C. TMDLs in Dominguez Channel and Greater Harbor Waters Watershed Management Area

1. Los Angeles Harbor Bacteria TMDL (Inner Cabrillo Beach and Main Ship Channel)

   a) Permittees subject to the provisions below are identified in Table C.

   b) Permittees shall comply with the following final water quality-based effluent limitations for discharges to the Los Angeles Harbor Main Ship Channel, Los Angeles and Long Beach Inner Harbor, and Inner Cabrillo Beach as of the effective date of this Order:

Constituent	Effluent Limitations (MPN or cfu)	
	Daily Maximum	Geometric Mean
Total coliform*	10,000/100 mL	1,000/100 mL
Fecal coliform	400/100 mL	200/100 mL
Enterococcus	104/100 mL	35/100 mL

* Total coliform density shall not exceed a daily maximum of 1,000/100 mL, if the ratio of fecal-to-total coliform exceeds 0.1.

   c) Receiving Water Limitations

      (1) Permittees shall comply with the following final single sample bacteria receiving water limitations for the Los Angeles Harbor Main Ship Channel and Inner Cabrillo Beach:

Time Period	Receiving Water	Compliance Monitoring Location	Annual Allowable Exceedance Days of the Single Sample Objective (days)	
			Daily sampling	Weekly sampling
Summer Dry-Weather (April 1 to October 31)	Inner Cabrillo Beach	CB1 & CB2	0	0
	Main Ship Channel	HW07	0	0
Winter Dry-Weather (November 1 to March 31)	Inner Cabrillo Beach	CB1 & CB2	0	0
	Main Ship Channel	HW07	3	1
Wet Weather[1]	Inner Cabrillo Beach	CB1 & CB2	0	0
	Main Ship Channel	HW07	15	3

      (2) Permittees shall comply with the following geometric mean receiving water limitations for the Los Angeles Harbor Main Ship Channel, Los Angeles and Long Beach Inner Harbor, and Inner Cabrillo Beach at all times:

[1] Wet weather is defined as days with 0.1 inch of rain or greater and the three days following the rain event.

Constituent	Geometric Mean
Total coliform	1,000 MPN/100 mL
Fecal coliform	200 MPN/100 mL
Enterococcus	35 MPN/100 mL

2. Machado Lake Trash TMDL

   a) Permittees subject to the provisions below are identified in Table C.

   b) Permittees shall comply with the final water quality-based effluent limitation of zero trash discharged to Machado Lake no later than March 6, 2016, and every year thereafter.

   c) Permittees shall comply with interim and final water quality-based effluent limitations for trash discharged to Machado Lake, per the schedule below:

Machado Lake Trash Water Quality-Based Effluent Limitations (gallons of uncompressed trash per year)

Permittees	Baseline[2]	3/6/2012 (80%)	3/6/2013 (60%)	3/6/2014 (40%)	3/6/2015 (20%)	3/6/2016[3] (0%)
		Annual Trash Discharge (gallons/y)r				
Carson	8141.47	6513.18	4884.88	3256.59	1628.29	0
Lomita	9392.99	7514.39	5635.79	3757.20	1878.60	0
City of Los Angeles	12331.17	9864.94	7398.70	4932.47	2466.23	0
Los Angeles County	8304.02	6643.22	4982.41	3321.61	1660.80	0
Los Angeles County Flood Control District	16.41	13.13	9.85	6.56	3.28	0
Palos Verdes Estates	1976.33	1581.06	1185.80	790.53	395.27	0
Rancho Palos Verdes	5226.71	4181.37	3136.03	2090.68	1045.34	0
Redondo Beach	18.16	14.53	10.90	7.26	3.63	0
Rolling Hills	3001.09	2400.87	1800.65	1200.44	600.22	0
Rolling Hills Estates	6498.83	5199.06	3899.30	2599.53	1299.77	0
Torrance	34808.97	27847.18	20885.38	13923.59	6961.79	0

   d) Permittees shall comply with the interim and final water quality-based effluent limitations for trash in 2(b) and 2(c) above per the provisions in Part 7.X [*Permit Provisions to Implement Trash TMDLs*].

   e) If a Permittee opts to derive a site specific trash generation rate through its Trash Monitoring and Reporting Plan (TMRP), the baseline limitation will be calculated by multiplying the point source area(s) by the derived trash generation rate(s).

[2] The Regional Water Board has determined the following baseline water quality-based effluent limitations for the Permittees based on the estimated trash generation rate of 5334 gallons of uncompressed trash per square mile per year.

[3] Permittees shall achieve their final effluent limitation of zero trash discharge for the 2015-2016 storm year and every year thereafter.

3. Machado Lake Nutrient TMDL

a) Permittees subject to the provisions below are identified in Table C.

b) Permittees shall comply with the following interim and final water quality-based effluent limitations for discharges to Machado Lake:

Deadline	Interim and Final Effluent Limitations	
	Monthly Average Total Phosphorus (mg/L)	**Monthly Average Total Nitrogen ($TKN+NO_3$-N+NO_2-N) (mg/L)**
As of the effective date of this Order	1.25	3.5
March 11, 2014	1.25	2.45
September 11, 2018	0.10	1.0

c) Compliance Determination

(1) Permittees may be deemed in compliance with the water quality-based effluent limitations by actively participating in a Lake Water Quality Management Plan (LWQMP) and attaining the receiving water limitations for Machado Lake. The City of Los Angeles has entered into a Memorandum of Agreement with the Regional Water Board to implement the LWQMP and reduce external nutrient loading to attain the following receiving water limitations:

Deadline	Interim and Final Receiving Water Limitations	
	Monthly Average Total Phosphorus (mg/L)	**Monthly Average Total Nitrogen ($TKN+NO_3$-N+NO_2-N) (mg/L)**
As of the effective date of this Order	1.25	3.5
March 11, 2014	1.25	2.45
September 11, 2018	0.10	1.0

(2) Permittees may be deemed in compliance with water quality-based effluent limitations by demonstrating reduction of total nitrogen and total phosphorous on an annual mass basis measured at the storm drain outfall of the Permittee's drainage area. The annual mass-based allocation shall be equal to a monthly average concentrations of 0.1 mg/L total phosphorus and 1.0 mg/L total nitrogen based on approved flow conditions. Permittees must demonstrate total nitrogen and total phosphorous load reductions to be achieved in accordance with a special study work plan approved by the Executive Officer.

(i) The County of Los Angeles submitted a special study work plan, which was approved by the Executive Officer, and established the following annual mass-based water quality based effluent limitations:

Deadline	Interim and Final Effluent Limitations	
	Annual Load Total Phosphorus (kg)	Annual Load Total Nitrogen ($TKN+NO_3$-$N+NO_2$-N) (kg)
March 11, 2014	887	1739
September 11, 2018	71	710

(ii) The City of Torrance submitted a special study work plan, which was approved by the Executive Officer, and established the following annual mass-based water quality based effluent limitations:

Deadline	Interim and Final Effluent Limitations	
	Annual Load Total Phosphorus (kg)	Annual Load Total Nitrogen ($TKN+NO_3$-$N+NO_2$-N) (kg)
March 11, 2014	3,760	7,370
September 11, 2018	301	3008

4. Machado Lake Pesticides and PCBs TMDL

a) Permittees subject to the provisions below are identified in Table C.

b) Permittees shall comply with the following water quality-based effluent limitations for discharges of suspended sediments to Machado Lake, applied as a 3-year average no later than September 30, 2019:

Pollutant	Effluent Limitations for Suspended Sediment-Associated Contaminants (µg/kg dry weight)
Total PCBs	59.8
DDT (all congeners)	4.16
DDE (all congeners)	3.16
DDD (all congeners)	4.88
Total DDT	5.28
Chlordane	3.24
Dieldrin	1.9

5. Dominguez Channel and Greater Los Angeles and Long Beach Harbor Waters Toxic Pollutants TMDL

a) Permittees subject to the provisions below are identified in Table C.

b) Permittees shall comply with the following interim water quality-based effluent limitations for discharges to Dominguez Channel and Torrance Lateral listed below as of the effective date of this Order:

(1) Dominguez Channel Freshwater – Wet Weather

(i) Freshwater Toxicity Interim Effluent Limitation shall not exceed the monthly median of 2 TUc.

(ii) Permittees shall comply with the following interim metals water quality-based effluent limitations for discharges to the Dominguez Channel and Torrance Lateral:

Metals	Interim Effluent Limitation Daily Maximum (µg/L)
Total Copper	207.51
Total Lead	122.88
Total Zinc	898.87

(2) Permittees shall comply with the following interim concentration-based water quality-based effluent limitations for pollutant concentrations in the sediment discharged to the Dominguez Channel Estuary and Greater Los Angeles and Long Beach Harbor Waters:

Water Body	Interim Effluent Limitations Daily Maximum (mg/kg sediment)					
	Copper	Lead	Zinc	DDT	PAHs	PCBs
Dominguez Channel Estuary	220.0	510.0	789.0	1.727	31.60	1.490
Long Beach Inner Harbor	142.3	50.4	240.6	0.070	4.58	0.060
Los Angeles Inner Harbor	154.1	145.5	362.0	0.341	90.30	2.107
Long Beach Outer Harbor (inside breakwater)	67.3	46.7	150	0.075	4.022	0.248
Los Angeles Outer Harbor (inside breakwater)	104.1	46.7	150	0.097	4.022	0.310
Los Angeles River Estuary	53.0	46.7	183.5	0.254	4.36	0.683
San Pedro Bay Near/Off Shore Zones	76.9	66.6	263.1	0.057	4.022	0.193
Los Angeles Harbor - Cabrillo Marina	367.6	72.6	281.8	0.186	36.12	0.199
Los Angeles Harbor - Consolidated Slip	1470.0	1100.0	1705.0	1.724	386.00	1.920
Los Angeles Harbor - Inner Cabrillo Beach Area	129.7	46.7	163.1	0.145	4.022	0.033
Fish Harbor	558.6	116.5	430.5	40.5	2102.7	36.6

c) Permittees shall comply with the final water quality-based effluent limitations as listed below no later than March 23, 2032, and every year thereafter:

(1) Dominguez Channel Freshwater – Wet Weather

(i) Freshwater Toxicity Effluent Limitation shall not exceed the monthly median of 1 TUc.

(ii) Permittees shall comply with the following final metals water quality-based effluent limitations for discharges to Dominguez Channel and all upstream reaches and tributaries of Dominguez Channel above Vermont Avenue:

Metals	Water Column Mass-Based Final Effluent Limitation

	Daily Maximum (g/day)
Total Copper	1,300.3
Total Lead	5,733.7
Total Zinc	9,355.5

(2) Torrance Lateral Freshwater and Sediment – Wet Weather

(i) Permittees shall comply with the following final metals water quality-based effluent limitations for discharges to the Torrance Lateral:

Metals	Water Column Effluent Limitation Daily Maximum (unfiltered, µg/L)
Total Copper	9.7
Total Lead	42.7
Total Zinc	69.7

(ii) Permittees shall comply with the following final concentration-based water quality-based effluent limitations for pollutant concentrations in the sediment discharged to the Torrance Lateral:

Metals	Concentration-Based Effluent Limitation Daily Maximum (mg/kg dry)
Total Copper	31.6
Total Lead	35.8
Total Zinc	121

(3) Dominguez Channel Estuary and Greater Los Angeles and Long Beach Harbor Waters

(i) Permittees shall comply with the following final mass-based water quality-based effluent limitations, expressed as an annual loading of pollutants in the sediment discharged to Dominguez Channel Estuary, Los Angeles River Estuary, and the Greater Los Angeles and Long Beach Harbor Waters:

	Final Effluent Limitations Annual (kg/yr)			
Water Body	Total Cu	Total Pb	Total Zn	Total PAHs
Dominguez Channel Estuary	22.4	54.2	271.8	0.134
Consolidated Slip	2.73	3.63	28.7	0.0058
Inner Harbor	1.7	34.0	115.9	0.088
Outer Harbor	0.91	26.1	81.5	0.105
Fish Harbor (POLA)	0.00017	0.54	1.62	0.007
Cabrillo Marina (POLA)	0.0196	0.289	0.74	0.00016
San Pedro Bay	20.3	54.7	213.1	1.76

LA River Estuary	35.3	65.7	242.0	2.31

(ii) Permittees shall comply with the following final concentration-based water quality-based effluent limitations for pollutant concentrations in the sediments discharged to the Dominguez Channel Estuary, Consolidated Slip, and Fish Harbor:

Water Body	**Effluent Limitations Daily Maximum (mg/kg dry sediment)**		
	Cadmium	Chromium	Mercury
Dominguez Channel Estuary	1.2	--	--
Consolidated Slip	1.2	81	0.15
Fish Harbor	--	--	0.15

(4) Permittees shall comply with the following final mass-based water quality-based effluent limitations, expressed as an annual loading of total DDT and total PCBs in the sediment discharged to Dominguez Channel Estuary, Los Angeles River Estuary, and the Greater Los Angeles and Long Beach Harbor Waters:

	Final Effluent Limitations Annual (g/yr)	
Water Body	DDT total	PCBs total
Dominguez Channel Estuary	0.250	0.207
Consolidated Slip	0.009	0.004
Inner Harbor	0.051	0.059
Outer Harbor	0.005	0.020
Fish Harbor	0.0003	0.0019
Cabrillo Marina	0.000028	0.000025
Inner Cabrillo Beach	0.0001	0.0003
San Pedro Bay	0.049	0.44
LA River Estuary	0.100	0.324

d) Compliance Determination

(1) Permittees shall be deemed in compliance with the interim concentration-based water quality-based effluent limitations for pollutant concentrations in the sediment as listed above in part 5.b)(2) by meeting any one of the following methods::

(i) Demonstrate that the sediment quality condition of *Unimpacted* or *Likely Unimpacted* via the interpretation and integration of multiple lines of evidence as defined in the SQO Part 1, is met; or

(ii) Meet the interim water quality-based effluent limitations in bed sediment over a three-year averaging period; or

(iii) Meet the interim water quality-based effluent limitations in the discharge over a three-year averaging period.

(2) Permittees shall be deemed in compliance with the final fresh water metals water quality-based effluent limitations for discharges to Dominguez Channel and Torrance Lateral as listed above in parts 5.c)(1)(ii) and 5.c)(2)(i) by meeting any one of the following methods:

(i) Final metals water quality-based effluent limitations are met; or

(ii) CTR total metals criteria are met instream; or

(iii) CTR total metals criteria are met in the discharge.

(3) Permittees shall be deemed in compliance with the final water quality-based effluent limitations for pollutants in the sediment as listed above in parts 5.c)(3)(i) and (ii) by meeting any one of the following methods:

(i) Final water quality-based effluent limitations for pollutants in the sediment are met; or

(ii) The qualitative sediment condition of *Unimpacted* or *Likely Unimpacted* via the interpretation and integration of multiple lines of evidence as defined in the SQO Part 1, is met, with the exception of chromium, which is not included in the SQO Part 1; or

(iii) Sediment numeric targets are met in bed sediments over a three-year averaging period.

(4) Permittees shall be deemed in compliance with the final water quality-based effluent limitations for total DDT and total PCBs in the sediment as listed above in part 5.c)(4) by meeting any one of the following methods:

(i) Fish tissue targets are met in species resident to the specified water bodies[4]; or

(ii) Final water quality-based effluent limitations for pollutants in the sediment are met; or

(iii) Sediment numeric targets to protect fish tissue are met in bed sediments over a three-year averaging period; or

(iv) Demonstrate that the sediment quality condition protective of fish tissue is achieved per the Statewide Enclosed Bays and Estuaries Plan.

[4] A site-specific study to determine resident species shall be submitted to the Executive Officer for approval.