of West Paseo Del Mar and Western Avenue. Surrounding land uses include the ocean to the south, Royal Palms Beach to the east and west, and residential development to the north. The footprint of the site is dominated by non-native grasses and ruderal species, particularly cheeseweed. The site also contains ice plant. The Palos Verdes coastline, located south of the site, supports a diverse biota in a variety of habitats including of marine, shoreline, and coastal scrub communities. For this reason, the coastline and certain buffer areas (including Buffer 34B south of the site) are designated as SEAs. However, the Royal Palms shaft site is not located within the SEA boundaries.

There is a steep slope north of the site, which is mostly bare but does support scattered plants (predominantly non-native grasses and ice plant). Some landscape species also occur on this slope, including Indian fig cactus (*Opuntia ficus indica*), blackwood acacia, Mexican fan palm, and Canary Island date palm. A small area west of the site and most of the area east of the site contain predominantly non-native grasses and other ruderal species, as well as occasional California brittlebush (*Encelia californica*). Numerous fan palms and Canary Island date palms occur west of the site; these trees are cleanly trimmed. This area is mapped as coastal bluff scrub habitat, although unpaved portions of the relatively flat construction footprint support a somewhat different vegetation community. Coastal sage scrub habitat upslope from the construction footprint is a habitat type used by the coastal California gnatcatcher (*Polioptila californica californica*), a federally listed threatened species. This species nests during the spring and early summer (March 1 through July 31) (Atwood and Bontrager 2001). However, the sage scrub habitat in the vicinity of the project is of low quality, is highly fragmented, and is closer to the road than to the construction site. For these reasons, it is unlikely that this area would be occupied by coastal California gnatcatchers.

## 6.2.3.3 Riser and Diffuser Area

For all biological impacts associated with construction and operation of the riser and diffuser, refer to Chapter 13.


**FIGURE 6-16**

CLEARWATER Program

## Biological Resources at Royal Palms Shaft Site

Source: Sanitation Districts of Los Angeles County 2011, LARIAC 2007, Los Angeles County DRP 2011

# 6.3 Regulatory Setting

Regulations that are pertinent to the terrestrial biological resources assessment for the Clearwater Program are discussed in the following section.

## 6.3.1 Federal

### 6.3.1.1 Bald and Golden Eagle Protection Act

This act provides for the protection of the bald eagle and the golden eagle (as amended in 1962) by prohibiting the take, possession, sale, purchase, barter, offer to sell, purchase or barter, transport, export or import, of any bald or golden eagle, alive or dead, including any part, nest, or egg, unless allowed by permit (16 United States Code [USC] 668(a); 50 Code of Federal Regulations [CFR] Part 22). "Take" includes pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb (16 USC 668c; 50 CFR Section 22.3). The U.S. Fish and Wildlife Service (USFWS) has prepared the Bald Eagle Management Guidelines to help landowners, land managers, and others to meet the intent of this act.

### 6.3.1.2 Clean Water Act

Section 404 of the Clean Water Act (CWA) establishes a permit program administered by the Corps regulating the discharge of dredged or fill material into waters of the United States (including wetlands). Implementation regulations by the Corps are found in 33 CFR Parts 320-330. Guidelines for implementation are referred to as Section 404 (b)(1) Guidelines and were developed by the U.S. Environmental Protection Agency in conjunction with the Corps (40 CFR Parts 230). The guidelines allow the discharge of dredged or fill material into aquatic systems only if there is no practicable alternative that would have less damaging impacts. The Corps, as part of its permitting process under Section 404, would evaluate impacts of project alternatives on terrestrial biological resources including sensitive habitats and threatened and endangered species.

### 6.3.1.3 Rivers and Harbors Act

Section 10 of the Rivers and Harbors Act regulates the creation of any obstruction, not affirmatively authorized by Congress, to the navigable capacity of any waters of the United States. Section 10 requires a permit from the Corps for the work or structures in, over, or under any navigable water of the United States, including the excavation/dredging or deposition of material in these waters, or any obstruction or alteration in a navigable water. The Corps, as part of its permitting process under Section 10, would evaluate impacts of project alternatives on terrestrial biological resources including sensitive habitats and threatened and endangered species.

### 6.3.1.4 Coastal Zone Management Act

All federal agencies with activities directly affecting the coastal zone, or with development projects within that zone, must comply with the state coastal acts to ensure that those activities or projects are consistent to the maximum extent practicable. The California Coastal Commission (CCC) reviews development projects for consistency, and may include protective measures as restrictions attached to the coastal zone development permit.

### 6.3.1.5 Executive Order 11990 – Protection of Wetlands

Executive Order 11990 establishes a national policy to avoid adverse impacts on wetlands whenever there is a practicable alternative. The U.S. Department of Transportation (DOT) promulgated DOT Order 5660.1A in 1978 to comply with this direction. On federally funded projects, impacts on wetlands must be identified in the environmental document. Alternatives that avoid wetlands must be considered. If wetland impacts cannot be avoided, then all practicable measures to minimize harm must be included. This must be documented in a specific Wetlands Only Practicable Alternative Finding in the final environmental document. An additional requirement is to provide early public involvement in projects affecting wetlands.

### 6.3.1.6 Federal Endangered Species Act

The federal Endangered Species Act (ESA) provides guidance for the conservation of endangered and threatened species and the ecosystems upon which they depend. "Take" is defined in Section 3 of the federal ESA as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." Section 9 extends the prohibition against take to listed endangered species, and protections are also routinely applied for listed threatened species. Prohibitions on take also apply to adverse habitat modifications that can be clearly linked to effects on the species. Some species have "critical habitat" designated; potential impacts on designated critical habitat must also be addressed.

Section 10 provides mechanisms to permit take by non-federal entities, including habitat conservation plans (HCPs) that may cover a few or many species. Section 7 requires federal agencies in consultation with, and with the assistance of, the Secretary of the Interior to ensure that actions they authorize, fund, or carry out are not likely to jeopardize the continued existence of threatened or endangered species or result in the destruction or adverse modification of critical habitat for these species.

### 6.3.1.7 Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA), based on a series of treaties between the United States and other countries, makes it unlawful at any time, by any means or in any manner, to take (pursue, hunt, take, capture, possess, transport, sell, or kill) or attempt to take migratory birds. The law does not discriminate between live and dead birds, and extends these same protections to any parts, including feathers, nests, and eggs, of such birds. Nearly all native birds are thus protected. The law applies to the destruction of active nests or eggs, as well as to activities that directly or indirectly cause the abandonment of active nests of covered species. Inactive nests of most, but not all, covered species may be removed. Habitat destruction and degradation that do not result in take, as previously defined, are not prohibited, and a permit process allows for intentional take if human safety or substantial property loss is at immediate risk. Deterring birds from nesting may also be allowed, but once the first egg is laid, it becomes prohibited to interfere with the nesting process. Indirect take, such as accidental destruction of active nests through project construction activities, cannot be allowed under the permit process. Projects that may result in take must apply reasonable measures, such as either avoiding the core nesting season for birds in the region, having a qualified biologist conduct a nesting bird survey and restricting work to when no nesting is present, or establishing sound and visual barriers. In some special or emergency cases, nest relocation may be permitted.

### 6.3.1.8 Executive Order 13112 – Invasive Species

On February 3, 1999, President Clinton signed Executive Order 13112, which requires federal agencies to combat the introduction or spread of invasive species in the United States. Federal agencies involved in

implementing, funding, or approving projects generally use the state's noxious weed list to define invasive plants that must be considered as part of the National Environmental Policy Act (NEPA) analysis for a proposed project.

## 6.3.2 State

### 6.3.2.1 Lake or Streambed Alteration Program

Under Sections 1600 through 1616 of the California Fish and Game Code, project proponents (public or private) are required to notify the CDFG prior to any project that would divert, obstruct, or change the natural flow, bed, channel, or bank of any river, stream, or lake. Preliminary notification and project review generally occur during the environmental process. When an existing fish or wildlife resource may be substantially adversely affected, the CDFG is required to propose reasonable project changes to protect the resource. These modifications are formalized in a streambed alteration agreement.

### 6.3.2.2 California Coastal Act

The California Coastal Act (CCA) of 1976 was enacted to regulate development projects within California's coastal zone. The act includes requirements that protect biological resources through various control measures, which are typically implemented at the local planning level through local coastal programs (LCPs) or land use plans. The CCA protects many biological resources through a broad definition of wetlands as, "…lands within the coastal zone which may be covered periodically or permanently with shallow water and include saltwater marshes, swamps, mudflats, and fens." (Public Resources Code Section 30121.)

For local jurisdictions that do not have an approved LCP, regulation of development projects remains under the jurisdiction of the CCC.

### 6.3.2.3 California Tidelands Trust Act

Submerged lands and tidelands within the Port of Los Angeles are held in trust by the city of Los Angeles and administered by the Harbor Department to promote and develop commerce, navigation, fisheries, and other uses of statewide interest and benefit, including commercial, industrial, and transportation uses; public buildings and public recreational facilities; wildlife habitat; and open space.

### 6.3.2.4 California Endangered Species Act

The California ESA establishes the policy of the state to conserve, protect, restore, and enhance threatened or endangered species and their habitats. The California ESA mandates that state agencies should not approve projects that would jeopardize the continued existence of threatened or endangered species if reasonable and prudent alternatives are available that would avoid jeopardy. For projects that affect both a state- and federally listed species, compliance with the federal ESA will satisfy the California ESA if the CDFG determines that the federal incidental take authorization is "consistent" with California ESA under the California Fish and Game Code Section 2080.1. For projects that would result in incidental take of a state-only listed species, the project proponent must apply for a take permit under Section 2081(b).

#### 6.3.2.5 California Fully Protected Species

The state of California first began to designate species as "fully protected" prior to the creation of the California ESA. Lists of fully protected species were initially developed to provide protection to those animals that were rare or faced possible extinction, and included fish, mammals, amphibians and reptiles, birds, and mammals. Most fully protected species have since been listed as threatened or endangered under the California ESA and/or federal ESA. The regulations that implement the Fully Protected Species Statute (California Fish and Game Code Section 4700) provide that fully protected species may not be taken or possessed at any time. Furthermore, the CDFG prohibits any state agency from issuing incidental take permits for fully protected species, except for necessary scientific research.

#### 6.3.2.6 State Protections for Native Birds

California Fish and Game Code Sections 3503, 3503.5, 3505, 3800, and 3801.6 protect all native birds, birds of prey, and all nongame birds, including their eggs and nests, that are not already listed as fully protected and which occur naturally within the state. The take prohibition is similar to that under the federal MBTA.

#### 6.3.2.7 Native Plant Protection Act

Provisions of the Native Plant Protection Act prohibit the taking of special-status plants from the wild and require notification to the CDFG at least 10 days in advance of any change in land use. This allows the CDFG to salvage listed plant species that would otherwise be destroyed.

### 6.3.3 Local

#### 6.3.3.1 Los Angeles County Significant Ecological Area

The Los Angeles County General Plan (1980) identifies 62 SEAs as ecologically important land and water systems that are valuable as plant or animal communities. The SEAs are often important to the preservation of threatened or endangered species and to the conservation of biological diversity in the county. Proposed development within an SEA is reviewed by the SEA Technical Advisory Committee, and minutes of the meetings comprise the recommendations of the panel. A conditional use permit is issued containing conditions that are specific to the proposed development in each SEA.

#### 6.3.3.2 Local Tree Protection Ordinances

All applicable local tree protection ordinances can be found in Appendix 6-A.

## 6.4 Environmental Impacts and Mitigation Measures

### 6.4.1 Methodology and Assumptions

Environmental impacts on terrestrial biological resources were identified in the Preliminary Screening Analysis based on the biological resources (habitat, plants, and animals) that currently occupy the program and project sites, and the construction and operational actions that would take place under each of the alternatives. Proposed construction footprints, proximity to biological resources, and hydrological conditions under each alternative were evaluated (also see Chapter 11). The biological conditions expected under each alternative are compared to baseline conditions, and any changes in condition were

evaluated using thresholds of significance. Several of the thresholds of significance are based on compliance with existing regulations that have been established to protect biological resources (see Section 6.3).

Assessment of biological impacts at the program level requires an understanding of the current hydrologic regime and its influence on existing biological resources, and how changes in stream flow resulting from effluent management at the WRPs could affect these resources. The following methodology was applied to determine flows within channels receiving discharges from the five WRPs and potential impacts on sensitive biological resources that rely on those flows.

Because the five WRPs can affect resources downstream of the WRP discharge points, the hydrologic analysis focuses on resources in San Jose Creek, the Zone 1 Ditch/Rio Hondo/Whittier Narrows area, and the San Gabriel River from the San Jose Creek confluence downstream to the San Gabriel River Estuary (see Figure 6-1). The analysis reviews flow data from the WRPs, along with instream flow data independently collected at USGS and LACDPW gauge stations, to characterize seasonal variations in flow and the potential of WRP discharges to affect those flows. The analysis then examines how WRP discharges affect biological resources. The reference point for WRP discharges and biological resource conditions is the baseline year of 2008, and is considered representative of the discharges from each WRP. Monthly precipitation was generally below average during the dry-season months (May to October) at southwestern California stations during 2008 (NOAA 2009), making the baseline an appropriate year to determine if WRP flows are a substantial contributor to aquatic habitat conditions. Each WRP may discharge to a stream or to a recycled water system; if discharging to a stream, some WRPs (SJCWRP and WNWRP) have several discharge points, while the others (POWRP, LCWRP, and LBWRP) have a single discharge point.

The analysis for determining significance of changes to instream flow resulting from effluent management on biological resources is described in detail under Impact BIO-1 and is referenced under subsequent relevant impact discussions.

It should be noted that an action may have direct and indirect physical effects on biological resources. With regard to biological impact thresholds, a direct impact would include physical harm to a sensitive resource, whereas an indirect impact would include a modification to habitat or other features that a species relies upon. These direct and indirect impacts (which are in reference to biological resource impacts) differ from those identified and defined by the Corps in Section 3.5.2 (which are in reference to federal regulations and responsibilities). The differing California Environmental Quality Act (CEQA) and NEPA baselines are defined in the following section, as they relate to biological resources.

#### 6.4.1.1 Baseline

### CEQA Baseline

The CEQA baseline for the Clearwater Program is described in Section 1.7.4.1. With regard to biological resources, the baseline for analysis under CEQA refers to the physical site conditions, vegetation cover, and wildlife use at the time that the notice of preparation (NOP) was issued, which was 2008. A description of the physical environmental conditions in the JOS that existed at the time of the NOP is presented in Section 2.2.4.

### NEPA No-Federal-Action Baseline

The NEPA baseline for the Clearwater Program is described in Section 1.7.4.2. The NEPA baseline is not bound to a "no growth" scenario. The NEPA baseline differs from the CEQA baseline because unlike CEQA, which refers to a point in time, the NEPA baseline refers to the full range of construction and

operational activities that the Sanitation Districts would implement, and is likely to implement, absent a Corps permit under Section 10 of the Rivers and Harbors Act, Section 404 of the CWA, and Section 103 of the Marine Protection, Research, and Sanctuaries Act. Specifically, the NEPA baseline with regard to biological resources is the physical condition of the site, vegetation, and wildlife that reasonably would be expected over the lifetime of the project in the absence of federal action (e.g., federal funding and permitting actions).

Note that the NEPA analysis includes direct and indirect impacts as discussed in Section 3.5.2. Any impact associated with project elements located outside the Corps' geographic jurisdiction (i.e., the marine environment) during construction would be the indirect result of the Corps permit and considered an indirect impact under NEPA. Any impact associated with project elements located within the Corps' geographic jurisdiction (i.e., the marine environment) during construction would be the direct result of the Corps permit and considered a direct impact under NEPA. Any impact that occurs during operation would be considered an indirect impact under NEPA.

## 6.4.2 Thresholds of Significance

The program and/or project would pose a significant impact if it exceeds any of the following thresholds for terrestrial biological resources (BIO):

BIO-1. Results in direct or indirect impacts on riparian habitats, special-status vegetation communities, or other sensitive natural community identified in local or regional plans, policies, or regulations, or by CDFG or USFWS.

BIO-2. Results in direct or indirect take of a federally listed, threatened, or endangered plant or wildlife species.

BIO-3. Results in direct or indirect take of a state-listed, threatened, or endangered plant or wildlife species.

BIO-4. Results in direct or indirect impacts on designated critical habitat for any state- or federally listed threatened or endangered plant or wildlife species.

BIO-5. Results in direct or indirect impacts on any CDFG wildlife species of special concern.

BIO-6. Results in direct or indirect impacts on any rare, endemic, or regionally sensitive plants on California Native Plant Society Lists 1 or 2.

BIO-7. Results in direct or indirect impacts on any HCPs, natural community conservation plan, or other approved local, regional, or state HCPs.

BIO-8. Results in direct or indirect impacts on wetlands, waters, or special aquatic habitats regulated by the Corps, CDFG, CCC, Regional Water Quality Control Board (RWQCB), or the County of Los Angeles.

BIO-9. Directly or indirectly interferes with the movement of any freshwater fish or terrestrial wildlife species through impacts on or reduction in quality of a documented wildlife corridor or habitat linkage.

BIO-10. Conflicts with any other federal, state, or local policies or ordinances protecting biological resources.

Program and project elements were analyzed by threshold in the Preliminary Screening Analysis (Appendix 1-A) to identify potentially significant impacts on terrestrial biological resources before mitigation. Table 6-4 identifies which elements were brought forward for further analysis by threshold in this EIR/EIS for Alternatives 1 through 4. If applicable, Table 6-4 also identifies thresholds evaluated in this EIR/EIS if an emergency discharge into various water courses were to occur under the No-Project or No-Federal-Action Alternatives, as described in Sections 3.4.1.5 and 3.4.1.6.

**Table 6-4. Thresholds Evaluated**

| | | Threshold | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Alt. | BIO-1 | BIO-2 | BIO-3 | BIO-4 | BIO-5 | BIO-6 | BIO-7 | BIO-8 | BIO-9 | BIO-10 |
| **Program Element** | | | | | | | | | | | |
| Conveyance System Improvements | 1–5 | | | | | | | | | | X |
| SJCWRP Plant Expansion | 1–5 | | X | X | | X | | | | | X |
| SJCWRP Process Optimization | 1–4 | | X | X | | X | | | | | X |
| SJCWRP Effluent Management | 1–5 | X | X | X | | X | | | X | X | |
| POWRP Process Optimization | 1–4 | | | | | | | | | | X |
| POWRP Effluent Management | 1–5 | X | X | X | | X | | | X | X | |
| LBWRP Process Optimization | 1–4 | | | | | | | | | | X |
| WNWRP Effluent Management | 1–5 | X | X | X | | X | | | X | X | X |
| JWPCP Solids Processing | 1–5 | | | | | X | | | | | |
| **Project Element** | | | | | | | | | | | |
| JWPCP East Shaft Site | 1,2 | | | | | | | | | | X |
| LAXT Shaft Site | 1,2 | | | | | | | | | | X |
| JWPCP West Shaft Site | 3,4 | | | | | | | | | | X |
| Angels Gate Shaft Site | 3 | | | | | X | | | | | X |
| Royal Palms Shaft Site | 4 | | X | | | | | | | | X |

Alt. = alternative

For a detailed discussion of impacts associated with marine biological resources resulting from the construction of the offshore tunnel, construction and operation of the riser and diffuser, and rehabilitation and maintenance of the existing ocean outfalls, refer to Chapter 13.

In the alternatives analysis that follows, if a program or project element is common to more than one alternative, a detailed discussion is presented only in the first alternative in which it appears.

## 6.4.3 Alternative 1

### 6.4.3.1 Program

#### *Impact BIO-1. Would Alternative 1 (Program) result in direct or indirect impacts on riparian habitats or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the CDFG or USFWS?*

#### WRP Flow Analysis

Tertiary-treated effluent from the SJCWRP and WNWRP is discharged to open channels that support riparian habitat used by a federally and state-listed species. The POWRP discharges tertiary-treated effluent to a concrete-lined channel that flows to an unlined channel segment several miles downstream where it, along with groundwater upwelling and urban stormwater runoff, also supports riparian habitat used by federally and state-listed species. In addition, effluent flow has the potential to affect other biological resources. Because habitat and species are interconnected, this analysis pertains to all relevant biological effects of WRP flow; therefore, subsequent impact discussions will refer back to this WRP flow analysis as needed to determine significance.

The locations of all discharge points discussed in the analysis that follows are mapped on Figure 6-2.

##### Pomona Water Reclamation Plant

The POWRP discharges to the South Fork of San Jose Creek. During the baseline year, 2008, discharges showed a day-to-day variation of 2 to 4 MGD. Monthly average discharges varied from a winter peak of 6 to 7 MGD from December to February, to a summer low of 2 to 3 MGD from June to October.

There are no flow data for the South Fork of San Jose Creek but routine observations by Sanitation Districts' staff indicate that dry weather flow in the absence of POWRP discharges is negligible (less than 1 MGD). This creek section is a lined channel and presumably there is little flow loss during its course to the San Jose Creek main stem. The South Fork joins the much larger main stem approximately 3 miles below the POWRP discharge and 13 miles above the confluence with the San Gabriel River. The main stem San Jose Creek is also lined until about 1 mile above the confluence with the San Gabriel River. Groundwater upwelling has been observed at perforations in the concrete lining of San Jose Creek. The Sanitation Districts collected flow measurements in the lined portion of the creek on 9 days in 2007 and 2008 when there was no discharge from the POWRP or precipitation for 48 hours or more prior to the measurement. On each day, a measurement at station Pomona RC, located 1.2 miles below the confluence of the South Fork and San Jose Creek, was paired with a measurement at station Pomona RD, located near the downstream end of the lined segment of San Jose Creek (Figure 6-2). Those measurements indicate that groundwater upwelling and dry weather urban runoff contribute between 7 and 13 MGD between these two stations (Figure 6-17), a flow volume three to six times greater than dry season POWRP discharges. Monthly average flows in San Jose Creek during 2008 ranged from a low of 18.7 MGD in January to a high of 38.9 MGD in May (LADPW 2008, 2009). These data thus indicate that the POWRP contributes a fraction of dry season flow in the unlined channel of San Jose Creek at its confluence with the San Gabriel River.

##### San Jose Creek Water Reclamation Plant

There are four discharges from the SJCWRP listed here in order from upstream to downstream (shown on Figures 6-2 and 6-3):

- SJC002 discharges to the unlined segment of San Jose Creek just upstream of its confluence with the San Gabriel River.

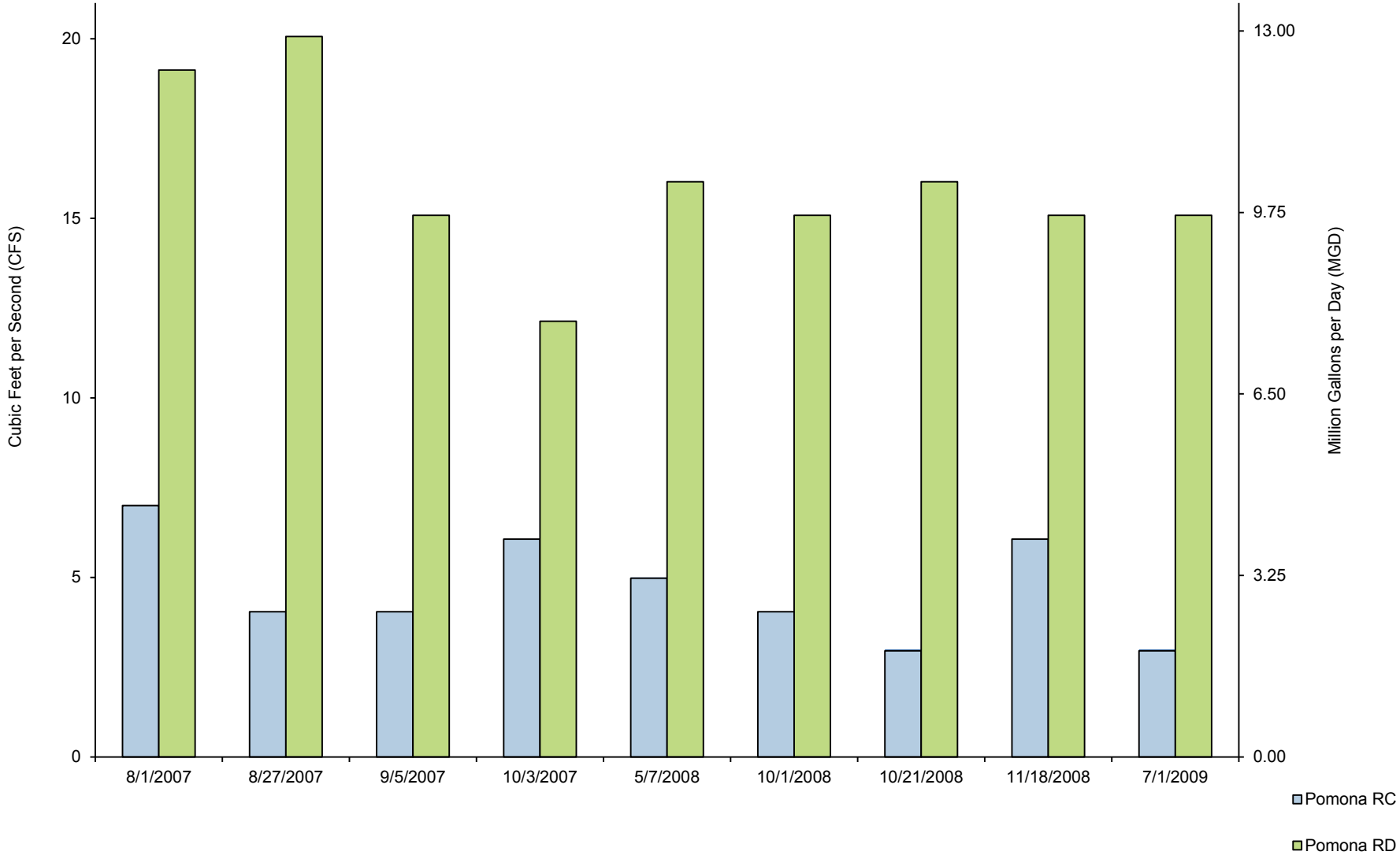



**FIGURE 6-17**

CLEARWATER Program

## Measured San Jose Creek Flow When POWRP Discharge is Zero

Source: Sanitation Districts of Los Angeles County 2011

- SJC003 discharges to the unlined segment of the San Gabriel River just below its confluence with San Jose Creek.
- SJC001A discharges to the unlined San Gabriel River about 4 miles downstream of the SJCWRP, near the San Gabriel Coastal Spreading Grounds.
- SJC001 discharges to the lined San Gabriel River about 9 miles downstream of the SJCWRP, at the beginning of the lined channel approximately 1,000 feet upstream of Firestone Boulevard.

The SJC002 discharge is just below the USGS San Jose Creek gauge station. During 2008, daily discharges from January through May at SJC002 gradually declined from 35 to 23 MGD. Discharges dropped to about 12 MGD for most of June; recovered to an average 26 MGD in July; virtually stopped during August, September, and October; and resumed at about 10 to 15 MGD in November and December. During the times discharges were occurring, there were generally little day-to-day variations in flows. For the year as a whole, discharges averaged 18.7 MGD. Given the estimate of dry-season natural flows amounting to 7 to 13 MGD before accounting for recharge losses, it is likely that when SJC002 was active between May 1 and August 10, it accounted for about one-half of the total flow in San Jose Creek. Because SJC002 is only about 0.5 mile upstream of the confluence with the San Gabriel River, this discharge would also have had a substantial effect on flows in the river.

Flows in the San Gabriel River have been estimated at USGS gauge stations both upstream and downstream of the SJC002 and SJC003 discharges. The gauge station at Santa Fe Dam (USGS11085000) is located 6.4 miles upstream. Most of this segment is unlined and, although one major tributary channel (Walnut Creek) contributes flow, inspection of aerial photographs suggests that the segment is generally dry; it supports very little vegetation, and the gauge station at Santa Fe Dam usually records flow only in conjunction with major precipitation events or releases from upstream dams. It thus appears that dry-season flow in the San Gabriel River below San Jose Creek consists of WRP discharges and the 7 to 13 MGD natural flow contribution from San Jose Creek.

This inference can be verified because a USGS gauge station for the San Gabriel River above Whittier Narrows (USGS11087020) is located only 0.4 mile (unlined channel) downstream of the SJC003 discharge. The 2008 discharge and gauge records are shown on Figure 6-18. Except for two periods (late May to early June and late July to early August), these records match each other very closely. There are a number of upstream activities to explain these anomalies. The Santa Fe Dam gauge (USGS11085000) record shows that the late July to early August period was a time of high flow releases at Santa Fe Dam, with releases of 100 to 500 cubic feet per second (60 to 330 MGD) every day from July 8 to August 11. The May to June anomaly remains unexplained, but may have been due to a high flow event on Walnut Creek, a major tributary that enters the San Gabriel River below Santa Fe Dam. There were no imported water deliveries to this location during this time. For the remainder of the record, there is a close correspondence between WRP discharges and San Gabriel River flows. In May, river flows are slightly higher than WRP discharges, suggesting that natural instream flows are greater than incidental recharge of water in the unlined areas of San Jose Creek and the San Gabriel River upstream of the gauge station. From mid-August through October, WRP discharges are slightly higher than gauged river flows, suggesting that infiltration of WRP discharges is occurring in the unlined segments of San Jose Creek and the San Gabriel River located upstream of the gauge station. When discharges stopped for 3 days in August 2008, flows dropped to zero at the gauge station. These records show that at times WRP discharges are the principal source of flow for this portion of the San Gabriel River.

The discharge at SJC001 is located 3.5 miles downstream from the San Gabriel Coastal Spreading Grounds. If flows are fully infiltrated at the spreading grounds and in the river, then this discharge likely accounts for a large portion of the dry-season flow of the San Gabriel River at this point and, as there are

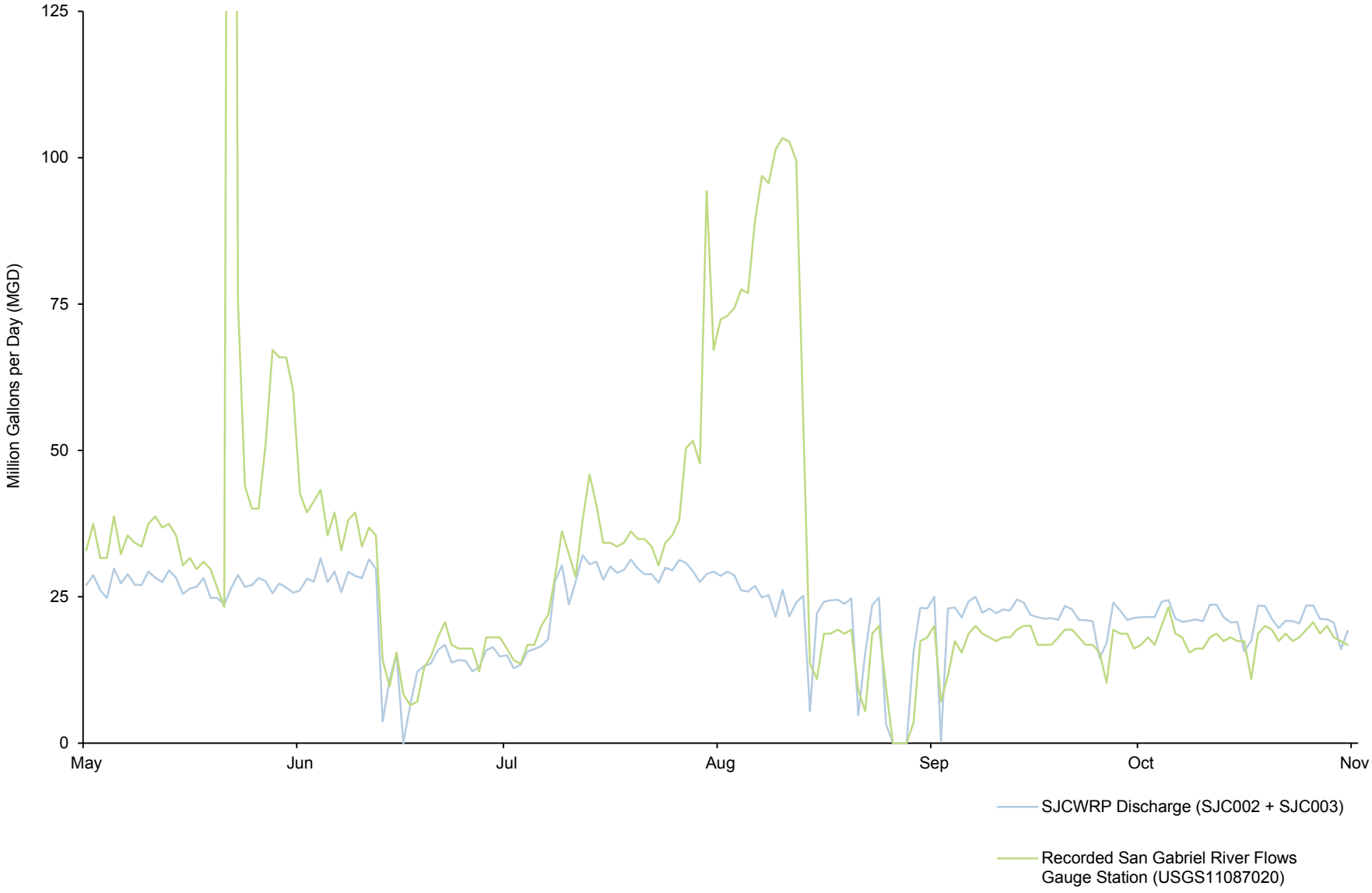



**FIGURE 6-18**

CLEARWATER Program

## Comparison of SJCWRP Discharges and Gauge Station Flows for the San Gabriel River in 2008

Source: Sanitation Districts of Los Angeles County 2011

no significant tributaries downstream until Coyote Creek at the LBWRP, it also accounts for most of the downstream channel flow (apart from the contributions by LCWRP and LBWRP, discussed later). In 2008, SJC001 discharges were never less than 25 MGD and mostly fluctuated between 30 and 50 MGD except for an extended period of 50 to 60 MGD discharges in November and December. Discharges for the May to October dry season averaged 39.4 MGD. These levels of discharge, however, are a historic anomaly, as there were no direct deliveries from the SJCWRP discharge to the San Gabriel Coastal Spreading Grounds during this period. When these direct deliveries to the San Gabriel Coastal Spreading Grounds through the discharge point resumed the following year, the average dry season discharge was 21 MGD, slightly less than the annual average of 24 MGD.

The SJCWRP discharges are also important during the wet season. In 2008, these discharges amounted to less than 10 percent of San Gabriel River flow on only 19 days, all of which were associated with major rainfall events. On every other day of the year, WRP discharges amounted to more than 20 percent of gauged flow, and for about 290 days, they amounted to more than 50 percent of gauged flow. However, it should also be noted that in February 2010, flows within San Jose Creek and the San Gabriel River were observed without discharge from the POWRP or SJCWRP, and with no contribution from upstream sources within the San Gabriel River. It was evident that this flow regime (supplied via groundwater upwelling in lined and unlined portions of San Jose Creek) resulted in water over-spilling each of the series of grade-control weirs in the unlined San Gabriel River channel, indicating that the amount of water flowing without contribution from POWRP or SJCWRP discharge is adequate to maintain flows over the weirs, at least at certain times of the year.

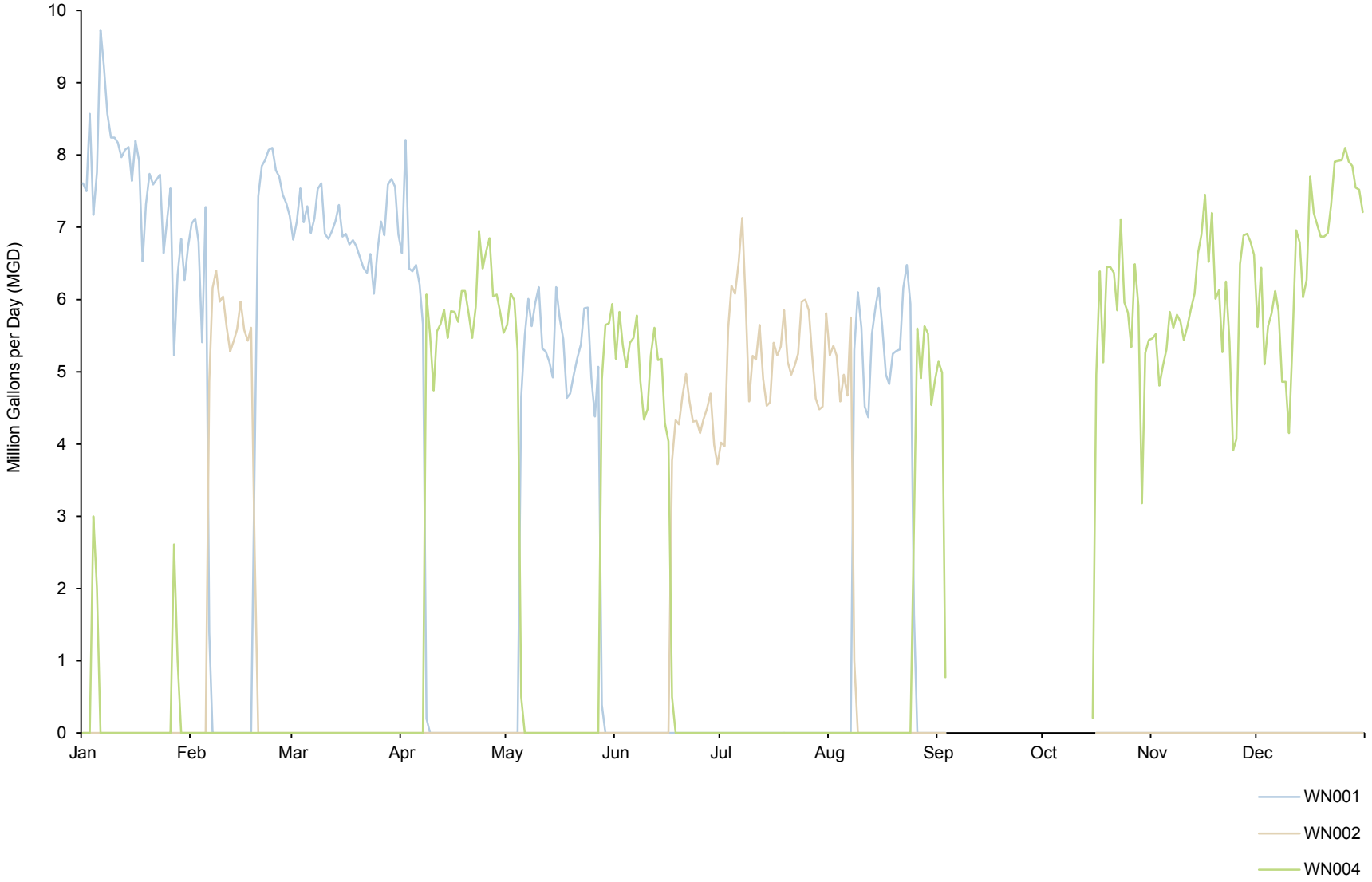
### Whittier Narrows Water Reclamation Plant

There are three discharges from the WNWRP:

- WN001 discharges to the San Gabriel River at the end of Siphon Road, just a few hundred feet upstream of the Whittier Narrows Dam.
- WN002 discharges to the Zone 1 Ditch about midway in its course between the San Gabriel River and the Rio Hondo. These flows are channeled to the Rio Hondo.
- WN004 discharges to the Rio Hondo next to the WNWRP, about 0.5 mile upstream of the confluence of the Rio Hondo and the Zone 1 Ditch.

Thus, WN001 discharges to the San Gabriel River and contributes to the WRP-derived flows in the river, while WN002 and WN004 contribute to flows in the Zone 1 Ditch and the Rio Hondo, respectively. As shown on Figure 6-19, the pattern of operations at the WNWRP involves using only one of these discharges at any given time, usually for a period of several weeks to several months, and then shifting to another discharge point. The annual average discharge from the WNWRP is 6 MGD, with a dry-season discharge of about 5 MGD.

The only USGS gauge station that can assist in understanding the potential hydrologic implications of discharges from the WNWRP is the station on the Rio Hondo above Whittier Narrows, which has records from 1956 to the present. Records for that station in 2008 indicate that flows exceeded 20 MGD and were clearly associated with major precipitation events on 36 days, or 10 percent of the time. When discharges occurred during these high flows, they represented between 1 and 23 percent of natural flows as measured at the gauge station. On another 43 days, or 12 percent of the time, stream flows were between 4.5 and 19 MGD, and on days when discharges occurred, the discharge flows represented between 29 and 138 percent of natural flows as measured at the gauge station. On all remaining days, amounting to 78 percent of the year, gauged stream flows were less than 4.5 MGD, and discharges generally exceeded




NOTE: No WNWRP Discharge from September 4 - October 12, 2008

**FIGURE 6-19**

CLEARWATER Program

## Discharges from WNWRP in 2008

Source: Sanitation Districts of Los Angeles County 2011

natural flows by more than 1000 percent. It is thus generally true that when the WNWRP is discharging to the Rio Hondo, it represents by far the predominant source of flow in the river.

Discharges from the WNWRP are greatly dependent upon flood control maintenance and other activities outside of the Sanitation Districts' control. For example, in recent years, discharges to the Rio Hondo channel were interrupted for long periods of time due to reconstruction of a railroad bridge over the river as the levees were being raised as a part of the Los Angeles County Drainage Area improvement program, and for the reconstruction of the Beverly Boulevard bridge, which was severely damaged by fire. Discharges to the Zone 1 Ditch have been interrupted due to sediment deposition that covered the opening into that waterway, and by the re-armoring and burial of a sewer line near the Rio Hondo that had been exposed by heavy storm flows. In 2008, the WNWRP went through plant upgrades resulting in the plant being offline and not discharging to any water body in September and October. Additionally, annual river bottom cleanouts at various points downstream of the WNWRP discharge by the LACDPW and management and maintenance of the spreading grounds by the LACDPW in coordination with the Water Replenishment District of Southern California routinely require the diversion of discharges away from the areas being cleared. Because of these types of constraints, the Sanitation Districts are not able to regularly discharge to any particular discharge point, and historical flows as well as future releases to any particular discharge point have and may be interrupted for an extended period of time.

### Los Coyotes Water Reclamation Plant

Based on the prior analysis, discharges from the SJCWRP at SJC001 are generally a significant fraction of the dry-season source of flow in the San Gabriel River just upstream of the LCWRP, except during relatively brief periods following major precipitation events. A comparison of monthly average discharges from SJC001 and the LCWRP at LC001 and flows in the San Gabriel River for the baseline year of 2008 is provided in Table 6-5.

**Table 6-5. 2008 Mean Monthly Discharges From SJC001 and LC001 and San Gabriel River Flows**

| Month | SJC001 (MGD) | LC001 (MGD) | San Gabriel River Above Spring Street[a] |
|---|---|---|---|
| Jan | 40 | 29 | 153 |
| Feb | 39 | 27 | 143 |
| Mar | 36 | 25 | 130 |
| Apr | 33 | 26 | 126 |
| May | 34 | 24 | 108 |
| Jun | 41 | 24 | 132 |
| Jul | 37 | 23 | 106 |
| Aug | 40 | 19 | 125 |
| Sep | 43 | 19 | 139 |
| Oct | 42 | 25 | 137 |
| Nov | 49 | 26 | 127 |
| Dec | 56 | 27 | 215 |
| Annual | 41 | 25 | 136 |

[a] Additional flows at the station above Spring Street include precipitation runoff and upwelling upstream of this station.
Source: LACDPW 2008, 2009

As shown in Table 6-5, the combined annual discharge of SJC001 and LC001 averages 49 percent of San Gabriel River flows downstream of the LCWRP.

### Long Beach Water Reclamation Plant

The LBWRP discharges to Coyote Creek at LB001 immediately upstream of its confluence with the San Gabriel River. Both channels are fully lined for many miles both up and downstream. During 2008, discharges showed a day-to-day variation of 2 to 4 MGD. Monthly average discharges varied from a July minimum of 8.2 MGD to a December maximum of 17.2 MGD.

The LACDPW monitors flow in Coyote Creek approximately 1 mile upstream of LB001 (Station F354 [LACDPW 2008, 2009]). Mean daily flow data in Coyote Creek from 2008 range from 0.8 to about 1,600 MGD. Excluding storm events, the mean daily discharge ranged from 0.8 to 69.8 MGD with a median flow of about 13.6 MGD. The median dry weather discharge was only slightly less (13.1 MGD) during the May to October dry season. Even during the dry season, flows in Coyote Creek were highly variable, indicating a lack of flow buffering that is typical of urbanized watersheds.

During the 2008 May to October dry season, the LBWRP contributed between 7 and 91 percent of the Coyote Creek flow. The median contribution of the LBWRP to the 2008 dry weather Coyote Creek flow was about 43 percent.

In 2008, the median daily discharge of the WRP effluents (POWRP, SJCWRP, WNWRP, LCWRP, and LBWRP) equaled 81 percent of the San Gabriel flow below Coyote Creek. Daily discharges varied between 16 and 263 percent of the flow in the San Gabriel River below Coyote Creek indicating that at times the quantity infiltrating to groundwater in unlined segments or to spreading grounds exceeded the flow reaching the lower San Gabriel River. In 2008, this occurred on 38 separate days.

### Conclusions of Flow Analysis

Flow predictions based on WRP discharge volumes can be compared to independent USGS flow data for SJCWRP discharges to the San Gabriel River during 2008. Those data indicate consistency between these two independent data sources.

For less than 30 days per year, flow in stream channels within the study area is dominated by runoff from recent storm events. At these times, the fraction of flow contributed by WRP discharges varies from less than 1 percent up to about 50 percent. For the remainder of the year, flow is dominated by WRP effluent discharges, with important secondary contributions from urban runoff, groundwater upwelling, releases from upstream reservoirs, and intermittent imported water deliveries. For the May to October dry season, WRP discharges usually constitute the principal source of flow in the Rio Hondo and Zone 1 Ditch, and the greatest sources of flow for San Jose Creek below SJC002. It follows that for most of the year, the volume of flow in these waters is predominately influenced by WRP discharges.

### Biological Effects of Water Reclamation Plant Effluent Management

This analysis evaluates the biological effects of WRP discharges to the six stream segments receiving those flows (see Figure 6-2):

- Segment 1: The concrete-lined segment of San Jose Creek extending from the POWRP discharge to approximately 1 mile upstream of the confluence with the San Gabriel River.
- Segment 2: The unlined portion of San Jose Creek and the contiguous unlined portion of the San Gabriel River extending from the San Jose Creek confluence downstream to the San Gabriel Coastal Spreading Grounds.
- Segment 3: The Zone 1 Ditch, including both lined and unlined portions.
- Segment 4: The Rio Hondo extending from the WNWRP discharge point downstream to the Whittier Narrows Dam.

- Segment 5: The Rio Hondo extending from the Whittier Narrows Dam to the Rio Hondo Spreading Grounds.
- Segment 6: The San Gabriel River extending from the San Gabriel Coastal Spreading Grounds to the river's mouth at Seal Beach.

### *Segment 1: San Jose Creek*

No sensitive biological resources are known to occur in the lined segment of San Jose Creek. This segment of the creek is perennial and supports non-native fish (carp, mosquitofish, and tilapia) (DeShazo 2007; Aquatic Bioassay & Consulting Laboratories 2008) and may support other aquatic animals. During the baseline year of 2008, the POWRP discharge constituted at least 50 percent of flows in this segment of the creek on 9 days in May to June, and 5 days in November to December. This discharge likely has a beneficial effect on aquatic life in the creek, especially during the drier months of the year, but because of the perennial natural flows and the near-absence of biological resources, POWRP discharges likely have little effect on biological resources in this lined segment of San Jose Creek. Based on flow measurements taken in the lower portion of San Jose Creek by the LACDPW (2008, 2009), the monthly average contribution of the POWRP discharge to the total San Jose Creek flow in 2008 ranged from 19 percent in January to 39 percent in May.

### *Segment 2: San Jose Creek – San Gabriel River*

A variety of sensitive biological resources occur within Segment 2, an unlined portion of San Jose Creek and the San Gabriel River. These resources include:

- Riparian habitats, all of which are considered to be sensitive natural communities by the CDFG.
- Riparian vegetation that provides nesting habitat for the least Bell's vireo, a federally and state-listed endangered species. It also provides suitable habitat for yellow warbler and yellow-breasted chat, two songbirds listed by the CDFG as species of special concern.
- Ponded waters that may provide suitable habitat for the western pond turtle, listed by the CDFG as a species of special concern.
- The area constitutes a linkage in regional habitat; many species that move between areas within this urbanized region rely on areas such as this habitat patch to provide refuge and forage during their migratory movements. A reduction in the extent of riparian habitat would have the potential to affect the quality of linkages between upstream and downstream habitats.

As described in the preceding flow analysis, POWRP discharges contribute from approximately one-sixth to one-third of the total flow in the San Jose Creek portion of this channel segment. Additional discharges from the SJCWRP raise this number to the point at which WRP discharges constitute over one-half of total San Gabriel River flow for approximately 290 days a year. The WNWRP sometimes discharges to this segment as well. Although the WNWRP discharge is downstream of most riparian and aquatic habitat in Segment 2, it potentially benefits riparian habitat for about 1 mile downstream of the Whittier Narrows Dam.

As shown on Figure 6-18, during the dry season, most of the San Gabriel River flow consists of WRP effluent; therefore, WRP discharges may support riparian habitat and the wildlife uses that depend upon it. During the dry season, major reductions in discharges from the POWRP and from the two upstream SJCWRP discharges could potentially result in a measurable decline in stream flow, and thus in the abundance or vigor of riparian vegetation. A prolonged stream flow reduction, which might occur as a result of a prolonged cessation of WRP discharges (for instance if no discharges occurred during one year's dry season), could result in the loss of a fraction of riparian vegetation in this area, with recovery

taking several years of normal flows. Such a prolonged event could also result in decline or extirpation of local populations of special-status species, such as least Bell's vireo and western pond turtle (if present). However, it is not clear that reduction or cessation of WRP discharges would necessarily result in a substantial reduction in stream flow because base flows in San Jose Creek (derived from urban runoff and upwelling groundwater) have been observed to overflow each of the series of grade-control weirs on the San Gabriel River even when no WRP discharge is occurring. If dry-season flows are sufficient to overtop the weirs, which has been observed, no wetted width reductions or subsequent reductions in the quality of the riparian vegetation due to desiccation would be expected within the approximately 5,400-foot-long portion of the San Gabriel River between San Jose Creek and the last grade-control weir above the Whittier Narrows Dam. Flows sufficient to overtop these weirs should maintain the wetted width of this habitat and constitutes the relevant measure for potential harm to aquatic and riparian habitat. Flows that maintain the wetted width of this channel segment would likely maintain current habitat conditions.

#### *Segments 3 and 4: Channels Upstream of the Whittier Narrows Dam*

Biological resources occur in channels fed partially by WRP discharges in two areas above the Whittier Narrows Dam. These channels are the Zone 1 Ditch (Segment 3) and the Rio Hondo between the WNWRP and the Whittier Narrows Dam (Segment 4). Surface flows in this area are derived from the WNWRP and include its discharges to the Rio Hondo and to the Zone 1 Ditch, as well as San Gabriel River flow that is intermittently routed through the Zone 1 Ditch, which may include SJCWRP and, to a lesser extent, POWRP flows. Sensitive biological resources in this area are the same as identified for Segment 2, and in addition, the area includes the Whittier Narrows Recreation Area, which has been designated as SEA-42 by Los Angeles County. One exception is the upstream 0.8 mile of the Zone 1 Ditch, which is lined and does not support riparian vegetation.

As noted in the preceding analysis of WNWRP discharges, those discharges are the most significant quantified sources of flow in the Rio Hondo and the Zone 1 Ditch. However, due to the regular rerouting of flows between the various WNWRP discharge points, the WNWRP flows themselves are highly intermittent for any given area, so at various points in time, there is no flow to each location for extended time periods. The amount of discharge necessary to maintain current habitat conditions is not clear.

WNWRP discharges during the baseline year of 2008 are shown on Figure 6-19. Discharges from WN001 enter the San Gabriel River and did not benefit biological resources in Segments 3 or 4, although they did likely benefit biological resources in Segment 2, as discussed earlier. Discharges from WN002 and WN004 went to the Zone 1 Ditch and the Rio Hondo, respectively, and did benefit biological resources in Segments 3 and 4 and downstream from those segments.

In the baseline year, the Rio Hondo received discharges during much of April through August, and from mid-October until the end of the year. The April through August discharges would have been available to support riparian vegetation and aquatic habitat. In most of September and half of October, however, the WNWRP was not discharging, and no WRP flow would have been available to maintain aquatic and riparian habitat in the Zone 1 Ditch and Rio Hondo channels.

The Zone 1 Ditch received discharges briefly in February, and then from mid-June into early August. These latter discharges coincided with a substantial portion of the dry season and likely made a substantial contribution to the maintenance of functioning riparian habitat during that time. The discharges ceased approximately 2 months before the end of the dry season, likely resulting in some stress to riparian vegetation and wildlife during that time. However, that late in the season, all sensitive bird species would have finished nesting and chicks would have fledged.

### *Segment 5: The Rio Hondo Below the Whittier Narrows Dam*

The Rio Hondo below Whittier Narrows Dam is a concrete-lined channel with no significant biological resources. This lined segment of the river is only seasonally wetted, and aerial photographs indicate that it supports negligible aquatic habitat or riparian vegetation. WRP discharges alone likely make a minor contribution to flow in this segment; rather, it is wetted when surface flows occur in response to rainfall events. Discharges to this segment, therefore, produce negligible biological benefits.

### *Segment 6: The San Gabriel River Below the San Gabriel Coastal Spreading Grounds*

In the baseline year of 2008, Segment 6 received a large fraction of total discharges from the SJCWRP, and all discharges from the LCWRP and LBWRP. In 2008, WRP flow amounted to a total daily discharge of 70 to 100 MGD. Other sources of flow include a relatively small Coyote Creek contribution (15 to 20 MGD), and unquantified dry season flow through storm drains. Although WRP discharges are the largest source of dry-season flow in this channel segment, there are no identified sensitive biological resources in this segment, which is entirely lined and does not support any riparian vegetation. Discharges to this segment, therefore, produce negligible biological benefits to terrestrial biology.

The estuarine portion of Segment 6 supports a variety of marine species and waterfowl. The character of the estuary is influenced by the quantity and quality of freshwater inputs as well as discharges from power-generating facilities. During the summer of 2005, a study of the estuary determined that tidal flow and power generation station discharges dominate the circulation of water in the estuary (Rosenberg 2007). Large fluctuations in river flow that were recorded during the 2005 study caused little if any change in salinity at the upstream end of the estuary and no measurable change in the middle and downstream portions of the estuary (Rosenberg 2007). This indicates that the changes in flow to the estuary that may occur as a result of the program would have minor and probably immeasurable effects on the biota of the San Gabriel River Estuary.

### *Conclusions of the Biological Analysis of Water Reclamation Plant Effluent Flow*

The principal biological resources affected by WRP discharges are found in Segments 2, 3, and 4, all located in the Whittier Narrows area. In each of these segments, intermittent WRP discharges constitute one of the principal sources of flow supporting riparian vegetation and species that are dependent upon riparian vegetation. During the 2008 baseline year dry season, WRP discharges constituted over one-half of flows in Segment 2. WRP discharges were the primary source of dry season flow in Segments 3 and 4, except at times when the LACDPW performs a reservoir release and diverts water to the Rio Hondo through the Zone 1 Ditch. These diversions include deliveries from the Morris, San Gabriel, and Santa Fe Reservoirs.

Biological resources sustained in part by the WRP discharges include a bird listed as endangered by both the federal and state governments (the least Bell's vireo), three species designated by the CDFG as species of special concern (the yellow warbler, yellow-breasted chat, and western pond turtle), and riparian and aquatic habitats protected by the CDFG and, in the Whittier Narrows area, by the county of Los Angeles.

WRP effluent management as proposed in the Clearwater Program would likely result in some years with WRP discharges substantially lower than the baseline in the lined portions of the San Gabriel River. However, flow conditions are not expected to change markedly in the unlined portions of the system based on the modest changes on annual average discharge and the baseline variability in river flow. With regard to Segment 2, non-effluent surface flows that continue throughout the year from the head of the unlined portion of San Jose Creek through the San Gabriel River to the Zone 1 Ditch would prevent significant biological resources impacts.

With regard to Segments 3 and 4, dry-season discharges at a level lower than the 2008 baseline year might result in significant adverse impacts on biological resources, particularly riparian vegetation and species depending on it.

Because substantive changes in flow would only result from a specific major reuse project under the Clearwater Program, a project-level analysis would be conducted for such projects. The potential for program changes to WRP effluent discharge to affect riparian habitats, special-status vegetation communities, or other sensitive natural community identified in local or regional plans, policies, or regulations, or by CDFG or USFWS is discussed by program element in the following sections. All effluent discharge locations and stream segments are mapped on Figure 6-2.

## San Jose Creek Water Reclamation Plant – WRP Effluent Management

### Operation

Based on the WRP flow analysis previously described, effluent management at the SJCWRP in conjunction with effluent management at the POWRP has the potential to affect biological resources in the unlined segment of the San Gabriel River (a portion of Segment 2) and channels upstream of the Whittier Narrows Dam (Segment 3). The combined WRP discharges contribute a substantial portion of the flow in the San Gabriel River, and it appears that the effluent currently contributes to the support of riparian vegetation in the unlined segment of the San Gabriel channel. The proposed operation of the SJCWRP would not change the annual average discharge rates for SJC002 and SJC003, two of the three discharge locations utilized by this WRP under this alternative; however, changes to the seasonality of flows could occur, with lower discharge rates during drier times of the year. Additionally, the downstream discharge location (SJC 001) could achieve zero discharge resulting in an operational range of 0 to 49 MGD. A change in operating range at SJC001 would not, by itself, result in indirect effects to riparian vegetation because the downstream segments of the San Gabriel River are concrete and do not support vegetation.

Under some observed conditions in which no effluent is being discharged from the SJCWRP (or the POWRP), flow is apparently maintained in the San Gabriel River via groundwater upwelling, as evidenced by the continued flow of water over the grade-control weirs in the unlined channel. If this condition is consistent, no wetted width reductions or reductions in the quality of the riparian vegetation due to desiccation would occur with the discharges proposed under the program, and potential impacts on riparian habitat would be less than significant. However, because of the inter-annual variability in naturally occurring precipitation, and the variability in flow management due to planned and unplanned constraints on the Sanitation Districts and LACDPW activities, it is unknown whether this would be the case through the lifetime of the program. Given that the annual average combined discharge from SJC002 and SJC003 is not projected to change, no reduction in habitat is expected. Impacts would be less than significant.

## Pomona Water Reclamation Plant – WRP Effluent Management

### Operation

Based on the WRP flow analysis, the proposed operation of the POWRP would not substantially change the discharge rate relative to the 2008 baseline. The year 2008 was considered a typical treatment and effluent flow year for both operations and receiving water flow rates. Under program operations, the baseline discharge range of 2.2 to 7.0 MGD on a monthly basis would be maintained. Relative to the baseline year of 2008, there would be no flow reduction. In 2008, dry season flows within San Jose

Creek with no effluent discharge from the POWRP or SJCWRP were sufficient to provide flow over the grade-control weirs in the San Gabriel River, and presumably to maintain the wetted width and riparian habitat of Segment 2. Therefore, effluent management would have less than significant impacts on riparian vegetation.

## Whittier Narrows Water Reclamation Plant – WRP Effluent Management

### Operation

As described in the WRP flow analysis, the WNWRP would discharge 10 MGD on an annual average basis, which exceeds the baseline annual average discharge of 5.4 MGD. The baseline monthly average discharge ranged from 0.4 to 7.9 MGD. Relative to the baseline year of 2008, there would be an increase in flow over time. Effluent discharged from the WNWRP to the Zone 1 Ditch may assist in the support of riparian vegetation along its margins; however, this ditch is typically dry when no effluent is being discharged (except when flows from the San Gabriel River are diverted through the Zone 1 Ditch). Based on recent vegetation mapping of the area, there is a band of freshwater marsh and willow dominated riparian vegetation centered on and north of the ditch that extends up to about 1,000 feet from the Zone 1 Ditch (BonTerra 2010). A significant reduction in flow at this location could indirectly affect the vigor of this riparian vegetation along the Zone 1 Ditch and further downstream, and could make the habitat less suitable to dependent wildlife species. However, operational decisions on whether or not to divert flows through the Zone 1 Ditch are made by the LACDPW and not the Sanitation Districts, and are made irrespective of the availability of recycled water flows upstream.

Effluent discharged from the WNWRP to the San Gabriel River may assist in the support of riparian vegetation from the discharge point to approximately 4,100 feet downstream (or near the San Gabriel River Parkway). A significant reduction in flow to the San Gabriel River during the dry season could decrease the wetted channel and ponding, thereby desiccating riparian vegetation and resulting in a temporary loss of riparian habitat. Because of the unpredictable nature of stormwater and managed flows, it is not possible to predict with certainty the future conditions of riparian habitat in this segment. However, since the discharge from the WNWRP is projected to increase on an annual basis, no reduction in riparian vegetation is expected. Impacts would be less than significant.

## CEQA Impact Determination

Operation of Alternative 1 (Program) would not result indirect or indirect impacts on riparian habitats or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the CDFG or USFWS. Impacts would be less than significant.

### Mitigation

No mitigation is required.

### Residual Impacts

Impacts would be less than significant.

## *Impact BIO-2. Would Alternative 1 (Program) result in direct or indirect take of a federally listed, threatened, or endangered plant or wildlife species?*

One federally listed endangered species, the least Bell's vireo, has been found in riparian habitat of the San Gabriel River system. Habitat of the least Bell's vireo is sustained in part by WRP discharges. The effect of program operations on riparian habitat is discussed under Impact BIO-1. The effect of program construction and/or operations on this species is evaluated under Impact BIO-2.

## San Jose Creek Water Reclamation Plant – Plant Expansion

### Construction

Nesting least Bell's vireo are known to occur in the riparian habitat in the San Gabriel River within 500 feet from the proposed plant expansion, and could potentially nest less than 300 feet from the construction footprint. During construction of the SJCWRP expansion, indirect impacts on least Bell's vireo nests may occur through behavior modification as a response to construction motion, noise, dust, and lighting. Impacts would be significant before mitigation. Implementation of MM BIO-2 would reduce impacts to less than significant.

## San Jose Creek Water Reclamation Plant – Process Optimization

### Construction

Nesting least Bell's vireo are known to occur in the riparian habitat in the San Gabriel River approximately 2,000 feet from the proposed construction footprint. Construction for process optimization would be within existing facility boundaries that have already undergone significant disturbance and development. Additionally, the San Gabriel River is buffered from the construction by the SJCWRP East, I-605, and the SJCWRP West. Considering this distance and the ongoing activity associated with I-605 traffic and treatment plant operations, construction for process optimization would have no impact on sensitive species within the San Gabriel River.

Construction for process optimization is approximately 200 feet from the unlined portion of San Jose Creek. San Jose Creek has limited riparian habitat, thus impacts to sensitive species are unlikely. Given the limited riparian habitat and proximity of San Jose Creek to treatment plant operations, I-605 traffic, and Workman Mill Road traffic, impacts on sensitive species that may be present in San Jose Creek would be less than significant.

## San Jose Creek Water Reclamation Plant and Pomona Water Reclamation Plant – WRP Effluent Management

### Operation

As described in Impact BIO-1, 2008 dry season flows within San Jose Creek with no effluent discharge from the POWRP or SJCWRP were sufficient to provide flow over the grade-control weirs in the San Gabriel River, and presumably to maintain the wetted width and riparian habitat of Segment 2. Therefore, effluent management would not result in a direct or indirect take of a federally listed, threatened, or endangered plant or wildlife species that depends on this riparian vegetation. Impacts would be less than significant.

## Whittier Narrows Water Reclamation Plant – WRP Effluent Management

### Operation

As described under Impact BIO-1, a significant reduction in flow to the San Gabriel River during the dry season could decrease the wetted channel and ponding, thereby desiccating riparian vegetation and resulting in a temporary loss of riparian habitat. However, because the discharge from the WNWRP is projected to increase on an annual basis, no reduction in riparian vegetation is expected. Therefore, WRP effluent management would not result in a direct or indirect take of a federally listed, threatened, or

endangered plant or wildlife species that depends on this riparian vegetation. Impacts would be less than significant.

## CEQA Impact Determination

Construction of plant expansion at the SJCWRP for Alternative 1 (Program) could result in direct or indirect take of a federally listed, threatened, or endangered plant or wildlife species. Impacts would be significant before mitigation. Operation of Alternative 1 (Program) would result in less than significant impacts.

### Mitigation

**MM BIO-2**. To avoid indirect impacts of construction on nesting least Bell's vireo, construction activities within 300 feet of riparian vegetation will be timed to avoid the season when nests may be active (April 1 to July 31). If avoidance of construction within this time period is not feasible, a focused survey for least Bell's vireo will be conducted in the season prior to initiation of construction activities to determine their presence or absence within 300 feet. The focused survey will consist of eight site visits conducted 10 days apart during the period of April 10 to July 31. If occupied habitat and/or nesting individuals are determined to occur within 300 feet of construction, measures to avoid take of least Bell's vireo and occupied habitat will be implemented. These avoidance measures will include conducting a clearance and nest survey within 30 days prior to construction activities to determine the location of nests within 300 feet of construction. Measures, such as erecting a temporary barrier with stacked hay bales, will be implemented to reduce the amount of construction noise and motion in proximity to active nests. In addition, a biologist familiar with least Bell's vireo will periodically monitor construction activities to confirm the least Bell's vireo is not affected by the construction and to ensure avoidance measures remain intact and functional. Night construction within 300 feet of occupied least Bell's vireo nests will not occur unless authorized by the California Department of Fish and Game and U.S. Fish and Wildlife Service.

### Residual Impacts

Implementation of MM BIO-2 would reduce impacts on nesting least Bell's vireo during construction of the SJCWRP expansion facilities. Residual impacts on federally listed species would be less than significant.

## *Impact BIO-3. Would Alternative 1 (Program) result in direct or indirect take of a state-listed, threatened, or endangered plant or wildlife species?*

The least Bell's vireo is a state-listed endangered species as well as a federally listed endangered species as discussed under Impact BIO-2. Potential impacts on least Bell's vireo discussed under Impact BIO-2 apply to Impact BIO-3 and are described by program element herein.

## San Jose Creek Water Reclamation Plant – Plant Expansion

### Construction

As described under Impact BIO-2, construction of the SJCWRP expansion has the potential to disturb nesting least Bell's vireos. Implementation of MM BIO-3 (same as MM BIO-2) would reduce impacts to less than significant.

## San Jose Creek Water Reclamation Plant – Process Optimization

### Construction

As described under Impact BIO-2, impacts on nesting least Bell's vireos from construction of process optimization at the SJCWRP would be less than significant.

## San Jose Creek Water Reclamation Plant and Pomona Water Reclamation Plant – WRP Effluent Management

### Operation

As described in Impact BIO-1, 2008 dry season flows within San Jose Creek with no effluent discharge from the POWRP or SJCWRP were sufficient to provide flow over the grade-control weirs in the San Gabriel River, and presumably to maintain the wetted width and riparian habitat of Segment 2. Therefore, effluent management would have less than significant impacts on state-listed, threatened, or endangered plant or wildlife species that depend on this riparian vegetation.

## Whittier Narrows Water Reclamation Plant – WRP Effluent Management

### Operation

As described under Impact BIO-1, a significant reduction in flow to the San Gabriel River during the dry season could decrease the wetted channel and ponding, thereby desiccating riparian vegetation and resulting in a temporary loss of riparian habitat. However, because the discharge from the WNWRP is projected to increase on an annual basis, no reduction in riparian vegetation is expected. Therefore, WRP effluent management would not result in direct or indirect take of a federally listed, threatened, or endangered plant or wildlife species that depends on this riparian vegetation. Impacts would be less than significant.

## CEQA Impact Determination

Construction of plant expansion at the SJCWRP for Alternative 1 (Program) could result in direct or indirect take of a state-listed, threatened, or endangered plant or wildlife species. Impacts would be significant before mitigation. Operation of Alternative 1 (Program) would result in less than significant impacts.

#### Mitigation

Implement MM BIO-3 (same as MM BIO-2).

#### Residual Impacts

Implementation of MM BIO-3 (same as MM BIO-2) would reduce impacts on nesting least Bell's vireo during construction of the SJCWRP plant expansion facilities. Residual impacts on state-listed species would be less than significant.

## *Impact BIO-5. Would Alternative 1 (Program) result in direct or indirect impacts on any CDFG wildlife species of special concern?*

Impact BIO-5 addresses four CDFG species of concern that could be affected by program construction and/or operations. These species are the yellow warbler, yellow-breasted chat, western pond turtle, and the pocketed free-tailed bat.

## San Jose Creek Water Reclamation Plant – Plant Expansion

### Construction

During construction of plant expansion at the SJCWRP, indirect impacts on yellow warbler and yellow-breasted chat may occur during nesting through behavior modification as a response to construction motion, noise, and lighting. Construction would occur within 500 feet of nests known to occur within riparian vegetation supported by the San Gabriel River. Impacts would be significant before mitigation. Implementation of MM BIO-5a would reduce the potential impacts on yellow warbler and yellow-breasted chat to less than significant.

## San Jose Creek Water Reclamation Plant – Process Optimization

### Construction

Portions of the San Gabriel River provide suitable habitat for the yellow warbler and yellow-breasted chat. Construction for process optimization would be within existing facility boundaries that have already undergone significant disturbance and development. Additionally, the San Gabriel River is buffered from the construction by the SJCWRP East, I-605, and the SJCWRP West. Considering this distance and the ongoing activity associated with I-605 traffic and treatment plant operations, construction for process optimization would have no impact on sensitive species within the San Gabriel River.

Construction for process optimization is approximately 200 feet from the unlined portion of San Jose Creek. San Jose Creek has limited riparian habitat, thus impacts on species of special concern are unlikely. If such species are present, minor indirect impacts may occur due to construction noise, dust, and traffic. However, given the limited riparian habitat and proximity of San Jose Creek to treatment plant operations, I-605 traffic, and Workman Mill Road traffic, impacts on species of special concern that may be present in San Jose Creek would be less than significant.

## San Jose Creek Water Reclamation Plant and Pomona Water Reclamation Plant – WRP Effluent Management

### Operation

Based on the WRP flow analysis described under Impact BIO-1 and the potential impacts on riparian habitat, effluent management at the SJCWRP and POWRP is not expected to reduce available riparian habitat quality or quantity in Segment 2 (Figure 6-2) that supports yellow warbler and yellow-breasted chat. Similarly, ponded areas suitable for western pond turtles would be maintained. Therefore, impacts on western pond turtle, yellow warbler, and yellow breasted chat would be less than significant.

## Whittier Narrows Water Reclamation Plant – WRP Effluent Management

### Operation

Based on the WRP flow analysis described under Impact BIO-1 and the potential impacts on riparian habitat, effluent management at the WNWRP is not expected to reduce available riparian habitat quality or quantity in unlined segments of the San Gabriel River, the Rio Hondo, and the Zone 1 Ditch (Segments 2, 3, and 4 shown in Figure 6-2) that support yellow warbler and yellow-breasted chat. Similarly, ponded areas suitable for western pond turtle are not expected to be reduced. Discussion of

these mechanisms and locations are described in the WRP flow analysis under Impact BIO-1. Therefore, impacts on western pond turtle, yellow warbler, and yellow breasted chat would be less than significant.

### Joint Water Pollution Control Plant – Solids Processing

#### Construction

Construction of the solids processing facility at the JWPCP would require removal of a number of existing rectangular digesters. Some buildings can provide potential roost habitat for the pocketed free-tailed bat, which has been observed within approximately 0.5 to 1 mile from the digesters. However, because the digesters do not have crevices or overhangs, they do not provide suitable roost habitat and the potential impacts of construction on the pocketed free-tailed bat would be less than significant.

### CEQA Impact Determination

Construction of plant expansion at the SJCWRP for Alternative 1 (Program) would result in indirect impacts on CDFG wildlife species of special concern. Impacts would be significant before mitigation. Operation of Alternative 1 (Program) would result in less than significant impacts.

#### Mitigation

**MM BIO-5a.** To avoid indirect impacts of construction on nesting yellow warbler and yellow-breasted chat, construction activities within 100 feet of riparian vegetation will be timed to occur outside the season when nests may be active (April 1 to July 31). If avoidance of construction within this time period is not feasible, a preconstruction nesting survey for yellow warbler and yellow-breasted chat will be conducted 7 days prior to initiation of construction to determine the presence or absence of nests within 100 feet. If nesting individuals are determined to occur within 100 feet of construction, avoidance and minimization measures will be implemented. These could include erecting a temporary barrier, such as stacked hay bales, adjacent to the nest location to reduce the amount of construction noise and motion entering the riparian habitat.

#### Residual Impacts

Implementation of MM BIO-5a would reduce impacts on nesting yellow warbler and yellow-breasted chat during construction of the SJCWRP expansion facilities to less than significant. Residual impacts on CDFG wildlife species of special concern would be less than significant.

### *Impact BIO-8. Would Alternative 1 (Program) result in direct or indirect impacts on wetlands, waters, or special aquatic habitats regulated by the Corps, CDFG, CCC, RWQCB, or the County of Los Angeles?*

### San Jose Creek Water Reclamation Plant, Pomona Water Reclamation Plant, and Whittier Narrows Water Reclamation Plant – WRP Effluent Management

#### Operation

Based on the WRP flow analysis described under Impact BIO-1, impacts on wetlands, waters, or special aquatic habitats would be less than significant. Impacts related to water quality are evaluated in Chapter 11.

## CEQA Impact Determination

Operation of Alternative 1 (Program) would not result in indirect impacts on wetlands, waters, or special aquatic habitats regulated by the Corps, CDFG, CCC, RWQCB, or the County of Los Angeles. Impacts would be less than significant.

### Mitigation

No mitigation is required.

### Residual Impacts

Impacts would be less than significant.

### *Impact BIO-9. Would Alternative 1 (Program) directly or indirectly interfere with the movement of any freshwater fish or terrestrial wildlife species through impacts on or reduction in quality of a documented wildlife corridor or habitat linkage?*

## San Jose Creek Water Reclamation Plant and Pomona Water Reclamation Plant – WRP Effluent Management

### Operation

As described under Impact BIO-1, effluent management at the POWRP and the SJCWRP is not expected to alter riparian habitat in a portion of the San Jose Creek and San Gabriel River channel. In addition, no native freshwater fish are present and no barriers to movement of native freshwater fish or wildlife movement would occur. Impacts would be less than significant.

As described in Chapter 11, effluent management discharges are a minor component of the total discharges into the San Gabriel River Estuary. As a result, alterations in effluent management would have an insignificant effect on salinity in the estuary and the related movement of freshwater species during either high or low flow conditions. Therefore, the impacts of SJCWRP and POWRP effluent management on the movement of freshwater fish in the San Gabriel River Tidal Prism would be less than significant.

## Whittier Narrows Water Reclamation Plant – WRP Effluent Management

### Operation

As described under Impact BIO-1 and Impact BIO-2, effluent management at the WNWRP is not expected to alter riparian habitat in the Zone 1 Ditch and the Rio Hondo. In addition, no native freshwater fish are present and no barriers to movement of native freshwater fish or wildlife movement would occur. Impacts would be less than significant.

As described in Chapter 11, effluent management discharges are a minor component of the total discharges into the San Gabriel River Estuary. As a result, alterations in effluent management would have an insignificant effect on salinity in the estuary and the related movement of freshwater species during either high or low flow conditions. Therefore, the impacts of WNWRP effluent management on the movement of freshwater fish in the San Gabriel River Tidal Prism would be less than significant.

## CEQA Impact Determination

Operation of Alternative 1 (Program) would not directly or indirectly interfere with the movement of any native freshwater fish or terrestrial wildlife species through impacts on or reduction in quality of a documented wildlife corridor or habitat linkage. Impacts would be less than significant.

### Mitigation

No mitigation is required.

### Residual Impacts

Impacts would be less than significant.

### *Impact BIO-10. Would Alternative 1 (Program) conflict with other federal, state, or local policies or ordinances protecting biological resources?*

In addition to the policies and ordinances discussed under previous thresholds, the program would be subject to the restrictions of the federal MBTA and the California Fish and Game Code, which regulate activities that have the potential to cause take of migratory birds including nests and eggs. The California Fish and Game Code also protects all native birds and their nests. Local tree protection ordinances, local ordinances protecting biological resources, and SEAs designated by Los Angeles County are also evaluated under this threshold.

## Conveyance System – Conveyance Improvements

### Construction

Construction of conveyance improvements would be subject to all local ordinances. Conveyance system improvements could potentially conflict with local tree protection ordinances (see Appendix 6-A) and other policies protecting biological resources; however, it is the Sanitation Districts' standard practice to address such conflicts through project-level review and permitting when specific conveyance improvement projects are designed. Impacts would be less than significant.

## San Jose Creek Water Reclamation Plant – Plant Expansion

### Construction

Construction of the SJCWRP expansion would not conflict with tree protection (Appendix 6-A) or other local biological resource ordinances.

Active bird nesting could occur within the vicinity of the construction of the SJCWRP plant expansion. The Sanitation Districts would require contractors to adhere to the MBTA and California Fish and Game Code requirements pertaining to disturbance of active bird nests and, if applicable, nest relocation and inactive nest removal. Impacts would be less than significant.

## San Jose Creek Water Reclamation Plant – Process Optimization

### Construction

Construction for process optimization at the SJCWRP would not conflict with tree protection or other local biological resource ordinances.

The construction footprint for process optimization could be within the vicinity of potential nesting habitat associated with San Jose Creek, and nesting raptors and songbirds may be potentially present. The Sanitation Districts would require contractors to adhere to the MBTA and California Fish and Game Code requirements pertaining to disturbance of active bird nests and, if applicable, nest relocation and inactive nest removal. Impacts would be less than significant.

## Pomona Water Reclamation Plant – Process Optimization

### Construction

Construction of process optimization facilities at the POWRP would occur on previously developed land and would not conflict with the City of Pomona Tree Protection and Preservation Program (Appendix 6-A), or other local biological resource ordinances.

The construction of process optimization facilities could be within the vicinity of potential nesting habitats. The Sanitation Districts would require contractors to adhere to the MBTA and California Fish and Game Code requirements pertaining to disturbance of active bird nests and, if applicable, nest relocation and inactive nest removal. Impacts would be less than significant.

## Whittier Narrows Water Reclamation Plant – WRP Effluent Management

### Operation

As described under Impact BIO-1, effluent management at the WNWRP is not expected to alter water-dependent riparian vegetation in the Whittier Narrows Recreation Area, designated as SEA-42 under the Los Angeles County General Plan. Impacts would be less than significant.

## Long Beach Water Reclamation Plant – Process Optimization

### Construction

Construction of process optimization facilities at the LBWRP would not occur on a public right-of-way where the City of Long Beach Tree Maintenance Policy (Appendix 6-A) would apply, and would not conflict with other local biological resource ordinances.

During construction of process optimization, direct impacts on nesting birds could occur because the footprint is currently undeveloped. However, the ruderal scrub vegetation currently on site provides such limited potential nesting habitat that the potential impacts on nesting birds would be less than significant.

## CEQA Impact Determination

Construction and operation of Alternative 1 (Program) would not conflict with other federal, state, or local policies or ordinances protecting biological resources. Impacts would be less than significant.

### Mitigation

No mitigation is required.

### Residual Impacts

Impacts would be less than significant.

### 6.4.3.2 Project

#### *Impact BIO-10. Would Alternative 1 (Project) conflict with other federal, state, or local policies or ordinances protecting biological resources?*

Construction of project elements would be subject to the restrictions of the federal MBTA, which regulates activities that have the potential to cause take of migratory birds including nests and eggs, and the California Fish and Game Code, which protects all native birds and their nests. Local tree protection ordinances are also evaluated under this threshold. There are no SEAs designated by Los Angeles County within the study area of project elements proposed under Alternative 1 (Project).

## Shaft Site – JWPCP East

### Construction

CEQA Analysis

Construction of the JWPCP East shaft site would be subject to the City of Carson Tree Preservation and Protection Ordinance (Appendix 6-A); however, the project would not require clearing of any trees that grow along the roadways that surround the project area.

The construction of the JWPCP East shaft site could be within the vicinity of potential nesting habitats. The Sanitation Districts would require contractors to adhere to the MBTA and California Fish and Game Code requirements pertaining to disturbance of active bird nests and, if applicable, nest relocation and inactive nest removal. Impacts would be less than significant.

NEPA Analysis

Environmental impacts would be the same as described for the CEQA analysis, and would occur for the duration of construction. Baseline conditions would resume upon termination of construction. With respect to the Corps' NEPA scope of analysis described in Section 3.5, the environmental impacts would be considered indirect impacts.

## Shaft Site – LAXT

### Construction

CEQA Analysis

Construction at the LAXT shaft site would be subject to the City of Los Angeles Protected Tree Relocation and Replacement Policy (Appendix 6-A); however, no protected trees grow on the site, and there would be no impacts.

Construction at the LAXT shaft site is not expected to result in direct impacts on other biological resources, including nesting birds, because the footprint is currently developed. There are surrounding areas that are planted with ornamental landscaping where potential nesting may occur. The Sanitation Districts would require contractors to adhere to the MBTA and California Fish and Game Code requirements pertaining to disturbance of active bird nests and, if applicable, nest relocation and inactive nest removal. Impacts would be less than significant.

NEPA Analysis

Environmental impacts would be the same as described for the CEQA analysis, and would occur for the duration of construction. Baseline conditions would resume upon termination of construction. With

respect to the Corps' NEPA scope of analysis described in Section 3.5, the environmental impacts would be considered indirect impacts.

### CEQA Impact Determination

Construction of Alternative 1 (Project) would not conflict with other federal, state, or local policies or ordinances protecting biological resources. Impacts under CEQA would be less than significant.

#### Mitigation

No mitigation is required.

#### Residual Impacts

Impacts would be less than significant.

### NEPA Impact Determination

Construction of Alternative 1 (Project) would not conflict with other federal, state, or local policies or ordinances protecting biological resources. Impacts under NEPA would be less than significant with respect to the No-Federal-Action Alternative (see Section 3.4.1.6).

#### Mitigation

No mitigation is required.

#### Residual Impacts

Impacts would be less than significant.

## 6.4.3.3 Impact Summary – Alternative 1

Impacts on terrestrial biological resources analyzed in this EIR/EIS for Alternative 1 are summarized in Table 6-6 and Table 6-7. The proposed mitigation, where feasible, and the significance of the impact before and following mitigation are also listed in the tables.

**Table 6-6. Impact Summary – Alternative 1 (Program)**

| Program Element | Impact Determination Before Mitigation | Mitigation | Residual Impact After Mitigation |
|---|---|---|---|
| Impact BIO-1. Would Alternative 1 (Program) result in direct or indirect impacts on riparian habitats, special-status vegetation communities, or other sensitive natural community identified in local or regional plans, policies, or regulations, or by CDFG or USFWS? | | | |
| SJCWRP | | | |
| WRP Effluent Management | CEQA<br>Less Than Significant Impact During Operation | No mitigation is required. | CEQA<br>Less Than Significant Impact During Operation |
| POWRP | | | |
| WRP Effluent Management | CEQA<br>Less Than Significant Impact During Operation | No mitigation is required. | CEQA<br>Less Than Significant Impact During Operation |
| WNWRP | | | |
| WRP Effluent Management | CEQA<br>Less Than Significant Impact During Operation | No mitigation is required. | CEQA<br>Less Than Significant Impact During Operation |

**Table 6-6 (Continued)**

| Program Element | Impact Determination Before Mitigation | Mitigation | Residual Impact After Mitigation |
|---|---|---|---|
| Impact BIO-2. Would Alternative 1 (Program) result in direct or indirect take of a federally listed, threatened, or endangered plant or wildlife species? | | | |
| SJCWRP | | | |
| Plant Expansion | CEQA<br>Significant Impact During Construction | MM BIO-2. To avoid indirect impacts of construction on nesting least Bell's vireo, construction activities within 300 feet of riparian vegetation will be timed to avoid the season when nests may be active (April 1 to July 31). If avoidance of construction within this time period is not feasible, a focused survey for least Bell's vireo will be conducted in the season prior to initiation of construction activities to determine their presence or absence within 300 feet. The focused survey will consist of eight site visits conducted 10 days apart during the period of April 10 to July 31. If occupied habitat and/or nesting individuals are determined to occur within 300 feet of construction, measures to avoid take of least Bell's vireo and occupied habitat will be implemented. These avoidance measures will include conducting a clearance and nest survey within 30 days prior to construction activities to determine the location of nests within 300 feet of construction. Measures, such as erecting a temporary barrier with stacked hay bales, will be implemented to reduce the amount of construction noise and motion in proximity to active nests. In addition, a biologist familiar with least Bell's vireo will periodically monitor construction activities to confirm the least Bell's vireo is not affected by the construction and to ensure avoidance measures remain intact and functional. Night construction within 300 feet of occupied least Bell's vireo nests will not occur unless authorized by the California Department of Fish and Game and U.S. Fish and Wildlife Service. | CEQA<br>Less Than Significant Impact During Construction |
| Process Optimization | CEQA<br>Less Than Significant Impact During Construction | No mitigation is required. | CEQA<br>Less Than Significant Impact During Construction |
| WRP Effluent Management | CEQA<br>Less Than Significant Impact During Operation | No mitigation is required. | CEQA<br>Less Than Significant Impact During Operation |
| POWRP | | | |
| WRP Effluent Management | CEQA<br>Less Than Significant Impact During Operation | No mitigation is required. | CEQA<br>Less Than Significant Impact During Operation |
| WNWRP | | | |
| WRP Effluent Management | CEQA<br>Less Than Significant Impact During Operation | No mitigation is required. | CEQA<br>Less Than Significant Impact During Operation |

**Table 6-6 (Continued)**

| Program Element | Impact Determination Before Mitigation | Mitigation | Residual Impact After Mitigation |
|---|---|---|---|
| Impact BIO-3. Would Alternative 1 (Program) result in direct or indirect take of a state-listed, threatened, or endangered plant or wildlife species? | | | |
| SJCWRP | | | |
| Plant Expansion | CEQA<br>Significant Impact During Construction | MM BIO-3 (same as MM BIO-2) | CEQA<br>Less Than Significant Impact During Construction |
| Process Optimization | CEQA<br>Less Than Significant Impact During Construction | No mitigation is required. | CEQA<br>Less Than Significant Impact During Construction |
| WRP Effluent Management | CEQA<br>Less Than Significant Impact During Operation | No mitigation is required. | CEQA<br>Less Than Significant Impact During Operation |
| POWRP | | | |
| WRP Effluent Management | CEQA<br>Less Than Significant Impact During Operation | No mitigation is required. | CEQA<br>Less Than Significant Impact During Operation |
| WNWRP | | | |
| WRP Effluent Management | CEQA<br>Less Than Significant Impact During Operation | No mitigation is required. | CEQA<br>Less Than Significant Impact During Operation |
| Impact BIO-5. Would Alternative 1 (Program) result in direct or indirect impacts on any CDFG wildlife species of special concern? | | | |
| SJCWRP | | | |
| Plant Expansion | CEQA<br>Significant Impact During Construction | MM BIO-5a. To avoid indirect impacts of construction on nesting yellow warbler and yellow-breasted chat, construction activities within 100 feet of riparian vegetation will be timed to occur outside the season when nests may be active (April 1 to July 31). If avoidance of construction within this time period is not feasible, a preconstruction nesting survey for yellow warbler and yellow-breasted chat will be conducted 7 days prior to initiation of construction to determine the presence or absence of nests within 100 feet. If nesting individuals are determined to occur within 100 feet of construction, avoidance and minimization measures will be implemented. These could include erecting a temporary barrier, such as stacked hay bales, adjacent to the nest location to reduce the amount of construction noise and motion entering the riparian habitat. | CEQA<br>Less Than Significant Impact During Construction |
| Process Optimization | CEQA<br>Less Than Significant Impact During Construction | No mitigation is required. | CEQA<br>Less Than Significant Impact During Construction |
| WRP Effluent Management | CEQA<br>Less Than Significant Impact During Operation | No mitigation is required. | CEQA<br>Less Than Significant Impact During Operation |
| POWRP | | | |
| WRP Effluent Management | CEQA<br>Less Than Significant Impact During Operation | No mitigation is required. | CEQA<br>Less Than Significant Impact During Operation |

**Table 6-6 (Continued)**

| Program Element | Impact Determination Before Mitigation | Mitigation | Residual Impact After Mitigation |
|---|---|---|---|
| WNWRP | | | |
| WRP Effluent Management | CEQA Less Than Significant Impact During Operation | No mitigation is required. | CEQA Less Than Significant Impact During Operation |
| JWPCP | | | |
| Solids Processing | CEQA Less Than Significant Impact During Construction | No mitigation is required. | CEQA Less Than Significant Impact During Construction |
| Impact BIO-8. Would Alternative 1 (Program) result in direct or indirect impacts on wetlands, waters, or special aquatic habitats regulated by the Corps, CDFG, CCC, RWQCB, or the County of Los Angeles? | | | |
| SJCWRP | | | |
| WRP Effluent Management | CEQA Less Than Significant Impact During Operation | No mitigation is required. | CEQA Less Than Significant Impact During Operation |
| POWRP | | | |
| WRP Effluent Management | CEQA Less Than Significant Impact During Operation | No mitigation is required. | CEQA Less Than Significant Impact During Operation |
| WNWRP | | | |
| WRP Effluent Management | CEQA Less Than Significant Impact During Operation | No mitigation is required. | CEQA Less Than Significant Impact During Operation |
| Impact BIO-9. Would Alternative 1 (Program) directly or indirectly interfere with the movement of any freshwater fish or terrestrial wildlife species through impacts on or reduction in quality of a documented wildlife corridor or habitat linkage? | | | |
| SJCWRP | | | |
| WRP Effluent Management | CEQA Less Than Significant Impact During Operation | No mitigation is required. | CEQA Less Than Significant Impact During Operation |
| POWRP | | | |
| WRP Effluent Management | CEQA Less Than Significant Impact During Operation | No mitigation is required. | CEQA Less Than Significant Impact During Operation |
| WNWRP | | | |
| WRP Effluent Management | CEQA Less Than Significant Impact During Operation | No mitigation is required. | CEQA Less Than Significant Impact During Operation |
| Impact BIO-10. Would Alternative 1 (Program) conflict with other federal, state, or local policies or ordinances protecting biological resources? | | | |
| Conveyance System | | | |
| Conveyance Improvements | CEQA Less Than Significant Impact During Construction | No mitigation is required. | CEQA Less Than Significant Impact During Construction |
| SJCWRP | | | |
| Plant Expansion | CEQA Less Than Significant Impact During Construction | No mitigation is required. | CEQA Less Than Significant Impact During Construction |
| Process Optimization | CEQA Less Than Significant Impact During Construction | No mitigation is required. | CEQA Less Than Significant Impact During Construction |

**Table 6-6 (Continued)**

| Program Element | Impact Determination Before Mitigation | Mitigation | Residual Impact After Mitigation |
|---|---|---|---|
| POWRP | | | |
| Process Optimization | CEQA<br>Less Than Significant Impact During Construction | No mitigation is required. | CEQA<br>Less Than Significant Impact During Construction |
| LBWRP | | | |
| Process Optimization | CEQA<br>Less Than Significant Impact During Construction | No mitigation is required. | CEQA<br>Less Than Significant Impact During Construction |
| WNWRP | | | |
| WRP Effluent Management | CEQA<br>Less than Significant Impact During Operation | No mitigation is required. | CEQA<br>Less Than Significant Impact During Operation |

**Table 6-7. Impact Summary – Alternative 1 (Project)**

| Project Element | Impact Determination Before Mitigation | NEPA Direct or Indirect | Mitigation | Residual Impact After Mitigation |
|---|---|---|---|---|
| Impact BIO-10. Would Alternative 1 (Project) conflict with any other federal, state, or local policies or ordinances protecting biological resources? | | | | |
| Shaft Site | | | | |
| JWPCP East | CEQA<br>Less Than Significant Impact During Construction | N/A | No mitigation is required. | CEQA<br>Less Than Significant Impact During Construction |
| | NEPA<br>Less Than Significant Impact During Construction | Indirect | No mitigation is required. | NEPA<br>Less Than Significant Impact During Construction |
| LAXT | CEQA<br>Less Than Significant Impact During Construction | N/A | No mitigation is required. | CEQA<br>Less Than Significant Impact During Construction |
| | NEPA<br>Less Than Significant Impact During Construction | Indirect | No mitigation is required. | NEPA<br>Less Than Significant Impact During Construction |

## 6.4.4 Alternative 2

### 6.4.4.1 Program

Alternative 2 (Program) is the same as Alternative 1 (Program).

### 6.4.4.2 Project

The impacts for the onshore tunnel and the JWPCP East, TraPac, LAXT, and Southwest Marine shaft sites for Alternative 2 (Project) would be the same as for Alternative 1 (Project).

### 6.4.4.3 Impact Summary – Alternative 2

Impacts on terrestrial biological resources for Alternative 2 (Program), which are the same as Alternative 1 (Program), are summarized in Table 6-6. Impacts analyzed in this EIR/EIS for Alternative 2 (Project) are summarized in Table 6-8. The proposed mitigation, where feasible, and the significance of the impact following mitigation are also listed in the tables.

**Table 6-8. Impact Summary – Alternative 2 (Project)**

| Project Element | Impact Determination Before Mitigation | NEPA Direct or Indirect | Mitigation | Residual Impact After Mitigation |
|---|---|---|---|---|
| Impact BIO-10. Would Alternative 2 (Project) conflict with any other federal, state, or local policies or ordinances protecting biological resources? | | | | |
| Shaft Site | | | | |
| JWPCP East | CEQA Less Than Significant Impact During Construction | N/A | No mitigation is required. | CEQA Less Than Significant Impact During Construction |
| | NEPA Less Than Significant Impact During Construction | Indirect | No mitigation is required. | NEPA Less Than Significant Impact During Construction |
| LAXT | CEQA Less Than Significant Impact During Construction | N/A | No mitigation is required. | CEQA Less Than Significant Impact During Construction |
| | NEPA Less Than Significant Impact During Construction | Indirect | No mitigation is required. | NEPA Less Than Significant Impact During Construction |

## 6.4.5 Alternative 3

### 6.4.5.1 Program

Alternative 3 (Program) is the same as Alternative 1 (Program).

### 6.4.5.2 Project

#### *Impact BIO-5. Would Alternative 3 (Project) result in direct or indirect impacts on any CDFG wildlife species of special concern?*

Impact BIO-5 evaluates the impact of construction under Alternative 3 (Project) on one CDFG species of concern, the burrowing owl.

#### Shaft Site – Angels Gate

##### Construction

CEQA Analysis

Ground squirrels inhabit a portion of the unpaved area at this site. Their burrows are suitable for use by burrowing owls, a California species of special concern. This area is frequented by people and the suitable habitat type is turf grass. Despite the presence of suitable burrows, the degree of disturbance at

this site makes the potential for burrowing owl low. No burrowing owl or burrowing owl sign was observed during the habitat assessment conducted on February 23, 2010; however, burrowing owls are known to nest in other areas with relatively high levels of activity, so their presence is a possibility. During construction of the Angels Gate shaft site, direct and indirect impacts on burrowing owl, if present, may occur that could cause individual harm and/or nest failure through destruction of burrows or behavior modification as a response to motion, noise, and lighting associated with construction. Impacts resulting from construction would be significant before mitigation. MM BIO-5b would reduce impacts to less than significant, and would include a survey protocol and mitigation guidelines established by the CDFG (CDFG 1995).

#### NEPA Analysis

CDFG wildlife species of concern do not fall under federal jurisdiction and thus are outside the Corps' NEPA scope of analysis described in Section 3.5.

### CEQA Impact Determination

Construction at the Angels Gate shaft site for Alternative 3 (Project) could result in direct or indirect impacts on CDFG wildlife species of special concern. Impacts under CEQA would be significant before mitigation.

#### Mitigation

**MM BIO-5b.** A preconstruction survey for burrowing owl will be conducted within 30 days prior to initiation of construction at the Angels Gate shaft site according to California Department of Fish and Game (CDFG) burrowing owl survey protocol and mitigation guidelines. All suitable habitat on the shaft site and within a 250-foot buffer will be surveyed for burrowing owl and/or evidence of burrowing owl. Mitigation for an occupied burrow will include avoiding construction within 250 feet of an active nest burrow during the February 1 to August 31 nesting season, and 160 feet of an occupied burrow from September 1 to January 31. If construction timing cannot be adjusted to avoid disturbance, or if an occupied burrow would be physically disturbed by construction, the owls would be relocated according to CDFG guidelines.

#### Residual Impacts

Impacts on burrowing owls at the Angels Gate shaft site would be reduced with implementation of MM BIO-5b. Residual impacts would be less than significant.

### NEPA Impact Determination

No determination of significance was made because this impact is not applicable under NEPA.

#### Mitigation

Not applicable.

#### Residual Impacts

Not applicable.

### *Impact BIO-10. Would Alternative 3 (Project) conflict with any other federal, state, or local policies or ordinances protecting biological resources?*

The project would be subject to the City of Los Angeles Tree Relocation and Replacement Policy (Appendix 6-A) and all other city policies and ordinances protecting biological resources.

In addition to the policies and ordinances discussed under previous thresholds, the project would be subject to the restrictions of the MBTA and the California Fish and Game Code. These ordinances regulate activities that have the potential to cause take of migratory birds, including nests and eggs.

## Shaft Site – JWPCP West

### Construction

#### CEQA Analysis

Construction of the JWPCP West shaft site would be subject to the City of Los Angeles Tree Relocation and Replacement Policy (Appendix 6-A); however, the project would not require clearing of any trees that grow along the roadways that surround the project area.

The construction of the JWPCP West shaft site could be within the vicinity of potential nesting habitats. The Sanitation Districts would require contractors to adhere to the MBTA and California Fish and Game Code requirements pertaining to disturbance of active bird nests and, if applicable, nest relocation and inactive nest removal. Impacts would be less than significant.

#### NEPA Analysis

Environmental impacts would be the same as described for the CEQA analysis, and would occur for the duration of construction. Baseline conditions would resume upon termination of construction. With respect to the Corps' NEPA scope of analysis described in Section 3.5, the environmental impacts would be considered indirect impacts.

## Shaft Site – Angels Gate

### Construction

#### CEQA Analysis

The only tree species located at the site are palms, so the project would be in compliance with the city tree protection and relocation policy.

The Angels Gate shaft site is located in what is currently partially undeveloped land. A habitat assessment was conducted on February 23, 2010, in the area surrounding the Angels Gate shaft site to determine whether any nesting occurs within the vicinity. The assessment revealed a nesting site used in 2008 and 2009 by American peregrine falcon, a state fully protected species. The nesting site rests approximately 200 feet from the Angels Gate shaft site location. It is located on a side of a cliff that faces away from the shaft site, and there is no direct line of site from the nesting site to the shaft site location. A pair of American peregrine falcons was also observed within the cliff area during the assessment. American peregrine falcon is a formerly listed (federal and state endangered) species. Although this species is considered recovered, it retains state fully protected status. The Sanitation Districts would require contractors to adhere to the MBTA and California Fish and Game Code requirements pertaining to disturbance of active bird nests and, if applicable, nest relocation and inactive nest removal. As provided by the state and federal regulations, reasonable steps would be taken as necessary to avoid take. Impacts would be less than significant.

The Pacific Ocean shoreline located west of the Angels Gate shaft site is designated as an SEA in the Los Angeles County General Plan. Although construction has the potential to block local wildlife movement, the Angels Gate site is located on the inland side of the road from the SEA, and the SEA is bordered by bluffs to the east that form a natural barrier to wildlife movement. As a result, little if any wildlife

movement is expected to be blocked during project construction. Indirect impacts on the SEA would be less than significant, and no mitigation is required.

#### NEPA Analysis

Environmental impacts would be the same as described for the CEQA analysis, and would occur for the duration of construction. Baseline conditions would resume upon termination of construction. With respect to the Corps' NEPA scope of analysis described in Section 3.5, the environmental impacts would be considered indirect impacts.

### CEQA Impact Determination

Construction of Alternative 3 (Project) would not conflict with other federal, state, or local policies or ordinances protecting biological resources. Impacts under CEQA would be less than significant.

#### Mitigation

No mitigation is required.

#### Residual Impacts

Impacts would be less than significant.

### NEPA Impact Determination

Construction of Alternative 3 (Project) would not conflict other federal, state, or local policies or ordinances protecting biological resources. Impacts under NEPA would be less than significant with respect to the No-Federal-Action Alternative (see Section 3.4.1.6).

#### Mitigation

No mitigation is required.

#### Residual Impacts

Impacts would be less than significant.

## 6.4.5.3 Impact Summary – Alternative 3

Impacts on terrestrial biological resources for Alternative 3 (Program), which are the same as Alternative 1 (Program), are summarized in Table 6-6. Impacts analyzed in this EIR/EIS for Alternative 3 (Project) are summarized in Table 6-9. The proposed mitigation, where feasible, and the significance of the impact before and following mitigation are also listed in the tables.

**Table 6-9. Impact Summary – Alternative 3 (Project)**

| Project Element | Impact Determination Before Mitigation | NEPA Direct or Indirect | Mitigation | Residual Impact After Mitigation |
|---|---|---|---|---|
| Impact BIO-5. Would Alternative 3 (Project) result in direct or indirect impacts on any CDFG wildlife species of special concern? | | | | |
| Shaft Site | | | | |
| Angels Gate | CEQA<br>Significant Impact During Construction | N/A | MM BIO-5b. A preconstruction survey for burrowing owl will be conducted within 30 days prior to initiation of construction at the Angels Gate shaft site according to California Department of Fish and Game (CDFG) burrowing owl survey protocol and mitigation guidelines. All suitable habitat on the shaft site and within a 250-foot buffer will be surveyed for burrowing owl and/or evidence of burrowing owl. Mitigation for an occupied burrow will include avoiding construction within 250 feet of an active nest burrow during the February 1 to August 31 nesting season, and 160 feet of an occupied burrow from September 1 to January 31. If construction timing cannot be adjusted to avoid disturbance, or if an occupied burrow would be physically disturbed by construction, the owls would be relocated according to CDFG guidelines. | CEQA<br>Less Than Significant Impact During Construction |
| | NEPA<br>N/A | N/A | N/A | NEPA<br>N/A |
| Impact BIO-10. Would Alternative 3 (Project) conflict with any other federal, state, or local policies or ordinances protecting biological resources? | | | | |
| Shaft Site | | | | |
| JWPCP West | CEQA<br>Less Than Significant Impact During Construction | N/A | No mitigation is required. | CEQA<br>Less Than Significant Impact During Construction |
| | NEPA<br>Less Than Significant Impact During Construction | Indirect | No mitigation is required. | NEPA<br>Less Than Significant Impact During Construction |
| Angels Gate | CEQA<br>Less Than Significant Impact During Construction | N/A | No mitigation is required. | CEQA<br>Less Than Significant Impact During Construction |
| | NEPA<br>Less Than Significant Impact During Construction | Indirect | No mitigation is required. | NEPA<br>Less Than Significant Impact During Construction |

## 6.4.6 Alternative 4 (Recommended Alternative)

### 6.4.6.1 Program

Alternative 4 (Program) is the same as Alternative 1 (Program).

### 6.4.6.2 Project

The impacts for the JWPCP West shaft site for Alternative 4 (Project) would be the same as for Alternative 3 (Project), except tunnel construction would occur over a period of 4 years instead of 5 years.

### *Impact BIO-2. Would Alternative 4 (Project) result in direct or indirect take of a federally listed, threatened, or endangered plant or wildlife species?*

Impact BIO-2 evaluates the impact of construction under Alternative 4 (Project) on the coastal California gnatcatcher, federally listed as threatened.

## Shaft Site – Royal Palms

### Construction

#### CEQA Analysis

The area surrounding the Royal Palms shaft site is mapped as coastal bluff scrub habitat, a type that could potentially support nesting coastal California gnatcatchers. However, the remaining coastal sage scrub habitat in the vicinity of this site is sparse and fragmented. As a result, this habitat is of low quality and unlikely to support coastal California gnatcatchers. In addition, much of the remaining coastal sage scrub habitat is located towards the top of the bluff where road noise and light are likely to be greater than noise, light, and activity from construction of the project. Therefore, impacts on coastal California gnatcatchers would be less than significant.

#### NEPA Analysis

Environmental impacts would be the same as described for the CEQA analysis, and would occur for the duration of construction. Baseline conditions would resume upon termination of construction. With respect to the Corps' NEPA scope of analysis described in Section 3.5, the environmental impacts would be considered indirect impacts.

## CEQA Impact Determination

Construction of Alternative 4 (Project) would not result in direct or indirect take of a federally listed, threatened, or endangered plant or wildlife species. Impacts under CEQA would be less than significant.

#### Mitigation

No mitigation is required.

#### Residual Impacts

Impacts would be less than significant.

## NEPA Impact Determination

Construction of Alternative 4 (Project) would not result in direct or indirect take of a federally listed, threatened, or endangered plant or wildlife species. Impacts under NEPA would be less than significant with respect to the No-Federal-Action Alternative (see Section 3.4.1.6).

#### Mitigation

No mitigation is required.

#### Residual Impacts

Impacts would be less than significant.

### *Impact BIO-10. Would Alternative 4 (Project) conflict with any other federal, state, or local policies or ordinances protecting biological resources?*

Because the project would be located within 300 feet of the ordinary high water mark of the Pacific Ocean, it would require a coastal development permit administered by the city of Los Angeles. The coastal development permit could include provisions to protect biological resources.

Construction of project elements would be subject to the restrictions of the federal MBTA, which regulates activities that have the potential to cause take of migratory birds including nests and eggs, and the California Fish and Game Code, which protects all native birds and their nests. Local tree protection ordinances and SEAs are also evaluated under this threshold.

## Shaft Site – Royal Palms

### Construction

#### CEQA Analysis

The area surrounding the proposed location of the Royal Palms shaft site is partially vegetated with trees and shrubs that could support nesting birds. The Sanitation Districts would require contractors to adhere to the MBTA and California Fish and Game Code requirements pertaining to disturbance of active bird nests and, if applicable, nest relocation and inactive nest removal. Impacts would be less than significant.

The Pacific Ocean shoreline located southwest of the Royal Palms shaft site is designated as an SEA in the Los Angeles County General Plan. Although construction has the potential to block local wildlife movement, the Royal Palms construction footprint is bordered by bluffs to the east and paved road to the west. As a result, little if any wildlife movement is expected to be blocked during project construction. Indirect impacts on the SEA would be less than significant.

Coastal species would be unaffected by development of the Royal Palms shaft site because it is located inland of a parking lot and road between the site and the coast.

#### NEPA Analysis

Environmental impacts would be the same as described for the CEQA analysis, and would occur for the duration of construction. Baseline conditions would resume upon termination of construction. With respect to the Corps' NEPA scope of analysis described in Section 3.5, the environmental impacts would be considered indirect impacts.

## CEQA Impact Determination

Construction of Alternative 4 (Project) would not conflict with other federal, state, or local policies or ordinances protecting biological resources. Impacts under CEQA would be less than significant.

#### Mitigation

No mitigation is required.

#### Residual Impacts

Impacts would be less than significant.

### NEPA Impact Determination

Construction of Alternative 4 (Project) would not conflict with federal, state, or local policies or ordinances protecting biological resources. Impacts under NEPA would be less than significant with respect to the No-Federal-Action Alternative (see Section 3.4.1.6).

#### Mitigation

No mitigation required.

#### Residual Impacts

Impacts would be less than significant.

## 6.4.6.3 Impact Summary – Alternative 4

Impacts on terrestrial biological resources for Alternative 4 (Program), which are the same as Alternative 1 (Program), are summarized in Table 6-6. Impacts analyzed in this EIR/EIS for Alternative 4 (Project) are summarized in Table 6-10. The proposed mitigation, where feasible, and the significance of the impact before and following mitigation are also listed in the tables.

**Table 6-10. Impact Summary – Alternative 4 (Project)**

| Project Element | Impact Determination Before Mitigation | NEPA Direct or Indirect | Mitigation | Residual Impact After Mitigation |
|---|---|---|---|---|
| Impact BIO-2. Would Alternative 4 (Project) result in direct or indirect take of a federally listed, threatened, or endangered plant or wildlife species? | | | | |
| Shaft Site | | | | |
| Royal Palms | CEQA Less Than Significant Impact During Construction | N/A | No mitigation is required. | CEQA Less Than Significant or Significant Impact During Construction |
| | NEPA Less Than Significant Impact During Construction | Indirect | No mitigation is required. | NEPA Less Than Significant Impact During Construction |
| Impact BIO-10. Would Alternative 4 (Project) conflict with other federal, state, or local policies or ordinances protecting biological resources? | | | | |
| Shaft Site | | | | |
| JWPCP West | CEQA Less Than Significant Impact During Construction | N/A | No mitigation is required. | CEQA Less Than Significant Impact During Construction |
| | NEPA Less Than Significant Impact During Construction | Indirect | No mitigation is required. | NEPA Less Than Significant Impact During Construction |
| Royal Palms | CEQA Less Than Significant Impact During Construction | N/A | No mitigation is required. | CEQA Less Than Significant Impact During Construction |
| | NEPA Less Than Significant Impact During Construction | Indirect | No mitigation is required. | NEPA Less Than Significant Impact During Construction |

## 6.4.7 Alternative 5 (No-Project Alternative)

Pursuant to CEQA, an environmental impact report (EIR) must evaluate a no-project alternative. A no-project alternative describes the no-build scenario and what reasonably would be expected to occur in the foreseeable future if the project were not approved. Under the No-Project Alternative for the Clearwater Program, the Sanitation Districts would continue to expand, upgrade, and operate the JOS in accordance with the JOS 2010 Master Facilities Plan (2010 Plan) (Sanitation Districts 1994), which includes all program elements proposed under the Clearwater Program, excluding process optimization at the WRPs, as described in Section 3.4.1.5. A new or modified ocean discharge system would not be constructed. As a result, there would be a greater potential for an emergency discharge into various water courses, as described in Section 3.4.1.5.

Because there would be no construction of a new or modified JWPCP ocean discharge system, the Corps would not make any significance determinations under NEPA and would not issue any permits or discretionary approvals for dredge or fill actions or for transport or ocean disposal of dredged material.

### 6.4.7.1 Program

Alternative 5 (Program) would consist of the implementation of the 2010 Plan. The impacts for conveyance improvements, plant expansion at the SJCWRP, WRP effluent management, JWPCP solids processing, and JWPCP biosolids management for Alternative 5 (Program) would be the same as for Alternative 1 (Program) and would be subject to mitigation in accordance with the EIR prepared for the 2010 Plan (Jones & Stokes 1994).

### 6.4.7.2 Project

Alternative 5 does not include a project; therefore, a new or modified ocean discharge system would not be constructed. As a consequence of taking no action, there would be a greater potential for emergency discharges into various water courses, as described in Section 3.4.1.5. An emergency discharge or sewer overflow has the potential to direct secondary treated and untreated wastewater flows into the Wilmington Drain and ultimately Machado Lake as discussed in Chapters 11 and 20. Wastewater contaminants could have impacts on individual organisms present during emergency discharges. Although plants and wildlife downstream of the discharge would potentially be exposed to treated or untreated wastewater, these discharges would be temporary, would be most likely during periods of high precipitation runoff, and would not likely alter the vegetative communities downstream. The Dominguez Channel is a saltwater environment, and discharges to this waterway would not have an impact on terrestrial and freshwater biological resources. The emergency discharges would not result in significant impacts on terrestrial biological resources. Therefore, terrestrial biological resource impacts would be less than significant under Alternative 5 (Project).

### 6.4.7.3 Impact Summary – Alternative 5

Impacts on terrestrial biological resources for Alternative 5 (Program) would be the same as those summarized for Alternative 1 (Program) in Table 6-6, excluding process optimization. Note that the mitigation measures for Alternatives 1 through 4 (Program) are not applicable to Alternative 5 (Program). There would be less than significant impacts on terrestrial biological resources for Alternative 5 (Project).

## 6.4.8 Alternative 6 (No-Federal-Action Alternative)

Pursuant to NEPA, an environmental impact statement (EIS) must evaluate a no-federal-action alternative. The No-Federal-Action Alternative for the Clearwater Program consists of the activities that the Sanitation Districts would perform without the issuance of the Corps' permits. The Corps' permits would be required for the construction of the offshore tunnel, construction of the riser and diffuser, the rehabilitation of the existing ocean outfalls, and the ocean disposal of dredged material. Without a Corps permit to work on the aforementioned facilities, the Sanitation Districts would not construct the onshore tunnel and shaft sites. Therefore, none of the project elements would be constructed under the No-Federal-Action Alternative. The Sanitation Districts would continue to use the existing ocean discharge system, which could result in emergency discharges into various water courses, as described in Sections 3.4.1.6 and 6.4.7.2. The program elements for the recommended alternative would be implemented in accordance with CEQA requirements. However, based on the NEPA scope of analysis established in Sections 1.4.2 and 3.5, these elements would not be subject to NEPA because the Corps would not make any significance determinations and would not issue any permits or discretionary approvals.

### 6.4.8.1 Program

The program elements are beyond the NEPA scope of analysis.

### 6.4.8.2 Project

The impact analysis for Alternative 6 (Project) is the same as described for Alternative 5 (Project).

### 6.4.8.3 Impact Summary – Alternative 6

The program is not analyzed under Alternative 6. Impacts for Alternative 6 would be the same as discussed under Alternative 5 (Project); therefore, there would be less than significant impacts on terrestrial biological resources for Alternative 6.

## 6.4.9 Comparison of Significant Impacts and Mitigation for All Alternatives

A summary of significant impacts on terrestrial biological resources resulting from the construction and/or operation of program and/or project elements is provided in Table 6-11. Impacts are compared by alternative. Proposed mitigation, where feasible, and the significance of the impact following mitigation under CEQA and NEPA are also listed in the table.

## Table 6-11. Comparison of Significant Impacts and Mitigation for Terrestrial Biological Resources for All Alternatives

| Element | Impact Before Mitigation | Mitigation Measure | Residual Impact After Mitigation |
|---|---|---|---|
| **Alternatives 1, 2, 3, 4, and 5[a] (Program)** | | | |
| Impact BIO-2. Would Alternatives 1, 2, 3, 4, and 5 (Program) result in direct or indirect take of a federally listed, threatened, or endangered plant or wildlife species? | | | |
| SJCWRP – Plant Expansion | CEQA Significant Impact During Construction | MM BIO-2. To avoid indirect impacts of construction on nesting least Bell's vireo, construction activities within 300 feet of riparian vegetation will be timed to avoid the season when nests may be active (April 1 to July 31). If avoidance of construction within this time period is not feasible, a focused survey for least Bell's vireo will be conducted in the season prior to initiation of construction activities to determine their presence or absence within 300 feet. The focused survey will consist of eight site visits conducted 10 days apart during the period of April 10 to July 31. If occupied habitat and/or nesting individuals are determined to occur within 300 feet of construction, measures to avoid take of least Bell's vireo and occupied habitat will be implemented. These avoidance measures will include conducting a clearance and nest survey within 30 days prior to construction activities to determine the location of nests within 300 feet of construction. Measures, such as erecting a temporary barrier with stacked hay bales, will be implemented to reduce the amount of construction noise and motion in proximity to active nests. In addition, a biologist familiar with least Bell's vireo will periodically monitor construction activities to confirm the least Bell's vireo is not affected by the construction and to ensure avoidance measures remain intact and functional. Night construction within 300 feet of occupied least Bell's vireo nests will not occur unless authorized by the California Department of Fish and Game and U.S. Fish and Wildlife Service. | CEQA Less Than Significant Impact During Construction |
| Impact BIO-3. Would Alternatives 1, 2, 3, 4, and 5 (Program) result in direct or indirect take of a state-listed, threatened, or endangered plant or wildlife species? | | | |
| SJCWRP – Plant Expansion | CEQA Significant Impact During Construction | MM BIO-3 (same as MM BIO-2) | CEQA Less Than Significant Impact During Construction |
| Impact BIO-5. Would Alternatives 1, 2, 3, 4, and 5 (Program) result in direct or indirect impacts on any CDFG wildlife species of special concern? | | | |
| SJCWRP – Plant Expansion | CEQA Significant Impact During Construction | MM BIO-5a. To avoid indirect impacts of construction on nesting yellow warbler and yellow-breasted chat, construction activities within 100 feet of riparian vegetation will be timed to occur outside the season when nests may be active (April 1 to July 31). If avoidance of construction within this time period is not feasible, a preconstruction nesting survey for yellow warbler and yellow-breasted chat will be conducted 7 days prior to initiation of construction to determine the presence or absence of nests within 100 feet. If nesting individuals are determined to occur within 100 feet of construction, avoidance and minimization measures will be implemented. These could include erecting a temporary barrier, such as stacked hay bales, adjacent to the nest location to reduce the amount of construction noise and motion entering the riparian habitat. | CEQA Less Than Significant Impact During Construction |

[a] Process optimization would not apply to Alternative 5 (Program). Additionally, all mitigation measures and residual impacts would not apply to Alternative 5 (Program).

**Table 6-11 (Continued)**

| Element | Impact Before Mitigation | Mitigation Measure | Residual Impact After Mitigation |
|---|---|---|---|
| **Alternative 3 (Project)** | | | |
| Impact BIO-5. Would Alternative 3 (Project) result in direct or indirect impacts on any CDFG wildlife species of special concern? | | | |
| Shaft Site – Angels Gate | CEQA<br>Significant Impact During Construction | MM BIO-5b. A preconstruction survey for burrowing owl will be conducted within 30 days prior to initiation of construction at the Angels Gate shaft site according to California Department of Fish and Game (CDFG) burrowing owl survey protocol and mitigation guidelines. All suitable habitat on the shaft site and within a 250-foot buffer will be surveyed for burrowing owl and/or evidence of burrowing owl. Mitigation for an occupied burrow will include avoiding construction within 250 feet of an active nest burrow during the February 1 to August 31 nesting season, and 160 feet of an occupied burrow from September 1 to January 31. If construction timing cannot be adjusted to avoid disturbance, or if an occupied burrow would be physically disturbed by construction, the owls would be relocated according to CDFG guidelines. | CEQA<br>Less Than Significant Impact During Construction |
| | NEPA<br>N/A | N/A | NEPA<br>N/A |