EXCERPTS FROM CLEARWATER PROGRAM MASTER FACILITIES PLAN AND EIR/EIS

The current permitted capacity of the LCWRP is 37.5 MGD. In 2010, the plant treated an average daily flow of 26.8 MGD, and 5.1 MGD of the effluent produced at the plant was beneficially reused at 273 individual sites. Beneficial reuse applications include landscape irrigation of schools, golf courses, parks, nurseries, and greenbelts, and industrial applications at local companies for carpet dying and concrete mixing. The Central Basin Municipal Water District is the largest beneficial user, followed by the cities of Cerritos, Lakewood, and Bellflower. The majority of effluent is discharged to the lined portion of the San Gabriel River that flows directly to the Pacific Ocean.

Primary solids, scum, and waste activated sludge generated by the LCWRP are returned to the Joint Outfall F trunk sewer and conveyed to the JWPCP for processing.

5.3.5 Long Beach Water Reclamation Plant

The LBWRP is located at 7400 E. Willow Street on a 17-acre site within the city of Long Beach. Facilities are distributed evenly throughout the site with pockets of undeveloped areas. The LBWRP is bound by Willow Street to the north, Coyote Creek to the south and east, and the San Gabriel River to the west. El Dorado Park to the north and the El Dorado Municipal Golf Course to the west dominate the surrounding land. Residential areas may be found to the south and east of the LBWRP. An aerial view of the LBWRP is shown on Figure 5-7.

The LBWRP was commissioned in 1973. The activated sludge process was converted to an SFA NDN process in early 2008.

Immediately north of the LBWRP is the Leo J. Vander Lans Advanced Water Treatment Facility (AWTF), a state-of-the-art facility owned by WRD with a design capacity of 3 MGD (product water). The Leo J. Vander Lans AWTF supplies water to protect the Central Groundwater Basin from seawater intrusion. The high quality water is blended with imported water and pumped into the Alamitos Seawater Barrier, one of three seawater barrier systems within the WRD service area. The AWTF receives effluent from the LBWRP and provides further treatment via microfiltration, reverse osmosis, and ultraviolet disinfection.

The permitted capacity of the LBWRP is 25.0 MGD. In 2010, the plant treated an average daily flow of 18.4 MGD, and 5.7 MGD of the effluent produced at the plant was beneficially reused at 56 individual sites. The city of Long Beach used approximately 3.8 MGD of recycled water for landscape irrigation of schools, golf courses, parks, and greenbelts. The WRD used approximately 2.0 MGD of recycled water at the Leo J. Vander Lans AWTF. The majority of the effluent is discharged to the lined portion of Coyote Creek, which then joins the San Gabriel River and flows to the Pacific Ocean.

Primary solids, scum, and waste activated sludge generated by the plant and brine generated by Leo J. Vander Lans AWTF are returned to the Joint Outfall C trunk sewer and conveyed to the JWPCP for processing.

5.3.6 La Cañada Water Reclamation Plant

The LACAWRP is located at 533 Meadowview Drive on approximately 0.3 acre on the grounds of the La Cañada Flintridge Country Club golf course. An aerial view of the LACAWRP is shown on Figure 5-8.

The LACAWRP began operation in 1962 and provides extended aeration treatment. The plant has a permitted capacity of 0.2 MGD. In 2010, the LACAWRP treated an average daily flow of 0.1 MGD.

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).

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.

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

- 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

Table 11-9 (Continued)

Constituent	Units	NPDES Permit Limit[a]	2008 Effluent Monitoring Data		
			Mean	Max	Min
Mercury	µg/L	N/A	0.00376	0.008	0.0013
Selenium	µg/L	N/A	0.26	1.04	DNQ 0.54
Zinc	µg/L	N/A	41.8	47.7	36.9
N-Nitrosodimethylamine	µg/L	N/A	ND	ND	ND

[a] Board Order No. R4-2007-0048

Mean = mean of all monthly means in 2008
Max = mean of all measurements in the month with the highest mean value
Min = mean of all measurements in the month with the lowest mean value
mg/L = milligrams per liter
mL/L = milliliters per liter
µg/L = micrograms per liter
°F = degrees Fahrenheit
NTU = nephelometric turbidity unit
ND = non-detect
DNQ = detected but not quantified
N/A = not applicable

Source: Sanitation Districts 2009c:Table 4-2, Table 4-4

Long Beach Water Reclamation Plant

Effluent Discharge Location

The LBWRP discharges (LB001) to Coyote Creek immediately upstream of its confluence with the San Gabriel River (tributary to San Gabriel River Reach 1, Figure 11-3). Both the Coyote Creek and San Gabriel River channels are fully lined for many miles both up and downstream of the LBWRP discharge point. During the May to October 2008 dry season, the LBWRP contributed between 7 and 91 percent of the Coyote Creek flow, with a median contribution of about 43 percent.

Effluent Water Quality

This section presents a summary of the physical, chemical, and biological characteristics of the effluent from the LBWRP. The NPDES permit for the LBWRP contains limits that are consistent with specific receiving water quality objectives of the Basin Plan and the SIP (SWRCB 2005). In addition to the NPDES permit, the LBWRP has water-recycling requirements. The water-recycling requirements for the WRPs contain limits consistent with specific water quality objectives for hydrologic subareas in the Basin Plan. The Basin Plan is discussed in Section 11.3.3.1.

The LBWRP NPDES permit includes approximately 7,400 numeric limitations that must be met each year based on quantitative results of final effluent and receiving water sampling and analysis. The permit also states that pollutants must not be present in wastes discharged at concentrations that pose a threat to groundwater quality. Additionally, the permit contains limits for total coliform bacteria, turbidity, radioactivity, and toxicity. A summary of some of the effluent characteristics monitored at the LBWRP for 2008 is presented in Table 11-10, along with the NPDES effluent limits applicable during that year. The water quality constituents are ordered in the table according to: (1) physical parameters, (2) chemical parameters and (3) emerging parameters of interest.

Table 11-10. LBWRP Effluent Quality for 2008

Constituent	Units	NPDES Permit Limit[a]	2008 Effluent Monitoring Data		
			Mean	Max	Min
pH		6.5 (min); 8.5 (max)	7.6	7.7	7.5
Turbidity	NTU	2 (24-hr composite)	0.8	0.9	0.7
Total Coliform	No./100 mL	2.2 (median of last 7 samples)		< 1	< 1
Temperature	°F	86 (max)	77	83	72
Suspended Solids	mg/L	45 (daily max); 40 (weekly ave); 15 (monthly ave)	< 4	< 5	< 3
Settleable Solids	mL/L	0.3 (daily max); 0.1 (monthly ave)	< 0.1	< 0.1	< 0.1
Total Dissolved Solids	mg/L	N/A	613	740	558
Biochemical Oxygen Demand	mg/L	45 (daily max); 30 (weekly ave)[a]; 20 (monthly ave)	< 4	< 5	< 3
Ammonia Nitrogen	mg/L	4.2 (daily max); 1.8 (monthly ave)	1.21	1.82	0.85
Total Nitrogen	mg/L	N/A	8.15	10.51	5.27
Fluoride	mg/L	N/A	0.67	0.78	0.57
Boron	mg/L	N/A	0.42	0.59	0.341
Chloride	mg/L	N/A	120	134	110
Sulfate	mg/L	N/A	106	147	84.6
Total Hardness	mg/L	N/A	183	245	156
Arsenic	µg/L	N/A	3.09	3.66	2.79
Cadmium	µg/L	N/A	0.35	1.39	ND
Total Chromium	µg/L	N/A	ND	DNQ 0.30	DNQ 0.23
Copper	µg/L	20 (daily max); 18 (monthly ave)	2.1	3.3	1.1
Lead	µg/L	106 (daily max)	0.021	0.256	DNQ 0.13
Mercury	µg/L	N/A	0.0031	0.0098	0.0010
Selenium	µg/L	N/A	ND	DNQ 0.83	DNQ 0.34
Zinc	µg/L	156 (daily max)	43.5	49.1	31
N-Nitrosodimethylamine	µg/L	N/A	0.77	1.4	0.24

[a] Board Order No. R4-2007-0047

Mean = mean of all monthly means in 2008
Max = mean of all measurements in the month with the highest mean value
Min = mean of all measurements in the month with the lowest mean value
mg/L = milligrams per liter
mL/L = milliliters per liter
µg/L = micrograms per liter
°F = degrees Fahrenheit
NTU = nephelometric turbidity unit
ND = non-detect
DNQ = detected but not quantified
N/A = not applicable

Source: Sanitation Districts 2009d:Table 4-2, Table 4-4

Whittier Narrows Water Reclamation Plant

Effluent Discharge Location

The WNWRP discharges at different locations and into different receiving waters. WN001 discharges to an unlined reach of the San Gabriel River (San Gabriel River Reach 3, Figure 11-3) and contributes to the WRP-derived flows in that receiving water, while WN002 and WN004 contribute to flows in the Zone 1 Ditch (tributary to Rio Hondo Reach 2, Figure 11-3) and the Rio Hondo (Rio Hondo Reach 2, Figure 11-3), respectively. Only one of these discharges from the WNWRP is used at any given time, usually for a period of several weeks to several months, and then discharge shifts to one of the other points. When the WNWRP is discharging to the Rio Hondo, it represents the predominant source of flow in the river. A fourth discharge, WN003, discharged to Test Basin 1 for a study on using recycled water

Figure 11-3). Discharges to the Rio Hondo are likewise infiltrated within Reach 2. Designated beneficial uses in these reaches include existing uses GWR, RARE, REC-1, REC-2, WARM, and WILD; intermittent uses GWR, REC-1, REC-2, WARM, and WILD; potential uses IND, PROC, RARE, REC-1, and WARM; and conditional potential use MUN (Table 11-12). Because the proposed changes in effluent management would not result in substantial changes in the volume and temporal variability of discharges from the WNWRP, there is little potential to affect any of these beneficial uses. Impacts would be less than significant.

San Jose Creek Water Reclamation Plant, Los Coyotes Water Reclamation Plant, and Long Beach Water Reclamation Plant (San Gabriel River Tidal Prism/Estuary) – WRP Effluent Management

Operation

Proposed operational changes at the WRPs would result in a net reduction in effluent volumes delivered to the lower San Gabriel River Tidal Prism and Estuary. These changes would alter the volume of fresh water flows and the pollutant loadings being delivered to the tidal prism.

No substantial changes are proposed for the LCWRP and LBWRP, which deliver discharges to the tidal prism (see previous discussion under this impact for effluent management at the LCWRP and LBWRP). Proposed changes in discharge volumes from SJCWRP discharge point SJC001 are likely to be propagated downstream to the tidal prism. The relevant discharge volumes range from an increase of 16 MGD to a reduction of 57 MGD relative to 2008 discharges, with flow reductions more likely to occur than flow increases (Table 11-5 and Table 11-18).

Existing discharge volumes are a minor component of discharges to the tidal prism, which are dominated by seawater discharges from the AES Alamitos and the Los Angeles Department of Water and Power (LADWP) Haynes electrical generating stations. These stations draw seawater for cooling purposes from Alamitos Bay and discharge the warmed seawater to the San Gabriel River. These stations have a combined maximum design cooling water flow of about 2,200 MGD, enough volume to maintain a net outflow to the ocean except on extreme high tides. Actual flow volumes are lower. For instance, during a year-long biological survey in 2006, average flow rates for both facilities combined were approximately 1,400 MGD (MBC 2003:23). These facilities may not be operated in this fashion in the near future, however, as the Long Beach Water Department has plans to deliver recycled water for cooling tower use as part of the city's Recycled Water Master Plan. However, since the amount and constitution of the water (seawater versus fresh water) that might be released from the generating stations is unknown and therefore, represents a speculative scenario under CEQA, this chapter includes the analysis for 1,400 MGD which is the existing condition. Furthermore, impacts from a cessation of ocean water cooling at Haynes Generating Units 5 and 6 are less than significant for water quality, sea turtles, eelgrass, Pacific groundfish, and coastal pelagics (LADWP 2010).

Current WRP discharges amount to 41 MGD from the SJCWRP, 25 MGD from the LCWRP, and 12 MGD from the LBWRP, totaling 78 MGD (Table 11-5). This represents approximately 5.5 percent of discharges to the tidal prism (assuming cooling water flows from the electrical generating stations equal 1,400 MGD). Under the program, this discharge total would be between 21 and 94 MGD (Table 11-18). This represents between 1.5 percent and 6.7 percent of discharges to the tidal prism. These changes when compared to the existing percentage of discharges to the tidal prism are very small, especially considering the discharge of the electrical generating stations, and thus are unlikely to result in any observable change

in either tidal flows or salinity within the estuary. Impacts related to flow volumes would be less than significant.

As previously discussed, all WRPs can be assumed to be compliant with the terms of their NPDES permits. Proposed flow reductions could only decrease pollutant loads derived from WRPs. Thus, there is no potential for proposed WRP effluent management to increase pollutant loading in the tidal prism. Given the dilution factors associated with generating station discharges, proposed changes would not substantially alter existing pollutant loading in the tidal prism. Impacts on pollutant loading and beneficial uses would be less than significant.

Joint Water Pollution Control Plant – Solids Processing

Construction

Proposed solids processing facilities include construction of six new 500,000-cubic-foot anaerobic digesters and replacement of the existing sludge dewatering system facilities. The anaerobic digesters would be located at least partially underground within a developed portion of the JWPCP. The dewatering system replacement would entail construction of a new building to house the new dewatering equipment and replacement support systems. Soil type and slope at the JWPCP varies; consequently, erosion potential varies, as shown in Table 11-15. Construction would comply with Appendix J of the Los Angeles County Municipal Code, but construction on site would potentially lead to pollution of receiving waters. The Sanitation Districts incorporate many standard practices and requirements into each publicly bid construction contract to minimize erosion, sedimentation, or other such impacts. Contractors for the proposed solids processing facilities would be required to comply with all local and other regulations as noted.

- City of Carson regulations as required, including implementation of appropriate BMPs that may include a WWECP
- NPDES General Permit for Storm Water Discharges Associated With Construction and Land Disturbance Activities (Order No. 2009-0009-DWQ, NPDES No. CAS000002) for projects where 1 acre or more of soil will be disturbed; preparation of a site-specific SWPPP is required
- WDRs for Discharges of Groundwater From Construction and Project Dewatering to Surface Waters (General NPDES Permit No. CAG994004) preparation of a site-specific dewatering plan is required
- If necessary, individual permits in place of the general permits referenced above if the project does not qualify for a general permit

Because the Sanitation Districts would require the contractor to comply with all applicable regulations and permits, and because the proposed work would occur in a fully developed area without sensitive environmental resources, impacts would be less than significant.

CEQA Impact Determination

Construction and operation of Alternative 1 (Program) would not create pollution, contamination, or nuisance as defined in Section 13050 of the California Water Code or cause regulatory standards to be violated, as defined in the applicable NPDES stormwater permit or water quality control plan for receiving waters. Impacts would be less than significant.

Mitigation

No mitigation is required.