Attachment A

LACFCD Background

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This attachment provides background information pertaining to the Los Angeles County Flood Control District (LACFCD), and their involvement in the Dominguez Channel Watershed Management Group (DC WMG) Enhanced Watershed Management Program (EWMP), supplemental to the EWMP Work Plan.

In 1915, the Los Angeles County Flood Control Act established the LACFCD and empowered it to manage flood risk and conserve stormwater for groundwater recharge. In coordination with the United States Army Corps of Engineers the LACFCD developed and constructed a comprehensive system that provides for the regulation and control of flood waters through the use of reservoirs and flood channels. The system also controls debris, collects surface storm water from streets, and replenishes groundwater with stormwater and imported and recycled waters. The LACFCD covers the 2,753 square-mile portion of Los Angeles County south of the east-west projection of Avenue S, excluding Catalina Island. It is a special district governed by the County of Los Angeles Board of Supervisors, and its functions are carried out by the Los Angeles County Department of Public Works. The LACFCD service area is shown in Figure A.1. The LACFCD territory within the DC WMG is shown in Figure A.2.

Unlike cities and counties, the LACFCD does not own or operate any municipal sanitary sewer systems, public streets, roads, or highways. The LACFCD operates and maintains storm drains and other appurtenant drainage infrastructure within its service area. The LACFCD has no planning, zoning, development permitting, or other land use authority within its service area. The Permittees that have such land use authority are responsible under the MS4 Permit for inspecting and controlling pollutants from industrial and commercial facilities, development projects, and development construction sites. (MS4 Permit, Part II.E, page 17.)

The MS4 Permit language clarifies the unique role of the LACFCD in storm water management programs: "[g]iven the LACFCD's limited land use authority, it is appropriate for the LACFCD to have a separate and uniquely-tailored storm water management program. Accordingly, the storm water management program minimum control measures imposed on the LACFCD in Part VI.D of this Order differ in some ways from the minimum control measures imposed on other Permittees. Namely, aside from its own properties and facilities, the LACFCD is not subject to the Industrial/Commercial Facilities Program, the Planning and Land Development Program, and the Development Construction Program. However, as a discharger of storm and non-storm water, the LACFCD remains subject to the Public Information and Participation Program and the Illicit Connections and Illicit Discharges Elimination Program. Further, as the owner and operator of certain properties, facilities and infrastructure, the LACFCD remains subject to requirements of a Public Agency Activities Program." (MS4 Permit, Part II.F, page 18).

Consistent with the role and responsibilities of the LACFCD under the MS4 Permit, the EWMPs and Coordinated Integrated Monitoring Programs (CIMPs) reflect the opportunities that are available for the LACFCD to collaborate with Permittees having land use authority over the subject watershed area. In some instances, the opportunities are minimal, however the LACFCD remains responsible for compliance with certain aspects of the MS4 Permit as discussed above.

In some instances, in recognition of the increased efficiency of implementing certain programs regionally, the LACFCD has committed to responsibilities above and beyond its obligations under the 2012 MS4 Permit. For example, although under the 2012 MS4 Permit the Public Information and Participation Program (PIPP) is a responsibility of each Permittee, the LACFCD is committed to implementing certain regional elements of the PIPP on behalf of all Permittees at no cost to the Permittees. These regional elements include:

- Maintaining a countywide hotline (888-CLEAN-LA) and website (www.888cleanla.com) for public reporting and general stormwater management information at an estimated annual cost of $250,000. Each Permittee can utilize this hotline and website for public reporting within its jurisdiction.

- Broadcasting public service announcements and conducting regional advertising campaigns at an estimated annual cost of $750,000.
- Facilitating the dissemination of public education and activity specific stormwater pollution prevention materials at an estimated annual cost of $100,000.
- Maintaining a stormwater website at an estimated annual cost of $10,000.

The LACFCD will implement these elements on behalf of all Permittees starting July 2015 and through the MS4 Permit term. With the LACFCD handling these elements regionally, Permittees can better focus on implementing local or watershed-specific programs, including student education and community events, to fully satisfy the PIPP requirements of the 2012 MS4 Permit.

Similarly, although water quality monitoring is a responsibility of each Permittee under the 2012 MS4 Permit, the LACFCD is committed to implement certain regional elements of the monitoring program. Specifically, the LACFCD will continue to conduct monitoring at the seven existing mass emissions stations required under the previous Permit. The LACFCD will also participate in the Southern California Stormwater Monitoring Coalition’s Regional Bioassessment Program on behalf of all Permittees. By taking on these additional responsibilities, the LACFCD wishes to increase the efficiency and effectiveness of these programs.

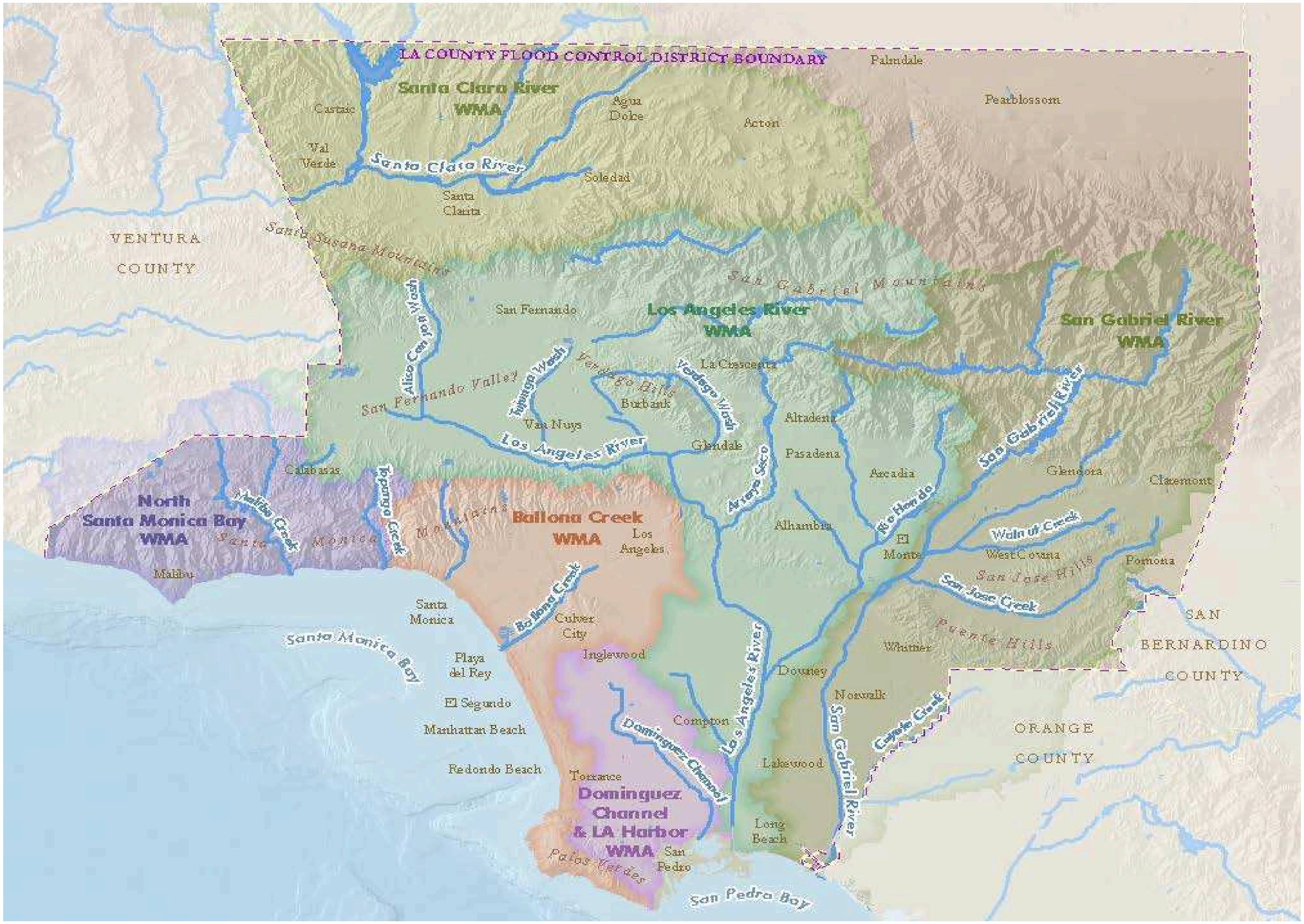

Figure A.1: LACFCD Service Area

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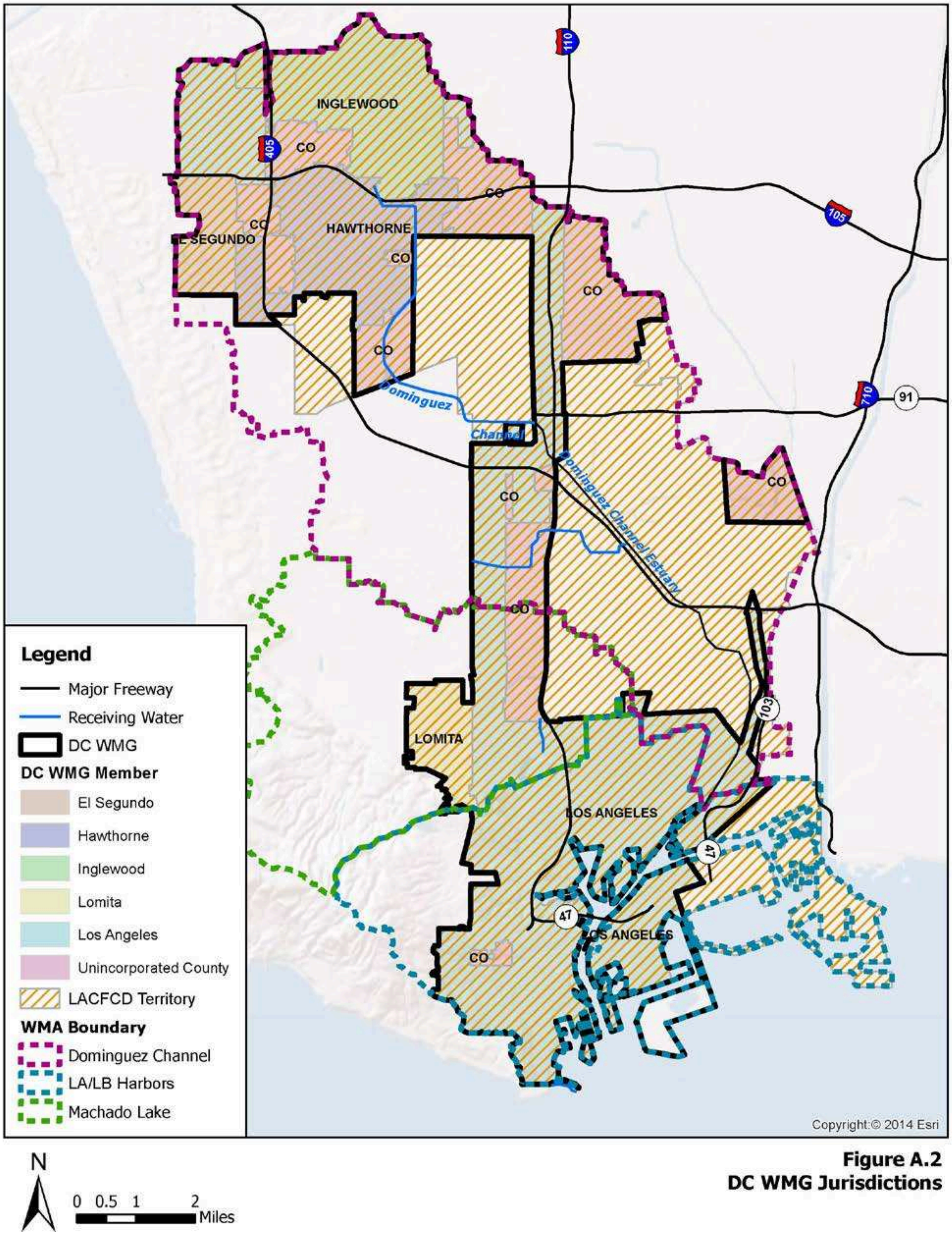

Figure A.2: DC WMG Jurisdictions

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Attachment B

Introduction Figures

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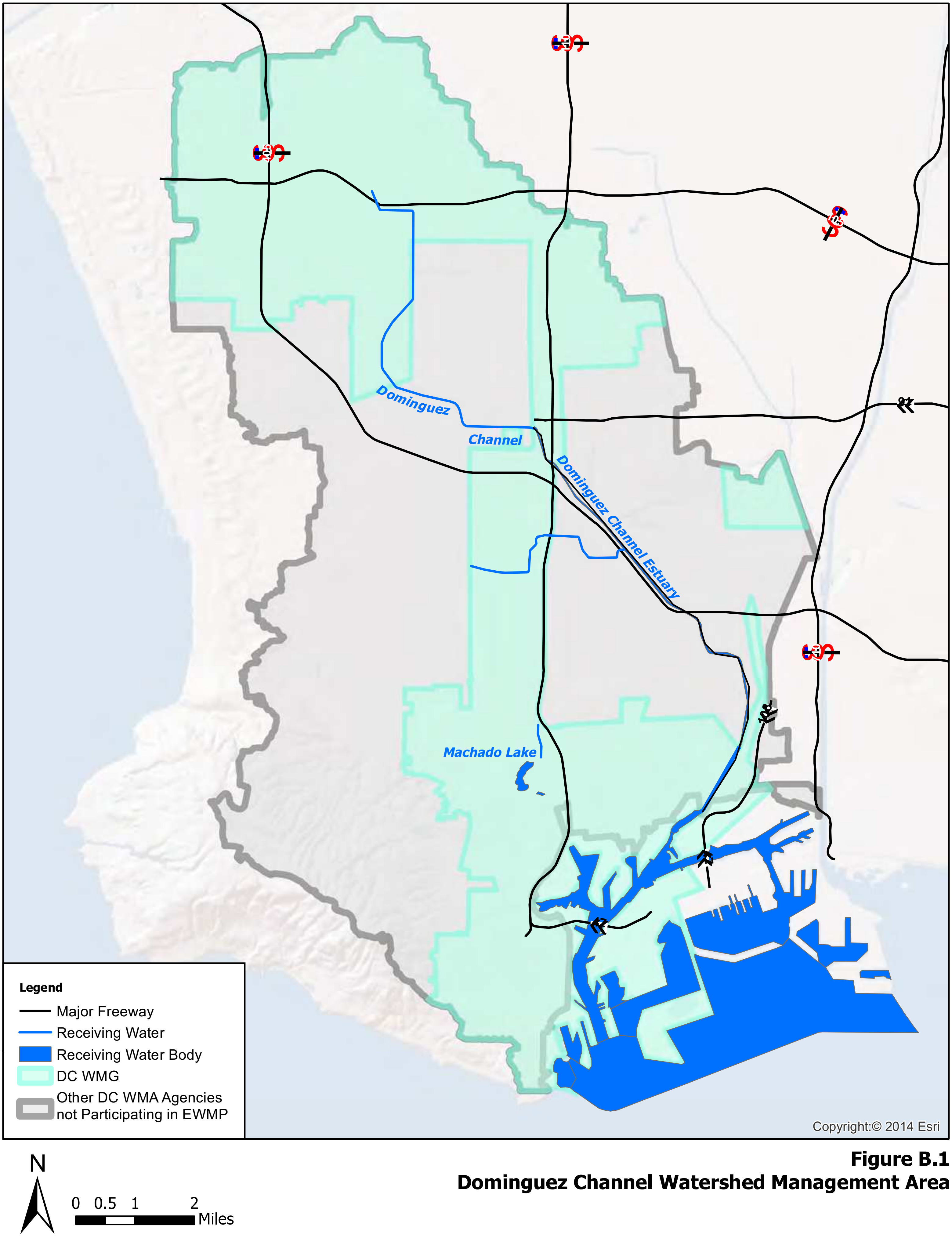

Figure B.1
Dominguez Channel Watershed Management Area

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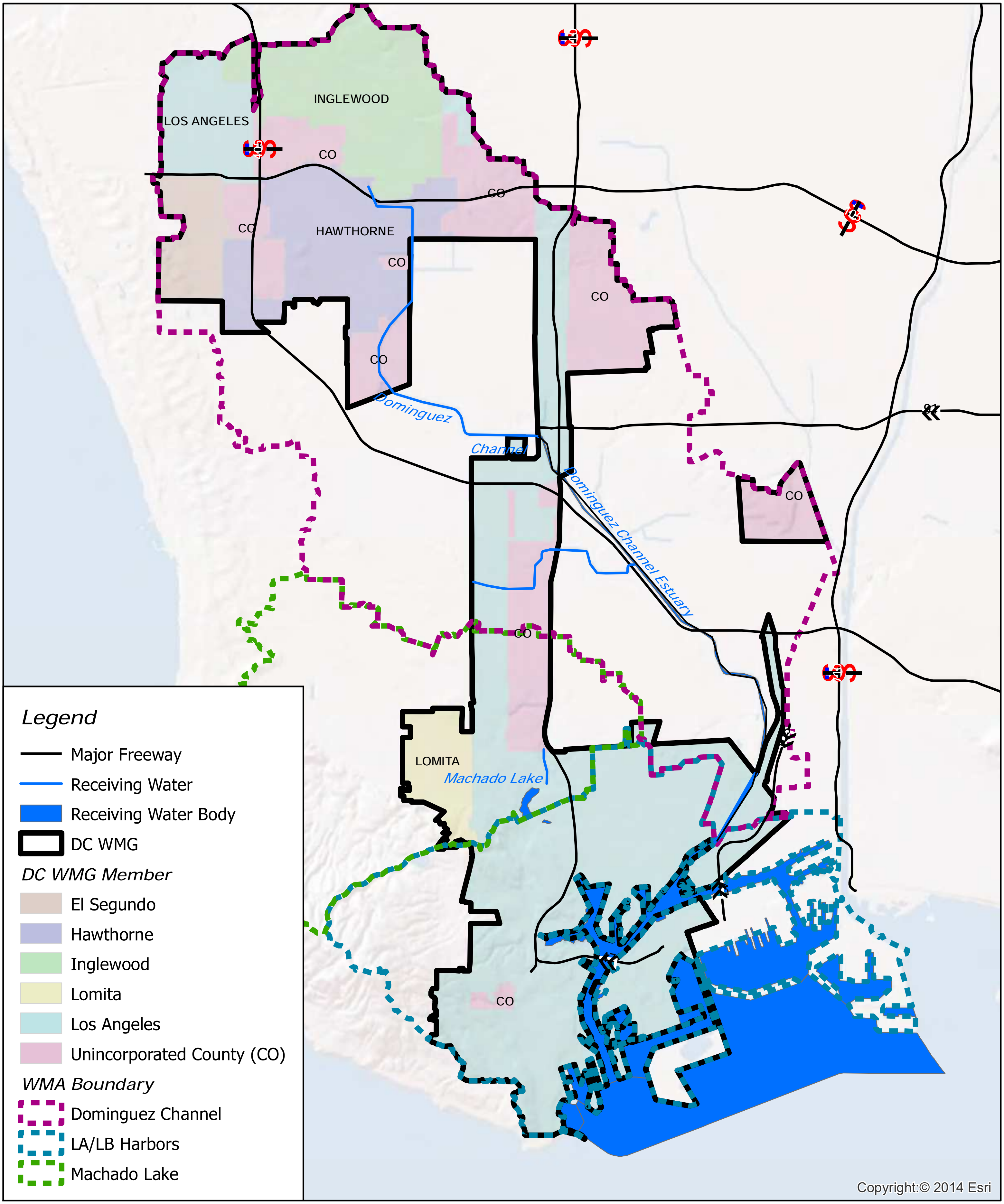

N

0 0.5 1 2 Miles

Figure B.2
DC WMG Drainage

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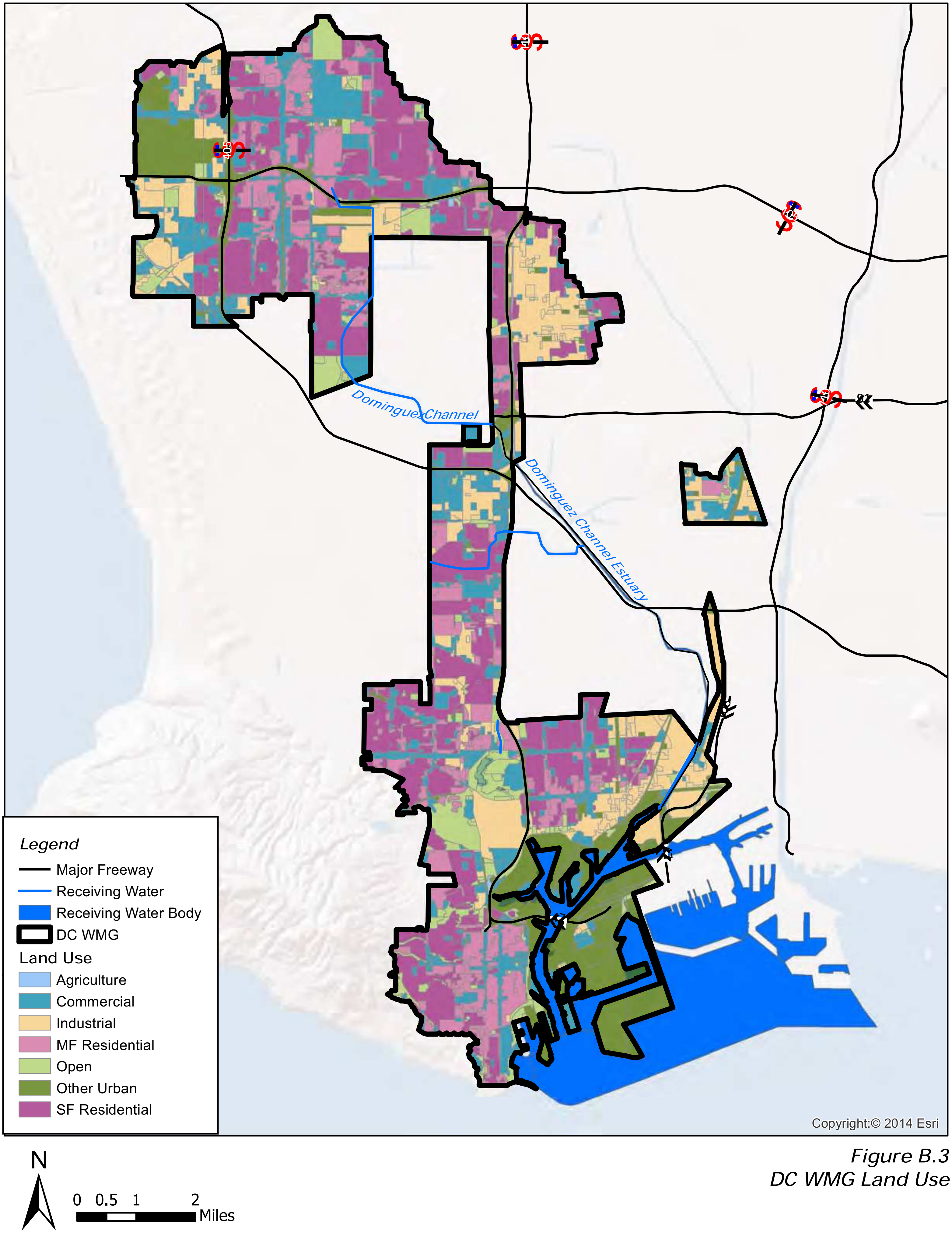

Figure B.3
DC WMG Land Use

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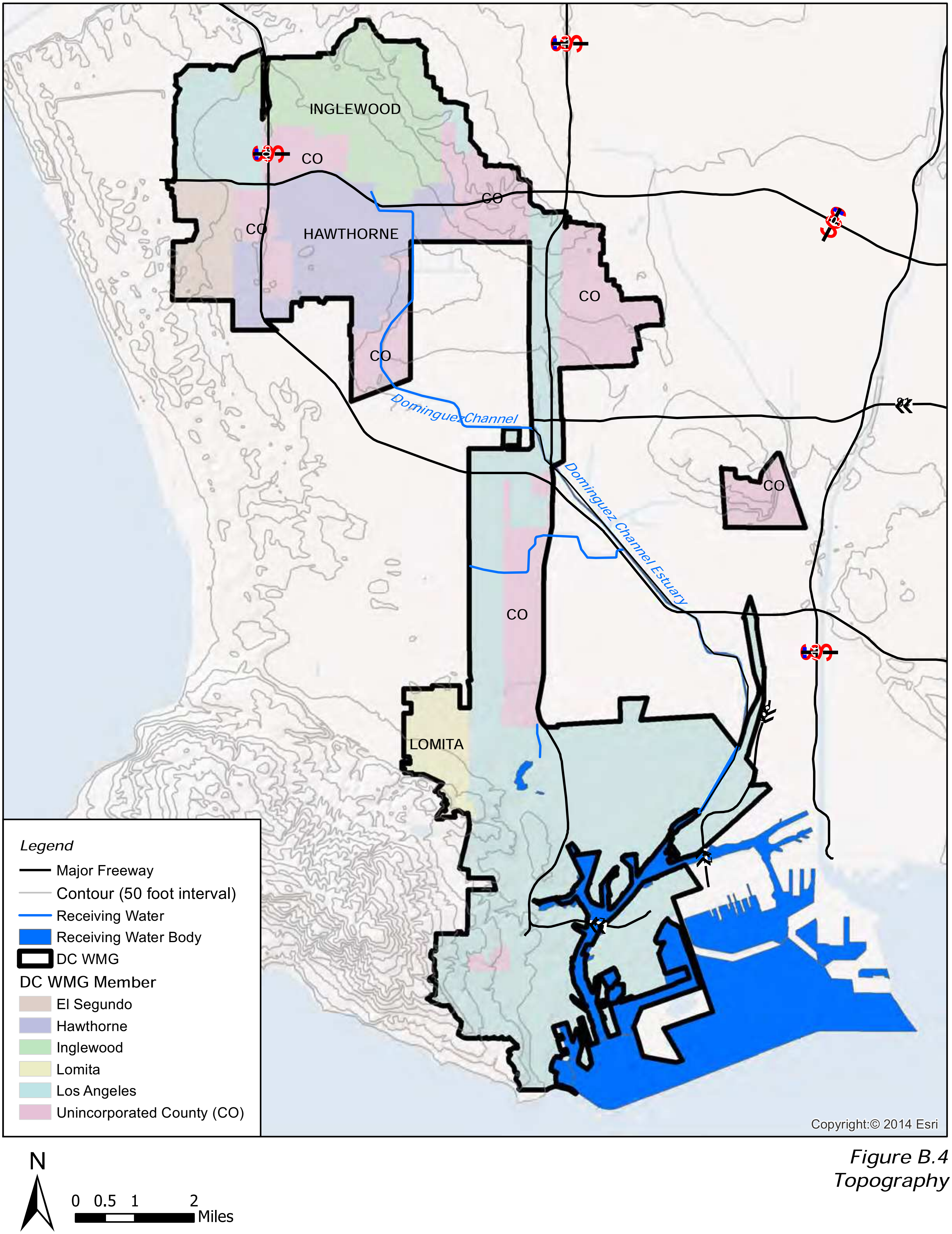

Figure B.4
Topography

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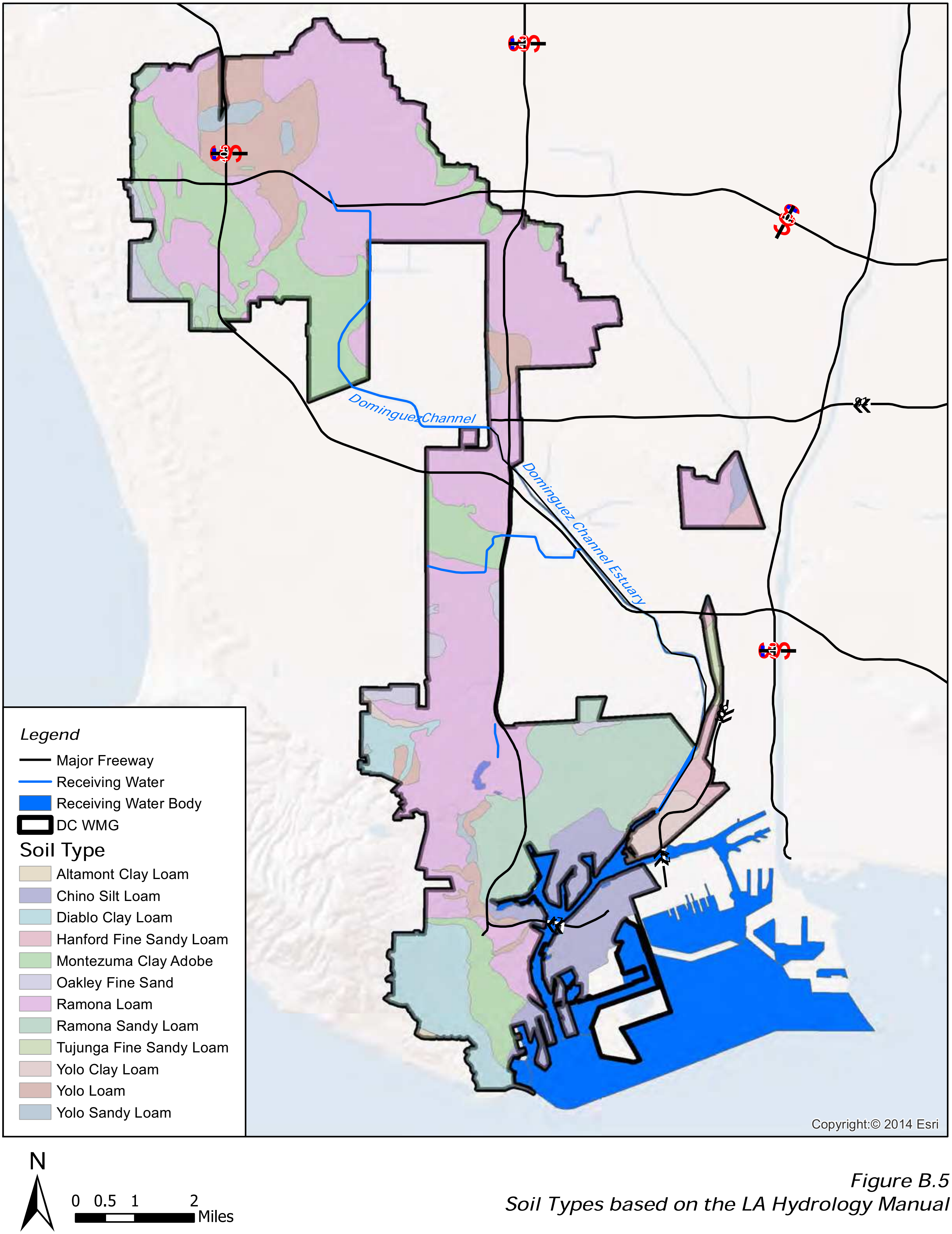

Figure B.5
Soil Types based on the LA Hydrology Manual

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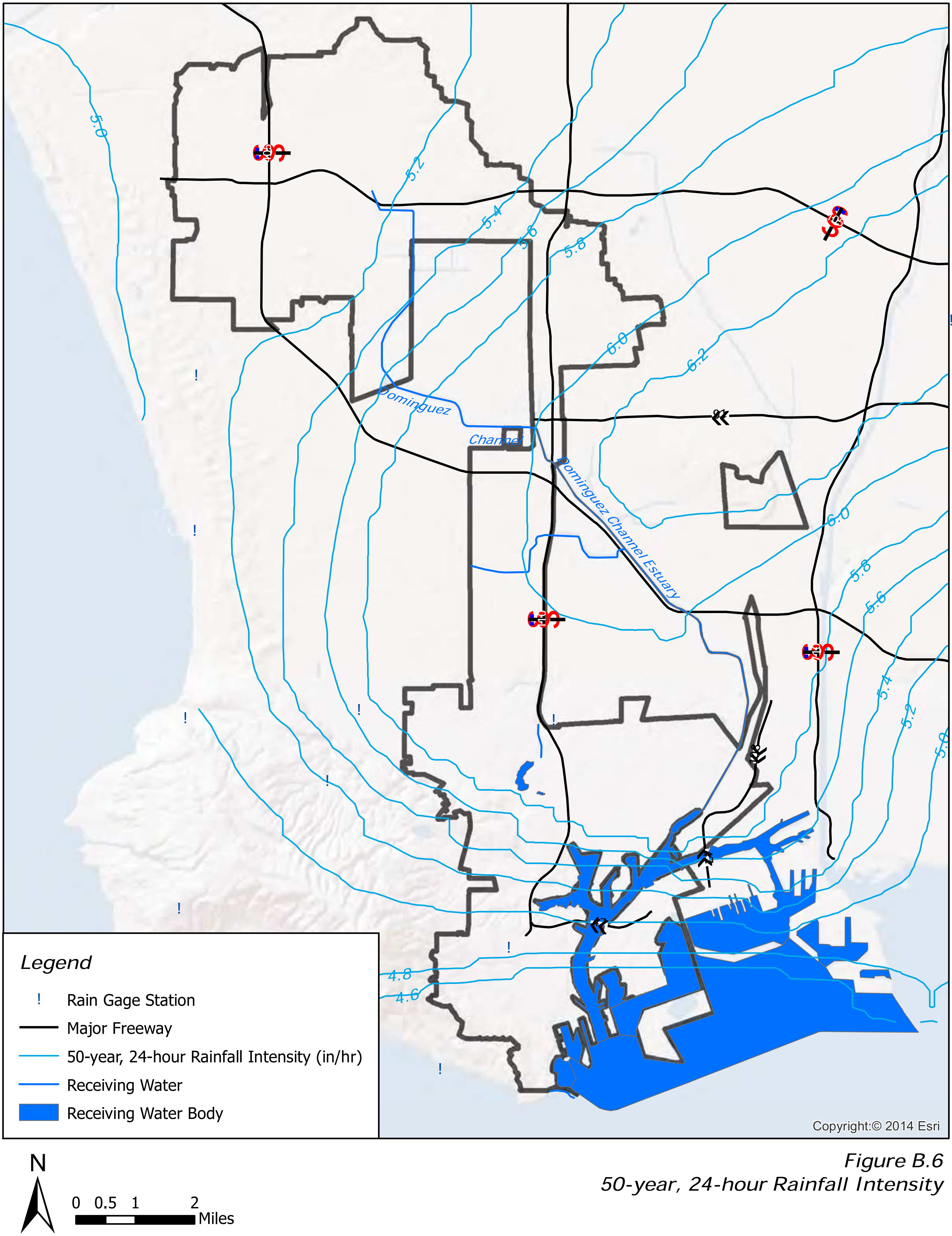

Figure B.6
50-year, 24-hour Rainfall Intensity

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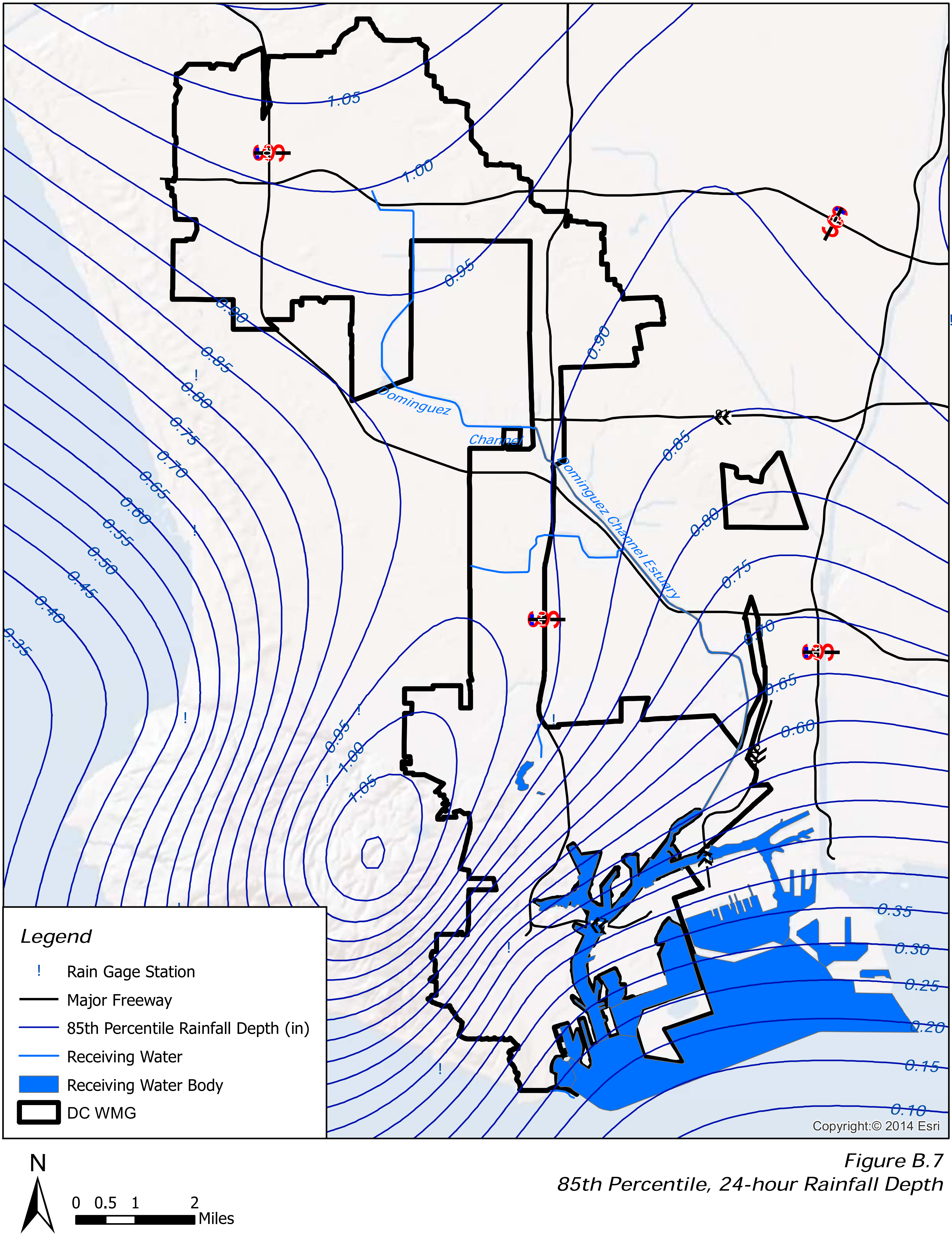

Figure B.7
85th Percentile, 24-hour Rainfall Depth

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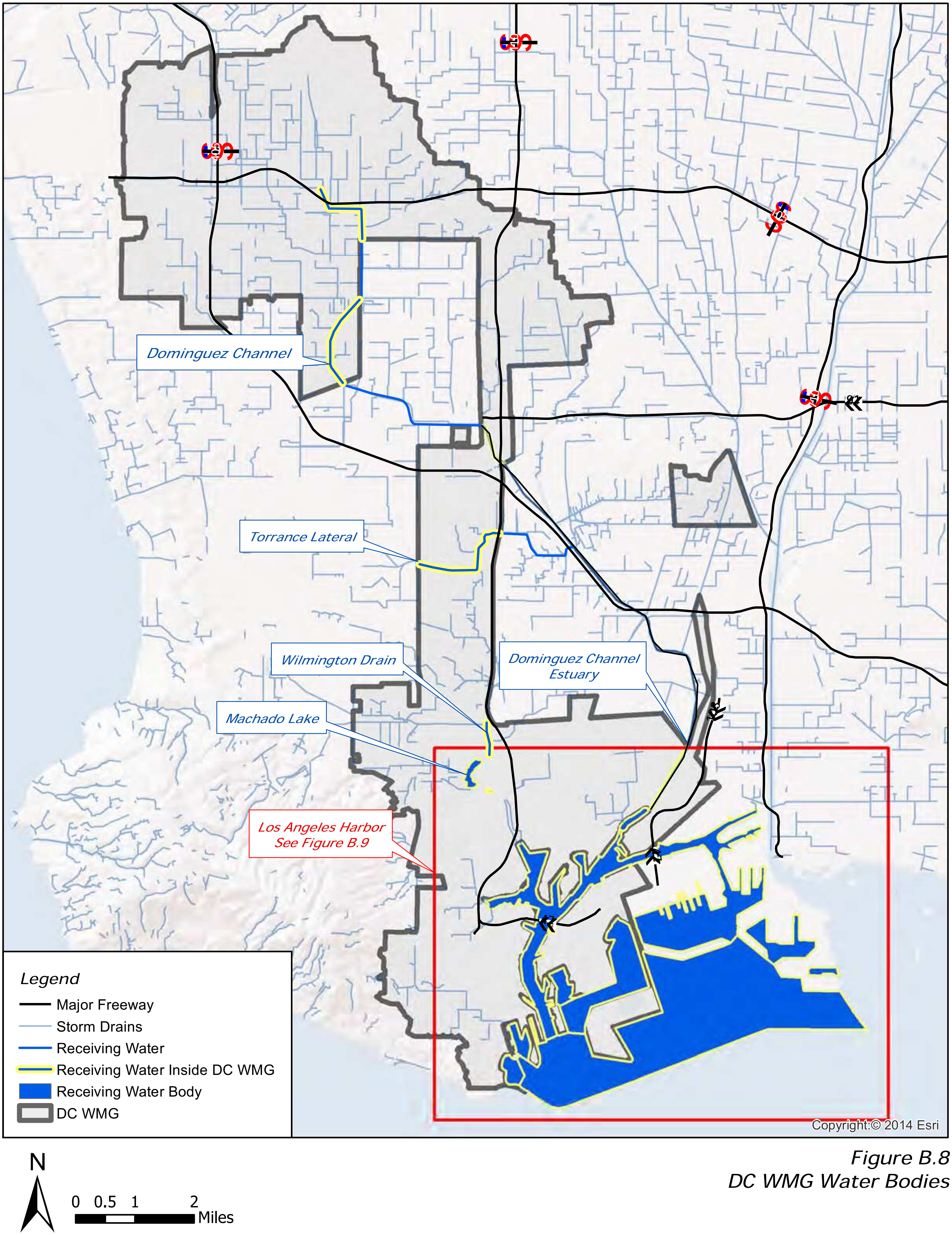

Figure B.8
DC WMG Water Bodies

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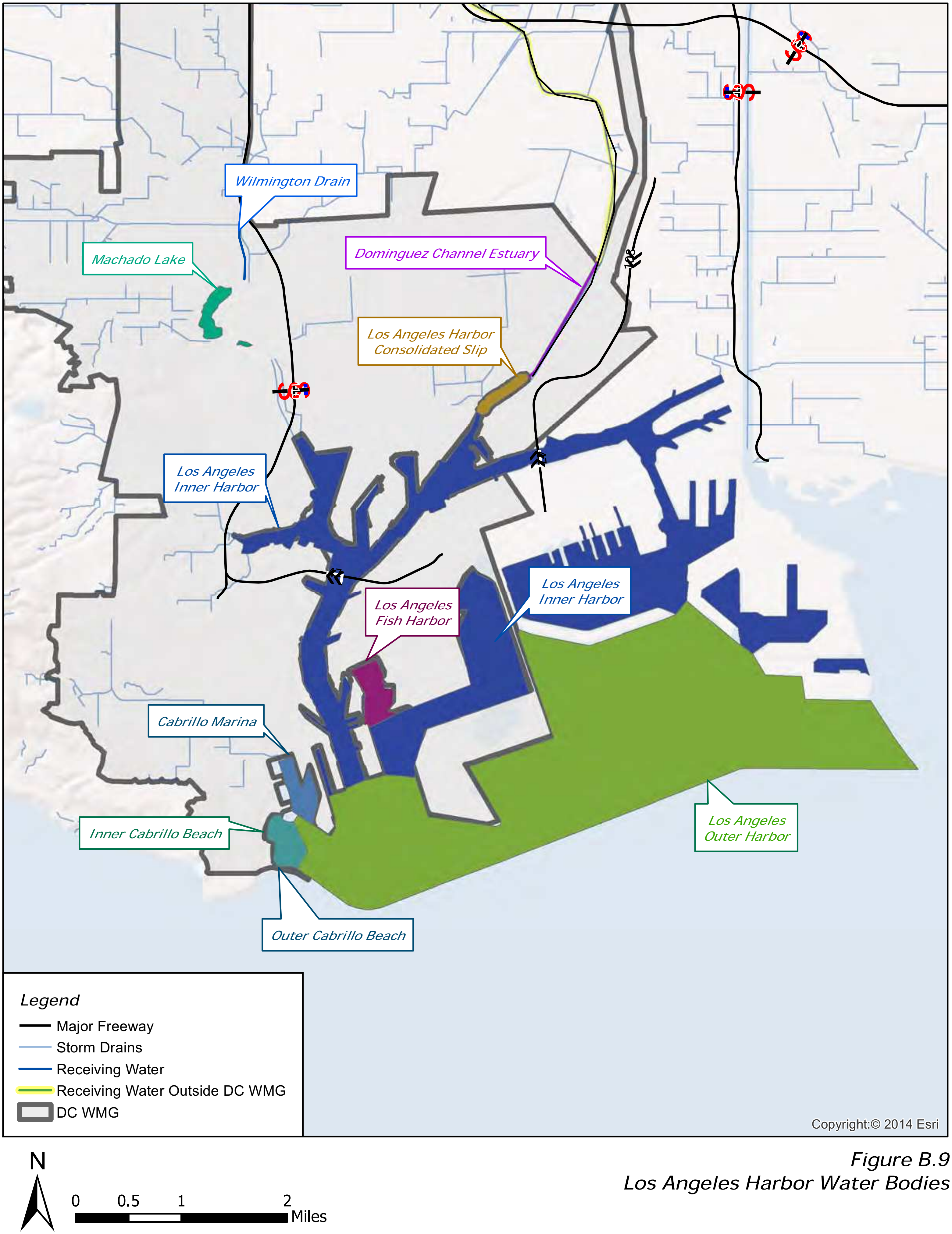

Figure B.9
Los Angeles Harbor Water Bodies

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Attachment C

DC WMG TMDL Requirements

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This attachment includes tables summarizing the existing Total Maximum Daily Load (TMDL) requirements relevant to the Dominguez Channel Watershed Management Group (DC WMG), corresponding with Section 1.3.1 of the DC WMG Enhanced Watershed Management Program (EWMP). The following TMDL water quality objectives are outlined in this attachment:

- Los Angeles Harbor Bacteria TMDL (Inner Cabrillo Beach and Main Ship Channel);
- Machado Lake Trash TMDL;
- Machado Lake Nutrient TMDL;
- Machado Lake Pesticides and PCBs TMDL; and
- Dominguez Channel and Greater Los Angeles and Long Beach Harbor Waters Toxic Pollutants TMDL (DC and LA Harbor Toxic Pollutants TMDL).

Attachment C List of Tables

Table C.1 demonstrates which DC WMG members are affected by each of the TMDLs per Attachment K, Table K-4, of the Los Angeles County Municipal Separate Storm and Sewer System (MS4) Permit.

As recognized by the footnote in Attachment K-4 of the Permit, the County of Los Angeles, the Los Angeles County Flood Control District (LACFCD), and the Cities of El Segundo, Hawthorne, Inglewood, and Los Angeles have entered into an Amended Consent Decree with the United States and the State of California, including the Regional Board, pursuant to which the Regional Board has released the DC WMG members from responsibility for Toxic pollutants in the Dominguez Channel and the Greater Los Angeles and Long Beach Harbors. Accordingly, no inference should be drawn from the submission of this EWMP or from any action or implementation taken pursuant to it that the DC WMG members are obligated to implement the Toxics TMDL, including this EWMP or any of the Toxics TMDL's other obligations or plans, or that the DC WMG members have waived any rights under the Amended Consent Decree.

Table C.1: DC WMG TMDLs

DC WMG Member	Los Angeles Harbor Bacteria TMDL	Machado Lake Trash TMDL	Machado Lake Nutrient TMDL	Machado Lake Pesticides and PCBs TMDL	DC and LA Harbor Waters Toxic Pollutants TMDL
El Segundo					X
Hawthorne					X
Inglewood					X
Lomita		X	X	X	
Los Angeles	X	X	X	X	X
Los Angeles County	X	X	X	X	X
LACFCD		X	X	X	X

Los Angeles Harbor Bacteria TMDL (Inner Cabrillo Beach and Main Ship Channel)
The Los Angeles Harbor Bacteria TMDL became effective on March 10, 2004 as Resolution No. 2004-011. Reconsideration of certain technical matters pertaining to this TMDL were approved by the State Board on March 19, 2013 as Resolution No. R12-007. In response to the Time Schedule Order (TSO) discussed below, a Pollution Prevention Plan Work Plan was submitted to the Regional Board by the Port of Los Angeles and the City of Los Angeles Department of Public Works Bureau of Sanitation Watershed Protection Division. The Work Plan for the Pollution Prevention Plan is discussed in Section 3.1.3 of the EWMP.

Per Attachment N Part A.2 of the MS4 Permit, the Permittees subject to this TMDL, as identified in Table C.1, must comply with the final Water Quality Based Effluent Limitations (WQBELs) listed in Table C.2 for discharges to the Los Angeles Harbor Main Ship Channel, Los Angeles and Long Beach Harbor, and Inner Cabrillo Beach as of December 28, 2012, the effective date of the MS4 Permit.

Table C.2: Los Angeles Harbor Bacteria TMDL WQBELs		
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

[1] 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.

Per Attachment N Part A.3.a of the MS4 Permit, the Permittees subject to this TMDL, as identified in Table C.1, must comply with the single sample bacteria Receiving Water Limitations (RWLs) listed in Table C.3 for the Los Angeles Harbor Main Ship Channel and Inner Cabrillo Beach as of December 28, 2012, the effective date of the MS4 Permit. The RWLs in Table C.3 will only be applicable until the effective date of the revised Los Angeles Harbor Bacteria TMDL (Attachment C of Resolution No. R12-007). Upon the effective date of this revision, the Permittees must comply with the final single sample bacteria RWLs listed in Table C.4, per Attachment N Part A.3.b of the MS4 Permit. The revised Los Angeles Harbor Bacteria TMDL was approved by the State Board on March 19, 2013 and will become effective following USEPA approval.

Table C.3: Los Angeles Harbor Bacteria TMDL RWLs				
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] (Year-round)	Inner Cabrillo Beach	CB1 & CB2	0	0
	Main Ship Channel	HW07	15	3

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

Table C.4: Los Angeles Harbor Bacteria TMDL RWLs upon TMDL Revision				
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	8	1
Wet Weather[1] (Year-round)	Inner Cabrillo Beach	CB1 & CB2	0	0
	Main Ship Channel	HW07	15	3

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

Per Attachment N Part A.3.c of the MS4 Permit, the Permittees subject to this TMDL, as identified in Table C.1, must comply with the geometric mean RWLs identified in Table C.5 for the Los Angeles Harbor

Main Ship Channel, Los Angeles and Long Beach Inner Harbor, and Inner Cabrillo Beach as of December 28, 2013, the effective date of the MS4 Permit.

Table C.5: Los Angeles Harbor Bacteria TMDL Geometric Mean RWLs	
Constituent	**Geometric Mean**
Total coliform	1,000 MPN/100 mL
Fecal coliform	200 MPN/100 mL
Enterococcus	35 MPN/100 mL

On February 6, 2014, a TSO was approved for Inner Cabrillo Beach, at the boat launch ramp (Station CB1). In summary, the TSO (Order No. R4-2014-0023) states that the Permittees believe additional time is necessary to comply with the WQBELs and RWLs at Station CB1. The TSO presented monitoring data suggesting that the WQBELs and RWLs were not being met, as well as identifying the activities that have been completed with the intent of meeting the load allocations. The TSO identifies new WQBELs and RWLs, as well as an implementation schedule for additional watershed control measures such as monitoring, BMP implementation, BMP effectiveness assessments, and feasibility studies. From February 6, 2013 to December 28, 2017, the City of Los Angeles MS4 discharges to Inner Cabrillo Beach shall not exceed the WQBELs for total coliform, fecal coliform, and *enterococcus* per the allowable exceedance days presented in Table C.6 on an annual basis (November 1st - October 31st). From February 6, 2013 to December 28, 2017, the City of Los Angeles shall comply with the interim RWLs for total coliform, fecal coliform, and *enterococcus* per the allowable exceedance days presented in Table C.7 on an annual basis (November 1st - October 31st).

Table C.6: Los Angeles Harbor Bacteria TMDL WQBELs for Station CB1			
Compliance Monitoring Station	**Annual Allowable Exceedance Days (days)**		
	Single Sample Summer Dry-Weather	**Single Sample Winter Dry-Weather**	**Geometric Mean Year Round**
Station CB1	23	18	79

Table C.7: Los Angeles Harbor Bacteria TMDL RWLs for Station CB1			
Compliance Monitoring Station	**Annual Allowable Exceedance Days (days)**		
	Single Sample Summer Dry-Weather	**Single Sample Winter Dry-Weather**	**Geometric Mean Year Round**
Station CB1	23	18	79

Machado Lake Trash TMDL

The Machado Lake Trash TMDL became effective on March 6, 2008 as Resolution No. 2007-006.

Per Attachment N Part B of the MS4 Permit, the Permittees subject to this TMDL, as identified in Table C.1, must comply with the final WQBEL of zero trash discharged to Machado Lake no later than March 6, 2016, and every year thereafter. In addition, Permittees must comply with interim and final WQBELs as illustrated in Table C.8. If Permittees opt 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).

Table C.8: Machado Lake Trash TMDL WQBELs						
DC WMG Member	**Baseline[1]**	**3/6/12 (80%)**	**3/6/13 (60%)**	**3/6/14 (40%)**	**3/6/15 (20%)**	**3/6/16 (0%)**
		Annual Trash Discharge (gallons/year)				
Lomita	9,393	7,514	5,636	3,757	1,879	0
Los Angeles	12,331	9,865	7,399	4,932	2,466	0
Los Angeles County	8,304	6,643	4,982	3,322	1,661	0
LACFCD	16	13	10	7	3	0

[1] The Regional Board calculated the baseline WQBELs for the Permittees based on the estimated trash generation rate of 5,334 gallons of uncompressed trash per square mile per year.

Machado Lake Nutrient TMDL

The Machado Lake Nutrient TMDL became effective on March 11, 2009 as Resolution No. 2008-006. Los Angeles County Unincorporated Areas has developed a Multipollutant TMDL implementation plan applicable to this TMDL. In addition, the LACFCD also completed a TMDL implementation plan addressing this TMDL.

Per Attachment N Part C.2 of the MS4 Permit, the Permittees subject to this TMDL, as identified in Table C.1, must comply with the interim and final WQBELs listed in Table C.9 for discharges to Machado Lake.

Table C.9: Machado Lake Nutrient TMDL WQBELs		
Deadline	**Interim and Final Effluent Limitations**	
	Monthly Average of Total Phosphorus (mg/L)	**Monthly Average of Total Nitrogen[1] (mg/L)**
As of December 12, 2013[2]	1.25	3.50
March 11, 2014	1.25	2.45
September 11, 2018	0.10	1.00

[1] $TKN+NO_3\text{-}N+NO_2\text{-}N$
[2] Effective date of the MS4 Permit

Per Attachment N Part C.3 of the MS4 Permit, the Permittees subject to this TMDL, as identified in Table C.1, may be deemed in compliance with the WQBELs by actively participating in a Lake Water Quality Management Plan (LWQMP) and attaining RWLs. The City of Los Angeles has entered into a Memorandum of Agreement (MOA) with the Regional Board to implement the LWQMP and reduce external nutrient loading to attain the RWLs listed in Table C.10. Permittees also may be deemed in compliance with the WQBELs by demonstrating reduction of total nitrogen and total phosphorus on an annual mass basis measured at the storm drain outfall of the Permittee's drainage area where approved by the Regional Board Executive Officer based on the results of a special study. The annual mass based allocation demonstrated should be equivalent to a monthly average concentration of 0.1 mg/L total phosphorus and 1.0 mg/L total nitrogen based on approved flow conditions. The County of Los Angeles submitted a special study work plan, which was approved by the Regional Board Executive Officer, establishing the annual mass based WQBELs listed in Table C.11.

Table C.10: Machado Lake Nutrient TMDL RWLs (City of Los Angeles)		
Deadline	**Interim and Final Effluent Limitations**	
	Monthly Average of Total Phosphorus (mg/L)	**Monthly Average of Total Nitrogen (mg/L)**
As of December 12, 2013[1]	1.25	3.50
March 11, 2014	1.25	2.45
September 11, 2018	0.10	1.00

[1] Effective date of the MS4 Permit

Table C.11: Machado Lake Nutrient TMDL WQBELs (Los Angeles County)		
Deadline	**Interim and Final Effluent Limitations**	
	Annual Load Total Phosphorus (kg)	**Annual Load Total Nitrogen KN+NO3-N+NO2-N (kg)**
March 11, 2014	887	1,739
September 11, 2018	71	710

Machado Lake Pesticides and PCBs TMDL

The Machado Lake Pesticides and PCBs TMDL (also known as the Machado Lake Toxics TMDL) became effective on March 20, 2012 as Resolution No. R10-008. Los Angeles County Unincorporated Areas has developed a Multipollutant TMDL implementation plan applicable to this TMDL. In addition, the LACFCD also completed a TMDL implementation plan addressing this TMDL.

Per Attachment N Part D of the MS4 Permit, the Permittees subject to this TMDL, as identified in Table C.1, must comply with the WQBELs listed in Table C.12 for discharges of suspended sediments to Machado Lake, applied as a three year average no later than September 19, 2019.

Table C.12: Machado Lake Pesticides and PCBs TMDL WQBELs	
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	1.90

DC and LA Harbor Waters Toxic Pollutants TMDL

The DC and LA Harbor Waters Toxic Pollutants TMDL (also known as the Los Angeles and Long Beach Harbor Toxic and Metals TMDL) became effective on March 23, 2012 as Resolution No. R11-008. According to the Regional Board implementation schedule, implementation plans must be developed by the responsible parties and submitted to the Regional Board by March 23, 2014. The development of an EWMP will satisfy the implementation plan requirements.

Per Attachment N Part E.2 of the MS4 Permit, the Permittees subject to this TMDL, as identified in Table C.1, must comply with interim WQBELs for discharges to Dominguez Channel freshwater during wet-weather and concentration-based WQBELs for pollutant concentrations in the sediment discharged to the Dominguez Channel Estuary and Greater Los Angeles and Long Beach Harbor Waters by December 28, 2012, the effective date of the MS4 Permit. For discharges to Dominguez Channel freshwater during wet-weather, the freshwater toxicity interim WQBEL is 2 TUc. This interim limitation should be implemented as a trigger requiring initiation of the TRE/TIE process outlined in USEPAs "Understanding and Accounting for Method Variability in Whole Effluent Toxicity Applications Under the National Pollutant Discharge Elimination System Program" (2000). The interim metals WQBELs for the Dominguez Channel freshwater and Torrance Lateral during wet-weather are presented in Table C.13. For sediment discharges to the Dominguez Channel Estuary and Greater Los Angeles and Long Beach Harbor Waters, Permittees should comply with interim concentration-based WQBELs presented in Table C.14.

Table C.13: DC and LA Harbor Waters Toxic Pollutants TMDL Interim Freshwater Metals WQBELs for Wet-Weather

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

Table C.14: DC and LA Harbor Waters Toxic Pollutants TMDL Sediment Interim WQBELs

Water Body	Interim Effluent Limitations Daily Maximum (mg/kg sediment)					
	Copper	Lead	Zinc	DDT	PAHs	PCBs
Dominguez Channel Estuary (below Vermont Avenue)	220.0	510.0	789.0	1.727	31.60	1.490
Los Angeles Inner Harbor	154.1	145.5	362.0	0.341	90.30	2.107
Los Angeles Outer Harbor (inside breakwater)	104.1	46.7	150	0.097	4.022	0.310
Los Angeles Harbor - Cabrillo Marina	367.6	72.6	281.8	0.186	36.12	0.199
Los Angeles Harbor - Consolidated Slip	1,470.0	1,100.0	1,705.0	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	2,102.7	36.6

Per Attachment N Part E.3 of the MS4 Permit, the Permittees subject to this TMDL, as identified in Table C.1, must comply with final WQBELs for discharges to Dominguez Channel freshwater during wet-weather and concentration-based WQBELs for pollutant concentrations in the sediment discharged to the Dominguez Channel Estuary and Greater Los Angeles and Long Beach Harbor Waters by March 23, 2032 and every year thereafter. Per Attachment N Part E.3.a of the MS4 Permit, for discharges to Dominguez Channel freshwater during wet-weather, the freshwater toxicity effluent limitation should not exceed the monthly median of 1 TUc. The Permittees should also comply with the final metals WQBELs presented in Table C.15 for discharges to Dominguez Channel and all upstream reaches and tributaries of the Dominguez Channel above Vermont Avenue.

Table C.15: DC and LA Harbor Waters Toxic Pollutants TMDL Final Freshwater Metals WQBELs for Wet-Weather	
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

Per Attachment N Part E.3.b of the MS4 Permit, the Torrance Lateral must comply with freshwater final metals WQBELs and final concentration-based WQBELs for sediments, as shown in Table C.16 and Table C.17 respectively.

Table C.16: DC and LA Harbor Waters Toxic Pollutants TMDL Final Freshwater Metals WQBELs for Wet-Weather in Torrance Lateral	
Metals	**Water Column Effluent Limitation Daily Maximum (unfiltered, µg/L)**
Total Copper	9.7
Total Lead	42.7
Total Zinc	69.7

Table C.17: DC and LA Harbor Waters Toxic Pollutants TMDL Final Sediment Metals WQBELs for Wet-Weather in Torrance Lateral	
Metals	**Concentration-Based Effluent Limitation Daily Maximum (mg/kg dry)**
Total Copper	31.6
Total Lead	35.8
Total Zinc	121

Per Attachment N Part E.3.c of the MS4 Permit, the Dominguez Channel Estuary and Greater Los Angeles (and Long Beach) Harbor Waters must comply with final mass-based WQBELs, expressed as an annual loading of pollutants in the sediment deposited to the Dominguez Channel Estuary and the Greater Los Angeles and Long Beach Harbor Waters and final concentration-based WQBELs for sediments as shown in Table C.18. Permittees should also comply with final concentration-based WQBELs for pollutant concentrations in the sediments discharged to the Dominguez Channel Estuary, Consolidated Slip, and Fish Harbor as shown in Table C.19. Compliance with these limitations should be met by March 23, 2032 and every year thereafter.

Table C.18: DC and LA Harbor Waters Toxic Pollutants TMDL Final Sediment Metals WQBELs for DC Estuary and Los Angeles Harbor				
Water Body	**Final Effluent Limitations Annual (kg/yr)**			
	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	0.0196	0.289	0.74	0.00016

Table C.19: DC and LA Harbor Waters Toxic Pollutants TMDL Final Sediment Metals WQBELs for DC Estuary and Los Angeles Harbor			
Waterbody	**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

Per Attachment N Part E.3.d of the MS4 Permit, Permittees must comply with final mass-based WQBELs, listed in Table C.20, expressed as an annual loading of total DDT and total PCBs in the sediment deposited to the Dominguez Channel Estuary and Greater Los Angeles (and Long Beach) Harbor Waters by March 23, 2032 and every year thereafter.

Table C.20: DC and LA Harbor Waters Toxic Pollutants TMDL Final Sediment Metals WQBELs for DC Estuary and Los Angeles Harbor		
Waterbody	**Final Effluent Limitations Annual (g/yr)**	
	Total DDTs	**Total PCBs**
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 (POLA)	0.0003	0.0019
Cabrillo Marina	0.000028	0.000025
Inner Cabrillo Beach	0.0001	0.0003

Per Attachment N Part E.4, compliance with the limitations specified in Attachment N Part E.3.a-d, listed in Table C.15 to Table C.20, can be determined according to Table C.21. The table includes the MS4 Permit Section, which specifies the WQBELs associated with the DC and LA Harbor Waters Toxic Pollutants TMDL, the Table Reference for which the limitations are specified within this document and the various compliance determination methods.

Table C.21: DC and LA Harbor Waters Toxic Pollutants TMDL Compliance Determination

MS4 Permit Section[1]	Table Reference	Compliance Determination
Part E.2.b	Table C.14	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 Sediment Quality Objectives (SQO) Part 1 is met. ii. Meet the interim WQBELs in bed sediment over a three-year averaging period. iii. Meet the interim WQBELs in the discharge over a three-year averaging period.
Parts E.3.a.ii and E.3.b.i	Table C.15 and Table C.16	i. Final metals WQBELs are met. ii. California Toxics Rule (CTR) total metals criteria are met instream. iii. CTR total metals criteria are met in the discharge.
Parts E.3.c.i and E.3.c.ii	Table C.18 and Table C.19	i. Final WQBELs for pollutants in the sediment are met ii. The qualitative sediment conditions of *Unimpacted* or *Likely Unimpacted* via the interpretation and integration of multiples 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. iii. Sediment numeric targets are met in the bed sediments over a three-year averaging period.
Part E.3.d	Table C.20	i. Fish tissue targets are met in species resident to the specified waterbodies[2]. ii. Final WQBELs for pollutants in the sediment are met.

1 Attachment N of the MS4 Permit
2 A site-specific study to determine resident species should be submitted to the Regional Board Executive Officer for approval

Attachment D

Stakeholder Process

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On April 10, 2014, a stakeholder workshop was held at the Los Angeles Zoo from 10:00 a.m. through approximately 2:00 p.m. The Dominguez Channel Watershed Management Group participated in the workshop and had a table set up with information on the watershed. Attached is a list of the persons and their organizations that attended the event, a card the Dominguez Channel Watershed Management Group handed out inviting persons to join a webinar, and a handout provided by the RWQCB describing the watershed.

The webinar provided guidance on how to use the Dominguez Channel Watershed Management Group's OPTI system to input project ideas.

On November 20, 2014, a second workshop was held at the Los Angeles Zoo. This workshop discussed the planning progress, discussed the regional projects identified to date, and continued to solicit input from the stakeholders on regional project opportunities, planning criteria to incorporate, the additional benefits sought from the EWMP projects, and other desired outcomes from the program. The list of attendees from this event is also attached.

The third workshop was also at the Los Angeles Zoo on March 19, 2015. This workshop discussed the draft EWMP, the projects identified, the load reductions that would occur from project implementation, any additional benefits communities would see from implementation of the projects, and the schedules and costs for implementation of the EWMP. The list of attendees from this workshop is also attached.

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Los Angeles Enhanced Watershed Management Program

Public Meeting #2

Thursday November 20, 2014

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Public Meeting #2

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Los Angeles Enhanced Watershed Management Program

Public Meeting #2

Thursday November 20, 2014

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Los Angeles Enhanced Watershed Management Program

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Los Angeles Enhanced Watershed Management Program

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EWMP Workshop - April 10, 2014

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EWMP Workshop - April 10, 2014

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EWMP Workshop - April 10, 2014

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EWMP Workshop - April 10, 2014

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EWMP Workshop - April 10, 2014

Name	E-Mail Address	Watershed(s)						Initials
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The Dominguez Channel Watershed Management Group wants your input on the

ENHANCED WATERSHED MANAGEMENT PLAN.

Come join us for a webinar to see how you can get your projects considered for the plan. Follow the link below to sign up. Two webinars are scheduled:

- Wednesday 4/16/2014, 10:00am – 11:00am
- Tuesday 4/22/2014, 1:00pm – 2:00pm

http://bit.ly/dc-ewmp-opti

If you need assistance, please call (323)669-7655
and someone will get back to you.

Scan to link to
webinar registration.

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Planning Workshop for Enhanced Watershed Management Programs being developed pursuant to the Los Angeles County MS4 Permit

April 10, 2014

Witherbee Auditorium, LA Zoo

The following provides an overview of the principles and requirements of an Enhanced Watershed Management Program (EWMP) to help guide discussions and the identification of possible projects to implement through the EWMP. Additionally, in many cases work has already been underway to identify potential opportunities to implement water quality improvement projects in these watersheds; Board staff has identified some of these existing watershed management / restoration plans, below. Additionally, excerpts from some of these plans will be made available at the watershed specific breakout groups to help generate discussion.

Dominguez Watershed

The Los Angeles County MS4 Permit states, in part:

"An Enhanced Watershed Management Program (EWMP) is one that comprehensively evaluates opportunities, within the participating Permittees' collective jurisdictional area in a Watershed Management Area, for collaboration among Permittees and other partners on multi-benefit regional projects ..."

And, "An EWMP shall [among other things]:

- Include multi-benefit regional projects to ensure that MS4 discharges achieve compliance with all final Water Quality-Based Effluent Limitations ... and do not cause or contribute to exceedances of receiving water limitations ... by retaining through infiltration or capture and reuse the storm water volume from the 85th percentile, 24-hour storm for the drainage areas tributary to the multi-benefit regional project;
- Maximize the effectiveness of funds through analysis of alternatives and the selection and sequencing of actions needed to address human health and water quality related challenges and non-compliance;
- Incorporate effective innovative technologies, approaches and practices, including green infrastructure, and
- In drainage areas within the EWMP area where retention of the 85th percentile, 24-hour storm event is not feasible, the EWMP shall include a Reasonable Assurance Analysis to demonstrate that applicable water quality based effluent limitations and receiving water limitations shall be achieved through implementation of other watershed control measures."

Keys words and phrases are *watershed, collaboration, green infrastructure, multi-benefit regional projects, maximize effectiveness of funds.*

The Regional Water Board encourages EWMP Partners to utilize and build on previous work where possible, such as the watershed management plans funded through Proposition 13 and Cal-Fed and other plans which identified potential sites for multi-benefit regional projects. These plans were developed with considerable stakeholder input. Additionally, various types of dispersed "green" projects such as green alleys/streets or permeable pavement in large parking lots can help with the drainage areas tributary to the multi-benefit regional projects and are identified in the watershed plans. Green projects have been implemented at many locations at this point, so EWMP partners can benefit from the experience and lessons learned from these projects. Collaboration with Integrated Regional Water Management (IRWM) groups is also important, as these groups are implementing projects to improve the water supply, water quality, and open space/habitat.

Selection of Resources for Planning in the Dominguez Watershed:

Los Angeles County Department of Public Works, 2004. *Dominguez Watershed Management Master Plan.* http://ladpw.org/wmd/watershed/dc/DCMP/docs/Section%204%20Action%20Plan.pdf

Integrated Regional Water Management Plan

- Greater Los Angeles County Leadership Committee, 2014 (draft). *The Greater Los Angeles County Integrated Regional Water Management Plan, 2013 Update.* http://www.ladpw.org/wmd/irwmp/index.cfm?fuseaction=update2013

Attachment E

Data Sources and Data for Water Quality Analysis

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This attachment includes a table summarizing sources of water quality data and a table that includes the data collected and the results of the data analysis. The data analysis was used to identify water quality priorities within the Dominguez Channel Watershed Management Group (DC WMG) and is provided in support of Section 2.1 of the DC WMG Enhanced Watershed Management Program (EWMP). Additionally, compliance schedules for the milestones of each of the water bodies within the DC WMA are included in this attachment.

Attachment E Table of Contents

Table E.1: Data Sources for Water Quality Analysis					
Source	**Monitoring Program**	**Monitoring Frequency**	**Sampling Location**	**Constituents**	**Date Range**
LACDPW	Dominguez Channel MS4 NPDES Mass Emission Monitoring Program	Multiple samples taken before and after storm events annually.	Dominguez Channel S28 Sampling Station at Artesia Blvd.	Conventional, bacteria, general, nutrients, metals, semi-volatile organics, chlorinated pesticides, organophosphate pesticides, herbicides, polychlorinated biphenyls	2002-2013
LACDPW	Storm Master	Samples taken during storm events 10/2004 - 3/9/2005	Dominguez Channel S28 Sampling Station at Artesia Blvd.	Bacteria, nutrients, metals, semi-volatile organics, chlorinated pesticides, organophosphate pesticides, herbicides, polychlorinated biphenyls	2004-2005
POLA Study by AMEC	Artesia Pollutograph Study	Multiple samples before and after storm events at the following dates: 5/16/2005, 5/17/2005, 8/17/2005, 8/18/2005, 2/27/2006, 2/28/2006 and 3/17/2006.	Dominguez Channel S28 Sampling Station at Artesia Blvd.	Conventional, bacteria, general, nutrients, metals, chlorinated pesticides, polychlorinated biphenyls, polycyclic aromatic hydrocarbons	2005-2006

Table E.1: Data Sources for Water Quality Analysis					
Source	**Monitoring Program**	**Monitoring Frequency**	**Sampling Location**	**Constituents**	**Date Range**
LABOS	Special Ammonia Sampling in Dominguez Channel	Samples taken weekly: 7/1/2009 - 8/13/2009	Dominguez Channel at: • El Segundo Blvd • Yukon Ave (tributary) • Western Ave • Vermont Ave • Carson Plaza Dr. (tributary) • Main St. (Torrance Lateral) Dominguez Channel Estuary at: • Wilmington Ave • Henry Ford Ave	Ammonia	2009
LABOS	Status and Trends Monitoring in Dominguez Channel	Monthly (Metals), Weekly (Bacteria)	Dominguez Channel at: • El Segundo Blvd • Yukon Ave. (tributary) • Western Ave. • Vermont Ave. • Carson Plaza Dr. (tributary) • Main St. (Torrance Lateral) Dominguez Channel Estuary at: • Wilmington Ave. • Henry Ford Ave.	Bacteria and Metals	2001-2009
LABOS	Machado Lake Nutrient TMDL Monitoring Program	Bi-monthly	Machado Lake at four locations (ML-1, ML-2, ML-3, ML-4)	General chemistry, ammonia and nutrients	2011-2012
LABOS	Machado Lake Water Quality Monitoring Program	Weekly	Machado Lake at four locations (ML-1, ML-2, ML-3, ML-4) and adjacent storm drains (Project 510, Project 77 and Wilmington Drain)	General chemistry, bacteria and nutrients	2006-2011

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Table E.2: Dominguez Channel - Metals Data Summary

Location	Weather	Type	Constituent	Unit	Dates Sampled		Total No. of Values	No. Values with/ ND	Min.	Max.	Avg.	Median		No. of exceed.	Regulatory Source	Regulatory Threshold	Exceed. Frequency (# of exceed. per year)	Exceedance/Time	%Exceed
					From	To						With ND	Without ND						
Carson Plaza Dr.	Wet	Channel	Ag (sol)	µg/L	4/28/05	2/22/07	4	3	0.36	0.36	0.17	0.10	0.36	0	CTR	Hardness Dependent	0.00	0 exceedances in 2 Year(s)	0%
Carson Plaza Dr.	Wet	Channel	Ag (tot)	µg/L	4/28/05	2/22/07	4	3	0.5	0.5	0.20	0.10	0.50						
Carson Plaza Dr.	Wet	Channel	As (sol)	µg/L	4/28/05	2/22/07	4	0	0.8	4.8	3.08	3.35	3.35	0	CTR	340	0.00	0 exceedances in 2 Year(s)	0%
Carson Plaza Dr.	Wet	Channel	As (tot)	µg/L	4/28/05	2/22/07	4	0	0.9	31.6	10.08	3.90	3.90						
Carson Plaza Dr.	Wet	Channel	Ba (sol)	µg/L	4/28/05	2/22/07	4	0	18	69	47.98	52.45	52.45						
Carson Plaza Dr.	Wet	Channel	Ba (tot)	µg/L	4/28/05	2/22/07	4	0	49.4	325	128.85	70.50	70.50						
Carson Plaza Dr.	Wet	Channel	Be (sol)	µg/L	4/28/05	8/25/05	3	3	0	0	0.20	0.20	0.00						
Carson Plaza Dr.	Wet	Channel	Be (tot)	µg/L	4/28/05	8/25/05	3	3	0	0	0.20	0.20	0.00						
Carson Plaza Dr.	Wet	Channel	Cd (sol)	µg/L	4/28/05	2/22/07	4	3	0.165	0.165	0.15	0.15	0.17	0	CTR	Hardness Dependent	0.00	0 exceedances in 2 Year(s)	0%
Carson Plaza Dr.	Wet	Channel	Cd (tot)	µg/L	4/28/05	2/22/07	4	2	0.165	0.3	0.19	0.16	0.23						
Carson Plaza Dr.	Wet	Channel	Co (sol)	µg/L	4/28/05	8/25/05	3	1	0.4	0.4	0.30	0.40	0.40						
Carson Plaza Dr.	Wet	Channel	Co (tot)	µg/L	4/28/05	8/25/05	3	0	0.4	24	8.40	0.80	0.80						
Carson Plaza Dr.	Wet	Channel	Cr (sol)	µg/L	4/28/05	2/22/07	4	0	0.34	3	1.09	0.50	0.50	0	CTR	16	0.00	0 exceedances in 2 Year(s)	0%
Carson Plaza Dr.	Wet	Channel	Cr (tot)	µg/L	4/28/05	2/22/07	4	0	0.6	70.2	18.18	0.95	0.95						
Carson Plaza Dr.	Wet	Channel	Cu (sol)	µg/L	4/28/05	2/22/07	4	0	9	11	10.25	10.50	10.50	1	TMDL	Hardness Dependent	0.14	1 exceedances in 2 Year(s)	25%
Carson Plaza Dr.	Wet	Channel	Cu (tot)	mg/L	4/28/05	2/22/07	4	0	12	74	32.50	22.00	22.00						
Carson Plaza Dr.	Wet	Channel	Hardness	µg/L	4/28/05	2/22/07	4	0	39.7	228	163.18	192.50	192.50						
Carson Plaza Dr.	Wet	Channel	Hg (sol)	µg/L	4/28/05	8/25/05	3	3	0	0	0.01	0.01	0.00	0	TMDL	0.051	0.00	0 exceedances in 1 Year(s)	0%
Carson Plaza Dr.	Wet	Channel	Hg (tot)	µg/L	4/28/05	8/25/05	3	2	0.031	0.031	0.02	0.01	0.03						
Carson Plaza Dr.	Wet	Channel	Ni (sol)	µg/L	4/28/05	2/22/07	4	0	3.97	4	3.99	4.00	4.00	0	CTR	Hardness Dependent	0.00	0 exceedances in 2 Year(s)	0%
Carson Plaza Dr.	Wet	Channel	Ni (tot)	µg/L	4/28/05	2/22/07	4	0	4.46	48	16.62	7.00	7.00						
Carson Plaza Dr.	Wet	Channel	Pb (sol)	µg/L	4/28/05	2/22/07	4	0	0.55	2	1.39	1.50	1.50	1	TMDL	Hardness Dependent	0.14	1 exceedances in 2 Year(s)	25%
Carson Plaza Dr.	Wet	Channel	Pb (tot)	µg/L	4/28/05	2/22/07	4	0	0.55	28	8.39	2.50	2.50						
Carson Plaza Dr.	Wet	Channel	Sb (sol)	µg/L	4/28/05	8/25/05	3	3	0	0	1.00	1.00	0.00	0	CTR	4300	0.00	0 exceedances in 1 Year(s)	0%
Carson Plaza Dr.	Wet	Channel	Sb (tot)	µg/L	4/28/05	8/25/05	3	1	2	2	1.67	2.00	2.00						
Carson Plaza Dr.	Wet	Channel	Se (sol)	µg/L	4/28/05	2/22/07	4	0	0.4	0.6	0.50	0.50	0.50						
Carson Plaza Dr.	Wet	Channel	Se (tot)	µg/L	4/28/05	2/22/07	4	0	0.4	0.6	0.53	0.55	0.55						
Carson Plaza Dr.	Wet	Channel	Th (sol)	µg/L	4/28/05	8/25/05	3	3	0	0	0.50	0.50	0.00	0	CTR	6.3	0.00	0 exceedances in 1 Year(s)	0%
Carson Plaza Dr.	Wet	Channel	Th (tot)	µg/L	4/28/05	8/25/05	3	3	0	0	0.50	0.50	0.00						
Carson Plaza Dr.	Wet	Channel	Zn (sol)	µg/L	4/28/05	2/22/07	4	0	8	16	11.50	11.00	11.00	0	TMDL	Hardness Dependent	0.00	0 exceedances in 2 Year(s)	0%
Carson Plaza Dr.	Wet	Channel	Zn (tot)	µg/L	4/28/05	2/22/07	4	0	23	174	63.25	28.00	28.00						
Carson Plaza Dr.	Dry	Channel	Ag (sol)	µg/L	3/31/05	5/26/09	35	14	0.03	0.66	0.12	0.04	0.04						
Carson Plaza Dr.	Dry	Channel	Ag (tot)	µg/L	3/31/05	5/26/09	35	14	0.03	0.49	0.13	0.10	0.08						
Carson Plaza Dr.	Dry	Channel	As (sol)	µg/L	3/31/05	5/26/09	37	0	0.8	4.4	2.01	2.06	2.06	0	CTR	150	0.00	0 exceedances in 5 Year(s)	0%
Carson Plaza Dr.	Dry	Channel	As (tot)	µg/L	3/31/05	5/26/09	37	0	0.8	6.8	2.68	2.10	2.10						
Carson Plaza Dr.	Dry	Channel	Ba (sol)	µg/L	3/31/05	5/26/09	36	0	32.9	102	52.98	49.90	49.90						
Carson Plaza Dr.	Dry	Channel	Ba (tot)	µg/L	3/31/05	5/26/09	36	0	39	144	69.81	58.80	58.80						
Carson Plaza Dr.	Dry	Channel	Be (sol)	µg/L	3/31/05	2/24/06	9	9	0	0	0.20	0.20	0.00						
Carson Plaza Dr.	Dry	Channel	Be (tot)	µg/L	3/31/05	2/24/06	9	9	0	0	0.20	0.20	0.00						
Carson Plaza Dr.	Dry	Channel	Cd (sol)	µg/L	3/31/05	5/26/09	36	9	0.01	0.72	0.18	0.17	0.17	0	CTR	Hardness Dependent	0.00	0 exceedances in 5 Year(s)	0%
Carson Plaza Dr.	Dry	Channel	Cd (tot)	µg/L	3/31/05	5/26/09	36	6	0.01	5.53	0.45	0.17	0.37						
Carson Plaza Dr.	Dry	Channel	Co (sol)	µg/L	3/31/05	2/24/06	9	2	0.2	1	0.40	0.40	0.40						
Carson Plaza Dr.	Dry	Channel	Co (tot)	µg/L	3/31/05	2/24/06	9	0	0.4	2.7	0.98	0.60	0.60						
Carson Plaza Dr.	Dry	Channel	Cr (sol)	µg/L	3/31/05	5/26/09	36	2	0.1	4.15	1.19	0.75	0.89	0	CTR	11	0.00	0 exceedances in 5 Year(s)	0%
Carson Plaza Dr.	Dry	Channel	Cr (tot)	µg/L	3/31/05	5/26/09	36	1	0.105	14.1	2.93	1.70	1.79						
Carson Plaza Dr.	Dry	Channel	Cu (sol)	µg/L	3/31/05	5/26/09	36	0	6	120	17.55	12.70	12.70	9	CTR	Hardness Dependent	0.06	9 exceedances in 5 Year(s)	25%
Carson Plaza Dr.	Dry	Channel	Cu (tot)	µg/L	3/31/05	5/26/09	36	0	7.7	178	30.11	18.50	18.50						
Carson Plaza Dr.	Dry	Channel	Hardness	mg/L	3/31/05	5/26/09	37	0	113	2230	532.35	199.00	199.00						
Carson Plaza Dr.	Dry	Channel	Hg (sol)	µg/L	3/31/05	2/24/06	9	9	0	0	0.01	0.01	0.00	0	TMDL	0.051	0.00	0 exceedances in 1 Year(s)	0%
Carson Plaza Dr.	Dry	Channel	Hg (tot)	µg/L	3/31/05	2/24/06	9	8	0.023	0.023	0.01	0.01	0.02						
Carson Plaza Dr.	Dry	Channel	Ni (sol)	µg/L	3/31/05	5/26/09	35	0	2	12.2	4.86	3.85	3.85	0	CTR	Hardness Dependent	0.00	0 exceedances in 5 Year(s)	0%
Carson Plaza Dr.	Dry	Channel	Ni (tot)	µg/L	3/31/05	5/26/09	36	0	1.97	14.8	6.58	4.93	4.93						
Carson Plaza Dr.	Dry	Channel	Pb (sol)	µg/L	3/31/05	5/26/09	36	11	0.055	6	1.05	0.55	0.72	0	CTR	Hardness Dependent	0.00	0 exceedances in 5 Year(s)	0%
Carson Plaza Dr.	Dry	Channel	Pb (tot)	µg/L	3/31/05	5/26/09	36	3	0.53	81.4	7.36	1.92	2.00						
Carson Plaza Dr.	Dry	Channel	Sb (sol)	µg/L	3/31/05	2/24/06	9	5	2	3	1.78	1.00	3.00	0	CTR	4300	0.00	0 exceedances in 1 Year(s)	0%
Carson Plaza Dr.	Dry	Channel	Sb (tot)	µg/L	3/31/05	2/24/06	9	5	2	4	1.78	1.00	2.50						
Carson Plaza Dr.	Dry	Channel	Se (sol)	µg/L	3/31/05	5/26/09	37	0	0.2	8.8	1.79	0.60	0.60						

Table E.2: Dominguez Channel - Metals Data Summary

Location	Weather	Type	Constituent	Unit	Dates Sampled		Total No. of Values	No. Values with/ ND	Min.	Max.	Avg.	Median		No. of exceed.	Regulatory Source	Regulatory Threshold	Exceed. Frequency (# of exceed. per year)	Exceedance/Time	%Exceed
					From	To						With ND	Without ND						
Carson Plaza Dr.	Dry	Channel	Se (tot)	µg/L	3/31/05	5/26/09	37	0	0.2	8.7	1.86	0.60	0.60	7	CTR	5	0.05	7 exceedances in 5 Year(s)	19%
Carson Plaza Dr.	Dry	Channel	Th (sol)	µg/L	3/31/05	2/24/06	9	5	1	2	0.83	0.50	1.00	0	CTR	6.3	0.00	0 exceedances in 1 Year(s)	0%
Carson Plaza Dr.	Dry	Channel	Th (tot)	µg/L	3/31/05	2/24/06	9	7	1	2	0.72	0.50	1.50						
Carson Plaza Dr.	Dry	Channel	Zn (sol)	µg/L	3/31/05	5/26/09	36	0	7	109	24.48	18.90	18.90	0	CTR	Hardness Dependent	0.00	0 exceedances in 5 Year(s)	0%
Carson Plaza Dr.	Dry	Channel	Zn (tot)	µg/L	3/31/05	5/26/09	36	0	13	326	70.63	42.55	42.55						
El Segundo Blvd.	Wet	Channel	Ag (sol)	mg/L	7/25/02	2/22/07	11	10	0.68	0.68	0.34	0.13	0.68	0	CTR	Hardness Dependent	0.00	0 exceedances in 5 Year(s)	0%
El Segundo Blvd.	Wet	Channel	Ag (tot)	µg/L	7/25/02	2/22/07	11	9	0.2	0.61	0.34	0.13	0.41						
El Segundo Blvd.	Wet	Channel	As (sol)	µg/L	7/25/02	2/22/07	11	0	1	5.6	3.05	3.20	3.20	0	CTR	340	0.00	0 exceedances in 5 Year(s)	0%
El Segundo Blvd.	Wet	Channel	As (tot)	µg/L	7/25/02	2/22/07	11	0	1.1	15.8	4.50	3.60	3.60						
El Segundo Blvd.	Wet	Channel	Ba (sol)	µg/L	7/25/02	2/22/07	11	0	15	59	38.22	41.90	41.90						
El Segundo Blvd.	Wet	Channel	Ba (tot)	µg/L	7/25/02	2/22/07	11	0	29	171	63.71	58.00	58.00						
El Segundo Blvd.	Wet	Channel	Be (sol)	µg/L	7/25/02	8/25/05	10	10	0	0	0.19	0.20	0.00						
El Segundo Blvd.	Wet	Channel	Be (tot)	µg/L	7/25/02	8/25/05	10	10	0	0	0.19	0.20	0.00						
El Segundo Blvd.	Wet	Channel	Cd (sol)	µg/L	7/25/02	2/22/07	11	8	0.165	0.9	0.28	0.17	0.30	1	CTR	Hardness Dependent	0.02	1 exceedances in 5 Year(s)	9%
El Segundo Blvd.	Wet	Channel	Cd (tot)	µg/L	7/25/02	2/22/07	11	7	0.3	0.5	0.30	0.30	0.42						
El Segundo Blvd.	Wet	Channel	Co (sol)	µg/L	7/25/02	8/25/05	10	6	0.2	1	2.24	0.25	0.35						
El Segundo Blvd.	Wet	Channel	Co (tot)	µg/L	7/25/02	8/25/05	10	3	0.3	9.37	3.39	0.75	0.70						
El Segundo Blvd.	Wet	Channel	Cr (sol)	µg/L	7/25/02	2/22/07	11	2	0.59	3.1	1.32	1.00	1.00	0	CTR	16	0.00	0 exceedances in 5 Year(s)	0%
El Segundo Blvd.	Wet	Channel	Cr (tot)	µg/L	7/25/02	2/22/07	11	0	0.7	29.8	9.20	3.90	3.90						
El Segundo Blvd.	Wet	Channel	Cu (sol)	µg/L	7/25/02	2/22/07	11	1	7.9	39	17.59	12.00	16.50	5	TMDL	Hardness Dependent	0.10	5 exceedances in 5 Year(s)	45%
El Segundo Blvd.	Wet	Channel	Cu (tot)	µg/L	7/25/02	2/22/07	11	1	6.4	65.3	27.83	24.00	28.50						
El Segundo Blvd.	Wet	Channel	Hardness	µg/L	2/26/04	2/22/07	8	0	17	188	112.56	135.00	135.00						
El Segundo Blvd.	Wet	Channel	Hg (sol)	µg/L	7/25/02	8/25/05	10	6	0.02	0.1	0.03	0.01	0.05	2	TMDL	0.051	0.06	2 exceedances in 4 Year(s)	20%
El Segundo Blvd.	Wet	Channel	Hg (tot)	µg/L	7/25/02	8/25/05	10	6	0.04	0.1	0.03	0.01	0.07						
El Segundo Blvd.	Wet	Channel	Ni (sol)	µg/L	7/25/02	2/22/07	11	2	1.39	6	3.91	4.40	5.00	0	CTR	Hardness Dependent	0.00	0 exceedances in 5 Year(s)	0%
El Segundo Blvd.	Wet	Channel	Ni (tot)	µg/L	7/25/02	2/22/07	11	2	2.51	19.7	6.36	6.00	6.00						
El Segundo Blvd.	Wet	Channel	Pb (sol)	µg/L	7/25/02	2/22/07	11	6	0.55	19	5.09	2.00	2.00	2	TMDL	Hardness Dependent	0.04	2 exceedances in 5 Year(s)	18%
El Segundo Blvd.	Wet	Channel	Pb (tot)	µg/L	7/25/02	2/22/07	11	3	0.55	46	9.62	5.00	5.50						
El Segundo Blvd.	Wet	Channel	Sb (sol)	µg/L	7/25/02	8/25/05	10	3	2	5	3.29	3.50	3.00	0	CTR	4300	0.00	0 exceedances in 4 Year(s)	0%
El Segundo Blvd.	Wet	Channel	Sb (tot)	µg/L	7/25/02	8/25/05	10	3	2	5	3.10	3.00	3.00						
El Segundo Blvd.	Wet	Channel	Se (sol)	µg/L	7/25/02	2/22/07	11	3	0.2	0.9	0.33	0.30	0.40						
El Segundo Blvd.	Wet	Channel	Se (tot)	µg/L	7/25/02	2/22/07	11	0	0.2	0.9	0.43	0.40	0.40						
El Segundo Blvd.	Wet	Channel	Th (sol)	µg/L	7/25/02	8/25/05	9	6	1	4	1.54	1.00	2.00	0	CTR	6.3	0.00	0 exceedances in 4 Year(s)	0%
El Segundo Blvd.	Wet	Channel	Th (tot)	µg/L	7/25/02	8/25/05	10	8	1	1	0.99	0.55	1.00						
El Segundo Blvd.	Wet	Channel	Zn (sol)	µg/L	7/25/02	2/22/07	11	2	18.5	178	44.19	32.00	32.00	3	TMDL	Hardness Dependent	0.06	3 exceedances in 5 Year(s)	27%
El Segundo Blvd.	Wet	Channel	Zn (tot)	µg/L	7/25/02	2/22/07	11	2	20.3	310	97.68	90.00	90.00						
El Segundo Blvd.	Dry	Channel	Ag (sol)	µg/L	4/26/01	5/26/09	82	50	0.03	0.8	0.44	0.13	0.09						
El Segundo Blvd.	Dry	Channel	Ag (tot)	µg/L	4/26/01	5/26/09	82	49	0.03	2.07	0.47	0.13	0.04						
El Segundo Blvd.	Dry	Channel	As (sol)	µg/L	4/26/01	5/26/09	84	6	0.4	8.38	2.60	2.15	2.10	0	CTR	150	0.00	0 exceedances in 9 Year(s)	0%
El Segundo Blvd.	Dry	Channel	As (tot)	µg/L	4/26/01	5/26/09	84	4	0.4	35.6	3.46	2.60	2.52						
El Segundo Blvd.	Dry	Channel	Ba (sol)	µg/L	4/26/01	5/26/09	83	1	18.5	97.4	47.45	41.20	41.60						
El Segundo Blvd.	Dry	Channel	Ba (tot)	µg/L	4/26/01	5/26/09	83	1	20.8	248	59.23	51.00	51.35						
El Segundo Blvd.	Dry	Channel	Be (sol)	µg/L	4/26/01	2/24/06	46	43	0.025	0.08	0.20	0.20	0.06						
El Segundo Blvd.	Dry	Channel	Be (tot)	µg/L	4/26/01	2/24/06	47	42	0.008	6.3	0.33	0.20	0.04						
El Segundo Blvd.	Dry	Channel	Cd (sol)	µg/L	4/26/01	5/26/09	82	42	0.01	1.1	0.26	0.17	0.17	0	CTR	Hardness Dependent	0.00	0 exceedances in 9 Year(s)	0%
El Segundo Blvd.	Dry	Channel	Cd (tot)	mg/L	4/26/01	5/26/09	83	35	0.01	6.2	0.38	0.30	0.30						
El Segundo Blvd.	Dry	Channel	Co (sol)	µg/L	4/26/01	2/24/06	45	35	0.2	0.6	2.88	0.25	0.30						
El Segundo Blvd.	Dry	Channel	Co (tot)	µg/L	4/26/01	2/24/06	45	30	0.2	5.2	3.12	0.60	0.60						
El Segundo Blvd.	Dry	Channel	Cr (sol)	µg/L	4/26/01	5/26/09	83	24	0.045	18	1.73	1.00	1.10	1	CTR	11	0.00	1 exceedances in 9 Year(s)	1%
El Segundo Blvd.	Dry	Channel	Cr (tot)	µg/L	4/26/01	5/26/09	83	14	0.045	33	4.86	2.07	2.51						
El Segundo Blvd.	Dry	Channel	Cu (sol)	µg/L	4/26/01	5/26/09	83	6	4	442	19.10	13.00	13.00	35	CTR	Hardness Dependent	0.05	35 exceedances in 9 Year(s)	42%
El Segundo Blvd.	Dry	Channel	Cu (tot)	µg/L	4/26/01	5/26/09	83	6	4	795	30.05	18.00	20.00						
El Segundo Blvd.	Dry	Channel	Hardness	µg/L	1/29/04	5/26/09	56	0	84.7	302	183.04	173.00	173.00						
El Segundo Blvd.	Dry	Channel	Hg (sol)	µg/L	4/26/01	2/24/06	46	35	0.03	0.17	0.05	0.01	0.07	8	TMDL	0.051	0.04	8 exceedances in 5 Year(s)	17%
El Segundo Blvd.	Dry	Channel	Hg (tot)	µg/L	4/26/01	2/24/06	46	34	0.027	0.17	0.05	0.01	0.08						
El Segundo Blvd.	Dry	Channel	Ni (sol)	µg/L	4/26/01	5/26/09	81	18	0.9	34	4.21	4.00	4.00	0	CTR	Hardness Dependent	0.00	0 exceedances in 9 Year(s)	0%
El Segundo Blvd.	Dry	Channel	Ni (tot)	µg/L	4/26/01	5/26/09	83	15	0.9	41.1	5.74	4.68	4.59						

Table E.2: Dominguez Channel - Metals Data Summary

Location	Weather	Type	Constituent	Unit	Dates Sampled		Total No. of Values	No. Values with/ ND	Min.	Max.	Avg.	Median		No. of exceed.	Regulatory Source	Regulatory Threshold	Exceed. Frequency (# of exceed. per year)	Exceedance/Time	%Exceed
					From	To						With ND	Without ND						
El Segundo Blvd.	Dry	Channel	Pb (sol)	µg/L	4/26/01	5/26/09	81	34	0.055	28	2.83	1.40	1.04	8	CTR	Hardness Dependent	0.01	8 exceedances in 9 Year(s)	10%
El Segundo Blvd.	Dry	Channel	Pb (tot)	µg/L	4/26/01	5/26/09	83	24	0.055	96	6.95	4.00	4.00						
El Segundo Blvd.	Dry	Channel	Sb (sol)	µg/L	4/26/01	2/24/06	47	33	1.3	12.3	3.01	2.50	3.00	0	CTR	4300	0.00	0 exceedances in 5 Year(s)	0%
El Segundo Blvd.	Dry	Channel	Sb (tot)	µg/L	4/26/01	2/24/06	47	34	1.8	24.6	3.45	2.50	3.00						
El Segundo Blvd.	Dry	Channel	Se (sol)	µg/L	5/31/01	5/26/09	82	11	0.1	2.2	0.83	0.40	0.40						
El Segundo Blvd.	Dry	Channel	Se (tot)	µg/L	5/31/01	5/26/09	82	10	0.1	2.28	0.87	0.50	0.50	0	CTR	5	0.00	0 exceedances in 8 Year(s)	0%
El Segundo Blvd.	Dry	Channel	Th (sol)	µg/L	4/26/01	2/24/06	47	36	1	9.5	2.70	2.00	3.00	2	CTR	6.3	0.01	2 exceedances in 5 Year(s)	4%
El Segundo Blvd.	Dry	Channel	Th (tot)	µg/L	4/26/01	2/24/06	47	38	1.2	6	2.61	2.50	4.00						
El Segundo Blvd.	Dry	Channel	Va(sol)	µg/L	4/26/01	5/31/01	2	1	6.1	6.1	4.30	4.30	6.10						
El Segundo Blvd.	Dry	Channel	Va(tot)	µg/L	4/26/01	5/31/01	2	1	6.1	6.1	4.30	4.30	6.10						
El Segundo Blvd.	Dry	Channel	Zn (sol)	µg/L	4/26/01	5/26/09	82	7	2.4	120	27.71	20.00	22.00	0	CTR	Hardness Dependent	0.00	0 exceedances in 9 Year(s)	0%
El Segundo Blvd.	Dry	Channel	Zn (tot)	µg/L	4/26/01	5/26/09	83	6	8	445	67.93	50.00	53.40						
Main St.	Wet	Channel	Ag (sol)	µg/L	4/28/05	2/22/07	4	3	0.36	0.36	0.17	0.10	0.36	0	CTR	Hardness Dependent	0.00	0 exceedances in 2 Year(s)	0%
Main St.	Wet	Channel	Ag (tot)	µg/L	4/28/05	2/22/07	4	3	0.48	0.48	0.20	0.10	0.48						
Main St.	Wet	Channel	As (sol)	µg/L	4/28/05	2/22/07	4	0	0.4	3.5	2.48	3.00	3.00	0	CTR	340	0.00	0 exceedances in 2 Year(s)	0%
Main St.	Wet	Channel	As (tot)	µg/L	4/28/05	2/22/07	4	0	0.5	3.7	2.58	3.05	3.05						
Main St.	Wet	Channel	Ba (sol)	µg/L	4/28/05	2/22/07	4	0	20	82	52.70	54.40	54.40						
Main St.	Wet	Channel	Ba (tot)	µg/L	4/28/05	2/22/07	4	0	27	82	56.80	59.10	59.10						
Main St.	Wet	Channel	Be (sol)	µg/L	4/28/05	8/25/05	3	3	0	0	0.20	0.20	0.00						
Main St.	Wet	Channel	Be (tot)	µg/L	4/28/05	8/25/05	3	3	0	0	0.20	0.20	0.00						
Main St.	Wet	Channel	Cd (sol)	µg/L	4/28/05	2/22/07	4	1	0.165	2.1	0.68	0.23	0.30	1	CTR	Hardness Dependent	0.14	1 exceedances in 2 Year(s)	25%
Main St.	Wet	Channel	Cd (tot)	µg/L	4/28/05	2/22/07	4	1	0.165	0.5	0.30	0.28	0.40						
Main St.	Wet	Channel	Co (sol)	µg/L	4/28/05	8/25/05	3	0	0.2	0.6	0.40	0.40	0.40						
Main St.	Wet	Channel	Co (tot)	µg/L	4/28/05	8/25/05	3	0	0.3	0.5	0.40	0.40	0.40						
Main St.	Wet	Channel	Cr (sol)	µg/L	4/28/05	2/22/07	4	0	0.4	2.6	1.01	0.52	0.52	0	CTR	16	0.00	0 exceedances in 2 Year(s)	0%
Main St.	Wet	Channel	Cr (tot)	µg/L	4/28/05	2/22/07	4	0	0.08	3.9	1.33	0.66	0.66						
Main St.	Wet	Channel	Cu (sol)	µg/L	4/28/05	2/22/07	4	0	8	15	12.75	14.00	14.00	1	TMDL	Hardness Dependent	0.14	1 exceedances in 2 Year(s)	25%
Main St.	Wet	Channel	Cu (tot)	µg/L	4/28/05	2/22/07	4	0	12	36	23.75	23.50	23.50						
Main St.	Wet	Channel	Hardness	µg/L	4/28/05	2/22/07	4	0	41.7	291	181.68	197.00	197.00						
Main St.	Wet	Channel	Hg (sol)	µg/L	4/28/05	8/25/05	3	3	0	0	0.01	0.01	0.00	0	TMDL	0.051	0.00	0 exceedances in 1 Year(s)	0%
Main St.	Wet	Channel	Hg (tot)	µg/L	4/28/05	8/25/05	3	2	0.022	0.022	0.01	0.01	0.02						
Main St.	Wet	Channel	Ni (sol)	µg/L	4/28/05	2/22/07	4	0	3.87	6	4.72	4.50	4.50	0	CTR	Hardness Dependent	0.00	0 exceedances in 2 Year(s)	0%
Main St.	Wet	Channel	Ni (tot)	mg/L	4/28/05	2/22/07	4	0	3.65	6	5.16	5.50	5.50						
Main St.	Wet	Channel	Pb (sol)	µg/L	4/28/05	2/22/07	4	0	0.55	4	2.39	2.50	2.50	1	TMDL	Hardness Dependent	0.14	1 exceedances in 2 Year(s)	25%
Main St.	Wet	Channel	Pb (tot)	µg/L	4/28/05	2/22/07	4	0	0.55	6	2.89	2.50	2.50						
Main St.	Wet	Channel	Sb (sol)	µg/L	4/28/05	8/25/05	3	1	2	3	2.00	2.00	2.50	0	CTR	4300	0.00	0 exceedances in 1 Year(s)	0%
Main St.	Wet	Channel	Sb (tot)	µg/L	4/28/05	8/25/05	3	2	3	3	1.67	1.00	3.00						
Main St.	Wet	Channel	Se (sol)	µg/L	4/28/05	2/22/07	4	0	0.4	0.5	0.43	0.40	0.40						
Main St.	Wet	Channel	Se (tot)	µg/L	4/28/05	2/22/07	4	0	0.4	0.6	0.45	0.40	0.40						
Main St.	Wet	Channel	Th (sol)	µg/L	4/28/05	8/25/05	3	1	1	1	0.83	1.00	1.00	0	CTR	6.3	0.00	0 exceedances in 1 Year(s)	0%
Main St.	Wet	Channel	Th (tot)	µg/L	4/28/05	8/25/05	3	3	0	0	0.50	0.50	0.00						
Main St.	Wet	Channel	Zn (sol)	µg/L	4/28/05	2/22/07	4	0	15	72	32.50	21.50	21.50	1	TMDL	Hardness Dependent	0.14	1 exceedances in 2 Year(s)	25%
Main St.	Wet	Channel	Zn (tot)	µg/L	4/28/05	2/22/07	4	0	29	101	50.25	35.50	35.50						
Main St.	Dry	Channel	Ag (sol)	µg/L	1/27/05	5/26/09	46	17	0.03	0.87	0.12	0.04	0.04						
Main St.	Dry	Channel	Ag (tot)	µg/L	1/27/05	5/26/09	46	16	0.03	4.18	0.18	0.06	0.04						
Main St.	Dry	Channel	As (sol)	µg/L	1/27/05	5/26/09	48	0	1	7.7	2.91	2.75	2.75	0	CTR	150	0.00	0 exceedances in 5 Year(s)	0%
Main St.	Dry	Channel	As (tot)	µg/L	1/27/05	5/26/09	48	0	1.1	106	5.45	3.10	3.10						
Main St.	Dry	Channel	Ba (sol)	µg/L	1/27/05	5/26/09	47	0	23	143	68.14	65.00	65.00						
Main St.	Dry	Channel	Ba (tot)	µg/L	1/27/05	5/26/09	47	0	29	4510	180.95	74.70	74.70						
Main St.	Dry	Channel	Be (sol)	µg/L	1/27/05	2/24/06	11	11	0	0	0.20	0.20	0.00						
Main St.	Dry	Channel	Be (tot)	µg/L	1/27/05	2/24/06	11	9	0.4	0.7	0.26	0.20	0.55						
Main St.	Dry	Channel	Cd (sol)	µg/L	1/27/05	5/26/09	47	9	0.01	0.8	0.22	0.17	0.17	0	CTR	Hardness Dependent	0.00	0 exceedances in 5 Year(s)	0%
Main St.	Dry	Channel	Cd (tot)	µg/L	1/27/05	5/26/09	47	4	0.01	22.5	0.79	0.17	0.29						
Main St.	Dry	Channel	Co (sol)	µg/L	1/27/05	2/24/06	11	0	0.4	1.9	0.76	0.70	0.70						
Main St.	Dry	Channel	Co (tot)	µg/L	1/27/05	2/24/06	11	0	0.2	19.9	3.23	0.80	0.80						
Main St.	Dry	Channel	Cr (sol)	µg/L	1/27/05	5/26/09	47	2	0.045	5.17	1.36	1.00	1.09	0	CTR	11	0.00	0 exceedances in 5 Year(s)	0%
Main St.	Dry	Channel	Cr (tot)	µg/L	1/27/05	5/26/09	47	2	0.045	456	13.27	1.39	1.49						

Table E.2: Dominguez Channel - Metals Data Summary

Location	Weather	Type	Constituent	Unit	Dates Sampled		Total No. of Values	No. Values with/ ND	Min.	Max.	Avg.	Median		No. of exceed.	Regulatory Source	Regulatory Threshold	Exceed. Frequency (# of exceed. per year)	Exceedance/Time	%Exceed
					From	To						With ND	Without ND						
Main St.	Dry	Channel	Cu (sol)	µg/L	1/27/05	5/26/09	47	0	4.25	36	14.58	12.30	12.30	16	CTR	Hardness Dependent	0.08	16 exceedances in 5 Year(s)	34%
Main St.	Dry	Channel	Cu (tot)	µg/L	1/27/05	5/26/09	47	0	8.47	1010	43.56	16.90	16.90						
Main St.	Dry	Channel	Hardness	µg/L	1/27/05	5/26/09	48	0	65.8	446	235.20	225.00	225.00						
Main St.	Dry	Channel	Hg (sol)	µg/L	1/27/05	2/24/06	11	11	0	0	0.01	0.01	0.00	0	TMDL	0.051	0.00	0 exceedances in 2 Year(s)	0%
Main St.	Dry	Channel	Hg (tot)	µg/L	1/27/05	2/24/06	11	10	0.106	0.106	0.02	0.01	0.11						
Main St.	Dry	Channel	Ni (sol)	µg/L	1/27/05	5/26/09	47	0	0.1	9.75	5.00	5.00	5.00	0	CTR	Hardness Dependent	0.00	0 exceedances in 5 Year(s)	0%
Main St.	Dry	Channel	Ni (tot)	µg/L	1/27/05	5/26/09	47	0	3	367	14.54	5.23	5.23						
Main St.	Dry	Channel	Pb (sol)	µg/L	1/27/05	5/26/09	47	6	0.055	27	1.83	0.93	1.00	2	CTR	Hardness Dependent	0.01	2 exceedances in 5 Year(s)	4%
Main St.	Dry	Channel	Pb (tot)	µg/L	1/27/05	5/26/09	47	2	0.055	955	25.80	2.00	2.00						
Main St.	Dry	Channel	Sb (sol)	µg/L	1/27/05	2/24/06	11	6	2	5	2.00	1.00	3.00	0	CTR	4300	0.00	0 exceedances in 2 Year(s)	0%
Main St.	Dry	Channel	Sb (tot)	µg/L	1/27/05	2/24/06	11	6	2	5	2.09	1.00	4.00						
Main St.	Dry	Channel	Se (sol)	µg/L	1/27/05	5/26/09	48	0	0.1	1.3	0.53	0.40	0.40						
Main St.	Dry	Channel	Se (tot)	µg/L	1/27/05	5/26/09	48	0	0.1	3.5	0.64	0.45	0.45	0	CTR	5	0.00	0 exceedances in 5 Year(s)	0%
Main St.	Dry	Channel	Th (sol)	mg/L	1/27/05	2/24/06	11	8	2	2	0.91	0.50	2.00	0	CTR	6.3	0.00	0 exceedances in 2 Year(s)	0%
Main St.	Dry	Channel	Th (tot)	µg/L	1/27/05	2/24/06	11	7	1	2	0.77	0.50	1.00						
Main St.	Dry	Channel	Zn (sol)	µg/L	1/27/05	5/26/09	47	0	4	95.8	27.99	24.00	24.00	0	CTR	Hardness Dependent	0.00	0 exceedances in 5 Year(s)	0%
Main St.	Dry	Channel	Zn (tot)	µg/L	1/27/05	5/26/09	47	0	18.5	3500	138.40	40.00	40.00						
Vermont Ave.	Wet	Channel	Ag (sol)	µg/L	4/28/05	8/25/05	3	3	0	0	0.10	0.10	0.00	0	CTR	Hardness Dependent	0.00	0 exceedances in 1 Year(s)	0%
Vermont Ave.	Wet	Channel	Ag (tot)	µg/L	4/28/05	2/22/07	4	3	0.54	0.54	0.21	0.10	0.54						
Vermont Ave.	Wet	Channel	As (sol)	µg/L	4/28/05	2/22/07	4	0	0.4	1.7	1.23	1.40	1.40	0	CTR	340	0.00	0 exceedances in 2 Year(s)	0%
Vermont Ave.	Wet	Channel	As (tot)	µg/L	4/28/05	2/22/07	4	0	0.5	3.5	1.85	1.70	1.70						
Vermont Ave.	Wet	Channel	Ba (sol)	µg/L	4/28/05	2/22/07	4	0	15	91.5	62.13	71.00	71.00						
Vermont Ave.	Wet	Channel	Ba (tot)	µg/L	4/28/05	2/22/07	4	0	52	95.2	75.30	77.00	77.00						
Vermont Ave.	Wet	Channel	Be (sol)	µg/L	4/28/05	8/25/05	3	3	0	0	0.20	0.20	0.00						
Vermont Ave.	Wet	Channel	Be (tot)	µg/L	4/28/05	8/25/05	3	3	0	0	0.20	0.20	0.00						
Vermont Ave.	Wet	Channel	Cd (sol)	µg/L	4/28/05	2/22/07	4	1	0.165	0.5	0.30	0.28	0.40	0	CTR	Hardness Dependent	0.00	0 exceedances in 2 Year(s)	0%
Vermont Ave.	Wet	Channel	Cd (tot)	µg/L	4/28/05	2/22/07	4	1	0.165	0.3	0.23	0.23	0.30						
Vermont Ave.	Wet	Channel	Co (sol)	µg/L	4/28/05	8/25/05	3	2	0.2	0.2	0.13	0.10	0.20						
Vermont Ave.	Wet	Channel	Co (tot)	µg/L	4/28/05	8/25/05	3	0	0.2	2.2	0.90	0.30	0.30						
Vermont Ave.	Wet	Channel	Cr (sol)	µg/L	4/28/05	2/22/07	4	0	0.6	1.4	1.05	1.09	1.09	0	CTR	16	0.00	0 exceedances in 2 Year(s)	0%
Vermont Ave.	Wet	Channel	Cr (tot)	mg/L	4/28/05	2/22/07	4	0	0.54	6.3	2.36	1.30	1.30						
Vermont Ave.	Wet	Channel	Cu (sol)	µg/L	4/28/05	2/22/07	4	0	8	14	10.75	10.50	10.50	1	TMDL	Hardness Dependent	0.14	1 exceedances in 2 Year(s)	25%
Vermont Ave.	Wet	Channel	Cu (tot)	µg/L	4/28/05	2/22/07	4	0	9	30	17.50	15.50	15.50						
Vermont Ave.	Wet	Channel	Hardness	µg/L	4/28/05	2/22/07	4	0	32.7	351	235.93	280.00	280.00						
Vermont Ave.	Wet	Channel	Hg (sol)	µg/L	4/28/05	8/25/05	3	3	0	0	0.01	0.01	0.00	0	TMDL	0.051	0.00	0 exceedances in 1 Year(s)	0%
Vermont Ave.	Wet	Channel	Hg (tot)	µg/L	4/28/05	8/25/05	3	3	0	0	0.01	0.01	0.00						
Vermont Ave.	Wet	Channel	Ni (sol)	µg/L	4/28/05	2/22/07	4	0	2	5	3.25	3.00	3.00	0	CTR	Hardness Dependent	0.00	0 exceedances in 2 Year(s)	0%
Vermont Ave.	Wet	Channel	Ni (tot)	µg/L	4/28/05	2/22/07	4	0	3	6	4.90	5.30	5.30						
Vermont Ave.	Wet	Channel	Pb (sol)	µg/L	4/28/05	2/22/07	3	1	0.55	1	0.68	0.55	0.78	1	TMDL	Hardness Dependent	0.18	1 exceedances in 2 Year(s)	33%
Vermont Ave.	Wet	Channel	Pb (tot)	µg/L	4/28/05	2/22/07	4	0	0.55	8	2.89	1.50	1.50						
Vermont Ave.	Wet	Channel	Sb (sol)	µg/L	4/28/05	8/25/05	3	2	2	2	1.33	1.00	2.00	0	CTR	4300	0.00	0 exceedances in 1 Year(s)	0%
Vermont Ave.	Wet	Channel	Sb (tot)	µg/L	4/28/05	8/25/05	3	2	3	3	1.67	1.00	3.00						
Vermont Ave.	Wet	Channel	Se (sol)	µg/L	4/28/05	2/22/07	4	0	0.2	0.8	0.43	0.35	0.35						
Vermont Ave.	Wet	Channel	Se (tot)	µg/L	4/28/05	2/22/07	4	0	0.2	0.9	0.45	0.35	0.35						
Vermont Ave.	Wet	Channel	Th (sol)	µg/L	4/28/05	8/25/05	3	3	0	0	0.50	0.50	0.00	0	CTR	6.3	0.00	0 exceedances in 1 Year(s)	0%
Vermont Ave.	Wet	Channel	Th (tot)	µg/L	4/28/05	8/25/05	3	3	0	0	0.50	0.50	0.00						
Vermont Ave.	Wet	Channel	Zn (sol)	µg/L	4/28/05	2/22/07	4	0	15	42	26.50	24.50	24.50	0	TMDL	Hardness Dependent	0.00	0 exceedances in 2 Year(s)	0%
Vermont Ave.	Wet	Channel	Zn (tot)	µg/L	4/28/05	2/22/07	4	0	28	111	57.25	45.00	45.00						
Vermont Ave.	Dry	Channel	Ag (sol)	µg/L	1/27/05	5/26/09	46	17	0.03	0.72	0.11	0.04	0.04						
Vermont Ave.	Dry	Channel	Ag (tot)	µg/L	1/27/05	5/26/09	46	17	0.03	0.65	0.13	0.04	0.04						
Vermont Ave.	Dry	Channel	As (sol)	µg/L	1/27/05	5/26/09	48	0	0.2	8.07	1.57	1.31	1.31	0	CTR	150	0.00	0 exceedances in 5 Year(s)	0%
Vermont Ave.	Dry	Channel	As (tot)	µg/L	1/27/05	5/26/09	48	0	0.5	8.01	1.92	1.53	1.53						
Vermont Ave.	Dry	Channel	Ba (sol)	µg/L	1/27/05	5/26/09	47	0	19.8	95.5	63.88	60.50	60.50						
Vermont Ave.	Dry	Channel	Ba (tot)	µg/L	1/27/05	5/26/09	47	0	36	248	78.51	76.00	76.00						
Vermont Ave.	Dry	Channel	Be (sol)	µg/L	1/27/05	2/24/06	11	11	0	0	0.20	0.20	0.00						
Vermont Ave.	Dry	Channel	Be (tot)	µg/L	1/27/05	2/24/06	11	11	0	0	0.20	0.20	0.00						
Vermont Ave.	Dry	Channel	Cd (sol)	µg/L	1/27/05	5/26/09	47	14	0.01	1.23	0.18	0.15	0.07	0	CTR	Hardness Dependent	0.00	0 exceedances in 5 Year(s)	0%

Table E.2: Dominguez Channel - Metals Data Summary

Location	Weather	Type	Constituent	Unit	Dates Sampled		Total No. of Values	No. Values with/ ND	Min.	Max.	Avg.	Median		No. of exceed.	Regulatory Source	Regulatory Threshold	Exceed. Frequency (# of exceed. per year)	Exceedance/Time	%Exceed
					From	To						With ND	Without ND						
Vermont Ave.	Dry	Channel	Cd (tot)	µg/L	1/27/05	5/26/09	47	9	0.01	1.71	0.33	0.17	0.23						
Vermont Ave.	Dry	Channel	Co (sol)	µg/L	1/27/05	2/24/06	11	3	0.2	0.5	0.29	0.30	0.40						
Vermont Ave.	Dry	Channel	Co (tot)	µg/L	1/27/05	2/24/06	11	2	0.2	1.7	0.52	0.40	0.60						
Vermont Ave.	Dry	Channel	Cr (sol)	µg/L	1/27/05	5/26/09	47	3	0.045	12.1	1.50	1.01	1.09	1	CTR	11	0.00	1 exceedances in 5 Year(s)	2%
Vermont Ave.	Dry	Channel	Cr (tot)	µg/L	1/27/05	5/26/09	47	2	0.045	22.1	2.90	1.80	1.90						
Vermont Ave.	Dry	Channel	Cu (sol)	µg/L	1/27/05	5/26/09	47	0	2.98	29	13.20	13.00	13.00	7	CTR	Hardness Dependent	0.03	7 exceedances in 5 Year(s)	15%
Vermont Ave.	Dry	Channel	Cu (tot)	µg/L	1/27/05	5/26/09	47	0	4.07	90	20.38	16.10	16.10						
Vermont Ave.	Dry	Channel	Hardness	µg/L	1/27/05	5/26/09	48	0	87.1	2770	555.88	298.00	298.00						
Vermont Ave.	Dry	Channel	Hg (sol)	µg/L	1/27/05	2/24/06	11	10	0.03	0.03	0.01	0.01	0.03	0	TMDL	0.051	0.00	0 exceedances in 2 Year(s)	0%
Vermont Ave.	Dry	Channel	Hg (tot)	mg/L	1/27/05	2/24/06	11	9	0.022	0.035	0.01	0.01	0.03						
Vermont Ave.	Dry	Channel	Ni (sol)	µg/L	1/27/05	5/26/09	47	0	0.1	8.9	4.22	4.04	4.04	0	CTR	Hardness Dependent	0.00	0 exceedances in 5 Year(s)	0%
Vermont Ave.	Dry	Channel	Ni (tot)	µg/L	1/27/05	5/26/09	47	0	2	18.5	5.58	5.05	5.05						
Vermont Ave.	Dry	Channel	Pb (sol)	µg/L	1/27/05	5/26/09	47	13	0.055	11.5	0.96	0.55	0.55	1	CTR	Hardness Dependent	0.00	1 exceedances in 5 Year(s)	2%
Vermont Ave.	Dry	Channel	Pb (tot)	µg/L	1/27/05	5/26/09	47	5	0.055	25.7	3.22	1.44	1.85						
Vermont Ave.	Dry	Channel	Sb (sol)	µg/L	1/27/05	2/24/06	11	6	2	5	1.91	1.00	2.00	0	CTR	4300	0.00	0 exceedances in 2 Year(s)	0%
Vermont Ave.	Dry	Channel	Sb (tot)	µg/L	1/27/05	2/24/06	11	8	2	4	1.64	1.00	4.00						
Vermont Ave.	Dry	Channel	Se (sol)	µg/L	1/27/05	5/26/09	48	1	0.1	1.05	0.41	0.40	0.40						
Vermont Ave.	Dry	Channel	Se (tot)	µg/L	1/27/05	5/26/09	48	0	0.1	1.1	0.44	0.40	0.40	0	CTR	5	0.00	0 exceedances in 5 Year(s)	0%
Vermont Ave.	Dry	Channel	Th (sol)	µg/L	1/27/05	2/24/06	11	6	1	5	1.36	0.50	2.00	0	CTR	6.3	0.00	0 exceedances in 2 Year(s)	0%
Vermont Ave.	Dry	Channel	Th (tot)	µg/L	1/27/05	2/24/06	11	6	1	5	1.55	0.50	2.00						
Vermont Ave.	Dry	Channel	Zn (sol)	µg/L	1/27/05	5/26/09	47	0	3.27	57	28.26	27.00	27.00	0	CTR	Hardness Dependent	0.00	0 exceedances in 5 Year(s)	0%
Vermont Ave.	Dry	Channel	Zn (tot)	µg/L	1/27/05	5/26/09	47	0	23.5	296	67.22	48.00	48.00						
Western Ave.	Wet	Channel	Ag (sol)	µg/L	7/25/02	2/22/07	11	10	0.55	0.55	0.33	0.13	0.55	0	CTR	Hardness Dependent	0.00	0 exceedances in 5 Year(s)	0%
Western Ave.	Wet	Channel	Ag (tot)	µg/L	7/25/02	2/22/07	11	10	0.93	0.93	0.36	0.13	0.93						
Western Ave.	Wet	Channel	As (sol)	mg/L	7/25/02	2/22/07	11	0	0.3	4.9	2.23	1.70	1.70	0	CTR	340	0.00	0 exceedances in 5 Year(s)	0%
Western Ave.	Wet	Channel	As (tot)	µg/L	7/25/02	2/22/07	11	0	0.3	5.3	2.57	2.20	2.20						
Western Ave.	Wet	Channel	Ba (sol)	µg/L	7/25/02	2/22/07	11	0	16	96.9	44.84	40.00	40.00						
Western Ave.	Wet	Channel	Ba (tot)	µg/L	7/25/02	2/22/07	11	0	34	104	57.67	44.90	44.90						
Western Ave.	Wet	Channel	Be (sol)	µg/L	7/25/02	8/25/05	10	10	0	0	0.19	0.20	0.00						
Western Ave.	Wet	Channel	Be (tot)	µg/L	7/25/02	8/25/05	10	9	1.1	1.1	0.25	0.20	1.10						
Western Ave.	Wet	Channel	Cd (sol)	µg/L	7/25/02	2/22/07	11	10	0.165	0.165	0.18	0.15	0.17	0	CTR	Hardness Dependent	0.00	0 exceedances in 5 Year(s)	0%
Western Ave.	Wet	Channel	Cd (tot)	µg/L	7/25/02	2/22/07	11	5	0.165	1.8	0.40	0.30	0.35						
Western Ave.	Wet	Channel	Co (sol)	µg/L	7/25/02	8/25/05	10	7	0.2	1.1	2.24	0.16	0.50						
Western Ave.	Wet	Channel	Co (tot)	µg/L	7/25/02	8/25/05	10	3	0.3	2.2	2.68	0.82	0.73						
Western Ave.	Wet	Channel	Cr (sol)	µg/L	7/25/02	2/22/07	11	2	0.42	2	1.07	0.70	1.40	0	CTR	16	0.00	0 exceedances in 5 Year(s)	0%
Western Ave.	Wet	Channel	Cr (tot)	µg/L	7/25/02	2/22/07	11	0	0.5	28	7.33	3.60	3.60						
Western Ave.	Wet	Channel	Cu (sol)	µg/L	7/25/02	2/22/07	11	0	5.3	30	12.49	9.00	9.00	4	TMDL	Hardness Dependent	0.08	4 exceedances in 5 Year(s)	36%
Western Ave.	Wet	Channel	Cu (tot)	µg/L	7/25/02	2/22/07	11	0	6.5	39	17.82	15.00	15.00						
Western Ave.	Wet	Channel	Hardness	µg/L	2/26/04	2/22/07	8	0	36.6	369	172.09	170.50	170.50						
Western Ave.	Wet	Channel	Hg (sol)	µg/L	7/25/02	8/25/05	10	6	0.02	0.1	0.03	0.01	0.05	2	TMDL	0.051	0.06	2 exceedances in 4 Year(s)	20%
Western Ave.	Wet	Channel	Hg (tot)	µg/L	7/25/02	8/25/05	10	3	0.028	0.12	0.04	0.03	0.04						
Western Ave.	Wet	Channel	Ni (sol)	µg/L	7/25/02	2/22/07	11	2	1.7	5	2.82	2.68	3.00	0	CTR	Hardness Dependent	0.00	0 exceedances in 5 Year(s)	0%
Western Ave.	Wet	Channel	Ni (tot)	µg/L	7/25/02	2/22/07	11	2	2.12	6	4.04	3.65	4.00						
Western Ave.	Wet	Channel	Pb (sol)	µg/L	7/25/02	2/22/07	11	6	0.55	16.5	3.85	1.50	2.00	3	TMDL	Hardness Dependent	0.06	3 exceedances in 5 Year(s)	27%
Western Ave.	Wet	Channel	Pb (tot)	µg/L	7/25/02	2/22/07	11	3	0.55	18.7	7.00	5.00	8.50						
Western Ave.	Wet	Channel	Sb (sol)	µg/L	7/25/02	8/25/05	10	5	2	3.3	2.39	2.00	2.00	0	CTR	4300	0.00	0 exceedances in 4 Year(s)	0%
Western Ave.	Wet	Channel	Sb (tot)	µg/L	7/25/02	8/25/05	10	6	2	4	2.39	2.00	2.90						
Western Ave.	Wet	Channel	Se (sol)	µg/L	7/25/02	2/22/07	11	2	0.2	0.9	0.39	0.30	0.40						
Western Ave.	Wet	Channel	Se (tot)	µg/L	7/25/02	2/22/07	11	0	0.2	0.9	0.46	0.40	0.40						
Western Ave.	Wet	Channel	Th (sol)	µg/L	7/25/02	8/25/05	10	10	0	0	0.90	0.55	0.00	0	CTR	6.3	0.00	0 exceedances in 4 Year(s)	0%
Western Ave.	Wet	Channel	Th (tot)	µg/L	7/25/02	8/25/05	10	10	0	0	0.90	0.55	0.00						
Western Ave.	Wet	Channel	Zn (sol)	mg/L	7/25/02	2/22/07	11	1	10.8	143	37.16	26.80	28.40	2	TMDL	Hardness Dependent	0.04	2 exceedances in 5 Year(s)	18%
Western Ave.	Wet	Channel	Zn (tot)	µg/L	7/25/02	2/22/07	11	1	19.4	155	67.84	59.00	66.20						
Western Ave.	Dry	Channel	Ag (sol)	µg/L	4/26/01	5/26/09	82	54	0.03	0.81	0.42	0.13	0.04						
Western Ave.	Dry	Channel	Ag (tot)	µg/L	4/26/01	5/26/09	82	52	0.03	1.78	0.48	0.13	0.04						
Western Ave.	Dry	Channel	As (sol)	µg/L	4/26/01	5/26/09	84	4	0.1	7.41	2.33	2.00	1.90	0	CTR	150	0.00	0 exceedances in 9 Year(s)	0%
Western Ave.	Dry	Channel	As (tot)	µg/L	4/26/01	5/26/09	84	5	0.4	6.6	2.68	2.30	2.20						

Table E.2: Dominguez Channel - Metals Data Summary

Location	Weather	Type	Constituent	Unit	Dates Sampled		Total No. of Values	No. Values with/ ND	Min.	Max.	Avg.	Median		No. of exceed.	Regulatory Source	Regulatory Threshold	Exceed. Frequency (# of exceed. per year)	Exceedance/Time	%Exceed
					From	To						With ND	Without ND						
Western Ave.	Dry	Channel	Ba (sol)	µg/L	4/26/01	5/26/09	83	1	17.4	101	56.78	54.90	54.95						
Western Ave.	Dry	Channel	Ba (tot)	mg/L	4/26/01	5/26/09	83	1	23.2	270	71.40	59.70	60.35						
Western Ave.	Dry	Channel	Be (sol)	µg/L	4/26/01	2/24/06	47	43	0.03	0.3	0.20	0.20	0.07						
Western Ave.	Dry	Channel	Be (tot)	µg/L	4/26/01	2/24/06	46	41	0.048	0.6	0.22	0.20	0.08						
Western Ave.	Dry	Channel	Cd (sol)	µg/L	4/26/01	5/26/09	82	46	0.01	6.54	0.31	0.17	0.17	1	CTR	Hardness Dependent	0.00	1 exceedances in 9 Year(s)	1%
Western Ave.	Dry	Channel	Cd (tot)	µg/L	4/26/01	5/26/09	83	44	0.01	7.71	0.42	0.25	0.30						
Western Ave.	Dry	Channel	Co (sol)	µg/L	4/26/01	2/24/06	45	37	0.2	0.7	2.87	0.25	0.35						
Western Ave.	Dry	Channel	Co (tot)	µg/L	4/26/01	2/24/06	45	34	0.3	5.6	3.03	0.40	0.40						
Western Ave.	Dry	Channel	Cr (sol)	µg/L	4/26/01	5/26/09	83	25	0.045	5.44	1.58	1.06	1.14	0	CTR	11	0.00	0 exceedances in 9 Year(s)	0%
Western Ave.	Dry	Channel	Cr (tot)	µg/L	4/26/01	5/26/09	83	11	0.045	36	4.87	1.60	1.90						
Western Ave.	Dry	Channel	Cu (sol)	µg/L	4/26/01	5/26/09	82	6	4.2	32	12.88	11.25	11.95	16	CTR	Hardness Dependent	0.02	16 exceedances in 9 Year(s)	20%
Western Ave.	Dry	Channel	Cu (tot)	µg/L	4/26/01	5/26/09	83	4	4.47	204	22.14	16.30	18.00						
Western Ave.	Dry	Channel	Hardness	µg/L	1/29/04	5/26/09	56	0	87.5	393	257.83	269.50	269.50						
Western Ave.	Dry	Channel	Hg (sol)	µg/L	4/26/01	2/24/06	46	35	0.026	0.23	0.05	0.01	0.09	7	TMDL	0.051	0.03	7 exceedances in 5 Year(s)	15%
Western Ave.	Dry	Channel	Hg (tot)	µg/L	4/26/01	2/24/06	46	33	0.022	0.23	0.06	0.01	0.08						
Western Ave.	Dry	Channel	Ni (sol)	µg/L	4/26/01	5/26/09	80	16	0.88	27	4.12	3.30	3.30	0	CTR	Hardness Dependent	0.00	0 exceedances in 9 Year(s)	0%
Western Ave.	Dry	Channel	Ni (tot)	µg/L	4/26/01	5/26/09	83	16	1.08	23.1	5.61	4.62	4.62						
Western Ave.	Dry	Channel	Pb (sol)	µg/L	4/26/01	5/26/09	81	36	0.055	21.6	2.32	1.09	1.00	2	CTR	Hardness Dependent	0.00	2 exceedances in 9 Year(s)	2%
Western Ave.	Dry	Channel	Pb (tot)	µg/L	4/26/01	5/26/09	83	28	0.055	70.4	5.54	2.80	2.90						
Western Ave.	Dry	Channel	Sb (sol)	µg/L	4/26/01	2/24/06	47	37	1.4	3	2.48	2.00	2.00	0	CTR	4300	0.00	0 exceedances in 5 Year(s)	0%
Western Ave.	Dry	Channel	Sb (tot)	µg/L	4/26/01	2/24/06	47	32	1.3	13.7	2.81	2.00	2.00						
Western Ave.	Dry	Channel	Se (sol)	µg/L	5/31/01	5/26/09	82	6	0.2	2.12	0.87	0.50	0.50						
Western Ave.	Dry	Channel	Se (tot)	µg/L	5/31/01	5/26/09	82	5	0.1	2.16	0.94	0.50	0.50	0	CTR	5	0.00	0 exceedances in 8 Year(s)	0%
Western Ave.	Dry	Channel	Th (sol)	µg/L	4/26/01	2/24/06	47	42	1	6.4	2.11	0.55	1.20	1	CTR	6.3	0.00	1 exceedances in 5 Year(s)	2%
Western Ave.	Dry	Channel	Th (tot)	µg/L	4/26/01	2/24/06	47	40	1	6.4	2.16	0.55	1.20						
Western Ave.	Dry	Channel	Va(sol)	µg/L	4/26/01	5/31/01	2	2	0	0	2.50	2.50	0.00						
Western Ave.	Dry	Channel	Va(tot)	µg/L	4/26/01	5/31/01	2	2	0	0	2.50	2.50	0.00						
Western Ave.	Dry	Channel	Zn (sol)	µg/L	4/26/01	5/26/09	82	4	4.2	88.4	23.74	21.80	22.45	0	CTR	Hardness Dependent	0.00	0 exceedances in 9 Year(s)	0%
Western Ave.	Dry	Channel	Zn (tot)	µg/L	4/26/01	5/26/09	83	3	11	876	67.81	37.00	38.10						
Yukon Ave.	Wet	Channel	Ag (sol)	µg/L	4/28/05	2/22/07	4	3	0.58	0.58	0.22	0.10	0.58	0	CTR	Hardness Dependent	0.00	0 exceedances in 2 Year(s)	0%
Yukon Ave.	Wet	Channel	Ag (tot)	µg/L	4/28/05	2/22/07	4	3	0.73	0.73	0.26	0.10	0.73						
Yukon Ave.	Wet	Channel	As (sol)	µg/L	4/28/05	2/22/07	4	0	0.05	2.8	1.41	1.40	1.40	0	CTR	340	0.00	0 exceedances in 2 Year(s)	0%
Yukon Ave.	Wet	Channel	As (tot)	µg/L	4/28/05	2/22/07	4	0	0.1	3.6	2.10	2.35	2.35						
Yukon Ave.	Wet	Channel	Ba (sol)	µg/L	4/28/05	2/22/07	4	0	57.8	102	73.70	67.50	67.50						
Yukon Ave.	Wet	Channel	Ba (tot)	µg/L	4/28/05	2/22/07	4	0	70.6	270	139.65	109.00	109.00						
Yukon Ave.	Wet	Channel	Be (sol)	µg/L	4/28/05	8/25/05	3	3	0	0	0.20	0.20	0.00						
Yukon Ave.	Wet	Channel	Be (tot)	µg/L	4/28/05	8/25/05	3	3	0	0	0.20	0.20	0.00						
Yukon Ave.	Wet	Channel	Cd (sol)	µg/L	4/28/05	2/22/07	4	0	0.165	0.8	0.54	0.60	0.60	0	CTR	Hardness Dependent	0.00	0 exceedances in 2 Year(s)	0%
Yukon Ave.	Wet	Channel	Cd (tot)	µg/L	4/28/05	2/22/07	4	0	0.165	1.8	1.09	1.20	1.20						
Yukon Ave.	Wet	Channel	Co (sol)	µg/L	4/28/05	8/25/05	3	2	0.8	0.8	0.33	0.10	0.80						
Yukon Ave.	Wet	Channel	Co (tot)	µg/L	4/28/05	8/25/05	3	0	0.5	3.4	2.07	2.30	2.30						
Yukon Ave.	Wet	Channel	Cr (sol)	µg/L	4/28/05	2/22/07	4	0	0.105	15.6	4.60	1.35	1.35	0	CTR	16	0.00	0 exceedances in 2 Year(s)	0%
Yukon Ave.	Wet	Channel	Cr (tot)	µg/L	4/28/05	2/22/07	4	0	0.47	33.2	10.89	4.95	4.95						
Yukon Ave.	Wet	Channel	Cu (sol)	µg/L	4/28/05	2/22/07	4	0	4	69	41.50	46.50	46.50	3	TMDL	Hardness Dependent	0.41	3 exceedances in 2 Year(s)	75%
Yukon Ave.	Wet	Channel	Cu (tot)	µg/L	4/28/05	2/22/07	4	0	6	171	106.00	123.50	123.50						
Yukon Ave.	Wet	Channel	Hardness	µg/L	4/28/05	2/22/07	4	0	52.4	298	209.85	244.50	244.50						
Yukon Ave.	Wet	Channel	Hg (sol)	µg/L	4/28/05	8/25/05	3	3	0	0	0.01	0.01	0.00	0	TMDL	0.051	0.00	0 exceedances in 1 Year(s)	0%
Yukon Ave.	Wet	Channel	Hg (tot)	µg/L	4/28/05	8/25/05	3	1	0.024	0.034	0.02	0.02	0.03						
Yukon Ave.	Wet	Channel	Ni (sol)	µg/L	4/28/05	2/22/07	4	0	1.98	12	7.00	7.00	7.00	0	CTR	Hardness Dependent	0.00	0 exceedances in 2 Year(s)	0%
Yukon Ave.	Wet	Channel	Ni (tot)	mg/L	4/28/05	2/22/07	4	0	2.89	17	11.72	13.50	13.50						
Yukon Ave.	Wet	Channel	Pb (sol)	µg/L	4/28/05	2/22/07	4	2	0.55	2	0.89	0.53	1.28	1	TMDL	Hardness Dependent	0.14	1 exceedances in 2 Year(s)	25%
Yukon Ave.	Wet	Channel	Pb (tot)	µg/L	4/28/05	2/22/07	4	0	0.55	49	25.14	25.50	25.50						
Yukon Ave.	Wet	Channel	Sb (sol)	µg/L	4/28/05	8/25/05	3	2	9	9	3.67	1.00	9.00	0	CTR	4300	0.00	0 exceedances in 1 Year(s)	0%
Yukon Ave.	Wet	Channel	Sb (tot)	µg/L	4/28/05	8/25/05	3	2	35	35	12.33	1.00	35.00						
Yukon Ave.	Wet	Channel	Se (sol)	µg/L	4/28/05	2/22/07	4	0	0.1	0.5	0.33	0.35	0.35						
Yukon Ave.	Wet	Channel	Se (tot)	µg/L	4/28/05	2/22/07	4	0	0.1	0.6	0.38	0.40	0.40						
Yukon Ave.	Wet	Channel	Th (sol)	µg/L	4/28/05	8/25/05	3	3	0	0	0.50	0.50	0.00	0	CTR	6.3	0.00	0 exceedances in 1 Year(s)	0%

Table E.2: Dominguez Channel - Metals Data Summary

Location	Weather	Type	Constituent	Unit	Dates Sampled		Total No. of Values	No. Values with/ ND	Min.	Max.	Avg.	Median		No. of exceed.	Regulatory Source	Regulatory Threshold	Exceed. Frequency (# of exceed. per year)	Exceedance/Time	%Exceed
					From	To						With ND	Without ND						
Yukon Ave.	Wet	Channel	Th (tot)	µg/L	4/28/05	8/25/05	3	3	0	0	0.50	0.50	0.00						
Yukon Ave.	Wet	Channel	Zn (sol)	µg/L	4/28/05	2/22/07	4	0	8	94	61.50	72.00	72.00	1	TMDL	Hardness Dependent	0.14	1 exceedances in 2 Year(s)	25%
Yukon Ave.	Wet	Channel	Zn (tot)	µg/L	4/28/05	2/22/07	4	0	15	376	221.50	247.50	247.50						
Yukon Ave.	Dry	Channel	Ag (sol)	µg/L	1/27/05	5/26/09	45	18	0.03	0.5	0.09	0.04	0.04						
Yukon Ave.	Dry	Channel	Ag (tot)	µg/L	1/27/05	5/26/09	45	18	0.03	0.66	0.11	0.04	0.04						
Yukon Ave.	Dry	Channel	As (sol)	µg/L	1/27/05	5/26/09	47	4	0.05	8.4	1.24	1.00	1.10	0	CTR	150	0.00	0 exceedances in 5 Year(s)	0%
Yukon Ave.	Dry	Channel	As (tot)	µg/L	1/27/05	5/26/09	47	3	0.05	22.2	1.90	1.20	1.30						
Yukon Ave.	Dry	Channel	Ba (sol)	µg/L	1/27/05	5/26/09	46	0	32.2	134	60.12	53.70	53.70						
Yukon Ave.	Dry	Channel	Ba (tot)	µg/L	1/27/05	5/26/09	46	0	40	719	88.52	62.35	62.35						
Yukon Ave.	Dry	Channel	Be (sol)	µg/L	1/27/05	2/24/06	11	11	0	0	0.20	0.20	0.00						
Yukon Ave.	Dry	Channel	Be (tot)	µg/L	1/27/05	2/24/06	11	11	0	0	0.20	0.20	0.00						
Yukon Ave.	Dry	Channel	Cd (sol)	µg/L	1/27/05	5/26/09	46	9	0.01	1.6	0.29	0.17	0.17	0	CTR	Hardness Dependent	0.00	0 exceedances in 5 Year(s)	0%
Yukon Ave.	Dry	Channel	Cd (tot)	µg/L	1/27/05	5/26/09	46	5	0.01	16.6	0.85	0.35	0.41						
Yukon Ave.	Dry	Channel	Co (sol)	µg/L	1/27/05	2/24/06	11	5	0.2	0.4	0.18	0.20	0.20						
Yukon Ave.	Dry	Channel	Co (tot)	µg/L	1/27/05	2/24/06	11	3	0.2	11.5	1.75	0.30	0.75						
Yukon Ave.	Dry	Channel	Cr (sol)	µg/L	1/27/05	5/26/09	46	2	0.045	23.8	2.28	1.06	1.14	2	CTR	11	0.01	2 exceedances in 5 Year(s)	4%
Yukon Ave.	Dry	Channel	Cr (tot)	µg/L	1/27/05	5/26/09	46	1	0.045	118	6.61	1.83	1.86						
Yukon Ave.	Dry	Channel	Cu (sol)	µg/L	1/27/05	5/26/09	45	1	2.91	141	16.70	11.00	11.00	14	CTR	Hardness Dependent	0.07	14 exceedances in 5 Year(s)	31%
Yukon Ave.	Dry	Channel	Cu (tot)	µg/L	1/27/05	5/26/09	46	1	4.27	166	33.62	16.50	17.00						
Yukon Ave.	Dry	Channel	Hardness	µg/L	1/27/05	5/26/09	47	0	79.5	332	197.07	192.00	192.00						
Yukon Ave.	Dry	Channel	Hg (sol)	µg/L	1/27/05	2/24/06	11	9	0.026	0.026	0.01	0.01	0.03	0	TMDL	0.051	0.00	0 exceedances in 2 Year(s)	0%
Yukon Ave.	Dry	Channel	Hg (tot)	µg/L	1/27/05	2/24/06	11	5	0.024	0.133	0.03	0.02	0.03						
Yukon Ave.	Dry	Channel	Ni (sol)	µg/L	1/27/05	5/26/09	46	1	0.17	12.1	3.61	2.92	3.00	0	CTR	Hardness Dependent	0.00	0 exceedances in 5 Year(s)	0%
Yukon Ave.	Dry	Channel	Ni (tot)	µg/L	1/27/05	5/26/09	46	1	1.01	80	7.03	4.19	4.30						
Yukon Ave.	Dry	Channel	Pb (sol)	mg/L	1/27/05	5/26/09	46	7	0.055	15.9	1.62	0.88	1.00	2	CTR	Hardness Dependent	0.01	2 exceedances in 5 Year(s)	4%
Yukon Ave.	Dry	Channel	Pb (tot)	µg/L	1/27/05	5/26/09	46	3	0.055	113	11.40	4.25	4.73						
Yukon Ave.	Dry	Channel	Sb (sol)	µg/L	1/27/05	2/24/06	11	9	3	3	1.36	1.00	3.00	0	CTR	4300	0.00	0 exceedances in 2 Year(s)	0%
Yukon Ave.	Dry	Channel	Sb (tot)	µg/L	1/27/05	2/24/06	11	5	2	6	2.18	2.00	2.50						
Yukon Ave.	Dry	Channel	Se (sol)	µg/L	1/27/05	5/26/09	47	3	0.05	1.03	0.31	0.20	0.20						
Yukon Ave.	Dry	Channel	Se (tot)	µg/L	1/27/05	5/26/09	47	2	0.05	2.2	0.38	0.20	0.29	0	CTR	5	0.00	0 exceedances in 5 Year(s)	0%
Yukon Ave.	Dry	Channel	Th (sol)	µg/L	1/27/05	2/24/06	11	7	1	4	1.05	0.50	1.50	0	CTR	6.3	0.00	0 exceedances in 2 Year(s)	0%
Yukon Ave.	Dry	Channel	Th (tot)	µg/L	1/27/05	2/24/06	11	8	1	4	0.91	0.50	1.00						
Yukon Ave.	Dry	Channel	Zn (sol)	µg/L	1/27/05	5/26/09	46	0	5	171	48.91	31.50	31.50	1	CTR	Hardness Dependent	0.01	1 exceedances in 5 Year(s)	2%
Yukon Ave.	Dry	Channel	Zn (tot)	µg/L	1/27/05	5/26/09	46	0	12	669	121.62	72.85	72.85						
Henry Ford Ave.	Wet	Estuary	Ag (sol)	µg/L	7/25/02	2/22/07	11	10	0.03	0.03	0.28	0.13	0.03	0	CTR	1.9	0.00	0 exceedances in 5 Year(s)	0%
Henry Ford Ave.	Wet	Estuary	Ag (tot)	µg/L	7/25/02	2/22/07	11	9	0.09	2.48	0.50	0.13	1.29						
Henry Ford Ave.	Wet	Estuary	As (sol)	µg/L	7/25/02	2/22/07	11	0	1	2.9	1.79	1.80	1.80	0	CTR	150	0.00	0 exceedances in 5 Year(s)	0%
Henry Ford Ave.	Wet	Estuary	As (tot)	µg/L	7/25/02	2/22/07	11	0	1	4	2.14	2.00	2.00						
Henry Ford Ave.	Wet	Estuary	Ba (sol)	µg/L	7/25/02	2/22/07	11	0	6	22	10.12	10.00	10.00						
Henry Ford Ave.	Wet	Estuary	Ba (tot)	µg/L	7/25/02	2/22/07	11	0	6	56	15.88	11.00	11.00						
Henry Ford Ave.	Wet	Estuary	Be (sol)	mg/L	7/25/02	8/25/05	10	10	0	0	0.19	0.20	0.00						
Henry Ford Ave.	Wet	Estuary	Be (tot)	µg/L	7/25/02	8/25/05	10	10	0	0	0.19	0.20	0.00						
Henry Ford Ave.	Wet	Estuary	Cd (sol)	µg/L	7/25/02	2/22/07	11	6	0.2	1	0.41	0.40	0.69	0	CTR	Hardness Dependent*	0.00	0 exceedances in 5 Year(s)	0%
Henry Ford Ave.	Wet	Estuary	Cd (tot)	µg/L	7/25/02	2/22/07	11	4	0.165	0.8	0.41	0.31	0.31						
Henry Ford Ave.	Wet	Estuary	Co (sol)	µg/L	7/25/02	8/25/05	10	5	0.3	1.5	2.37	0.40	0.40						
Henry Ford Ave.	Wet	Estuary	Co (tot)	µg/L	7/25/02	8/25/05	10	3	0.4	2.4	2.84	1.30	1.10						
Henry Ford Ave.	Wet	Estuary	Cr (sol)	µg/L	7/25/02	2/22/07	10	5	0.1	3	0.75	0.50	0.60						
Henry Ford Ave.	Wet	Estuary	Cr (tot)	µg/L	7/25/02	2/22/07	11	2	0.39	27.6	7.31	1.50	2.60						
Henry Ford Ave.	Wet	Estuary	Cu (sol)	µg/L	7/25/02	2/22/07	10	4	2.3	17	5.52	3.15	7.50	5	TMDL	Hardness Dependent*	0.11	5 exceedances in 5 Year(s)	50%
Henry Ford Ave.	Wet	Estuary	Cu (tot)	µg/L	7/25/02	2/22/07	11	5	1	55	10.35	2.00	10.00						
Henry Ford Ave.	Wet	Estuary	Hardness	µg/L	2/26/04	2/22/07	8	0	25.9	5390	3,499.86	4,490.00	4,490.00						
Henry Ford Ave.	Wet	Estuary	Hg (sol)	µg/L	7/25/02	8/25/05	10	3	0.03	0.136	0.05	0.04	0.04						
Henry Ford Ave.	Wet	Estuary	Hg (tot)	µg/L	7/25/02	8/25/05	10	2	0.022	0.165	0.05	0.04	0.04						
Henry Ford Ave.	Wet	Estuary	Ni (sol)	µg/L	7/25/02	2/22/07	11	2	1.94	12.8	5.03	3.00	3.32	1	CTR	Hardness Dependent*	0.02	1 exceedances in 5 Year(s)	9%
Henry Ford Ave.	Wet	Estuary	Ni (tot)	µg/L	7/25/02	2/22/07	11	2	3	12.1	5.24	3.10	5.45						
Henry Ford Ave.	Wet	Estuary	Pb (sol)	µg/L	7/25/02	2/22/07	11	5	0.55	12.6	4.45	5.00	6.00	2	TMDL	Hardness Dependent*	0.04	2 exceedances in 5 Year(s)	18%
Henry Ford Ave.	Wet	Estuary	Pb (tot)	µg/L	7/25/02	2/22/07	11	3	0.55	36.4	10.81	6.00	9.50						

Table E.2: Dominguez Channel - Metals Data Summary

Location	Weather	Type	Constituent	Unit	Dates Sampled		Total No. of Values	No. Values with/ ND	Min.	Max.	Avg.	Median		No. of exceed.	Regulatory Source	Regulatory Threshold	Exceed. Frequency (# of exceed. per year)	Exceedance/Time	%Exceed
					From	To						With ND	Without ND						
Henry Ford Ave.	Wet	Estuary	Sb (sol)	µg/L	7/25/02	8/25/05	10	5	2	13	3.70	2.90	4.00						
Henry Ford Ave.	Wet	Estuary	Sb (tot)	µg/L	7/25/02	8/25/05	10	5	3	13	3.86	3.00	4.40						
Henry Ford Ave.	Wet	Estuary	Se (sol)	µg/L	7/25/02	2/22/07	11	5	0.2	2.1	0.36	0.20	0.20						
Henry Ford Ave.	Wet	Estuary	Se (tot)	µg/L	7/25/02	2/22/07	11	4	0.2	2.5	0.43	0.20	0.20	0	CTR	290	0.00	0 exceedances in 5 Year(s)	0%
Henry Ford Ave.	Wet	Estuary	Th (sol)	µg/L	7/25/02	8/25/05	9	4	0.7	16	3.24	1.40	1.40	1	CTR	6.3	0.04	1 exceedances in 4 Year(s)	11%
Henry Ford Ave.	Wet	Estuary	Th (tot)	µg/L	7/25/02	8/25/05	10	5	0.7	12	3.03	1.00	1.00						
Henry Ford Ave.	Wet	Estuary	Zn (sol)	µg/L	7/25/02	2/22/07	11	2	12	61	25.15	18.00	20.00	1	TMDL	90	0.02	1 exceedances in 5 Year(s)	9%
Henry Ford Ave.	Wet	Estuary	Zn (tot)	µg/L	7/25/02	2/22/07	11	2	24	243	54.13	28.20	31.00						
Henry Ford Ave.	Dry	Estuary	Ag (sol)	µg/L	4/26/01	5/26/09	75	52	0.03	4	0.58	0.13	0.04	3	CTR	Hardness Dependent*	0.00	3 exceedances in 9 Year(s)	4%
Henry Ford Ave.	Dry	Estuary	Ag (tot)	µg/L	4/26/01	5/26/09	75	52	0.03	10.5	0.84	0.13	0.30						
Henry Ford Ave.	Dry	Estuary	As (sol)	µg/L	4/26/01	5/26/09	78	4	0.3	3.2	1.62	1.50	1.40	0	CTR	36	0.00	0 exceedances in 9 Year(s)	0%
Henry Ford Ave.	Dry	Estuary	As (tot)	µg/L	4/26/01	5/26/09	79	4	0.3	3.4	1.75	1.60	1.60						
Henry Ford Ave.	Dry	Estuary	Ba (sol)	µg/L	4/26/01	5/26/09	76	3	2.46	41.1	13.22	10.50	12.00						
Henry Ford Ave.	Dry	Estuary	Ba (tot)	µg/L	4/26/01	5/26/09	76	2	2.69	45.6	14.26	12.60	13.00						
Henry Ford Ave.	Dry	Estuary	Be (sol)	µg/L	4/26/01	2/24/06	47	37	0.043	2.4	0.32	0.20	0.50						
Henry Ford Ave.	Dry	Estuary	Be (tot)	µg/L	4/26/01	2/24/06	47	34	0.022	2.3	0.33	0.25	0.40						
Henry Ford Ave.	Dry	Estuary	Cd (sol)	µg/L	4/26/01	5/26/09	76	34	0.01	5.6	0.47	0.33	0.33	0	CTR	Hardness Dependent*	0.00	0 exceedances in 9 Year(s)	0%
Henry Ford Ave.	Dry	Estuary	Cd (tot)	µg/L	4/26/01	5/26/09	76	34	0.01	5.8	0.56	0.29	0.29						
Henry Ford Ave.	Dry	Estuary	Co (sol)	µg/L	4/26/01	2/24/06	44	19	0.2	2.5	3.25	0.85	0.60						
Henry Ford Ave.	Dry	Estuary	Co (tot)	µg/L	4/26/01	2/24/06	45	20	0.38	12	3.52	0.90	0.70						
Henry Ford Ave.	Dry	Estuary	Cr (sol)	µg/L	4/26/01	5/26/09	76	46	0.045	42.5	2.83	0.50	1.61						
Henry Ford Ave.	Dry	Estuary	Cr (tot)	µg/L	4/26/01	5/26/09	76	27	0.045	31.3	4.47	1.16	2.40						
Henry Ford Ave.	Dry	Estuary	Cu (sol)	µg/L	4/26/01	5/26/09	73	21	1.3	75	10.74	6.00	11.50	43	TMDL	Hardness Dependent*	0.07	43 exceedances in 9 Year(s)	59%
Henry Ford Ave.	Dry	Estuary	Cu (tot)	mg/L	4/26/01	5/26/09	76	16	1.3	83	13.32	7.40	11.50						
Henry Ford Ave.	Dry	Estuary	Hardness	µg/L	4/29/04	5/26/09	49	0	986	6260	4,689.92	5,120.00	5,120.00						
Henry Ford Ave.	Dry	Estuary	Hg (sol)	µg/L	4/26/01	2/24/06	45	23	0.025	0.17	0.06	0.04	0.04	8	TMDL	0.051	0.04	8 exceedances in 5 Year(s)	18%
Henry Ford Ave.	Dry	Estuary	Hg (tot)	µg/L	4/26/01	2/24/06	46	22	0.023	0.17	0.06	0.04	0.05						
Henry Ford Ave.	Dry	Estuary	Ni (sol)	µg/L	4/26/01	5/26/09	74	15	0.1	23.3	7.20	5.45	6.43	19	CTR	Hardness Dependent*	0.03	19 exceedances in 9 Year(s)	26%
Henry Ford Ave.	Dry	Estuary	Ni (tot)	µg/L	4/26/01	5/26/09	76	14	0.1	37.3	7.77	5.75	6.90						
Henry Ford Ave.	Dry	Estuary	Pb (sol)	µg/L	4/26/01	5/26/09	75	31	0.055	42	5.82	5.00	5.75	14	TMDL	Hardness Dependent*	0.02	14 exceedances in 9 Year(s)	19%
Henry Ford Ave.	Dry	Estuary	Pb (tot)	µg/L	4/26/01	5/26/09	76	27	0.055	60.2	7.40	5.00	7.00						
Henry Ford Ave.	Dry	Estuary	Sb (sol)	µg/L	4/26/01	2/24/06	46	41	2.3	12.8	2.71	1.00	4.90	0	CTR	4300	0.00	0 exceedances in 5 Year(s)	0%
Henry Ford Ave.	Dry	Estuary	Sb (tot)	µg/L	4/26/01	2/24/06	47	37	1.1	23.2	3.40	2.00	3.65						
Henry Ford Ave.	Dry	Estuary	Se (sol)	µg/L	5/31/01	5/26/09	75	18	0.05	2.4	0.67	0.20	0.20						
Henry Ford Ave.	Dry	Estuary	Se (tot)	µg/L	5/31/01	5/26/09	77	15	0.05	2.4	0.72	0.20	0.20	0	CTR	5	0.00	0 exceedances in 8 Year(s)	0%
Henry Ford Ave.	Dry	Estuary	Th (sol)	µg/L	4/26/01	1/26/06	46	34	2	12	3.41	2.50	5.15	5	CTR	6.3	0.02	5 exceedances in 5 Year(s)	11%
Henry Ford Ave.	Dry	Estuary	Th (tot)	µg/L	4/26/01	1/26/06	46	33	0.669	12	3.39	2.50	4.00						
Henry Ford Ave.	Dry	Estuary	Va(sol)	µg/L	4/26/01	5/31/01	2	2	0	0	2.50	2.50	0.00						
Henry Ford Ave.	Dry	Estuary	Va(tot)	µg/L	4/26/01	5/31/01	2	2	0	0	2.50	2.50	0.00						
Henry Ford Ave.	Dry	Estuary	Zn (sol)	µg/L	4/26/01	5/26/09	74	13	2	78	21.19	16.05	19.00	0	TMDL	Hardness Dependent*	0.00	0 exceedances in 9 Year(s)	0%
Henry Ford Ave.	Dry	Estuary	Zn (tot)	µg/L	4/26/01	5/26/09	76	10	2	145	29.86	26.00	28.85						
Wilmington Ave.	Wet	Estuary	Ag (sol)	µg/L	7/25/02	2/22/07	11	10	0.03	0.03	0.28	0.13	0.03	0	CTR	1.9	0.00	0 exceedances in 5 Year(s)	0%
Wilmington Ave.	Wet	Estuary	Ag (tot)	µg/L	7/25/02	2/22/07	11	10	0.03	0.03	0.28	0.13	0.03						
Wilmington Ave.	Wet	Estuary	As (sol)	µg/L	7/25/02	2/22/07	11	0	1	2.7	1.76	1.80	1.80	0	CTR	150	0.00	0 exceedances in 5 Year(s)	0%
Wilmington Ave.	Wet	Estuary	As (tot)	µg/L	7/25/02	2/22/07	11	0	1	2.8	2.04	2.10	2.10						
Wilmington Ave.	Wet	Estuary	Ba (sol)	µg/L	7/25/02	8/25/05	10	0	9.1	32	20.47	20.80	20.80						
Wilmington Ave.	Wet	Estuary	Ba (tot)	µg/L	7/25/02	2/22/07	11	0	14	39	26.32	26.60	26.60						
Wilmington Ave.	Wet	Estuary	Be (sol)	µg/L	7/25/02	8/25/05	10	10	0	0	0.19	0.20	0.00						
Wilmington Ave.	Wet	Estuary	Be (tot)	µg/L	7/25/02	8/25/05	10	10	0	0	0.19	0.20	0.00						
Wilmington Ave.	Wet	Estuary	Cd (sol)	µg/L	7/25/02	2/22/07	11	7	0.16	1.2	0.32	0.17	0.33	0	CTR	Hardness Dependent*	0.00	0 exceedances in 5 Year(s)	0%
Wilmington Ave.	Wet	Estuary	Cd (tot)	µg/L	7/25/02	2/22/07	11	5	0.165	1	0.39	0.29	0.40						
Wilmington Ave.	Wet	Estuary	Co (sol)	µg/L	7/25/02	8/25/05	10	5	0.3	0.6	2.23	0.30	0.30						
Wilmington Ave.	Wet	Estuary	Co (tot)	µg/L	7/25/02	8/25/05	10	3	0.28	1.5	2.59	0.85	0.80						
Wilmington Ave.	Wet	Estuary	Cr (sol)	µg/L	7/25/02	2/22/07	11	5	0.3	2.4	0.78	0.50	0.80						
Wilmington Ave.	Wet	Estuary	Cr (tot)	µg/L	7/25/02	2/22/07	11	2	0.5	24.7	5.92	1.70	2.30						
Wilmington Ave.	Wet	Estuary	Cu (sol)	µg/L	7/25/02	2/22/07	11	1	3.9	78	13.86	8.70	9.35	10	TMDL	Hardness Dependent*	0.20	10 exceedances in 5 Year(s)	91%
Wilmington Ave.	Wet	Estuary	Cu (tot)	µg/L	7/25/02	2/22/07	11	1	4.1	78	16.61	11.00	11.00						

Table E.2: Dominguez Channel - Metals Data Summary

Location	Weather	Type	Constituent	Unit	Dates Sampled		Total No. of Values	No. Values with/ ND	Min.	Max.	Avg.	Median		No. of exceed.	Regulatory Source	Regulatory Threshold	Exceed. Frequency (# of exceed. per year)	Exceedance/Time	%Exceed
					From	To						With ND	Without ND						
Wilmington Ave.	Wet	Estuary	Hardness	µg/L	2/26/04	2/22/07	8	0	19	4590	2,394.03	2,645.00	2,645.00						
Wilmington Ave.	Wet	Estuary	Hg (sol)	µg/L	7/25/02	8/25/05	10	3	0.03	0.07	0.03	0.03	0.04						
Wilmington Ave.	Wet	Estuary	Hg (tot)	µg/L	7/25/02	8/25/05	10	2	0.026	0.1	0.04	0.04	0.04						
Wilmington Ave.	Wet	Estuary	Ni (sol)	µg/L	7/25/02	2/22/07	11	2	1.54	9.1	4.32	3.00	3.00	1	CTR	Hardness Dependent*	0.02	1 exceedances in 5 Year(s)	9%
Wilmington Ave.	Wet	Estuary	Ni (tot)	µg/L	7/25/02	2/22/07	11	2	3	10.1	4.99	3.42	4.00						
Wilmington Ave.	Wet	Estuary	Pb (sol)	µg/L	7/25/02	2/22/07	11	6	0.55	8	3.38	4.00	5.60	0	TMDL	Hardness Dependent*	0.00	0 exceedances in 5 Year(s)	0%
Wilmington Ave.	Wet	Estuary	Pb (tot)	mg/L	7/25/02	2/22/07	11	3	0.55	11.4	5.90	6.00	7.50						
Wilmington Ave.	Wet	Estuary	Sb (sol)	µg/L	7/25/02	8/25/05	10	8	3.1	4	2.08	1.00	3.55						
Wilmington Ave.	Wet	Estuary	Sb (tot)	µg/L	7/25/02	8/25/05	10	6	1.1	5	2.48	2.05	3.50						
Wilmington Ave.	Wet	Estuary	Se (sol)	µg/L	7/25/02	2/22/07	11	5	0.2	2.3	0.45	0.20	0.45						
Wilmington Ave.	Wet	Estuary	Se (tot)	µg/L	7/25/02	2/22/07	11	2	0.2	2.5	0.53	0.30	0.40	0	CTR	290	0.00	0 exceedances in 5 Year(s)	0%
Wilmington Ave.	Wet	Estuary	Th (sol)	µg/L	7/25/02	8/25/05	10	8	2	14	2.40	0.55	8.00	1	CTR	6.3	0.03	1 exceedances in 4 Year(s)	10%
Wilmington Ave.	Wet	Estuary	Th (tot)	µg/L	7/25/02	8/25/05	10	7	1	10	2.62	0.55	9.80						
Wilmington Ave.	Wet	Estuary	Zn (sol)	µg/L	7/25/02	8/25/05	10	2	13.2	97	33.83	37.00	38.00	2	TMDL	90	0.06	2 exceedances in 4 Year(s)	20%
Wilmington Ave.	Wet	Estuary	Zn (tot)	µg/L	7/25/02	2/22/07	11	2	22.2	124	51.62	47.00	48.00						
Wilmington Ave.	Dry	Estuary	Ag (sol)	µg/L	4/26/01	5/26/09	75	55	0.03	2.94	0.49	0.13	0.04	1	CTR	Hardness Dependent*	0.00	1 exceedances in 9 Year(s)	1%
Wilmington Ave.	Dry	Estuary	Ag (tot)	µg/L	4/26/01	5/26/09	75	54	0.03	19.5	0.76	0.13	0.04						
Wilmington Ave.	Dry	Estuary	As (sol)	µg/L	4/26/01	5/26/09	79	4	0.2	3.9	1.77	1.50	1.49	0	CTR	36	0.00	0 exceedances in 9 Year(s)	0%
Wilmington Ave.	Dry	Estuary	As (tot)	µg/L	4/26/01	5/26/09	79	4	0.3	5.9	1.99	1.80	1.70						
Wilmington Ave.	Dry	Estuary	Ba (sol)	mg/L	4/26/01	5/26/09	76	1	4.8	69.7	25.52	23.00	23.00						
Wilmington Ave.	Dry	Estuary	Ba (tot)	µg/L	4/26/01	5/26/09	76	1	4.36	75.5	27.08	23.75	24.00						
Wilmington Ave.	Dry	Estuary	Be (sol)	µg/L	4/26/01	2/24/06	47	38	0.07	2.2	0.30	0.25	0.40						
Wilmington Ave.	Dry	Estuary	Be (tot)	µg/L	4/26/01	2/24/06	47	38	0.044	2.4	0.31	0.20	0.40						
Wilmington Ave.	Dry	Estuary	Cd (sol)	µg/L	4/26/01	5/26/09	76	39	0.01	3.52	0.45	0.25	0.35	0	CTR	Hardness Dependent*	0.00	0 exceedances in 9 Year(s)	0%
Wilmington Ave.	Dry	Estuary	Cd (tot)	µg/L	4/26/01	5/26/09	76	35	0.01	5.2	0.49	0.27	0.28						
Wilmington Ave.	Dry	Estuary	Co (sol)	µg/L	4/26/01	2/24/06	45	26	0.28	7.2	3.32	0.80	0.60						
Wilmington Ave.	Dry	Estuary	Co (tot)	µg/L	4/26/01	2/24/06	45	24	0.3	10.5	3.48	1.00	0.71						
Wilmington Ave.	Dry	Estuary	Cr (sol)	µg/L	4/26/01	5/26/09	76	37	0.045	43.1	2.67	0.50	0.99						
Wilmington Ave.	Dry	Estuary	Cr (tot)	µg/L	4/26/01	5/26/09	76	23	0.045	33.2	4.80	1.40	2.85						
Wilmington Ave.	Dry	Estuary	Cu (sol)	µg/L	4/26/01	5/26/09	72	22	0.5	56	10.70	6.00	11.10	44	TMDL	Hardness Dependent*	0.08	44 exceedances in 9 Year(s)	61%
Wilmington Ave.	Dry	Estuary	Cu (tot)	µg/L	4/26/01	5/26/09	75	17	0.5	69	13.99	9.89	13.00						
Wilmington Ave.	Dry	Estuary	Hardness	µg/L	4/29/04	5/26/09	49	0	65.2	5390	3,614.37	4,020.00	4,020.00						
Wilmington Ave.	Dry	Estuary	Hg (sol)	µg/L	4/26/01	2/24/06	46	26	0.0008	0.2	0.06	0.04	0.05	10	TMDL	0.051	0.04	10 exceedances in 5 Year(s)	22%
Wilmington Ave.	Dry	Estuary	Hg (tot)	µg/L	4/26/01	2/24/06	46	23	0.026	0.2	0.06	0.04	0.06						
Wilmington Ave.	Dry	Estuary	Ni (sol)	µg/L	4/26/01	5/26/09	75	16	0.1	36.7	7.20	5.00	5.87	16	CTR	Hardness Dependent*	0.03	16 exceedances in 9 Year(s)	21%
Wilmington Ave.	Dry	Estuary	Ni (tot)	µg/L	4/26/01	5/26/09	76	15	0.1	37.5	7.65	6.00	6.42						
Wilmington Ave.	Dry	Estuary	Pb (sol)	µg/L	4/26/01	5/26/09	72	28	0.055	32.2	5.70	5.00	5.50	12	TMDL	Hardness Dependent*	0.02	12 exceedances in 9 Year(s)	17%
Wilmington Ave.	Dry	Estuary	Pb (tot)	µg/L	4/26/01	5/26/09	76	27	0.055	46.5	6.38	5.00	6.00						
Wilmington Ave.	Dry	Estuary	Sb (sol)	µg/L	4/26/01	2/24/06	46	38	1.3	18	2.93	1.55	4.00	0	CTR	4300	0.00	0 exceedances in 5 Year(s)	0%
Wilmington Ave.	Dry	Estuary	Sb (tot)	µg/L	4/26/01	2/24/06	47	39	1.1	18	2.90	1.00	4.00						
Wilmington Ave.	Dry	Estuary	Se (sol)	µg/L	5/31/01	5/26/09	77	10	0.05	3.9	0.76	0.30	0.24						
Wilmington Ave.	Dry	Estuary	Se (tot)	µg/L	5/31/01	5/26/09	77	7	0.05	3.9	0.78	0.30	0.25	0	CTR	5	0.00	0 exceedances in 8 Year(s)	0%
Wilmington Ave.	Dry	Estuary	Th (sol)	µg/L	4/26/01	2/24/06	47	36	1.3	14	3.04	2.40	3.00	4	CTR	6.3	0.02	4 exceedances in 5 Year(s)	9%
Wilmington Ave.	Dry	Estuary	Th (tot)	µg/L	4/26/01	2/24/06	47	34	0.519	13	3.05	2.50	3.00						
Wilmington Ave.	Dry	Estuary	Va(sol)	µg/L	4/26/01	5/31/01	2	2	0	0	2.50	2.50	0.00						
Wilmington Ave.	Dry	Estuary	Va(tot)	µg/L	4/26/01	5/31/01	2	2	0	0	2.50	2.50	0.00						
Wilmington Ave.	Dry	Estuary	Zn (sol)	mg/L	4/26/01	5/26/09	75	10	2	143	29.74	25.40	27.00	4	TMDL	Hardness Dependent*	0.01	4 exceedances in 9 Year(s)	5%
Wilmington Ave.	Dry	Estuary	Zn (tot)	µg/L	4/26/01	5/26/09	76	9	2	179	38.80	32.00	33.00						

Notes:
Water quality data available but no screening criteria was determined.
Source:
Dominguez Channel Status and Trends (Metals, 2001-2009)

Table E.3: Dominguez Channel - At Station S-28 Data Summary

Weather	Constituent	Unit	Dates Sampled		Total No. of Values	No. with/ ND	Min.	Max.	Avg.	Median		No of Exceed.	Regulatory Source	Regulatory Threshold	Exceed. Frequency(# of exceed. per year)	Exceedance/Time	%Exceed
			From	To						With ND	Without ND						
Dry	1,2 Benzanthracene	µg/L	10/31/06	11/25/07	6	6	0.05	-	-	0.05	-						
Dry	1,2,4-Trichlorobenzene	µg/L	10/31/06	06/12/13	28	28	0.46	-	-	0.50	-						
Dry	1,2-Dichlorobenzene	µg/L	10/31/06	06/12/13	28	28	0.39	-	-	0.50	-	0	CTR	17,000.00	0.00	0 exceedances in 7 Year(s)	0%
Dry	1,3-Dichlorobenzene	µg/L	10/31/06	06/12/13	28	28	0.39	-	-	0.50	-	0	CTR	2,600.00	0.00	0 exceedances in 7 Year(s)	0%
Dry	1,4-Dichlorobenzene	µg/L	10/31/06	06/12/13	28	28	0.39	-	-	0.50	-	0	CTR	2,600.00	0.00	0 exceedances in 7 Year(s)	0%
Dry	2- Chlorophenol	µg/L	10/31/06	06/12/13	28	28	0.93	-	-	1.00	-	0	CTR	400.00	0.00	0 exceedances in 7 Year(s)	0%
Dry	2,4,5-TP-SILVEX	µg/L	10/31/06	06/12/13	28	28	1.49	-	-	0.10	-						
Dry	2,4-D	µg/L	10/31/06	06/12/13	28	27	0.74	-	0.553	0.01	0.553						
Dry	2,4-dichlorophenol	µg/L	10/31/06	06/12/13	30	30	0.68	-	-	0.50	-	0	CTR	790.00	0.00	0 exceedances in 7 Year(s)	0%
Dry	2,6-Dinitrotoluene	µg/L	10/31/06	06/12/13	28	28	2.32	-	-	2.50	-						
Dry	2-Chloroethyl vinyl ether	µg/L	04/02/07	04/09/13	27	27	0.89	-	-	1.25	-						
Dry	2-Chloronaphthalene	µg/L	10/31/06	06/12/13	28	28	4.64	-	-	5.00	-	0	CTR	4,300.00	0.00	0 exceedances in 7 Year(s)	0%
Dry	2-nitrophenol	µg/L	10/31/06	06/12/13	30	30	2.92	-	-	1.50	-						
Dry	3,3-Dichlorobenzidine	µg/L	10/31/06	06/12/13	28	28	2.32	-	-	2.50	-	0	CTR	0.08	0.00	0 exceedances in 7 Year(s)	0%
Dry	4,4'-DDD	µg/L	07/13/09	06/12/13	17	17	0.03	-	-	0.03	-	0	CTR	0.00084	0.00	0 exceedances in 4 Year(s)	0%
Dry	4,4'-DDE	µg/L	07/13/09	06/12/13	17	17	0.03	-	-	0.03	-	0	CTR	0.00059	0.00	0 exceedances in 4 Year(s)	0%
Dry	4,4'-DDT	µg/L	07/13/09	06/12/13	17	17	0.01	-	-	0.01	-	0	TMDL	0.00100	0.00	0 exceedances in 4 Year(s)	0%
Dry	4-Bromophenyl phenyl ether	µg/L	10/31/06	06/12/13	28	28	1.54	-	-	2.50	-						
Dry	4-Chlorophenyl phenyl ether	µg/L	10/31/06	06/12/13	28	28	1.36	-	-	2.50	-						
Dry	4-nitrophenol	µg/L	10/31/06	06/12/13	30	30	1.90	-	-	2.00	-						
Dry	Acenaphthene	µg/L	10/31/06	06/12/13	28	28	0.46	-	-	0.50	-	0	CTR	2,700.00	0.00	0 exceedances in 7 Year(s)	0%
Dry	Acenaphthylene	µg/L	10/31/06	06/12/13	28	28	0.93	-	-	1.00	-						
Dry	Aldrin	µg/L	10/31/06	06/12/13	28	28	0.01	-	-	0.00	-	0	CTR	0.00014	0.00	0 exceedances in 7 Year(s)	0%
Dry	Alkalinity	mg/L	10/10/02	04/25/06	5		127.58	55	178	118.00	118						
Dry	alpha-BHC	µg/L	10/31/06	06/12/13	28	28	0.01	-	-	0.01	-	0	CTR	0.01	0.00	0 exceedances in 7 Year(s)	0%
Dry	alpha-chlordane	µg/L	10/31/06	06/12/13	27	27	0.04	-	-	0.05	-						
Dry	Anthracene	µg/L	10/31/06	06/12/13	28	28	0.93	-	-	1.00	-	0	CTR	110,000.00	0.00	0 exceedances in 7 Year(s)	0%
Dry	Atrazine	µg/L	10/31/06	06/12/13	28	28	0.93	-	-	1.00	-						
Dry	Benzidine	µg/L	10/31/06	06/12/13	28	28	2.32	-	-	2.50	-	0	CTR	0.00054	0.00	0 exceedances in 7 Year(s)	0%
Dry	Benzo(a)pyrene	µg/L	10/31/06	06/12/13	28	28	0.93	-	-	1.00	-	0	CTR	0.05	0.00	0 exceedances in 7 Year(s)	0%
Dry	Benzo(k)flouranthene	µg/L	10/31/06	06/12/13	28	28	0.93	-	-	1.00	-	0	CTR	0.05	0.00	0 exceedances in 7 Year(s)	0%
Dry	beta-BHC	µg/L	10/31/06	06/12/13	28	28	0.01	-	-	0.00	-	0	CTR	0.05	0.00	0 exceedances in 7 Year(s)	0%
Dry	BOD	mg/L	10/10/02	06/12/13	33	4	10.14	-	45.9	7.77	8.78						
Dry	Butyl benzyl phthalate	µg/L	10/31/06	06/12/13	28	28	2.74	-	-	5.00	-	0	CTR	5,200.00	0.00	0 exceedances in 7 Year(s)	0%
Dry	Chlordane	µg/L	10/31/06	06/12/13	28	28	0.02	-	-	0.03	-	0	CTR	0.00059	0.00	0 exceedances in 7 Year(s)	0%
Dry	Chloride	mg/L	10/10/02	06/12/13	33	3	119.69	-	314	151.00	156						
Dry	Chlorpyrifos	µg/L	10/31/06	06/12/13	28	28	0.02	-	-	0.03	-						
Dry	Chrysene	µg/L	10/31/06	06/12/13	28	28	2.32	-	-	2.50	-	0	CTR	0.05	0.00	0 exceedances in 7 Year(s)	0%
Dry	Cyanazine	µg/L	10/31/06	06/12/13	28	28	0.93	-	-	1.00	-						
Dry	Cyanide	mg/L	04/02/07	04/09/13	20	10	0.01	-	0.049	0.00	0.0095	0	Basin Plan	5.20	0.00	0 exceedances in 7 Year(s)	0%
Dry	delta-BHC	µg/L	10/31/06	06/12/13	28	28	0.01	-	-	0.00	-						
Dry	Diazinon	µg/L	10/31/06	06/12/13	28	28	0.00	-	-	0.01	-	0	CTR	0.05	0.00	0 exceedances in 7 Year(s)	0%
Dry	Dieldrin	µg/L	10/31/06	06/12/13	28	28	0.02	-	-	0.01	-	0	CTR	0.00014	0.00	0 exceedances in 7 Year(s)	0%
Dry	Diethyl phthalate	µg/L	10/31/06	06/12/13	28	28	0.93	-	-	1.00	-	0	CTR	120,000.00	0.00	0 exceedances in 7 Year(s)	0%
Dry	Dimethyl phthalate	µg/L	10/31/06	06/12/13	28	28	0.93	-	-	1.00	-	0	CTR	2,900,000.00	0.00	0 exceedances in 7 Year(s)	0%
Dry	di-n-Butyl phthalate	µg/L	10/28/03	06/12/13	26	25	4.59	-	4.3	5.00	4.3	0	CTR	12,000.00	0.00	0 exceedances in 10 Year(s)	0%
Dry	di-n-Octyl phthalate	µg/L	10/31/06	06/12/13	25	25	4.60	-	-	5.00	-						
Dry	Dissolved Aluminum	µg/L	10/31/06	06/12/13	28	20	119.78	-	780	50.00	258						
Dry	Dissolved Antimony	µg/L	10/10/02	06/12/13	31	7	1.93	-	5.94	1.84	1.815	0	CTR	4,300.00	0.00	0 exceedances in 11 Year(s)	0%
Dry	Dissolved Arsenic	µg/L	10/10/02	06/12/13	31	11	1.67	-	3.55	1.63	1.775	0	CTR	150.00	0.00	0 exceedances in 11 Year(s)	0%
Dry	Dissolved Barium	µg/L	01/24/06	06/12/13	30	7	53.84	-	91.2	57.15	60.1						
Dry	Dissolved Cadmium	µg/L	10/31/06	06/12/13	28	21	0.21	-	0.494	0.13	0.339	0	CTR	Hardness Dependent	0.00	0 exceedances in 7 Year(s)	0%
Dry	Dissolved Chromium	µg/L	10/10/02	06/12/13	33	7	2.51	-	6.65	1.90	1.855						
Dry	Dissolved Chromium +6	µg/L	10/31/06	06/12/13	28	21	1.16	-	1.27	0.63	0.46	0	CTR	11.00	0.00	0 exceedances in 7 Year(s)	0%
Dry	Dissolved Copper	µg/L	10/10/02	06/12/13	33	7	16.45	-	64.4	12.00	11.9	7	CTR	Hardness Dependent	0.02	7 exceedances in 11 Year(s)	21%
Dry	Dissolved Iron	µg/L	10/31/06	06/12/13	28	16	211.32	-	1260	66.35	281.5						
Dry	Dissolved Lead	µg/L	04/30/03	06/12/13	30	11	2.40	-	21.8	0.65	1.18	1	TMDL	Hardness Dependent	0.00	1 exceedances in 11 Year(s)	3%
Dry	Dissolved Mercury	µg/L	10/31/06	06/12/13	28	28	0.19	-	-	0.25	-	0	Basin Plan	0.05	0.00	0 exceedances in 7 Year(s)	0%

Table E.3: Dominguez Channel - At Station S-28 Data Summary

Weather	Constituent	Unit	Dates Sampled		Total No. of Values	No. with/ ND	Min.	Max.	Avg.	Median		No of Exceed.	Regulatory Source	Regulatory Threshold	Exceed. Frequency(# of exceed. per year)	Exceedance/Time	%Exceed
			From	To						With ND	Without ND						
Dry	Dissolved Nickel	µg/L	10/10/02	06/12/13	33	7	3.90	-	6.64	4.03	3.7	0	CTR	Hardness Dependent	0.00	0 exceedances in 11 Year(s)	0%
Dry	Dissolved Oxygen	mg/L	10/10/02	04/09/13	25		14.82	7.8	24.9	14.18	14.18	0	Basin Plan	5.00	0.00	0 exceedances in 11 Year(s)	0%
Dry	Dissolved Phosphorus	mg/L	10/10/02	06/12/13	33	5	0.21	-	0.89	0.16	0.19						
Dry	Dissolved Selenium	µg/L	10/10/02	06/12/13	32	12	1.93	-	5.98	2.00	2.155						
Dry	Dissolved Silver	µg/L	10/31/06	06/12/13	28	28	0.64	-	-	0.13	-						
Dry	Dissolved Thallium	µg/L	10/31/06	06/12/13	28	28	0.39	-	-	0.50	-						
Dry	Dissolved Zinc	µg/L	10/10/02	06/12/13	33	3	63.59	-	368	35.80	37.4	2	CTR	Hardness Dependent	0.01	2 exceedances in 11 Year(s)	6%
Dry	Endosulfan sulfate	µg/L	10/31/06	06/12/13	28	28	0.03	-	-	0.03	-	0	CTR	240.00	0.00	0 exceedances in 7 Year(s)	0%
Dry	Endrin	µg/L	10/31/06	06/12/13	28	28	0.02	-	-	0.01	-	0	CTR	0.81	0.00	0 exceedances in 7 Year(s)	0%
Dry	Endrin aldehyde	µg/L	10/31/06	06/12/13	28	28	0.02	-	-	0.01	-	0	CTR	0.81	0.00	0 exceedances in 7 Year(s)	0%
Dry	Fecal Coliform	MPN/100mL	10/10/02	04/09/13	27		24,415.56	20	240000	1,300.00	1300	19	Basin Plan	400.00	0.07	19 exceedances in 11 Year(s)	70%
Dry	Fecal Enterococcus	MPN/100ml	10/10/02	04/09/13	27	2	21,893.33	-	240000	500.00	500						
Dry	Fecal Streptococcus	MPN/100ml	10/10/02	04/09/13	27	1	24,537.04	-	240000	500.00	500						
Dry	Fluoranthene	µg/L	10/31/06	06/12/13	28	28	0.02	-	-	0.03	-	0	CTR	370.00	0.00	0 exceedances in 7 Year(s)	0%
Dry	Fluorene	µg/L	10/31/06	06/12/13	28	28	0.05	-	-	0.05	-	0	CTR	14,000.00	0.00	0 exceedances in 7 Year(s)	0%
Dry	gamma-BHC (lindane)	µg/L	10/31/06	06/12/13	28	28	0.01	-	0.0109	0.01	-	0	CTR	0.06	0.00	0 exceedances in 7 Year(s)	0%
Dry	gamma-chlordane	µg/L	10/31/06	06/12/13	27	27	0.04	-	-	0.05	-						
Dry	Glyphosate	µg/L	10/31/06	06/12/13	28	25	7.44	-	53.5	2.50	9.07						
Dry	Hardness	mg/L	10/10/02	04/25/06	26		285.38	170	430	270.00	270						
Dry	Heptachlor	µg/L	10/31/06	06/12/13	28	28	0.01	-	-	0.01	-	0	CTR	0.00021	0.00	0 exceedances in 7 Year(s)	0%
Dry	Heptachlor Epoxide	µg/L	10/31/06	06/12/13	28	28	0.01	-	-	0.01	-	0	CTR	0.00011	0.00	0 exceedances in 7 Year(s)	0%
Dry	Hexachlorobenzene	µg/L	10/31/06	06/12/13	28	28	0.46	-	-	0.50	-	0	CTR	0.00077	0.00	0 exceedances in 7 Year(s)	0%
Dry	Hexachlorobutadiene	µg/L	10/31/06	06/12/13	28	28	0.46	-	-	0.50	-	0	CTR	50.00	0.00	0 exceedances in 7 Year(s)	0%
Dry	Hexachloro-cyclopentadiene	µg/L	10/31/06	06/12/13	28	28	2.32	-	-	2.50	-	0	CTR	17,000.00	0.00	0 exceedances in 7 Year(s)	0%
Dry	Hexachloroethane	µg/L	10/31/06	06/12/13	28	28	0.46	-	-	0.50	-	0	CTR	8.90	0.00	0 exceedances in 7 Year(s)	0%
Dry	Isophorone	µg/L	04/25/06	06/12/13	29	28	0.46	-	0.24	0.50	0.24	0	CTR	600.00	0.00	0 exceedances in 8 Year(s)	0%
Dry	Kjeldahl-N	mg/L	10/10/02	06/12/13	33		1.68	0.1	8.4	1.24	1.24						
Dry	Malathion	µg/L	10/31/06	06/12/13	28	28	0.66	-	-	0.50	-						
Dry	MBAS	mg/L	01/24/06	04/25/06	2		0.10	0.076	0.131	0.10	0.1035						
Dry	Methyl Tertiary Butyl Ether	µg/L	04/02/07	04/09/13	20	20	0.50	-	-	0.50	-						
Dry	Naphthalene	µg/L	10/31/06	06/12/13	28	28	0.09	-	-	0.10	-						
Dry	NH3-N	mg/L	10/10/02	06/12/13	31	8	0.29	-	1.48	0.21	0.27						
Dry	Nitrate	mg/L	10/10/02	04/25/06	5		5.82	2.47	13.9	3.70	3.7	0	Basin Plan	45.00	0.00	0 exceedances in 4 Year(s)	0%
Dry	Nitrate-N	mg/L	10/10/02	06/12/13	28	3	1.66	-	3.19	1.77	1.975	0	Basin Plan	10.00	0.00	0 exceedances in 11 Year(s)	0%
Dry	Nitrite-N	mg/L	10/10/02	06/12/13	31	21	0.05	-	0.457	0.02	0.064	0	Basin Plan	1.00	0.00	0 exceedances in 11 Year(s)	0%
Dry	Nitrobenzene	µg/L	10/31/06	06/12/13	28	28	0.46	-	-	0.50	-	0	CTR	1,900.00	0.00	0 exceedances in 7 Year(s)	0%
Dry	N-Nitroso-dimethyl amine	µg/L	10/31/06	07/20/09	13	13	2.12	-	-	2.50	-						
Dry	N-Nitroso-di-n-propyl amine	µg/L	10/31/06	06/12/13	28	28	2.32	-	-	2.50	-	0	CTR	1.40	0.00	0 exceedances in 7 Year(s)	0%
Dry	N-Nitroso-diphenyl amine	µg/L	10/31/06	07/20/09	13	13	0.42	-	-	0.50	-						
Dry	Oil and Grease	mg/L	04/02/07	04/09/13	20	18	3.28	-	28.2	2.50	14.75						
Dry	Pentachlorophenol	µg/L	10/31/06	06/12/13	28	28	0.93	-	-	1.00	-	0	CTR	8.20	0.00	0 exceedances in 7 Year(s)	0%
Dry	pH	0.00	10/10/02	06/12/13	33		8.05	6.19	9.62	8.22	8.22	9	Basin Plan	8.50	0.03	9 exceedances in 11 Year(s)	27%
Dry	Phenanthrene	µg/L	10/31/06	06/12/13	28	28	0.02	-	-	0.03	-						
Dry	Phenol	µg/L	10/31/06	06/12/13	27	27	0.49	-	-	0.50	-	0	CTR	4,600,000.00	0.00	0 exceedances in 7 Year(s)	0%
Dry	Prometryn	µg/L	10/31/06	06/12/13	28	28	0.93	-	-	1.00	-						
Dry	Pyrene	µg/L	10/31/06	06/12/13	28	28	0.02	-	-	0.03	-	0	CTR	11,000.00	0.00	0 exceedances in 7 Year(s)	0%
Dry	Ratio Fecal Coliform/Total Coliform	0.00	10/10/02	04/25/06	5		0.15	0.02	0.43	0.10	0.10						
Dry	Simazine	µg/L	10/31/06	06/12/13	28	28	0.93	-	-	1.00	-						
Dry	Specific Conductance	umhos/cm	10/10/02	06/12/13	33		809.23	1.2	1670	1,025.00	1025						
Dry	Sulfate	mg/L	10/10/02	06/12/13	33	3	76.04	-	186	84.00	89.2						
Dry	Total Aluminum	µg/L	04/30/03	04/25/06	3		140.67	100	218	104.00	104						
Dry	Total Antimony	µg/L	10/10/02	04/25/06	4		0.90	0.54	1.23	0.91	0.91						
Dry	Total Arsenic	µg/L	10/10/02	04/25/06	4		2.16	1.17	3.55	1.97	1.965						
Dry	Total Barium	µg/L	10/19/05	04/25/06	4		72.10	14.2	161	56.60	56.6						
Dry	Total Chromium	µg/L	10/10/02	04/25/06	5		7.82	2.08	12.4	7.29	7.29						
Dry	Total Coliform	MPN/100ml	10/10/02	04/09/13	27		100,848.15	300	900000	16,000.00	16000						
Dry	Total Copper	µg/L	10/10/02	04/25/06	5		15.41	6.36	26.2	13.80	13.8						

Table E.3: Dominguez Channel - At Station S-28 Data Summary

Weather	Constituent	Unit	Dates Sampled		Total No. of Values	No. with/ ND	Min.	Max.	Avg.	Median		No of Exceed.	Regulatory Source	Regulatory Threshold	Exceed. Frequency(# of exceed. per year)	Exceedance/Time	%Exceed
			From	To						With ND	Without ND						
Dry	Total Dissolved Solids	mg/L	10/10/02	06/12/13	33	3	500.35	-	1080	622.00	674						
Dry	Total Iron	µg/L	10/10/02	04/25/06	4		225.00	133	398	184.50	184.5						
Dry	Total Lead	µg/L	10/10/02	04/25/06	5		1.26	0.59	2.54	0.85	0.85						
Dry	Total Nickel	µg/L	10/10/02	04/25/06	5		10.40	2.32	26	2.87	2.87						
Dry	Total Organic Carbon	mg/L	10/10/02	06/12/13	54	3	11.25	-	47.5	10.25	11						
Dry	Total Phosphorus	mg/L	10/10/02	04/25/06	5		0.16	0.094	0.258	0.15	0.148						
Dry	Total Selenium	µg/L	10/10/02	04/25/06	4		2.00	1.29	3.09	1.80	1.8	0	CTR	5.00	0.00	0 exceedances in 4 Year(s)	0%
Dry	Total Suspended Solids	mg/L	10/10/02	06/12/13	64	9	52.19	-	252	24.00	27						
Dry	Total Zinc	µg/L	10/10/02	04/25/06	5		33.07	9.15	83	27.70	27.7						
Dry	Toxaphene	µg/L	10/31/06	06/12/13	28	28	0.33	-	-	0.25	-	0	CTR	0.00075	0.00	0 exceedances in 7 Year(s)	0%
Dry	Turbidity	NTU	10/10/02	06/12/13	33	1	4.22	-	28.3	2.41	2.505						
Dry	Volatile Suspended Solids	mg/L	10/10/02	06/12/13	33	2	24.58	-	91	14.00	17						
Dry	Bis(2-Chloroethoxy) methane	µg/L	10/31/06	06/12/13	28	28	2.32	-	-	2.50	-						
Dry	Bis(2-Chloroisopropyl) ether	µg/L	10/31/06	06/12/13	28	28	0.93	-	-	1.00	-	0	CTR	170,000.00	0.00	0 exceedances in 7 Year(s)	0%
Dry	4-chloro-3-methylphenol	µg/L	10/31/06	06/12/13	30	30	0.90	-	-	0.50	-						
Dry	Bis(2-Chloroethyl) ether	µg/L	10/31/06	06/12/13	28	28	0.46	-	-	0.50	-	0	CTR	1.40	0.00	0 exceedances in 7 Year(s)	0%
Dry	Bis(2-Ethylhexl) phthalate	µg/L	10/28/03	06/12/13	30	29	7.12	-	146	2.50	146	1	CTR	5.90	0.00	1 exceedances in 10 Year(s)	3%
Dry	4-6-Dinitro-2-methylphenol	µg/L	10/31/06	06/12/13	28	28	2.04	-	-	2.50	-						
Dry	Indeno (1,2,3-cd) pyrene	µg/L	10/31/06	06/12/13	28	28	0.02	-	-	0.03	-	0	CTR	0.05	0.00	0 exceedances in 7 Year(s)	0%
Dry	Chemical Oxygen Demand	mg/L	10/10/02	06/12/13	33	4	63.64	-	328	58.30	62.2						
Dry	Fluoride	mg/L	10/10/02	06/12/13	33	3	0.44	-	0.863	0.43	0.513						
Dry	Dissolved Beryllium	µg/L	10/31/06	06/12/13	28	28	0.26	-	-	0.25	-						
Dry	2-4-dinitrophenol	µg/L	10/31/06	06/12/13	30	30	1.83	-	-	1.50	-	0	CTR	14,000.00	0.00	0 exceedances in 7 Year(s)	0%
Dry	Endosulfan I (alpha)	µg/L	10/31/06	06/12/13	28	28	0.02	-	-	0.01	-						
Dry	Endosulfan II (beta)	µg/L	10/31/06	06/12/13	28	28	0.02	-	-	0.01	-						
Dry	Cadmium	µg/L	05/16/05	06/12/13	65	30	0.52	-	2.16	0.16	0.255						
Dry	Chromium	µg/L	05/16/05	06/12/13	65	6	2.72	-	16.8	1.56	1.55						
Dry	Nickel	µg/L	05/16/05	06/12/13	65	13	3.87	-	23.2	3.61	3.43						
Dry	1-2-Diphenylhydrazine	µg/L	10/31/06	06/12/13	28	28	0.46	-	-	0.50	-	0	CTR	0.54	0.00	0 exceedances in 7 Year(s)	0%
Dry	2-4'-DDD	µg/L	10/31/06	07/20/09	13	13	0.02	-	-	0.03	-						
Dry	2-4'-DDE	µg/L	10/31/06	07/20/09	13	13	0.02	-	-	0.03	-						
Dry	2-4'-DDT	µg/L	10/31/06	07/20/09	13	13	0.00	-	-	0.00	-						
Dry	2-4-6-trichlophenol	µg/L	10/31/06	07/13/09	12	12	0.42	-	-	0.50	-						
Dry	2-4-Dinitrotoluene	µg/L	10/31/06	06/12/13	28	28	2.32	-	-	2.50	-						
Dry	2-4-dimethylphenol	µg/L	10/31/06	06/12/13	30	30	0.93	-	-	1.00	-						
Dry	Benzo[b]fluoranthene	µg/L	10/31/06	06/12/13	28	28	2.70	-	-	5.00	-	0	CTR	0.05	0.00	0 exceedances in 7 Year(s)	0%
Dry	Benzo[g-h-i]perylene	µg/L	10/31/06	06/12/13	28	28	1.44	-	-	2.50	-						
Dry	Beryllium	µg/L	05/16/05	06/12/13	65	65	0.43	-	-	0.25	-						
Dry	Dibenzo(a-h)anthracene	µg/L	10/31/06	06/12/13	28	28	0.05	-	-	0.05	-	0	CTR	0.05	0.00	0 exceedances in 7 Year(s)	0%
Dry	Endrin ketone	µg/L	10/31/06	07/20/09	13	13	0.42	-	-	0.50	-						
Dry	Mercury	µg/L	05/16/05	06/12/13	65	51	0.12	-	0.235	0.05	0.013	1	Basin Plan	0.05	0.00	1 exceedances in 9 Year(s)	2%
Dry	Methoxychlor	µg/L	10/31/06	06/12/13	28	28	0.23	-	-	0.25	-						
Dry	Methylene Blue Active Substances (MBAS)	mg/L	10/31/06	06/12/13	28	15	0.30	-	1.4	0.18	0.23						
Dry	PCB-1016 (Aroclor 1016)	µg/L	10/31/06	06/12/13	28	28	0.17	-	-	0.25	-						
Dry	PCB-1221 (Aroclor 1221)	µg/L	10/31/06	06/12/13	31	31	0.18	-	-	0.25	-						
Dry	PCB-1232 (Aroclor 1232)	µg/L	10/31/06	06/12/13	28	28	0.17	-	-	0.25	-						
Dry	PCB-1242 (Aroclor 1242)	µg/L	10/31/06	06/12/13	28	28	0.17	-	-	0.25	-						
Dry	PCB-1248 (Aroclor 1248)	µg/L	10/31/06	06/12/13	28	28	0.17	-	-	0.25	-						
Dry	PCB-1254 (Aroclor 1254)	µg/L	10/31/06	06/12/13	28	28	0.17	-	-	0.25	-						
Dry	PCB-1260 (Aroclor 1260)	µg/L	10/31/06	06/12/13	28	28	0.17	-	-	0.25	-						
Dry	Thallium	µg/L	05/16/05	06/12/13	65	65	0.39	-	-	0.50	-						
Dry	Phenolics- Total recoverable	mg/L	04/02/07	04/09/13	20	18	0.06	-	0.17	0.05	0.15						
Dry	Total Petroleum Hydrocarbons	mg/L	04/02/07	04/09/13	20	19	2.03	-	6.02	2.50	6.02						
Dry	Phosphorus- Total (as P)	mg/L	10/31/06	06/12/13	28	3	0.35	-	1.26	0.28	0.32						
Dry	Nitrate (NO3)	mg/L	10/31/06	06/12/13	23	3	7.57	-	14.1	8.75	9.69	0	Basin Plan	45.00	0.00	0 exceedances in 7 Year(s)	0%
Dry	Ammonia	mg/l	03/17/06	06/12/13	33	9	0.37	-	1.79	0.11	0.285	5	Basin Plan	0.66	0.02	5 exceedances in 8 Year(s)	15%

Table E.3: Dominguez Channel - At Station S-28 Data Summary

Weather	Constituent	Unit	Dates Sampled		Total No. of Values	No. with/ ND	Min.	Max.	Avg.	Median		No of Exceed.	Regulatory Source	Regulatory Threshold	Exceed. Frequency(# of exceed. per year)	Exceedance/Time	%Exceed
			From	To						With ND	Without ND						
Dry	Selenium	µg/L	05/16/05	06/12/13	65	29	1.62	-	6.62	1.62	1.735	0			0.00		
Dry	Carbofuran	µg/L	10/12/07	04/09/08	3	3	2.50	-	-	2.50	-						
Dry	1-2-Benzanthracene	µg/L	04/09/08	06/12/13	22	22	1.72	-	-	2.50	-						
Dry	2-4-6-Trichlorophenol	µg/L	07/13/09	06/12/13	19	19	4.05	-	-	5.00	-						
Dry	N-Nitrosodimethylamine	µg/L	07/13/09	06/12/13	17	17	2.50	-	-	2.50	-	0	CTR	8.10	0.00	0 exceedances in 4 Year(s)	0%
Dry	N-Nitrosodiphenylamine	µg/L	07/13/09	06/12/13	17	17	0.50	-	-	0.50	-	0	CTR	16.00	0.00	0 exceedances in 4 Year(s)	0%
Dry	Aluminum	µg/L	05/16/05	06/12/13	65	19	491.28	-	6780	19.70	15.25						
Dry	Arsenic	µg/L	05/16/05	06/12/13	65	14	1.46	-	4.31	1.54	1.56	0	CTR	150.00	0.00	0 exceedances in 9 Year(s)	0%
Dry	Barium	µg/L	10/31/06	06/12/13	28	7	77.77	-	181	78.65	82.4	0			0.00		
Dry	Silver	µg/L	05/16/05	06/12/13	65	64	0.69	-	1.3	0.13	1.3						
Dry	Copper	µg/L	05/16/05	06/12/13	65	5	21.47	-	245	12.90	9.045						
Dry	Iron	µg/L	05/16/05	06/12/13	65	5	730.17	-	9710	92.70	94.5						
Dry	Lead	µg/L	05/16/05	06/12/13	65	6	4.49	-	79.6	0.83	0.71						
Dry	Zinc	µg/L	05/16/05	06/12/13	65	3	82.24	-	1300	21.50	20.65						
Dry	Alkalinity as CaCO3	mg/L	10/31/06	06/12/13	28	2	129.81	-	264	176.45	178.5						
Dry	Hardness as CaCO3	mg/L	10/31/06	06/12/13	28		207.93	2	390	270.00	270						
Dry	Chromium +6	µg/L	10/31/06	06/12/13	28	20	1.26	-	1.27	0.71	0.465						
Dry	Alkalinity as Bicarbonate	mg/L	09/21/10	09/22/11	5	1	117.54	-	193	152.00	165.5						
Dry	E. Coli	MPN/100mL	10/10/12	04/09/13	4		8,239.85	393	21870	5,348.20	5348.2	4	Basin Plan	235.00	2.02	4 exceedances in 1 Year(s)	100%
Dry	Antimony	µg/L	05/16/05	06/12/13	65	16	1.90	-	9.53	1.36	1.36	0	CTR	4,300.00	0.00	0 exceedances in 9 Year(s)	0%
Dry	Benzioic Acid	µG/L	11/16/04	03/09/05	2	2		-	-	0.00	-						
Dry	Benzyl alcohol	µG/L	11/16/04	03/09/05	2	2		-	-	0.00	-						
Dry	Alkalinity (mg/L as CaCO3)	mg/L as CaCO3	05/16/05	03/17/06	21		194.76	110	270	180.00	180						
Dry	Baryium	µg/L	08/17/05	03/17/06	21		42.73	0.09	97.4	0.10	53.09999847						
Dry	Cobalt	µg/L	05/16/05	03/17/06	37	11	0.16	0.011	0.32	0.22	0.216						
Dry	Detectable DDTs (µg/L)	µg/L	05/16/05	03/17/06	21	20	-	-	-	-	-						
Dry	Dissolved Organic Carbon	mg/L	05/16/05	03/17/06	21		10.90	5.3	15	12.00	12						
Dry	Manganese	µg/L	05/16/05	03/17/06	37		6.25	0.356	31.3	4.00	4						
Dry	Molybdenum	µg/L	05/16/05	03/17/06	37	14	12.37	0.03	49.9	8.20	8.2						
Dry	Other Pesticides (µg/L)	µg/L	05/16/05	03/17/06	21	21	#DIV/0!	0	0	#NUM!	-						
Dry	Strontium	µg/L	08/17/05	03/17/06	21		447.23	0.06	988	0.07	551.00						
Dry	Tin	µg/L	05/16/05	03/17/06	37	25	0.07	0.016	0.230000004	0.02	0.0205						
Dry	Titanium	µg/L	05/16/05	03/17/06	37		0.54	0.05	3.150000095	0.37	0.373						
Dry	Total Aroclors	µg/L	05/16/05	03/17/06	21	21	-	-	-	-	-						
Dry	Total PAHs (ng/L)	ng/L	05/16/05	03/17/06	21		45.36	14.1	117.1999969	43.00	43						
Dry	Vanadium	µg/L	05/16/05	03/17/06	37	7	3.15	0.02	6.86	3.89	3.885						
Wet	1,2 Benzanthracene	µg/L	12/9/2006	12/18/2007	7	7	0.05	-	-	0.05	-						
Wet	1,2,4-Trichlorobenzene	µg/L	12/9/2006	1/24/2013	27	27	0.44	-	-	0.50	-						
Wet	1,2-Dichlorobenzene	µg/L	12/9/2006	1/24/2013	27	27	0.39	-	-	0.50	-	0	CTR	17,000.00	0.00	0 exceedances in 7 Year(s)	0%
Wet	1,3-Dichlorobenzene	µg/L	12/9/2006	1/24/2013	27	27	0.39	-	-	0.50	-	0	CTR	2,600.00	0.00	0 exceedances in 7 Year(s)	0%
Wet	1,4-Dichlorobenzene	µg/L	12/9/2006	1/24/2013	27	27	0.39	-	-	0.50	-	0	CTR	2,600.00	0.00	0 exceedances in 7 Year(s)	0%
Wet	2- Chlorophenol	µg/L	12/9/2006	1/24/2013	27	27	0.89	-	-	1.00	-	0	CTR	400.00	0.00	0 exceedances in 7 Year(s)	0%
Wet	2,4,5-TP-SILVEX	µg/L	12/9/2006	1/24/2013	27	27	1.54	-	-	0.10	-						
Wet	2,4-D	µg/L	12/9/2006	1/24/2013	27	27	0.75	-	-	0.01	-						
Wet	2,4-dichlorophenol	µg/L	12/9/2006	1/24/2013	28	28	0.61	-	-	0.50	-	0	CTR	790.00	0.00	0 exceedances in 7 Year(s)	0%
Wet	2,6-Dinitrotoluene	µg/L	12/9/2006	1/24/2013	27	27	2.22	-	-	2.50	-						
Wet	2-Chloroethyl vinyl ether	µg/L	12/9/2006	1/24/2013	36	36	1.00	-	-	1.25	-						
Wet	2-Chloronaphthalene	µg/L	12/9/2006	1/24/2013	27	27	4.44	-	-	5.00	-	0	CTR	4,300.00	0.00	0 exceedances in 7 Year(s)	0%
Wet	2-nitrophenol	µg/L	12/9/2006	1/24/2013	28	28	3.34	-	-	5.00	-						
Wet	3,3-Dichlorobenzidine	µg/L	12/9/2006	1/24/2013	27	27	2.22	-	-	2.50	-						
Wet	4,4'-DDD	µg/L	11/4/2008	1/24/2013	17	17	0.03	-	-	0.03	-	0	CTR	0.00084	0.00	0 exceedances in 5 Year(s)	0%
Wet	4,4'-DDE	µg/L	11/4/2008	1/24/2013	17	17	0.03	-	-	0.03	-	0	CTR	0.00059	0.00	0 exceedances in 5 Year(s)	0%

Table E.3: Dominguez Channel - At Station S-28 Data Summary

Weather	Constituent	Unit	Dates Sampled		Total No. of Values	No. with/ ND	Min.	Max.	Avg.	Median		No of Exceed.	Regulatory Source	Regulatory Threshold	Exceed. Frequency(# of exceed. per year)	Exceedance/Time	%Exceed
			From	To						With ND	Without ND						
Wet	4,4'-DDT	µg/L	11/4/2008	1/24/2013	17	17	0.00	-	-	0.01	-	0	TMDL	1.10	0.00	0 exceedances in 5 Year(s)	0%
Wet	4-Bromophenyl phenyl ether	µg/L	12/9/2006	1/24/2013	27	27	1.63	-	-	2.50	-						
Wet	4-Chlorophenyl phenyl ether	µg/L	12/9/2006	1/24/2013	27	27	1.50	-	-	2.50	-						
Wet	4-nitrophenol	µg/L	12/9/2006	1/24/2013	28	28	1.91	-	-	2.50	-						
Wet	Acenaphthene	µg/L	12/9/2006	1/24/2013	27	27	0.44	-	-	0.50	-	0	CTR	2,700.00	0.00	0 exceedances in 7 Year(s)	0%
Wet	Acenaphthylene	µg/L	12/9/2006	1/24/2013	27	27	0.89	-	-	1.00	-						
Wet	Aldrin	µg/L	12/9/2006	1/24/2013	27	27	0.01	-	-	0.00	-	0	CTR	0.00014	0.00	0 exceedances in 7 Year(s)	0%
Wet	Alkalinity	mg/L	11/8/2002	2/27/2006	12		49.77	11	113.3	32.45	32.45						
Wet	alpha-BHC	µg/L	12/9/2006	1/24/2013	27	27	0.01	-	-	0.01	-	0	CTR	0.01	0.00	0 exceedances in 7 Year(s)	0%
Wet	alpha-chlordane	µg/L	12/9/2006	1/24/2013	27	27	0.04	-	-	0.05	-						
Wet	Anthracene	µg/L	12/9/2006	1/24/2013	27	27	0.89	-	-	1.00	-	0	CTR	110,000.00	0.00	0 exceedances in 7 Year(s)	0%
Wet	Atrazine	µg/L	12/9/2006	1/24/2013	27	27	0.89	-	-	1.00	-						
Wet	Benzidine	µg/L	12/9/2006	1/24/2013	27	27	2.22	-	-	2.50	-	0	CTR	0.00054	0.00	0 exceedances in 7 Year(s)	0%
Wet	Benzo(a)pyrene	µg/L	12/9/2006	1/24/2013	27	27	0.89	-	-	1.00	-	0	CTR	0.05	0.00	0 exceedances in 7 Year(s)	0%
Wet	Benzo(k)flouranthene	µg/L	12/9/2006	1/24/2013	27	27	0.89	-	-	1.00	-	0	CTR	0.05	0.00	0 exceedances in 7 Year(s)	0%
Wet	beta-BHC	µg/L	12/9/2006	1/24/2013	27	27	0.01	-	-	0.00	-	0	CTR	0.05	0.00	0 exceedances in 7 Year(s)	0%
Wet	BOD	mg/L	11/8/2002	1/24/2013	40		19.20	3.39	146	12.65	12.65						
Wet	Butyl benzyl phthalate	µg/L	12/9/2006	1/24/2013	27	27	2.96	-	3.66	5.00	-	0	CTR	5,200.00	0.00	0 exceedances in 7 Year(s)	0%
Wet	Chlordane	µg/L	12/9/2006	1/24/2013	27	27	0.02	-	-	0.03	-	0	CTR	0.00059	0.00	0 exceedances in 7 Year(s)	0%
Wet	Chloride	mg/L	11/8/2002	1/24/2013	39		27.45	2.58	96.7	15.80	15.8						
Wet	Chlorpyrifos	µg/L	10/17/2005	1/24/2013	28	27	0.05	-	0.91	0.03	0.91						
Wet	Chrysene	µg/L	12/9/2006	1/24/2013	27	27	2.22	-	-	2.50	-	0	CTR	0.05	0.00	0 exceedances in 7 Year(s)	0%
Wet	Cyanazine	µg/L	12/9/2006	1/24/2013	27	27	0.89	-	-	1.00	-						
Wet	Cyanide	mg/L	12/25/2003	1/24/2013	34	15	0.02	-	0.338	0.01	0.009	0	Basin Plan	22.00	0.00	0 exceedances in 10 Year(s)	0%
Wet	delta-BHC	µg/L	12/9/2006	1/24/2013	27	27	0.01	-	-	0.00	-						
Wet	Diazinon	µg/L	2/11/2003	1/24/2013	31	27	0.05	-	0.96	0.01	0.271	3	CTR	0.08	0.01	3 exceedances in 10 Year(s)	10%
Wet	Dieldrin	µg/L	12/9/2006	1/24/2013	27	27	0.02	-	-	0.01	-	0	CTR	0.00014	0.00	0 exceedances in 7 Year(s)	0%
Wet	Diethyl phthalate	µg/L	1/1/2004	1/24/2013	28	27	0.90	-	1.2	1.00	1.2	0	CTR	120,000.00	0.00	0 exceedances in 10 Year(s)	0%
Wet	Dimethyl phthalate	µg/L	12/9/2006	1/24/2013	27	27	0.89	-	-	1.00	-	0	CTR	2,900,000.00	0.00	0 exceedances in 7 Year(s)	0%
Wet	di-n-Butyl phthalate	µg/L	12/9/2006	1/24/2013	23	23	4.35	-	-	5.00	-	0	CTR	12,000.00	0.00	0 exceedances in 7 Year(s)	0%
Wet	di-n-Octyl phthalate	µg/L	12/9/2006	1/24/2013	23	23	4.35	-	-	5.00	-						
Wet	Dissolved Aluminum	µg/L	10/17/2005	1/24/2013	28	13	387.71	-	1790	133.00	516.5						
Wet	Dissolved Antimony	µg/L	11/8/2002	1/24/2013	38	3	2.81	-	7.33	2.55	2.33	0	CTR	4,300.00	0.00	0 exceedances in 11 Year(s)	0%
Wet	Dissolved Arsenic	µg/L	11/8/2002	1/24/2013	36	2	1.81	-	3.03	1.64	1.67	0	CTR	340.00	0.00	0 exceedances in 11 Year(s)	0%
Wet	Dissolved Barium	µg/L	10/18/2005	1/24/2013	31	3	42.72	-	177	27.70	26.15						
Wet	Dissolved Cadmium	µg/L	12/16/2002	1/24/2013	28	19	0.37	-	2.59	0.13	0.522	0	CTR	Hardness Dependent	0.00	0 exceedances in 11 Year(s)	0%
Wet	Dissolved Chromium	µg/L	11/8/2002	1/24/2013	39	3	2.66	-	8.16	2.11	2.04						
Wet	Dissolved Chromium +6	µg/L	12/9/2006	1/24/2013	27	20	1.20	-	0.88	0.71	0.46	0	CTR	11.00	0.00	0 exceedances in 7 Year(s)	0%
Wet	Dissolved Copper	µg/L	11/8/2002	1/24/2013	39	1	32.60	-	163	18.80	18.75	21	TMDL	Hardness Dependent	0.05	21 exceedances in 11 Year(s)	54%
Wet	Dissolved Iron	µg/L	11/8/2002	1/24/2013	34	5	590.94	-	3220	206.00	435						
Wet	Dissolved Lead	µg/L	11/8/2002	1/24/2013	34	1	8.69	-	59	2.40	2.4	5	TMDL	Hardness Dependent	0.01	5 exceedances in 11 Year(s)	15%
Wet	Dissolved Mercury	µg/L	12/9/2006	1/24/2013	27	27	0.18	-	-	0.25	-	0	Basin Plan	0.05	0.00	0 exceedances in 7 Year(s)	0%
Wet	Dissolved Nickel	µg/L	11/8/2002	1/24/2013	39	3	5.82	-	27	4.49	3.9	0	CTR	Hardness Dependent	0.00	0 exceedances in 11 Year(s)	0%
Wet	Dissolved Oxygen	mg/L	11/8/2002	1/24/2013	42	1	9.73	-	13.47	9.86	9.92	1	Basin Plan	5.00	0.00	1 exceedances in 11 Year(s)	2%
Wet	Dissolved Phosphorus	mg/L	11/8/2002	1/24/2013	38	1	0.27	-	0.742	0.21	0.21						
Wet	Dissolved Selenium	µg/L	11/8/2002	1/24/2013	30	24	0.82	-	1.66	0.50	1.33						
Wet	Dissolved Silver	µg/L	12/9/2006	1/24/2013	27	27	0.65	-	-	0.13	-	0	CTR	Hardness Dependent	0.00	0 exceedances in 7 Year(s)	0%
Wet	Dissolved Thallium	µg/L	12/9/2006	1/24/2013	27	27	0.37	-	-	0.50	-						
Wet	Dissolved Zinc	µg/L	11/8/2002	1/24/2013	39		213.56	19	1510	107.00	107	18	TMDL	Hardness Dependent	0.05	18 exceedances in 11 Year(s)	46%
Wet	Endosulfan sulfate	µg/L	12/9/2006	1/24/2013	27	27	0.03	-	-	0.03	-	0	CTR	240.00	0.00	0 exceedances in 7 Year(s)	0%
Wet	Endrin	µg/L	12/9/2006	1/24/2013	27	27	0	-	-	0.01	-	0	CTR	0.81	0.00	0 exceedances in 7 Year(s)	0%
Wet	Endrin aldehyde	µg/L	12/9/2006	1/24/2013	27	27	0.02	-	-	0.01	-	0	CTR	0.81	0.00	0 exceedances in 7 Year(s)	0%
Wet	Fecal Coliform	MPN/100mL	11/8/2002	1/24/2013	46		194,961.09	110	1700000	32,500.00	32500	44	Basin Plan	400.00	0.09	44 exceedances in 11 Year(s)	96%
Wet	Fecal Enterococcus	MPN/100ml	11/8/2002	1/24/2013	46		196,259.35	130	900000	90,000.00	90000						
Wet	Fecal Streptococcus	MPN/100ml	11/8/2002	1/24/2013	46		217,172.39	130	900000	160,000.0	160000						
Wet	Fluoranthene	µg/L	12/9/2006	1/24/2013	27	27	0.02	-	-	0.03	-	0	CTR	370.00	0.00	0 exceedances in 7 Year(s)	0%
Wet	Fluorene	µg/L	12/9/2006	1/24/2013	27	27	0.04	-	-	0.05	-	0	CTR	14,000.00	0.00	0 exceedances in 7 Year(s)	0%
Wet	gamma-BHC (lindane)	µg/L	12/9/2006	1/24/2013	27	27	0.01	-	-	0.01	-	0	CTR	0.06	0.00	0 exceedances in 7 Year(s)	0%

Table E.3: Dominguez Channel - At Station S-28 Data Summary

Weather	Constituent	Unit	Dates Sampled		Total No. of Values	No. with/ ND	Min.	Max.	Avg.	Median		No of Exceed.	Regulatory Source	Regulatory Threshold	Exceed. Frequency(# of exceed. per year)	Exceedance/Time	%Exceed
			From	To						With ND	Without ND						
Wet	gamma-chlordane	µg/L	12/9/2006	1/24/2013	27	27	0.04	-	-	0.05	-						
Wet	Glyphosate	µg/L	12/9/2006	1/24/2013	27	20	7.86	-	17.5	8.80	12.3						
Wet	Hardness	mg/L	11/8/2002	2/28/2006	22	5	103.17	15.2	300	70.00	70						
Wet	Heptachlor	µg/L	12/9/2006	1/24/2013	27	27	0.01	-	-	0.01	-	0	CTR	0.00021	0.00	0 exceedances in 7 Year(s)	0%
Wet	Heptachlor Epoxide	µg/L	12/9/2006	1/24/2013	27	27	0.01	-	-	0.01	-	0	CTR	0.00011	0.00	0 exceedances in 7 Year(s)	0%
Wet	Hexachlorobenzene	µg/L	12/9/2006	1/24/2013	27	27	0.44	-	-	0.50	-	0	CTR	0.00077	0.00	0 exceedances in 7 Year(s)	0%
Wet	Hexachlorobutadiene	µg/L	12/9/2006	1/24/2013	27	27	0.44	-	-	0.50	-	0	CTR	50.00	0.00	0 exceedances in 7 Year(s)	0%
Wet	Hexachloro-cyclopentadiene	µg/L	12/9/2006	1/24/2013	27	27	2.22	-	-	2.50	-	0	CTR	17,000.00	0.00	0 exceedances in 7 Year(s)	0%
Wet	Hexachloroethane	µg/L	12/9/2006	1/24/2013	27	27	0.44	-	-	0.50	-	0	CTR	8.90	0.00	0 exceedances in 7 Year(s)	0%
Wet	Isophorone	µg/L	12/9/2006	1/24/2013	27	27	0.44	-	-	0.50	-	0	CTR	600.00	0.00	0 exceedances in 7 Year(s)	0%
Wet	Kjeldahl-N	mg/L	11/8/2002	1/24/2013	39		3.22	0.193	16.2	1.72	1.72						
Wet	Malathion	µg/L	12/9/2006	1/24/2013	26	26	0.60	-	-	0.50	-						
Wet	MBAS	mg/L	11/8/2002	2/27/2006	9		0.22	0.071	0.5998	0.18	0.184						
Wet	Methyl Tertiary Butyl Ether (MTBE)	µg/L	11/1/2006	1/24/2013	30	29	0.50	-	-	0.50	-						
Wet	Naphthalene	µg/L	12/9/2006	1/24/2013	27	27	0.09	-	-	0.10	-						
Wet	NH3-N	mg/L	11/8/2002	1/24/2013	35	2	0.79	-	3.26	0.42	0.55						
Wet	Nitrate	mg/L	12/16/2002	2/27/2006	11		4.50	2.28	9.69	4.02	4.02	0	Basin Plan	45.00	0.00	0 exceedances in 4 Year(s)	0%
Wet	Nitrate-N	mg/L	12/16/2002	1/24/2013	32		1.06	0.504	3.35	0.84	0.8365	0	Basin Plan	10.00	0.00	0 exceedances in 11 Year(s)	0%
Wet	Nitrite-N	mg/L	2/11/2003	1/24/2013	33	22	0.06	-	0.514	0.02	0.085	0	Basin Plan	1.00	0.00	0 exceedances in 10 Year(s)	0%
Wet	Nitrobenzene	µg/L	12/9/2006	1/24/2013	27	27	0.44	-	-	0.50	-	0	CTR	1,900.00	0.00	0 exceedances in 7 Year(s)	0%
Wet	N-Nitroso-dimethyl amine	µg/L	12/9/2006	2/13/2009	11	11	1.82	-	-	2.50	-						
Wet	N-Nitroso-di-n-propyl amine	µg/L	12/9/2006	1/24/2013	27	27	2.22	-	-	2.50	-	0	CTR	1.40	0.00	0 exceedances in 7 Year(s)	0%
Wet	N-Nitroso-diphenyl amine	µg/L	12/9/2006	2/13/2009	11	11	0.36	-	-	0.50	-						
Wet	Oil and Grease	mg/L	11/8/2002	1/24/2013	38	20	2.37	-	5.8	2.28	1.95						
Wet	Pentachlorophenol	µg/L	12/9/2006	1/24/2013	27	27	0.89	-	-	1.00	-	0	CTR	8.20	0.00	0 exceedances in 7 Year(s)	0%
Wet	pH	0.00	11/8/2002	1/24/2013	39		7.10	5.99	8.26	6.96	6.96	5	Basin Plan	8.50	0.01	5 exceedances in 11 Year(s)	13%
Wet	Phenanthrene	µg/L	12/9/2006	1/24/2013	27	27	0.02	-	-	0.03	-						
Wet	Phenol	µg/L	12/9/2006	1/24/2013	27	27	0.48	-	-	0.50	-	0	CTR	4,600,000.00	0.00	0 exceedances in 7 Year(s)	0%
Wet	Prometryn	µg/L	12/9/2006	1/24/2013	27	27	1	-	-	1.00	-						
Wet	Pyrene	µg/L	12/9/2006	1/24/2013	27	27	0.02	-	-	0.03	-	0	CTR	11,000.00	0.00	0 exceedances in 7 Year(s)	0%
Wet	Ratio Fecal Coliform/Total Coliform	0.00	11/8/2002	2/27/2006	12		0.80	0.34	1.02	0.99	0.986225 49						
Wet	Simazine	µg/L	12/9/2006	1/24/2013	27	27	0.89	-	-	1.00	-						
Wet	Specific Conductance	umhos/cm	11/8/2002	1/24/2013	39		237.88	47.6	735	162.00	162						
Wet	Sulfate	mg/L	11/8/2002	1/24/2013	39		19.80	2.89	50.8	12.80	12.8						
Wet	Total Aluminum	µg/L	11/8/2002	2/27/2006	9		769.22	134	2270	560.00	560						
Wet	Total Antimony	µg/L	11/8/2002	2/27/2006	11		2.84	1.11	7.42	1.75	1.75						
Wet	Total Arsenic	µg/L	11/8/2002	2/27/2006	11		5.29	1.04	34.7	1.80	1.8						
Wet	Total Barium	µg/L	1/14/2006	2/27/2006	2		26.55	17.8	35.3	26.55	26.55						
Wet	Total Cadmium	µg/L	11/8/2002	10/17/200 5	4		0.84	0.37	1.55	0.73	0.725						
Wet	Total Chromium	µg/L	11/8/2002	2/27/2006	12		6.15	1.56	12.3	5.28	5.275						
Wet	Total Coliform	MPN/100ml	11/8/2002	1/24/2013	46		559,293.48	500	3000000	240,000.0 0	240000						
Wet	Total Copper	µg/L	11/8/2002	2/27/2006	12		30.90	6.33	115	22.70	22.7						
Wet	Total Dissolved Solids	mg/L	11/8/2002	1/24/2013	39		152.82	28	446	106.00	106						
Wet	Total Iron	µg/L	11/8/2002	2/27/2006	11		975.18	191	3780	438.00	438						
Wet	Total Lead	µg/L	11/8/2002	2/27/2006	12		8.24	0.82	39.2	2.78	2.775						
Wet	Total Mercury	µg/L	1/1/2004	1/1/2004	1		0.21	0.209	0.209	0.21	0.209						
Wet	Total Nickel	µg/L	11/8/2002	2/27/2006	12		8.17	3.48	18.9	5.53	5.525						
Wet	Total Organic Carbon	mg/L	11/8/2002	1/24/2013	49		17.83	3.72	70.6	9.90	9.9						
Wet	Total Phosphorus	mg/L	11/8/2002	2/27/2006	11		0.34	0.12	0.874	0.29	0.29						
Wet	Total Selenium	µg/L	11/8/2002	1/14/2006	4		8.32	1.31	28.1	1.94	1.94						
Wet	Total Suspended Solids	mg/L	11/8/2002	5/6/2013	83	2	175.44	11	1123	123.00	123						
Wet	Total Zinc	µg/L	11/8/2002	2/27/2006	12		160.96	55	667	114.00	114						
Wet	Toxaphene	µg/L	12/9/2006	1/24/2013	27	27	0.30	-	-	0.25	-	0	CTR	0.00075	0.00	0 exceedances in 7 Year(s)	0%
Wet	TPH	mg/L	12/16/2002	10/17/200	7		1.90	1.1	3.3	2.00	2						

Table E.3: Dominguez Channel - At Station S-28 Data Summary

Weather	Constituent	Unit	Dates Sampled		Total No. of Values	No. with/ ND	Min.	Max.	Avg.	Median		No of Exceed.	Regulatory Source	Regulatory Threshold	Exceed. Frequency(# of exceed. per year)	Exceedance/Time	%Exceed
			From	To						With ND	Without ND						
				5													
Wet	Turbidity	NTU	11/8/2002	1/24/2013	40		16.82	1.01	75.7	11.85	11.85						
Wet	Volatile Suspended Solids	mg/L	11/8/2002	1/24/2013	40		71.04	1.3	257	55.50	55.5						
Wet	Bis(2-Chloroethoxy) methane	µg/L	12/9/2006	1/24/2013	27	27	2.22	-	-	2.50	-						
Wet	Bis(2-Chloroisopropyl) ether	µg/L	12/9/2006	1/24/2013	27	27	0.89	-	-	1.00	-	0	CTR	170,000.00	0.00	0 exceedances in 7 Year(s)	0%
Wet	4-chloro-3-methylphenol	µg/L	12/9/2006	1/24/2013	28	28	0.77	-	-	0.50	-						
Wet	Bis(2-Chloroethyl) ether	µg/L	12/9/2006	1/24/2013	27	27	0.44	-	-	0.50	-	0	CTR	1.40	0.00	0 exceedances in 7 Year(s)	0%
Wet	Bis(2-Ethylhexl) phthalate	µg/L	10/31/2003	1/24/2013	31	28	3.34	-	19.7	2.50	15	3	CTR	5.90	0.01	3 exceedances in 10 Year(s)	10%
Wet	4-6-Dinitro-2-methylphenol	µg/L	1/1/2004	1/24/2013	28	27	2.00	-	4.1	2.50	4.1						
Wet	Indeno (1,2,3-cd) pyrene	µg/L	12/9/2006	1/24/2013	27	27	0.02	-	-	0.03	-	0	CTR	0.05	0.00	0 exceedances in 7 Year(s)	0%
Wet	Chemical Oxygen Demand	mg/L	11/8/2002	1/24/2013	38	1	61.75	16.9	241	43.14	43.4						
Wet	Fluoride	mg/L	11/8/2002	1/24/2013	35	2	0.25	-	0.904	0.22	0.223						
Wet	Total Silver	µg/L	10/17/2005	10/17/2005	1		0.25	0.25	0.25	0.25	0.25						
Wet	Dissolved Beryllium	µg/L	12/9/2006	1/24/2013	27	27	0.24	-	0.154	0.25	-						
Wet	2-4-dinitrophenol	µg/L	12/9/2006	1/24/2013	28	28	1.91	-	-	2.50	-	0	CTR	14,000.00	0.00	0 exceedances in 7 Year(s)	0%
Wet	Endosulfan I (alpha)	µg/L	12/9/2006	1/24/2013	27	27	0.02	-	-	0.01	-						
Wet	Endosulfan II (beta)	µg/L	12/9/2006	1/24/2013	27	27	0.02	-	-	0.01	-						
Wet	Cadmium	µg/L	2/27/2006	1/24/2013	37	10	0.96	-	6.4	0.50	0.51						
Wet	Chromium	µg/L	2/27/2006	1/24/2013	37		8.74	0.96	43.3	6.26	6.26						
Wet	Nickel	µg/L	2/27/2006	1/24/2013	37	1	10.40	-	47.8	7.03	7.05						
Wet	1-2-Diphenylhydrazine	µg/L	12/9/2006	1/24/2013	27	27	0.44	-	-	0.50	-	0	CTR	0.54	0.00	0 exceedances in 7 Year(s)	0%
Wet	2-4'-DDD	µg/L	12/9/2006	2/13/2009	11	11	0.02	-	-	0.03	-						
Wet	2-4'-DDE	µg/L	12/9/2006	2/13/2009	11	11	0.02	-	-	0.03	-						
Wet	2-4'-DDT	µg/L	12/9/2006	2/13/2009	11	11	0.00	-	-	0.00	-						
Wet	2-4-6-trichlophenol	µg/L	12/9/2006	2/13/2009	11	11	0.36	-	-	0.50	-						
Wet	2-4-Dinitrotoluene	µg/L	12/9/2006	1/24/2013	27	27	2.22	-	-	2.50	-	0			0.00		
Wet	2-4-dimethylphenol	µg/L	12/9/2006	1/24/2013	28	28	0.89	-	-	1.00	-						
Wet	Benzo[b]fluoranthene	µg/L	12/9/2006	1/24/2013	27	27	2.98	-	-	5.00	-	0	CTR	0.05	0.00	0 exceedances in 7 Year(s)	0%
Wet	Benzo[g-h-i]perylene	µg/L	12/9/2006	1/24/2013	27	27	1.56	-	-	2.50	-						
Wet	Beryllium	µg/L	2/27/2006	1/24/2013	37	35	0.26	-	0.416	0.25	0.155						
Wet	Dibenzo(a-h)anthracene	µg/L	12/9/2006	1/24/2013	27	27	0.04	-	-	0.05	-	0	CTR	0.05	0.00	0 exceedances in 7 Year(s)	0%
Wet	Endrin ketone	µg/L	12/9/2006	2/13/2009	11	11	0.36	-	-	0.50	-						
Wet	Mercury	µg/L	2/27/2006	1/24/2013	37	32	0.16	-	0.177	0.25	0.08	0	0.00	0.05	0.00	0 exceedances in 7 Year(s)	0%
Wet	Methoxychlor	µg/L	12/9/2006	1/24/2013	27	27	0.22	-	-	0.25	-						
Wet	Methylene Blue Active Substances (MBAS)	mg/L	12/9/2006	1/24/2013	27	5	0.74	0.183	3.96	0.46	0.57						
Wet	PCB-1016 (Aroclor 1016)	µg/L	12/9/2006	1/24/2013	27	27	0.16	-	-	0.25	-						
Wet	PCB-1221 (Aroclor 1221)	µg/L	12/9/2006	1/24/2013	29	29	0.17	-	-	0.25	-						
Wet	PCB-1232 (Aroclor 1232)	µg/L	12/9/2006	1/24/2013	27	27	0.16	-	-	0.25	-						
Wet	PCB-1242 (Aroclor 1242)	µg/L	12/9/2006	1/24/2013	27	27	0.16	-	-	0.25	-						
Wet	PCB-1248 (Aroclor 1248)	µg/L	12/9/2006	1/24/2013	27	27	0.16	-	-	0.25	-						
Wet	PCB-1254 (Aroclor 1254)	µg/L	12/9/2006	1/24/2013	27	27	0.16	-	-	0.25	-						
Wet	PCB-1260 (Aroclor 1260)	µg/L	12/9/2006	1/24/2013	27	27	0.16	-	-	0.25	-						
Wet	Thallium	µg/L	2/27/2006	1/24/2013	37	37	0.36	-	0.179	0.50	-						
Wet	Phenolics- Total recoverable	mg/L	11/1/2006	1/24/2013	30	27	0.06	-	0.235	0.05	0.13						
Wet	Total Petroleum Hydrocarbons	mg/L	11/1/2006	1/24/2013	30	21	2.48	-	5.9	2.50	2.3						
Wet	Phosphorus- Total (as P)	mg/L	12/9/2006	1/24/2013	27		0.45	0.2	1.25	0.34	0.34						
Wet	Nitrate (NO3)	mg/L	12/9/2006	1/24/2013	21		4.77	2.23	14.8	3.55	3.55	0	Basin Plan	45.00	0.00	0 exceedances in 7 Year(s)	0%
Wet	Ammonia	mg/l	2/27/2006	1/24/2013	37	4	0.78	-	3.35	0.48	0.508	0	Basin Plan	3.74	0.00	0 exceedances in 7 Year(s)	0%
Wet	Selenium	µg/L	2/27/2006	1/24/2013	37	23	0.79	-	2.10	0.50	0.78						
Wet	Carbofuran	µg/L	9/21/2007	12/18/2007	4	4	2.50	-	-	2.50	-						
Wet	1-2-Benzanthracene	µg/L	11/4/2008	1/24/2013	20	20	2.00	-	-	2.50	-						
Wet	2-4-6-Trichlorophenol	µg/L	11/4/2008	1/24/2013	17	17	4.74	-	-	5.00	-						
Wet	N-Nitrosodimethylamine	µg/L	11/4/2008	1/24/2013	17	17	2.50	-	-	2.50	-	0	CTR	8.10	0.00	0 exceedances in 5 Year(s)	0%
Wet	N-Nitrosodiphenylamine	µg/L	11/4/2008	1/24/2013	17	17	0.50	-	-	0.50	-	0	CTR	16.00	0.00	0 exceedances in 5 Year(s)	0%

Table E.3: Dominguez Channel - At Station S-28 Data Summary

Weather	Constituent	Unit	Dates Sampled		Total No. of Values	No. with/ ND	Min.	Max.	Avg.	Median		No of Exceed.	Regulatory Source	Regulatory Threshold	Exceed. Frequency(# of exceed. per year)	Exceedance/Time	%Exceed
			From	To						With ND	Without ND						
Wet	Aluminum	µg/L	2/27/2006	1/24/2013	37		2,381.31	20.90	14,200.00	1,500.00	1,500.00						
Wet	Arsenic	µg/L	2/27/2006	1/24/2013	37	1	2.46	-	7.88	2.17	2.18	0	CTR	350.00	0.00	0 exceedances in 7 Year(s)	0%
Wet	Barium	µg/L	12/9/2006	1/24/2013	27	2	107.39	-	389.00	66.60	76.80						
Wet	Silver	µg/L	2/27/2006	1/24/2013	37	29	0.82	-	1.91	0.14	0.49						
Wet	Copper	µg/L	2/27/2006	1/24/2013	37	1	89.86	-	565.00	49.20	50.30						
Wet	Iron	µg/L	2/27/2006	1/24/2013	37		3,676.65	118.00	24,800.00	2,550.00	2,550.00						
Wet	Lead	µg/L	2/27/2006	1/24/2013	37		46.52	0.88	806.00	18.50	18.50						
Wet	Zinc	µg/L	2/27/2006	1/24/2013	37		419.63	27.40	2,250.00	237.00	237.00						
Wet	Alkalinity as CaCO3	mg/L	12/9/2006	1/24/2013	26		44.45	14.30	124.30	28.00	28.00						
Wet	Hardness as CaCO3	mg/L	12/9/2006	1/24/2013	27		73.89	30	190	50.00	50						
Wet	Chromium +6	µg/L	12/9/2006	1/24/2013	28	18	1.25	-	1.8	0.71	0.54						
Wet	Alkalinity as Bicarbonate	mg/L	10/6/2010	11/20/2011	5	1	31.98	-	83	16.50	30.8						
Wet	E. Coli	MPN/100mL	10/11/2012	1/24/2013	5		12,578.84	2419.2	34500	7,915.00	7915	5	Basin Plan	235.00	3.48	5 exceedances in 1 Year(s)	100%
Wet	Antimony	µg/L	2/27/2006	1/24/2013	37	1	5.10	-	18.6	3.80	3.85	0	CTR	4,300.00	0.00	0 exceedances in 7 Year(s)	0%
Wet	Benzioic Acid	µG/L	10/17/2004	1/7/2005	4	4	-	-	-	-	-						
Wet	Benzyl alcohol	µG/L	10/17/2004	1/7/2005	4	4	-	-	-	-	-						
Wet	Alkalinity (mg/L as CaCO3)	mg/L as CaCO3	2/27/2006	2/28/2006	10		69.60	14	220	22.00	22						
Wet	Baryium	µg/L	2/27/2006	2/28/2006	10		41.55	13.20	82.60	25.65	25.65						
Wet	Cobalt	µg/L	2/27/2006	2/28/2006	10		0.82	0.27	2.34	0.65	0.65						
Wet	Detectable DDTs (µg/L)	µg/L	2/27/2006	2/28/2006	10	10	#DIV/0!	0.00	0.00	#NUM!	-						
Wet	Dissolved Organic Carbon	mg/L	2/27/2006	2/28/2006	10		10.84	5.60	25.00	8.35	8.35						
Wet	Manganese	µg/L	2/27/2006	2/28/2006	10		37.74	11.40	137.00	20.40	20.40						
Wet	Molybdenum	µg/L	2/27/2006	2/28/2006	10		2.99	0.45	8.97	1.36	1.36						
Wet	Other Pesticides (µg/L)	µg/L	2/27/2006	2/28/2006	10	10	-	-	-	-	-						
Wet	Strontium	µg/L	2/27/2006	2/28/2006	10		248.06	30.70	826.00	62.55	62.55						
Wet	Tin	µg/L	2/27/2006	2/28/2006	10		0.21	0.13	0.34	0.21	0.21						
Wet	Titanium	µg/L	2/27/2006	2/28/2006	10		11.76	1.60	23.60	11.15	11.15						
Wet	Total Aroclors	µg/L	2/27/2006	2/28/2006	10	10	-	-	-	-	-						
Wet	Total PAHs (ng/L)	ng/L	2/27/2006	2/28/2006	10		986.83	53.70	3,652.60	614.30	614.30						
Wet	Vanadium	µg/L	2/27/2006	2/28/2006	10		3.77	2.15	8.36	3.16	3.16						

Notes:
Water quality data available but no screening criteria was determined.
Source:
Mass Emissions Monitoring.
Appendix B 2002-2006 Sampling Results for Dominguez Channel

Table E.4: Dominguez Channel - Bacteria Data Summary

Waterbody	Weather	Location	Constituent	Dates Sampled From	Dates Sampled To	Total No. of Values	Min.	Max.	Avg.	Median	No. of Exceed.	Regulatory Threshold	Regulatory Source	Exceed. Frequency (# exceed. per year)	Exceedance/Time	%Exceed
Dominguez Channel	Dry	El Segundo Blvd.	E. coli (MPN/100 mL)	4/3/2001	5/26/2009	246	100	240,000	3,192	310	22	235	Basin Plan	0.01	22 exceedances in 9 Year(s)	9%
Dominguez Channel	Dry	El Segundo Blvd.	Enterococcus (MPN/100 mL)	4/3/2001	5/26/2009	244	10	12,000	456	310						
Dominguez Channel	Dry	El Segundo Blvd.	Total Coliform (MPN/100 mL)	4/3/2001	5/26/2009	246	100	240,000	59,819	310						
Dominguez Channel	Dry	"Tributary @ Carson Plaza Dr.	E. coli (MPN/100 mL)	1/17/2002	5/26/2009	63	100	73,000	4,047	2,800	11	235	Basin Plan	0.02	11 exceedances in 8 Year(s)	17%
Dominguez Channel	Dry	"Tributary @ Carson Plaza Dr.	Enterococcus (MPN/100 mL)	1/17/2002	5/26/2009	63	31	24,000	3,896	2,800						
Dominguez Channel	Dry	"Tributary @ Carson Plaza Dr.	Total Coliform (MPN/100 mL)	1/17/2002	5/26/2009	63	1,600	240,000	141,392	2,800						
Dominguez Channel	Dry	Tributary @ Main St.	E. coli (MPN/100 mL)	3/31/2005	5/26/2009	44	100	240,000	10,298	3,950	12	235	Basin Plan	0.07	12 exceedances in 5 Year(s)	27%
Dominguez Channel	Dry	Tributary @ Main St.	Enterococcus (MPN/100 mL)	3/31/2005	5/26/2009	44	20	24,000	2,832	3,950						
Dominguez Channel	Dry	Tributary @ Main St.	Total Coliform (MPN/100 mL)	3/31/2005	5/26/2009	44	19,000	240,000	146,750	3,950						
Dominguez Channel	Dry	Vermont Ave.	E. coli (MPN/100 mL)	1/20/2005	5/26/2009	127	100	77,000	3,553	1,500	20	235	Basin Plan	0.04	20 exceedances in 5 Year(s)	16%
Dominguez Channel	Dry	Vermont Ave.	Enterococcus (MPN/100 mL)	1/20/2005	5/26/2009	127	10	6,500	518	1,500						
Dominguez Channel	Dry	Vermont Ave.	Total Coliform (MPN/100 mL)	1/20/2005	5/26/2009	127	5,900	240,000	125,484	1,500						
Dominguez Channel	Dry	Western Ave.	E. coli (MPN/100 mL)	4/3/2001	5/26/2009	246	100	120,000	2,571	1,100	25	235	Basin Plan	0.01	25 exceedances in 9 Year(s)	10%
Dominguez Channel	Dry	Western Ave.	Enterococcus (MPN/100 mL)	4/3/2001	5/26/2009	244	10	16,000	656	1,100						
Dominguez Channel	Dry	Western Ave.	Total Coliform (MPN/100 mL)	4/3/2001	5/26/2009	246	100	240,000	82,327	1,100						
Dominguez Channel	Dry	Yukon Ave.	E. coli (MPN/100 mL)	1/17/2002	5/26/2009	76	100	46,000	3,827	1,250	13	235	Basin Plan	0.02	13 exceedances in 8 Year(s)	17%
Dominguez Channel	Dry	Yukon Ave.	Enterococcus (MPN/100 mL)	1/17/2002	5/26/2009	76	10	24,000	4,010	1,250						
Dominguez Channel	Dry	Yukon Ave.	Total Coliform (MPN/100 mL)	1/17/2002	5/26/2009	76	100	240,000	83,370	1,250						
Dominguez Channel	Wet	El Segundo Blvd.	E. coli (MPN/100 mL)	2/19/2002	12/23/2008	37	100	19,000	3,714	980	9	235	Basin Plan	0.04	9 exceedances in 7 Year(s)	24%
Dominguez Channel	Wet	El Segundo Blvd.	Enterococcus (MPN/100 mL)	2/19/2002	12/23/2008	37	10	17,000	1,761	980						
Dominguez Channel	Wet	El Segundo Blvd.	Total Coliform (MPN/100 mL)	2/19/2002	12/23/2008	37	100	240,000	88,609	980						
Dominguez Channel	Wet	"Tributary @ Carson Plaza Dr.	E. coli (MPN/100 mL)	2/27/2003	1/31/2008	11	100	41,000	8,631	14,000	5	235	Basin Plan	0.09	5 exceedances in 5 Year(s)	45%
Dominguez Channel	Wet	"Tributary @ Carson Plaza Dr.	Enterococcus (MPN/100 mL)	2/27/2003	1/31/2008	11	52	24,000	10,497	14,000						
Dominguez Channel	Wet	"Tributary @ Carson Plaza Dr.	Total Coliform (MPN/100 mL)	2/27/2003	1/31/2008	11	14,000	240,000	157,364	14,000						
Dominguez Channel	Wet	Tributary @ Main St.	E. coli (MPN/100 mL)	1/27/2005	12/23/2008	7	410	160,000	26,197	8,200	4	235	Basin Plan	0.15	4 exceedances in 4 Year(s)	57%
Dominguez Channel	Wet	Tributary @ Main St.	Enterococcus (MPN/100 mL)	1/27/2005	12/23/2008	7	200	24,000	5,624	8,200						
Dominguez Channel	Wet	Tributary @ Main St.	Total Coliform (MPN/100 mL)	1/27/2005	12/23/2008	7	40,000	240,000	167,286	8,200						
Dominguez Channel	Wet	Vermont Ave.	E. coli (MPN/100 mL)	1/6/2005	12/23/2008	21	100	240,000	15,481	4,100	8	235	Basin Plan	0.10	8 exceedances in 4 Year(s)	38%
Dominguez Channel	Wet	Vermont Ave.	Enterococcus (MPN/100 mL)	1/6/2005	12/23/2008	21	10	24,000	2,479	4,100						
Dominguez Channel	Wet	Vermont Ave.	Total Coliform (MPN/100 mL)	1/6/2005	12/23/2008	21	1,100	240,000	128,319	4,100						
Dominguez Channel	Wet	Western Ave.	E. coli (MPN/100 mL)	2/19/2002	12/23/2008	37	100	110,000	6,326	1,600	6	235	Basin Plan	0.02	6 exceedances in 7 Year(s)	16%
Dominguez Channel	Wet	Western Ave.	Enterococcus (MPN/100 mL)	2/19/2002	12/23/2008	37	10	24,000	1,952	1,600						
Dominguez Channel	Wet	Western Ave.	Total Coliform (MPN/100 mL)	2/19/2002	12/23/2008	37	100	240,000	85,251	1,600						
Dominguez Channel	Wet	Yukon Ave.	E. coli (MPN/100 mL)	2/27/2003	12/23/2008	12	100	16,000	3,588	5,950	3	235	Basin Plan	0.04	3 exceedances in 6 Year(s)	25%
Dominguez Channel	Wet	Yukon Ave.	Enterococcus (MPN/100 mL)	2/27/2003	12/23/2008	12	10	24,000	7,173	5,950						
Dominguez Channel	Wet	Yukon Ave.	Total Coliform (MPN/100 mL)	2/27/2003	12/23/2008	12	740	240,000	108,762	5,950						
Dominguez Channel (Estuary)	Dry	Henry Ford Ave.	E. coli (MPN/100 mL)	4/3/2001	5/26/2009	242	100	240,000	1,698	100						
Dominguez Channel (Estuary)	Dry	Henry Ford Ave.	Enterococcus (MPN/100 mL)	4/3/2001	5/26/2009	240	10	24,000	263	100	12	104	Basin Plan Amendment	0.01	12 exceedances in 9 Year(s)	5%
Dominguez Channel (Estuary)	Dry	Wilmington Ave.	Enterococcus (MPN/100 mL)	4/3/2001	5/26/2009	244	10	24,000	238	185	31	104	Basin Plan Amendment	0.02	31 exceedances in 9 Year(s)	13%
Dominguez Channel (Estuary)	Dry	Wilmington Ave.	E. coli (MPN/100 mL)	4/3/2001	5/26/2009	246	100	46,000	697	185						

Notes:
Water quality data available but no screening criteria was determined.
Source:
City of Los Angeles Department of Public Works Bureau of Sanitation
Watershed Protection Division - Pollutant Assessment Section
Status and Trends Monitoring in Dominguez Channel (Main Stem)
Fecal Indicator Bacteria

Table E.5: Machado Lake - Water Quality Data Summary

Location	Weather	Constituent	Units	Total No. of Values	No. Values with ND	Dates Sampled		Min.	Max.	Avg.	Median		No. of Exceed.	Regulatory Threshold	Regulatory Source	Exceed. Frequency (# exceed. per year)
						From	To				w/o ND	w/ND				
ML-1	Undefined	E. Coli	(MPN/100mL)	56	0	12/20/2007	9/29/2008	100	1,400	278	150.00	150.00	25	235	Basin Plan	0.35
ML-1	Undefined	Ent.	(MPN/100mL)	56	0	12/20/2007	9/29/2008	10	3,600	148	67.50	67.50				
ML-1	Undefined	Tot. Coli.	(MPN/100mL)	55	0	12/20/2007	9/29/2008	520	240,000	58,179	28,000.00	28,000.00				
ML-1	Dry	(EMD Lab) Chlorophyll-a	µg/L	55	0	5/19/2008	2/7/2011	6	234	52	53.00	47.00	43	20	TMDL	2.13
ML-1	Dry	Alkalinity	mg/L	32	0	10/25/2007	5/4/2009	60	254	145	136.00	136.00				
ML-1	Dry	Hardness	mg/L	27	0	10/25/2007	5/4/2009	91.4	473	252	241.00	241.00				
ML-1	Dry	Inorganic Nitrogen	mg/L	105	0	6/16/2006	2/7/2011	0.04	0.68	0	0.16	0.05				
ML-1	Dry	Kjeldhal-N	mg/L	92	0	10/25/2007	2/7/2011	0.16	5	2	1.55	1.55				
ML-1	Dry	NH3-N	mg/L	106	0	6/16/2006	2/7/2011	0.05	0.53	0	0.08	0.05				
ML-1	Dry	NO2	mg/L	106	0	6/16/2006	2/7/2011	0.046	0.14	0	0.07	0.02				
ML-1	Dry	NO3	mg/L	106	0	6/16/2006	2/7/2011	0.04	0.33	0	0.10	0.02	0	45	Basin Plan	0.00
ML-1	Dry	Organic-N	mg/L	92	0	10/25/2007	2/7/2011	0.11	5	2	1.50	1.50				
ML-1	Dry	Ortho-Phosphorus	mg/L	106	0	6/16/2006	2/7/2011	0.13	1.61	1	0.64	0.64				
ML-1	Dry	TDS	mg/L	67	0	6/16/2006	2/7/2011	84	1108	527	508.00	492.00				
ML-1	Dry	Total Nitrogen	mg/L	106	0	6/16/2006	2/7/2011	0.3	5	2	1.82	1.82	89	1	TMDL	3.90
ML-1	Dry	Total Phosphate	mg/L	106	0	6/16/2006	2/7/2011	0.31	1.91	1	0.81	0.81				
ML-1	Dry	TSS	mg/L	103	0	6/16/2006	2/7/2011	2.4	148	31	29.50	29.00				
ML-1	Wet	(EMD Lab) Chlorophyll-a	µg/L	2	0	5/23/2008	2/17/2009	74.3	74.3	40	74.30	40.15	1	20	TMDL	0.37
ML-1	Wet	Alkalinity	mg/L	4	0	12/20/2007	2/17/2009	16	42	31	33.00	33.00				
ML-1	Wet	Hardness	mg/L	4	0	12/20/2007	2/17/2009	45.4	74	60	59.60	59.60				
ML-1	Wet	Inorganic Nitrogen	mg/L	6	0	4/17/2007	2/17/2009	0.46	0.64	0	0.57	0.52				
ML-1	Wet	Kjeldhal-N	mg/L	5	0	12/20/2007	2/17/2009	0.4	2.5	1	0.70	0.70				
ML-1	Wet	NH3-N	mg/L	6	0	4/17/2007	2/17/2009	0.1	0.2	0	0.10	0.10				
ML-1	Wet	NO2	mg/L	6	0	4/17/2007	2/17/2009	0	0	0	0.02	0.02				
ML-1	Wet	NO3	mg/L	6	0	4/17/2007	2/17/2009	0.39	0.49	0	0.45	0.42	0	45	Basin Plan	0.00
ML-1	Wet	Organic-N	mg/L	5	0	12/20/2007	2/17/2009	0.4	2.4	1	0.60	0.60				
ML-1	Wet	Ortho-Phosphorus	mg/L	6	0	4/17/2007	2/17/2009	0.29	0.71	0	0.43	0.43				
ML-1	Wet	TDS	mg/L	5	0	4/17/2007	2/17/2009	120	612	237	146.00	146.00				
ML-1	Wet	Total Nitrogen	mg/L	6	0	4/17/2007	2/17/2009	0.86	3.26	2	1.35	1.35	5	1	TMDL	1.53
ML-1	Wet	Total Phosphate	mg/L	6	0	4/17/2007	2/17/2009	0.39	1.13	1	0.43	0.43				
ML-1	Wet	TSS	mg/L	6	0	4/17/2007	2/17/2009	11	72	27	20.00	20.00				
ML-1	Undefined	ALGAL BIOMASS	µg/L(mg/M3)	41	8	4/4/2011	12/10/2012	10	166	32	31.00	26.00				
ML-1	Undefined	AMMONIA-N	mg/L	39	35	4/4/2011	12/26/2012	0.1	0.21	0	0.14	0.03	0	2.15	TMDL	0.00
ML-1	Undefined	LAKE DEPTH	ft	46	0	4/4/2011	12/26/2012	2	4.58	3	3.50	3.50				
ML-1	Undefined	NITRATE-N	mg/L	35	30	4/4/2011	12/26/2012	0.13	0.68	0	0.38	0.01	0	10	Basin Plan	0.00
ML-1	Undefined	NITRITE-N	mg/L	43	43	4/4/2011	12/26/2012	0	0	0	0.00	0.01	0	1	Basin Plan	0.00
ML-1	Undefined	ORGANIC-N	mg/L	46	1	4/4/2011	12/26/2012	0.17	3.48	1	0.91	0.86				
ML-1	Undefined	OXYGEN (DISSOLVED)	mg/L	46	0	4/4/2011	12/26/2012	0.17	8.5	4	3.50	3.50	38	5	TMDL	1.43
ML-1	Undefined	PHOSPHORUS (ORTHO)	mg/L	46	0	4/4/2011	12/26/2012	0.29	1.2	1	0.66	0.66				
ML-1	Undefined	PHOSPHORUS (TOTAL)	mg/L	46	0	4/4/2011	12/26/2012	0.33	1.39	1	0.77	0.77	46	0.1	TMDL	1.73
ML-1	Undefined	SECCHI DEPTH	in	46	0	4/4/2011	12/26/2012	10	45	25	25.00	25.00				
ML-1	Undefined	SUSPENDED SOLIDS	mg/L	46	0	4/4/2011	12/26/2012	2.3	117	18	9.50	9.50				
ML-1	Undefined	TOTAL DISSOLVED SOLIDS	mg/L	46	0	4/4/2011	12/26/2012	80	668	357	334.00	334.00				
ML-1	Undefined	TURBIDITY	NTU	46	0	4/4/2011	12/26/2012	1.4	51.9	9	6.45	6.45				
ML-2	Undefined	E. Coli	(MPN/100mL)	56	0	12/20/2007	9/29/2008	100	1,100	237	200.00	200.00	19	235	Basin Plan	0.26
ML-2	Undefined	Ent.	(MPN/100mL)	56	0	12/20/2007	9/29/2008	10	4,300	148	63.00	63.00				
ML-2	Undefined	Tot. Coli.	(MPN/100mL)	55	0	12/20/2007	9/29/2008	410	240,000	55,284	25,000.00	25,000.00				
ML-2	Dry	(EMD Lab) Chlorophyll-a	µg/L	55	0	5/19/2008	2/7/2011	7	170	51	50.00	50.00	46	20	TMDL	2.28
ML-2	Dry	Alkalinity	mg/L	32	0	10/25/2007	5/4/2009	58	250	143	136.00	136.00				
ML-2	Dry	Hardness	mg/L	27	0	10/25/2007	5/4/2009	85	466	250	247.00	247.00				
ML-2	Dry	Inorganic Nitrogen	mg/L	106	0	6/16/2006	2/7/2011	0.03	0.7	0	0.16	0.05				
ML-2	Dry	Kjeldhal-N	mg/L	92	0	10/25/2007	2/7/2011	0.3	3.3	2	1.69	1.69				
ML-2	Dry	NH3-N	mg/L	106	0	6/16/2006	2/7/2011	0.05	0.58	0	0.09	0.05				
ML-2	Dry	NO2	mg/L	106	0	6/16/2006	2/7/2011	0.04	0.28	0	0.07	0.02				
ML-2	Dry	NO3	mg/L	106	0	6/16/2006	2/7/2011	0.03	0.34	0	0.12	0.02	0	45	Basin Plan	0.00
ML-2	Dry	Organic-N	mg/L	92	0	10/25/2007	2/7/2011	0.3	3.3	2	1.62	1.62				
ML-2	Dry	Ortho-Phosphorus	mg/L	106	0	6/16/2006	2/7/2011	0.2	1.44	1	0.64	0.64				
ML-2	Dry	TDS	mg/L	67	0	6/16/2006	2/7/2011	32	1090	526	480.00	480.00				

Table E.5: Machado Lake - Water Quality Data Summary

Location	Weather	Constituent	Units	Total No. of Values	No. Values with ND	Dates Sampled From	Dates Sampled To	Min.	Max.	Avg.	Median w/o ND	Median w/ND	No. of Exceed.	Regulatory Threshold	Regulatory Source	Exceed. Frequency (# exceed. per year)
ML-2	Dry	Total Nitrogen	mg/L	106	0	6/16/2006	2/7/2011	0.3	4.62	2	1.79	1.79	92	1	TMDL	4.04
ML-2	Dry	Total Phosphate	mg/L	106	0	6/16/2006	2/7/2011	0.33	1.51	1	0.80	0.80				
ML-2	Dry	TSS	mg/L	104	0	6/16/2006	2/7/2011	3.2	91	29	27.50	27.50				
ML-2	Wet	(EMD Lab) Chlorophyll-a	µg/L	2	0	5/23/2008	2/17/2009	60.8	60.80	33.40	60.80	33.40	1	20	TMDL	0.37
ML-2	Wet	Alkalinity	mg/L	4	0	12/20/2007	2/17/2009	22	54.00	35.50	33.00	33.00				
ML-2	Wet	Hardness	mg/L	4	0	12/20/2007	2/17/2009	31.1	83.50	53.38	49.45	49.45				
ML-2	Wet	Inorganic Nitrogen	mg/L	5	0	12/20/2007	2/17/2009	0.41	0.60	0.43	0.52	0.47				
ML-2	Wet	Kjeldhal-N	mg/L	5	0	12/20/2007	2/17/2009	0.48	1.60	0.96	0.87	0.87				
ML-2	Wet	NH3-N	mg/L	5	0	12/20/2007	2/17/2009	0.07	0.18	0.11	0.13	0.09				
ML-2	Wet	NO2	mg/L	5	0	12/20/2007	2/17/2009	0	0.00	0.02	0.02	0.02				
ML-2	Wet	NO3	mg/L	5	0	12/20/2007	2/17/2009	0.34	0.42	0.30	0.37	0.36	0	45	Basin Plan	0.00
ML-2	Wet	Organic-N	mg/L	5	0	12/20/2007	2/17/2009	0.3	1.60	0.86	0.70	0.70				
ML-2	Wet	Ortho-Phosphorus	mg/L	5	0	12/20/2007	2/17/2009	0.32	0.58	0.44	0.46	0.46				
ML-2	Wet	TDS	mg/L	4	0	12/20/2007	2/17/2009	93	160.00	128.25	130.00	130.00				
ML-2	Wet	Total Nitrogen	mg/L	5	0	12/20/2007	2/17/2009	0.9	1.60	1.30	1.27	1.27	4	1	TMDL	0.93
ML-2	Wet	Total Phosphate	mg/L	5	0	12/20/2007	2/17/2009	0.38	0.78	0.51	0.45	0.45				
ML-2	Wet	TSS	mg/L	5	0	12/20/2007	2/17/2009	13	44.00	23.40	17.00	17.00				
ML-2	Undefined	ALGAL BIOMASS	µg/L(mg/M3)	42	9	4/4/2011	12/10/2012	12	103	32	29.00	26.50				
ML-2	Undefined	AMMONIA-N	mg/L	39	35	4/4/2011	12/26/2012	0.15	0.35	0	0.15	0.03	0	2.15	TMDL	0.00
ML-2	Undefined	LAKE DEPTH	ft	46	0	4/4/2011	12/26/2012	3.08	4.83	4	4.25	4.25				
ML-2	Undefined	NITRATE-N	mg/L	38	33	5/2/2011	12/26/2012	0.12	0.63	0	0.27	0.01	0	10	Basin Plan	0.00
ML-2	Undefined	NITRITE-N	mg/L	44	44	4/4/2011	12/26/2012	0	0	0	0.00	0.01	0	1	Basin Plan	0.00
ML-2	Undefined	ORGANIC-N	mg/L	46	0	4/4/2011	12/26/2012	0.27	3.87	1	1.00	1.00				
ML-2	Undefined	OXYGEN (DISSOLVED)	mg/L	46	0	4/4/2011	12/26/2012	0.08	8.17	3	2.57	2.57	42	5	TMDL	1.58
ML-2	Undefined	PHOSPHORUS (ORTHO)	mg/L	46	0	4/4/2011	12/26/2012	0.3	1.23	1	0.61	0.61				
ML-2	Undefined	PHOSPHORUS (TOTAL)	mg/L	46	0	4/4/2011	12/26/2012	0.33	1.37	1	0.71	0.71	46	0.1	TMDL	1.73
ML-2	Undefined	SECCHI DEPTH	in	46	0	4/4/2011	12/26/2012	11	52	26	25.00	25.00				
ML-2	Undefined	SUSPENDED SOLIDS	mg/L	46	0	4/4/2011	12/26/2012	1.4	35.5	13	9.10	9.10				
ML-2	Undefined	TOTAL DISSOLVED SOLIDS	mg/L	46	0	4/4/2011	12/26/2012	80	672	356	344.00	344.00				
ML-2	Undefined	TURBIDITY	NTU	46	0	4/4/2011	12/26/2012	1.3	17.7	7	5.80	5.80				
ML-3	Undefined	E. Coli	(MPN/100mL)	56	0	12/20/2007	9/29/2008	100	2,300	604	515.00	515.00	44	235	Basin Plan	0.61
ML-3	Undefined	Ent.	(MPN/100mL)	56	0	12/20/2007	9/29/2008	10	3,500	325	255.00	255.00				
ML-3	Undefined	Tot. Coli.	(MPN/100mL)	55	0	12/20/2007	9/29/2008	1,200	240,000	57,104	28,000.00	28,000.00				
ML-3	Dry	(EMD Lab) Chlorophyll-a	µg/L	20	0	5/19/2008	9/29/2008	40	88	61	60.50	60.50	20	20	TMDL	0.36
ML-3	Dry	Inorganic Nitrogen	mg/L	47	0	5/19/2008	9/29/2008	0.05	0.19	0	0.12	0.05				
ML-3	Dry	Kjeldhal-N	mg/L	47	0	5/19/2008	9/29/2008	0.3	3.3	2	1.75	1.70				
ML-3	Dry	NH3-N	mg/L	47	0	5/19/2008	9/29/2008	0.05	0.09	0	0.06	0.05				
ML-3	Dry	NO2	mg/L	47	0	5/19/2008	9/29/2008	0.14	0.19	0	0.17	0.02				
ML-3	Dry	NO3	mg/L	47	0	5/19/2008	9/29/2008	0	0	0	0.02	0.02	0	45	Basin Plan	0.00
ML-3	Dry	Organic-N	mg/L	47	0	5/19/2008	9/29/2008	0.3	3.3	2	1.80	1.80				
ML-3	Dry	Ortho-Phosphorus	mg/L	47	0	5/19/2008	9/29/2008	0.33	1	1	0.68	0.68				
ML-3	Dry	Total Nitrogen	mg/L	47	0	5/19/2008	9/29/2008	0.3	3.3	2	1.89	1.89	45	1	TMDL	0.35
ML-3	Dry	Total Phosphate	mg/L	47	0	5/19/2008	9/29/2008	0.52	1.22	1	0.81	0.81				
ML-3	Dry	TSS	mg/L	47	0	5/19/2008	9/29/2008	22	70	39	38.00	38.00				
ML-3	Wet	(EMD Lab) Chlorophyll-a	µg/L	1	0	5/23/2008	5/23/2008	73.90	73.90	73.90	73.90	73.90	1	20	TMDL	0.00
ML-3	Wet	Inorganic Nitrogen	mg/L	1	0	5/23/2008	5/23/2008	0.00	0.00	0.05	0.05	0.05				
ML-3	Wet	Kjeldhal-N	mg/L	1	0	5/23/2008	5/23/2008	1.47	1.47	1.47	1.47	1.47				
ML-3	Wet	NH3-N	mg/L	1	0	5/23/2008	5/23/2008	0.00	0.00	0.05	0.05	0.05				
ML-3	Wet	NO2	mg/L	1	0	5/23/2008	5/23/2008	0.00	0.00	0.02	0.02	0.02				
ML-3	Wet	NO3	mg/L	1	0	5/23/2008	5/23/2008	0.00	0.00	0.02	0.02	0.02	0	45	Basin Plan	0.00
ML-3	Wet	Organic-N	mg/L	1	0	5/23/2008	5/23/2008	1.47	1.47	1.47	1.47	1.47				
ML-3	Wet	Ortho-Phosphorus	mg/L	1	0	5/23/2008	5/23/2008	0.57	0.57	0.57	0.57	0.57				
ML-3	Wet	Total Nitrogen	mg/L	1	0	5/23/2008	5/23/2008	1.47	1.47	1.56	1.56	1.56	1	1	TMDL	0.00
ML-3	Wet	Total Phosphate	mg/L	1	0	5/23/2008	5/23/2008	0.76	0.76	0.76	0.76	0.76				
ML-3	Wet	TSS	mg/L	1	0	5/23/2008	5/23/2008	52.00	52.00	52.00	52.00	52.00				
ML-4	Undefined	E. Coli	(MPN/100mL)	47	0	5/19/2008	9/29/2008	100	520	157	100.00	100.00	8	235	Basin Plan	0.06
ML-4	Undefined	Ent.	(MPN/100mL)	47	0	5/19/2008	9/29/2008	10	270	43	30.00	30.00				
ML-4	Undefined	Tot. Coli.	(MPN/100mL)	46	0	5/19/2008	9/29/2008	2,200	240,000	54,120	25,000.00	25,000.00				

Table E.5: Machado Lake - Water Quality Data Summary

Location	Weather	Constituent	Units	Total No. of Values	No. Values with ND	Dates Sampled		Min.	Max.	Avg.	Median		No. of Exceed.	Regulatory Threshold	Regulatory Source	Exceed. Frequency (# exceed. per year)
						From	To				w/o ND	w/ND				
ML-4	Dry	(EMD Lab) Chlorophyll-a	µg/L	19	0	5/19/2008	9/26/2008	30.4	86.4	57	60.00	60.00	19	20	TMDL	0.36
ML-4	Dry	Inorganic Nitrogen	mg/L	47	0	5/19/2008	9/29/2008	0.05	0.14	0	0.15	0.05				
ML-4	Dry	Kjeldhal-N	mg/L	47	0	5/19/2008	9/29/2008	0.3	2.8	2	1.70	1.70				
ML-4	Dry	NH3-N	mg/L	47	0	5/19/2008	9/29/2008	0.05	0.11	0	0.09	0.05				
ML-4	Dry	NO2	mg/L	47	0	5/19/2008	9/29/2008	0.087	0.14	0	0.11	0.02				
ML-4	Dry	NO3	mg/L	47	0	5/19/2008	9/29/2008	0	0	0	0.02	0.02	0	45	Basin Plan	0.00
ML-4	Dry	Organic-N	mg/L	47	0	5/19/2008	9/29/2008	0.3	2.8	2	1.70	1.70				
ML-4	Dry	Ortho-Phosphorus	mg/L	47	0	5/19/2008	9/29/2008	0.33	0.96	1	0.68	0.68				
ML-4	Dry	Total Nitrogen	mg/L	47	0	5/19/2008	9/29/2008	0.3	2.8	2	1.79	1.79	44	1	TMDL	0.34
ML-4	Dry	Total Phosphate	mg/L	47	0	5/19/2008	9/29/2008	0.47	1.1	1	0.79	0.79				
ML-4	Dry	TSS	mg/L	47	0	5/19/2008	9/29/2008	14	58	34	34.00	34.00				
ML-4	Wet	(EMD Lab) Chlorophyll-a	µg/L	1	0	5/23/2008	5/23/2008	58.20	58.20	58.20	58.20	58.20	1	20	TMDL	0.00
ML-4	Wet	Inorganic Nitrogen	mg/L	1	0	5/23/2008	5/23/2008	0.00	0.00	0.05	0.05	0.05				
ML-4	Wet	Kjeldhal-N	mg/L	1	0	5/23/2008	5/23/2008	1.30	1.30	1.30	1.30	1.30				
ML-4	Wet	NH3-N	mg/L	1	0	5/23/2008	5/23/2008	0.00	0.00	0.05	0.05	0.05				
ML-4	Wet	NO2	mg/L	1	0	5/23/2008	5/23/2008	0.00	0.00	0.02	0.02	0.02				
ML-4	Wet	NO3	mg/L	1	0	5/23/2008	5/23/2008	0.00	0.00	0.02	0.02	0.02	0	45	Basin Plan	0.00
ML-4	Wet	Organic-N	mg/L	1	0	5/23/2008	5/23/2008	1.30	1.30	1.30	1.30	1.30				
ML-4	Wet	Ortho-Phosphorus	mg/L	1	0	5/23/2008	5/23/2008	0.61	0.61	0.61	0.61	0.61				
ML-4	Wet	Total Nitrogen	mg/L	1	0	5/23/2008	5/23/2008	1.30	1.30	1.39	1.39	1.39	1	1	TMDL	0.00
ML-4	Wet	Total Phosphate	mg/L	1	0	5/23/2008	5/23/2008	0.82	0.82	0.82	0.82	0.82				
ML-4	Wet	TSS	mg/L	1	0	5/23/2008	5/23/2008	43	43	43	43.00	43.00				
ML-4	Undefined	ALGAL BIOMASS	µg/L(mg/M3)	45	45	4/4/2011	12/10/2012	0	0	3	0.00	3.00				
ML-4	Undefined	AMMONIA-N	mg/L	45	45	4/4/2011	12/26/2012	0	0	0	0.00	0.03	0	2.15	TMDL	0.00
ML-4	Undefined	NITRATE-N	mg/L	45	45	4/4/2011	12/26/2012	0	0	0	0.00	0.01	0	10	Basin Plan	0.00
ML-4	Undefined	NITRITE-N	mg/L	46	46	4/4/2011	12/26/2012	0	0	0	0.00	0.01	0	1	Basin Plan	0.00
ML-4	Undefined	ORGANIC-N	mg/L	46	45	4/4/2011	12/26/2012	0.84	0.84	0	0.84	0.05				
ML-4	Undefined	PHOSPHORUS (ORTHO)	mg/L	45	45	4/4/2011	12/26/2012	0	0	0	0.00	0.03				
ML-4	Undefined	PHOSPHORUS (TOTAL)	mg/L	46	46	4/4/2011	12/26/2012	0	0	0	0.00	0.03	0	0.1	TMDL	0.00
ML-4	Undefined	SUSPENDED SOLIDS	mg/L	46	42	4/4/2011	12/26/2012	1	1.9	1	1.10	0.50				
ML-4	Undefined	TOTAL DISSOLVED SOLIDS	mg/L	45	44	4/4/2011	12/26/2012	40	40	15	40.00	14.00				
ML-4	Undefined	TURBIDITY	NTU	46	10	4/4/2011	12/26/2012	0.1	0.6	0	0.10	0.10				
ML-4	Undefined	ALGAL BIOMASS	µg/L(mg/M3)	42	9	4/4/2011	12/10/2012	10	167	34	31.00	26.00				
ML-4	Undefined	AMMONIA-N	mg/L	39	34	4/4/2011	12/26/2012	0.1	0.21	0	0.11	0.03	0	2.15	TMDL	0.00
ML-4	Undefined	NITRATE-N	mg/L	40	35	4/4/2011	12/26/2012	0.12	0.63	0	0.24	0.01	0	10	Basin Plan	0.00
ML-4	Undefined	NITRITE-N	mg/L	44	44	4/4/2011	12/26/2012	0	0	0	0.00	0.01	0	1	Basin Plan	0.00
ML-4	Undefined	ORGANIC-N	mg/L	46	0	4/4/2011	12/26/2012	0.32	2.55	1	0.97	0.97				
ML-4	Undefined	PHOSPHORUS (ORTHO)	mg/L	46	0	4/4/2011	12/26/2012	0.3	1.19	1	0.65	0.65				
ML-4	Undefined	PHOSPHORUS (TOTAL)	mg/L	46	0	4/4/2011	12/26/2012	0.33	1.37	1	0.75	0.75	46	0.1	TMDL	1.73
ML-4	Undefined	SUSPENDED SOLIDS	mg/L	46	0	4/4/2011	12/26/2012	1.7	64.7	15	11.40	11.40				
ML-4	Undefined	TOTAL DISSOLVED SOLIDS	mg/L	46	0	4/4/2011	12/26/2012	80	696	363	348.00	348.00				
ML-4	Undefined	TURBIDITY	NTU	46	0	4/4/2011	12/26/2012	1.5	29.7	8	5.50	5.50				
Project 510 Drain	Undefined	E. Coli	(MPN/100mL)	1	0	12/26/2007	12/26/2007	100	100	100	100.00	100.00	0	235	Basin Plan	0.00
Project 510 Drain	Undefined	Ent.	(MPN/100mL)	1	0	12/26/2007	12/26/2007	10	10	10	10.00	10.00				
Project 510 Drain	Undefined	Tot. Coli.	(MPN/100mL)	1	0	12/26/2007	12/26/2007	100	100	100	100.00	100.00				
Project 510 Drain	Dry	Alkalinity	mg/L	27	0	10/19/2007	5/4/2009	84	144	113	114.00	114.00				
Project 510 Drain	Dry	Hardness	mg/L	23	0	10/19/2007	5/4/2009	189	340	256	254.00	254.00				
Project 510 Drain	Dry	Inorganic Nitrogen	mg/L	31	0	10/19/2007	6/29/2009	0.29	2.53	1	0.97	0.91				
Project 510 Drain	Dry	Kjeldhal-N	mg/L	31	0	10/19/2007	6/29/2009	0.3	7.51	2	1.40	1.40				
Project 510 Drain	Dry	NH3-N	mg/L	31	0	10/19/2007	6/29/2009	0.07	0.61	0	0.34	0.32				
Project 510 Drain	Dry	NO2	mg/L	31	0	10/19/2007	6/29/2009	0.04	0.31	0	0.08	0.02				
Project 510 Drain	Dry	NO3	mg/L	31	0	10/19/2007	6/29/2009	0.29	2.45	1	0.63	0.63	0	45	Basin Plan	0.00
Project 510 Drain	Dry	Organic-N	mg/L	31	0	10/19/2007	6/29/2009	0.2	7	1	1.10	1.10				
Project 510 Drain	Dry	Ortho-Phosphorus	mg/L	30	0	10/19/2007	6/29/2009	0.06	1.09	0	0.28	0.26				
Project 510 Drain	Dry	TDS	mg/L	29	0	10/19/2007	6/29/2009	456	804	619	636.00	636.00				
Project 510 Drain	Dry	Total Nitrogen	mg/L	31	0	10/19/2007	6/29/2009	0.71	8	3	2.18	2.18	29	1	TMDL	1.59
Project 510 Drain	Dry	Total Phosphate	mg/L	30	0	10/19/2007	6/29/2009	0.06	1.24	0	0.33	0.33				
Project 510 Drain	Dry	TSS	mg/L	30	0	10/19/2007	6/29/2009	1	864	36	4.00	3.15				

Table E.5: Machado Lake - Water Quality Data Summary

Location	Weather	Constituent	Units	Total No. of Values	No. Values with ND	Dates Sampled		Min.	Max.	Avg.	Median		No. of Exceed.	Regulatory Threshold	Regulatory Source	Exceed. Frequency (# exceed. per year)
						From	To				w/o ND	w/ND				
Project 510 Drain	Wet	Alkalinity	mg/L	1	0	11/30/2007	11/30/2007	14	14	14	14.00	14.00				
Project 510 Drain	Wet	Hardness	mg/L	1	0	11/30/2007	11/30/2007	15.1	15.1	15	15.10	15.10				
Project 510 Drain	Wet	Inorganic Nitrogen	mg/L	1	0	11/30/2007	11/30/2007	1.43	1.43	1	1.45	1.45				
Project 510 Drain	Wet	Kjeldhal-N	mg/L	1	0	11/30/2007	11/30/2007	1.39	1.39	1	1.39	1.39				
Project 510 Drain	Wet	NH3-N	mg/L	1	0	11/30/2007	11/30/2007	0.66	0.66	1	0.66	0.66				
Project 510 Drain	Wet	NO2	mg/L	1	0	11/30/2007	11/30/2007	0	0	0	0.02	0.02				
Project 510 Drain	Wet	NO3	mg/L	1	0	11/30/2007	11/30/2007	0.77	0.77	1	0.77	0.77	0	45	Basin Plan	0.00
Project 510 Drain	Wet	Organic-N	mg/L	1	0	11/30/2007	11/30/2007	0.73	0.73	1	0.73	0.73				
Project 510 Drain	Wet	Ortho-Phosphorus	mg/L	1	0	11/30/2007	11/30/2007	0.78	0.78	1	0.78	0.78				
Project 510 Drain	Wet	TDS	mg/L	1	0	11/30/2007	11/30/2007	36	36	36	36.00	36.00				
Project 510 Drain	Wet	Total Nitrogen	mg/L	1	0	11/30/2007	11/30/2007	2.16	2.16	2	2.18	2.18	1	1	TMDL	0.00
Project 510 Drain	Wet	Total Phosphate	mg/L	1	0	11/30/2007	11/30/2007	0.8	0.8	1	0.80	0.80				
Project 510 Drain	Wet	TSS	mg/L	1	0	11/30/2007	11/30/2007	130	130	130	130.00	130.00				
Project 77 Drain	Undefined	E. Coli	(MPN/100mL)	4	0	12/26/2007	2/27/2008	100	4600	1,278	205.00	205.00	2	235	Basin Plan	0.09
Project 77 Drain	Undefined	Ent.	(MPN/100mL)	4	0	12/26/2007	2/27/2008	10	480	128	10.00	10.00				
Project 77 Drain	Undefined	Tot. Coli.	(MPN/100mL)	4	0	12/26/2007	2/27/2008	100	29000	9,750	4,950.00	4,950.00				
Project 77 Drain	Dry	Alkalinity	mg/L	35	0	10/19/2007	5/4/2009	58	198	116	112.00	112.00				
Project 77 Drain	Dry	Hardness	mg/L	30	0	10/19/2007	5/4/2009	178	363	269	265.00	265.00				
Project 77 Drain	Dry	Inorganic Nitrogen	mg/L	41	0	10/19/2007	6/29/2009	0.53	2.79	1	1.02	1.02				
Project 77 Drain	Dry	Kjeldhal-N	mg/L	41	0	10/19/2007	6/29/2009	0.19	23.41	2	1.59	1.59				
Project 77 Drain	Dry	NH3-N	mg/L	41	0	10/19/2007	6/29/2009	0.05	0.83	0	0.16	0.13				
Project 77 Drain	Dry	NO2	mg/L	41	0	10/19/2007	6/29/2009	0.06	0.72	0	0.12	0.02				
Project 77 Drain	Dry	NO3	mg/L	41	0	10/19/2007	6/29/2009	0.37	2.48	1	0.86	0.85	0	45	Basin Plan	0.00
Project 77 Drain	Dry	Organic-N	mg/L	41	0	10/19/2007	6/29/2009	0.1	23.1	2	1.50	1.50				
Project 77 Drain	Dry	Ortho-Phosphorus	mg/L	41	0	10/19/2007	6/29/2009	0.1	1.15	0	0.35	0.35				
Project 77 Drain	Dry	TDS	mg/L	39	0	10/19/2007	6/29/2009	500	2980	715	628.00	628.00				
Project 77 Drain	Dry	Total Nitrogen	mg/L	41	0	10/19/2007	6/29/2009	0.88	25.89	3	2.60	2.60	40	1	TMDL	1.65
Project 77 Drain	Dry	Total Phosphate	mg/L	41	0	10/19/2007	6/29/2009	0.16	4.18	1	0.42	0.42				
Project 77 Drain	Dry	TSS	mg/L	40	0	10/19/2007	6/29/2009	1.6	181	12	4.00	4.00				
Project 77 Drain	Wet	Alkalinity	mg/L	6	0	11/30/2007	2/17/2009	28	124	83	88.00	88.00				
Project 77 Drain	Wet	Hardness	mg/L	6	0	11/30/2007	2/17/2009	30.4	264	147	130.50	130.50				
Project 77 Drain	Wet	Inorganic Nitrogen	mg/L	6	0	11/30/2007	2/17/2009	1.01	3.41	2	1.77	1.77				
Project 77 Drain	Wet	Kjeldhal-N	mg/L	6	0	11/30/2007	2/17/2009	0.74	2.83	2	2.61	2.61				
Project 77 Drain	Wet	NH3-N	mg/L	6	0	11/30/2007	2/17/2009	0.14	0.76	0	0.50	0.50				
Project 77 Drain	Wet	NO2	mg/L	6	0	11/30/2007	2/17/2009	0.1	0.56	0	0.14	0.06				
Project 77 Drain	Wet	NO3	mg/L	6	0	11/30/2007	2/17/2009	0.74	2.42	1	1.12	1.12	0	45	Basin Plan	0.00
Project 77 Drain	Wet	Organic-N	mg/L	6	0	11/30/2007	2/17/2009	0.6	2.3	2	1.95	1.95				
Project 77 Drain	Wet	Ortho-Phosphorus	mg/L	6	0	11/30/2007	2/17/2009	0.06	2.01	1	0.52	0.52				
Project 77 Drain	Wet	TDS	mg/L	6	0	11/30/2007	2/17/2009	92	620	386	378.00	378.00				
Project 77 Drain	Wet	Total Nitrogen	mg/L	6	0	11/30/2007	2/17/2009	1.77	5.71	4	3.92	3.92	6	1	TMDL	1.22
Project 77 Drain	Wet	Total Phosphate	mg/L	6	0	11/30/2007	2/17/2009	0.2	1.99	1	0.64	0.64				
Project 77 Drain	Wet	TSS	mg/L	6	0	11/30/2007	2/17/2009	3	311	93	31.50	31.50				
Wilmington Drain	Undefined	E. Coli	(MPN/100mL)	4	0	12/26/2007	2/27/2008	100	1400	450	150.00	150.00	1	235	Basin Plan	0.04
Wilmington Drain	Undefined	Ent.	(MPN/100mL)	4	0	12/26/2007	2/27/2008	10	1200	310	15.00	15.00				
Wilmington Drain	Undefined	Tot. Coli.	(MPN/100mL)	4	0	12/26/2007	2/27/2008	5400	19000	10,675	9,150.00	9,150.00				
Wilmington Drain	Dry	Alkalinity	mg/L	29	0	10/19/2007	2/2/2009	108	238	169	164.00	164.00				
Wilmington Drain	Dry	Hardness	mg/L	31	0	10/19/2007	6/15/2009	137	1000	554	573.00	573.00				
Wilmington Drain	Dry	Inorganic Nitrogen	mg/L	30	0	10/19/2007	2/2/2009	0.29	1.97	1	0.91	0.89				
Wilmington Drain	Dry	Kjeldhal-N	mg/L	30	0	10/19/2007	2/2/2009	0.85	16.33	2	1.91	1.91				
Wilmington Drain	Dry	NH3-N	mg/L	39	0	10/19/2007	2/2/2009	0.15	1.44	1	0.52	0.52				
Wilmington Drain	Dry	NO2	mg/L	30	0	10/19/2007	2/2/2009	0.05	0.35	0	0.12	0.02				
Wilmington Drain	Dry	NO3	mg/L	30	0	10/19/2007	2/2/2009	0.1	2.09	1	0.37	0.37	0	45	Basin Plan	0.00
Wilmington Drain	Dry	Organic-N	mg/L	30	0	10/19/2007	2/2/2009	0.6	15.4	2	1.30	1.30				
Wilmington Drain	Dry	Ortho-Phosphorus	mg/L	30	0	10/19/2007	2/2/2009	0.21	4.42	1	0.40	0.39				
Wilmington Drain	Dry	TDS	mg/L	29	0	10/19/2007	2/2/2009	580	1760	1,217	1,240.00	1,240.00				
Wilmington Drain	Dry	Total Nitrogen	mg/L	30	0	10/19/2007	2/2/2009	1.29	18.42	3	2.31	2.31	30	1	TMDL	1.29
Wilmington Drain	Dry	Total Phosphate	mg/L	30	0	10/19/2007	2/2/2009	0.11	4.66	1	0.51	0.51				
Wilmington Drain	Dry	TSS	mg/L	30	0	10/19/2007	2/2/2009	2	38	12	8.00	8.00				

Table E.5: Machado Lake - Water Quality Data Summary

Location	Weather	Constituent	Units	Total No. of Values	No. Values with ND	Dates Sampled		Min.	Max.	Avg.	Median		No. of Exceed.	Regulatory Threshold	Regulatory Source	Exceed. Frequency (# exceed. per year)
						From	To				w/o ND	w/ND				
Wilmington Drain	Wet	Alkalinity	mg/L	6	0	11/30/2007	2/17/2009	14	158	85	84.00	84.00				
Wilmington Drain	Wet	Hardness	mg/L	6	0	11/30/2007	2/17/2009	22.8	442	190	204.50	204.50				
Wilmington Drain	Wet	Inorganic Nitrogen	mg/L	6	0	11/30/2007	2/17/2009	0.61	1.67	1	1.35	1.35				
Wilmington Drain	Wet	Kjeldhal-N	mg/L	6	0	11/30/2007	2/17/2009	0.89	1.76	1	1.26	1.26				
Wilmington Drain	Wet	NH3-N	mg/L	7	0	11/30/2007	2/17/2009	0.16	0.86	0	0.50	0.50				
Wilmington Drain	Wet	NO2	mg/L	6	0	11/30/2007	2/17/2009	0.06	0.06	0	0.06	0.02				
Wilmington Drain	Wet	NO3	mg/L	6	0	11/30/2007	2/17/2009	0.45	1.17	1	0.85	0.85	0	45	Basin Plan	0.00
Wilmington Drain	Wet	Organic-N	mg/L	6	0	11/30/2007	2/17/2009	0.6	0.94	1	0.90	0.90				
Wilmington Drain	Wet	Ortho-Phosphorus	mg/L	6	0	11/30/2007	2/17/2009	0.07	0.9	0	0.45	0.45				
Wilmington Drain	Wet	TDS	mg/L	6	0	11/30/2007	2/17/2009	52	820	421	374.00	374.00				
Wilmington Drain	Wet	Total Nitrogen	mg/L	6	0	11/30/2007	2/17/2009	1.51	2.57	2	2.13	2.13	6	1	TMDL	1.22
Wilmington Drain	Wet	Total Phosphate	mg/L	6	0	11/30/2007	2/17/2009	0.13	0.93	0	0.50	0.50				
Wilmington Drain	Wet	TSS	mg/L	6	0	11/30/2007	2/17/2009	4	88	40	39.50	39.50				

Notes:
Water quality data available but no screening criteria was determined.
Source:
City of Los Angeles Department of Public Works Bureau of Sanitation
Watershed Protection Division - Pollutant Assessment Section
Machado Lake Nutrient TMDL Monitoring Program

Table E.6: Dominguez Channel - Ammonia Study Data Summary

Date	Sampling Site	Waterbody	Sample ID EMD	Sample ID WPD	MDL (mg/L)	ML (mg/L)	Total Ammonia Concentration (mg/L NH_3-N)	pH	Temperature (˚C)	Unionized Ammonia (mg/L)	Weather	Basin Plan Amendment (2002, 2004) Criteria: Total Ammonia (NH_3-N) (mg/L)	Basin Plan Amendment (2002, 2004) Criteria: Unionized Ammonia (NH_3-N) (mg/L)	Exceed.
7/1/2009	190th St. @ Figueroa St.	Estuary	HT132614-4	DC-E-190	0.05	0.1	ND	7.56	24.90		Dry			
7/8/2009	190th St. @ Figueroa St.	Estuary	HT132877-4	DC-E-190	0.05	0.1	ND	7.53	24.30		Dry			
7/15/2009	190th St. @ Figueroa St.	Estuary	HT133123-4	DC-E-190	0.05	0.1	ND	7.68	26.90		Dry			
7/22/2009	190th St. @ Figueroa St.	Estuary	HT133363-4	DC-E-190	0.05	0.1	ND	7.66	27.90		Dry			
7/29/2009	190th St. @ Figueroa St.	Estuary	HT133594-4	DC-E-190	0.05	0.1	0.23	7.61	26.80	0.006	Dry	1.783	0.029	No
8/5/2009	190th St. @ Figueroa St.	Estuary	HT133830-4	DC-E-190	0.05	0.1	ND	7.78	26.90		Dry			
8/13/2009	190th St. @ Figueroa St.	Estuary	HT134118-4	DC-E-190	0.05	0.1	ND	7.82	25.30		Dry			
7/1/2009	223rd St. @ Wilmington Ave.	Estuary	HT132614-3	DC-E-223	0.05	0.1	ND	7.65	24.10		Dry			
7/8/2009	223rd St. @ Wilmington Ave.	Estuary	HT132877-3	DC-E-223	0.05	0.1	ND	7.69	24.30		Dry			
7/15/2009	223rd St. @ Wilmington Ave.	Estuary	HT133123-3	DC-E-223	0.05	0.1	ND	7.81	25.30		Dry			
7/22/2009	223rd St. @ Wilmington Ave.	Estuary	HT133363-3	DC-E-223	0.05	0.1	ND	7.62	25.00		Dry			No
7/29/2009	223rd St. @ Wilmington Ave.	Estuary	HT133594-3	DC-E-223	0.05	0.1	0.16	7.73	26.00	0.005	Dry	1.650	0.029	
8/5/2009	223rd St. @ Wilmington Ave.	Estuary	HT133830-3	DC-E-223	0.05	0.1	ND	7.71	25.20		Dry			
8/13/2009	223rd St. @ Wilmington Ave.	Estuary	HT134118-3	DC-E-223	0.05	0.1	ND	7.84	24.50		Dry			
7/1/2009	Henry Ford Ave.	Estuary	HT132614-1	DC-E-HFD	0.05	0.1	ND	7.60	25.30		Dry			
7/8/2009	Henry Ford Ave.	Estuary	HT132877-1	DC-E-HFD	0.05	0.1	ND	7.72	24.30		Dry			
7/15/2009	Henry Ford Ave.	Estuary	HT133123-1	DC-E-HFD	0.05	0.1	ND	7.74	25.10		Dry			
7/22/2009	Henry Ford Ave.	Estuary	HT133363-1	DC-E-HFD	0.05	0.1	ND	7.76	25.30		Dry			
7/29/2009	Henry Ford Ave.	Estuary	HT133594-1	DC-E-HFD	0.05	0.1	0.16	7.75	21.00	0.004	Dry	2.225	0.029	No
8/5/2009	Henry Ford Ave.	Estuary	HT133830-1	DC-E-HFD	0.05	0.1	ND	7.75	21.90		Dry			
8/13/2009	Henry Ford Ave.	Estuary	HT134118-1	DC-E-HFD	0.05	0.1	ND	7.74	25.50		Dry			
7/1/2009	Sepulveda Blvd. @ Alameda St.	Estuary	HT132614-2	DC-E-SPV	0.05	0.1	ND	7.63	23.30		Dry			
7/8/2009	Sepulveda Blvd. @ Alameda St.	Estuary	HT132877-2	DC-E-SPV	0.05	0.1	ND	7.71	24.30		Dry			
7/15/2009	Sepulveda Blvd. @ Alameda St.	Estuary	HT133123-2	DC-E-SPV	0.05	0.1	ND	7.75	24.90		Dry			
7/22/2009	Sepulveda Blvd. @ Alameda St.	Estuary	HT133363-2	DC-E-SPV	0.05	0.1	ND	7.73	25.40		Dry			
7/29/2009	Sepulveda Blvd. @ Alameda St.	Estuary	HT133594-2	DC-E-SPV	0.05	0.1	0.16	7.62	24.50	0.004	Dry	2.047	0.288	No
8/5/2009	Sepulveda Blvd. @ Alameda St.	Estuary	HT133830-2	DC-E-SPV	0.05	0.1	ND	7.69	22.40		Dry			
8/13/2009	Sepulveda Blvd. @ Alameda St.	Estuary	HT134118-2	DC-E-SPV	0.05	0.1	ND	7.76	23.60		Dry			
7/1/2009	Artesia Blvd. @ Western Ave.	Freshwater	HT132614-6	DC-F-ART	0.05	0.1	ND	8.77	24.30		Dry			
7/8/2009	Artesia Blvd. @ Western Ave.	Freshwater	HT132877-6	DC-F-ART	0.05	0.1	DNQ (0.08)	8.42	24.30		Dry			
7/15/2009	Artesia Blvd. @ Western Ave.	Freshwater	HT133123-6	DC-F-ART	0.05	0.1	ND	8.56	29.50		Dry			
7/22/2009	Artesia Blvd. @ Western Ave.	Freshwater	HT133363-6	DC-F-ART	0.05	0.1	ND	9.04	31.20		Dry			
7/29/2009	Artesia Blvd. @ Western Ave.	Freshwater	HT133594-6	DC-F-ART	0.05	0.1	0.12	8.81	25.50	0.033	Dry	0.320	-	No
8/5/2009	Artesia Blvd. @ Western Ave.	Freshwater	HT133830-6	DC-F-ART	0.05	0.1	ND	9.16	29.40		Dry			
8/13/2009	Artesia Blvd. @ Western Ave.	Freshwater	HT134118-6	DC-F-ART	0.05	0.1	ND	9.01	26.80		Dry			
7/1/2009	El Segundo Blvd.	Freshwater	HT132614-8	DC-F-ELS	0.05	0.1	ND	9.76	24.30		Dry			
7/8/2009	El Segundo Blvd.	Freshwater	HT132877-8	DC-F-ELS	0.05	0.1	ND	9.88	24.70		Dry			
7/15/2009	El Segundo Blvd.	Freshwater	HT133123-8	DC-F-ELS	0.05	0.1	ND	10.12	32.00		Dry			
7/22/2009	El Segundo Blvd.	Freshwater	HT133363-8	DC-F-ELS	0.05	0.1	ND	8.99	31.50		Dry			
7/29/2009	El Segundo Blvd.	Freshwater	HT133594-8	DC-F-ELS	0.05	0.1	0.18	10.14	30.00	0.165	Dry	0.070	-	Yes
8/5/2009	El Segundo Blvd.	Freshwater	HT133830-8	DC-F-ELS	0.05	0.1	ND	9.57	30.70		Dry			
8/13/2009	El Segundo Blvd.	Freshwater	HT134118-8	DC-F-ELS	0.05	0.1	ND	9.69	27.80		Dry			
7/1/2009	Manhattan Beach Blvd.	Freshwater	HT132614-7	DC-F-MAN	0.05	0.1	ND	8.84	24.30		Dry			
7/8/2009	Manhattan Beach Blvd.	Freshwater	HT132877-7	DC-F-MAN	0.05	0.1	ND	8.60	24.50		Dry			
7/15/2009	Manhattan Beach Blvd.	Freshwater	HT133123-7	DC-F-MAN	0.05	0.1	ND	8.62	25.70		Dry			
7/22/2009	Manhattan Beach Blvd.	Freshwater	HT133363-7	DC-F-MAN	0.05	0.1	ND	8.79	26.90		Dry			
7/29/2009	Manhattan Beach Blvd.	Freshwater	HT133594-7	DC-F-MAN	0.05	0.1	1.50	8.93	26.00	0.513	Dry	0.257	-	Yes
8/5/2009	Manhattan Beach Blvd.	Freshwater	HT133830-7	DC-F-MAN	0.05	0.1	ND	8.41	25.40		Dry			
8/13/2009	Manhattan Beach Blvd.	Freshwater	HT134118-7	DC-F-MAN	0.05	0.1	ND	8.48	24.60		Dry			
7/1/2009	Vermont Ave.	Freshwater	HT132614-5	DC-F-VER	0.05	0.1	ND	8.71	24.30		Dry			
7/8/2009	Vermont Ave.	Freshwater	HT132877-5	DC-F-VER	0.05	0.1	ND	8.57	24.40		Dry			
7/15/2009	Vermont Ave.	Freshwater	HT133123-5	DC-F-VER	0.05	0.1	ND	8.89	29.50		Dry			
7/22/2009	Vermont Ave.	Freshwater	HT133363-5	DC-F-VER	0.05	0.1	0.15	7.96	28.70	0.009	Dry	1.033	-	No
7/29/2009	Vermont Ave.	Freshwater	HT133594-5	DC-F-VER	0.05	0.1	0.17	8.70	25.10	0.038	Dry	0.3933	-	No
8/5/2009	Vermont Ave.	Freshwater	HT133830-5	DC-F-VER	0.05	0.1	ND	8.69	27.40		Dry			
8/13/2009	Vermont Ave.	Freshwater	HT134118-5	DC-F-VER	0.05	0.1	ND	8.91	26.50		Dry			

Notes:
MDL = Method Detection Limit (the concentration of a substance that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero, as defined in 40 CFR Part 136 Appendix B).

Table E.6: Dominguez Channel - Ammonia Study Data Summary

Date	Sampling Site	Waterbody	Sample ID EMD	Sample ID WPD	MDL (mg/L)	ML (mg/L)	Total Ammonia Concentration (mg/L NH_3-N)	pH	Temperature (˚C)	Unionized Ammonia (mg/L)	Weather	Basin Plan Amendment (2002, 2004) Criteria		Exceed.
												Total Ammonia (NH_3-N) (mg/L)	Unionized Ammonia (NH_3-N) (mg/L)	

ML = Minimum Level (the concentration of a substance equivalent to the lowest calibration standard).
ND = Not Detected (concentration below MDL).
DNQ = Detected, NOT Quantified (concentration falls below the ML, but above the MDL). Estimated values shown in parentheses.
AE = Analysis Error (no value to report)
pH/Temperature were measured using a temperature-compensated pH probe, calibrated daily prior to use.
Source:
City of Los Angeles, Department of Public Works, Bureau of Sanitation, Watershed Protection Division, Pollution Assessment Section
Special Ammonia Sampling at Dominguez Channel
4 Freshwater, 4 Estuary Stations

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Water and sediment quality monitoring reports were collected and reviewed as part of the characterization. These reports are summarized in Table E.7.

Table E.7: Monitoring Reports Reviewed for Water Quality Characterization

Source	Water Body(ies)	Date Range
LACDPW NPDES MS4 Stormwater Monitoring Reports	Dominguez Channel Mass Emission Station	2002-2012
	Dominguez Channel Tributary Monitoring	2008-2011
Surface Water Ambient Monitoring Program (SWAMP)	Dominguez Channel, Machado Lake and LA/LB Harbor	2003
Dominguez Channel/Consolidated Slip Erosion Study	Dominguez Channel Estuary and Consolidated Slip	2011
Southern California Bight Regional Monitoring Program	LA/LB Harbor	2003 2008
POLA water data	Inner, Fish, and Outer Harbor	2005
Port of Long Beach (POLB) water data	Inner Harbor	2006
POLA/POLB Sediment Survey	Inner and Outer Harbor	2006
City of LA Terminal Island Water Reclamation Plant Biennial Assessment Report	Outer Harbor	2002/2003 2008/2009 2010/2011
Southern California Coastal Water Research Project (SCCWRP) DDE Inventory	Inner and Outer Harbor	2003
Consolidated Slip Restoration Project Concept Plan Supplemental Report	Dominguez Channel, Dominguez Channel Estuary, Torrance Lateral, and Consolidated Slip	2002
SCCWRP Atmospheric Deposition in LA/LB Harbor study	Consolidated Slip	2006
Wilmington Drain Sediment Characterization Study - LACDPW and City of Los Angeles Bureau of Engineering (BOE)	Wilmington Drain	2007
City of LA Machado Lake Nutrients and Toxics TMDL Lake Water Quality Management Plan	Machado Lake and Wilmington Drain	2001-2009

Tables of the observed exceedances over the monitoring period and exceedances over the past five years (starting in January 2008) are summarized in Table E.9 through Table E.13 below. The last ten years of data was identified and evaluated based on the requirements specified in the Reasonable Assurance Analysis (RAA) Guidelines as defined in the EWMP Work Plan and the most recent five years of data was focused on, as it is the most relevant. Note that metals were evaluated in dissolved form.

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Table E.8: Summary of Exceedances for the Dominguez Channel Monitoring Locations

				Mainstream of Dominguez Channel								Tributaries			
				El Segundo Blvd		Mass Emission Station, S-28 (Artesia Blvd)		Western Ave		Vermont Ave		Yukon Ave		Carson Plaza Dr	
		Date Range		Overall	Past 5 Years	Overall	Past 5 Years	Overall	Past 5 Years	Overall	Past 5 Years	Overall	Past 5 Years	Overall	Past 5 Years
Constituent	**Weather**	**From**	**To**	**E/N**	**E/N**	**E/N**	**E/N**	**E/N**	**E/N**	**E/N**	**E/N**	**E/N**	**E/N**	**E/N**	**E/N**
Copper[A]	Wet	7/25/02	2/22/07	5/11	-	21/39	12/20	4/11	-	1/4	-	3/4	-	1/4	-
	Dry	4/26/01	5/26/09	35/83	2/16	7/33	5/22	16/82	0/16	7/47	0/16	14/45	3/15	9/36	0/8
Lead[A]	Wet	7/25/02	2/22/07	2/11	-	5/34	5/20	3/11	-	1/3	-	1/4	-	1/4	-
	Dry	4/26/01	5/26/09	8/81	1/16	1/30	1/22	2/81	1/16	1/47	1/16	2/46	1/15	0/36	0/8
Zinc[A]	Wet	7/25/02	2/22/07	3/11	-	18/39	11/20	2/11	-	0/4	-	1/4	-	0/4	-
	Dry	4/26/01	5/26/09	0/82	0/16	2/33	2/22	0/82	0/16	0/47	0/16	1/42	0/15	0/36	0/8
Cadmium	Wet	7/25/02	2/22/07	1/11	-	-	-	0/11	-	0/4	-	0/4	-	0/4	-
	Dry	4/26/01	5/26/09	0/82	0/16	-	-	1/82	0/16	0/47	0/16	0/46	0/15	0/36	0/8
Chromium	Dry	4/26/01	5/26/09	1/83	0/16	-	-	0/83	0/16	1/47	1/16	2/46	0/15	0/36	0/8
Mercury	Wet	7/25/02	8/25/05	2/10	-	0/37	0/20	2/10	-	0/3	-	0/3	-	0/3	-
	Dry	4/26/01	2/24/06	8/46	-	1/65	0/22	7/46	-	0/11	-	0/11	-	0/9	-
Thallium	Dry	3/31/05	2/24/06	2/47	-	-	-	1/47	-	0/11	-	0/11	-	0/9	-
Selenium	Dry	5/31/01	5/26/09	0/82	0/17	-	-	0/82	0/17	0/48	0/17	0/47	0/16	7/37	7/9
E. coli[B]	Wet	11/29/01	12/23/08	24/38	22/34	4/4	4/4	29/38	6/6	19/38	5/6	10/12	1/2	9/12	1/2
	Dry	4/3/01	5/26/09	120/250	5/6	5/5	5/5	194/250	27/34	113/250	30/34	41/71	9/15	48/77	6/15
Fecal Coliform	Wet	11/8/02	1/24/13	-	-	44/46	21/21	-	-	-	-	-	-	-	-
	Dry	10/10/02	4/9/13	-	-	19/27	12/18	-	-	-	-	-	-	-	-
Ammonia	Dry	7/1/09	8/13/09	1/7	1/7	-	-	0/7	0/7	0/7	0/7	-	-	-	-
Diazinon	Wet	10/31/06	6/12/13	-	-	3/31	0/20	-	-	-	-	-	-	-	-
	Dry	2/11/03	1/24/13	-	-	0/28	0/22	-	-	-	-	-	-	-	-
Bis(2-Ethylhexl) phthalate	Wet	10/28/03	6/12/13	-	-	3/31	0/21	-	-	-	-	-	-	-	-
	Dry	10/31/03	1/24/13	-	-	1/30	0/23	-	-	-	-	-	-	-	-
pH	Wet	11/8/02	1/24/13	-	-	5/39	3/20	-	-	-	-	-	-	-	-
	Dry	10/10/02	6/12/13	-	-	9/33	8/22	-	-	-	-	-	-	-	-

Table E.8: Summary of Exceedances for the Dominguez Channel Monitoring Locations

				Mainstream of Dominguez Channel								Tributaries			
				El Segundo Blvd		Mass Emission Station, S-28 (Artesia Blvd)		Western Ave		Vermont Ave		Yukon Ave		Carson Plaza Dr	
		Date Range		Overall	Past 5 Years	Overall	Past 5 Years	Overall	Past 5 Years	Overall	Past 5 Years	Overall	Past 5 Years	Overall	Past 5 Years
Constituent	**Weather**	**From**	**To**	E/N	E/N	E/N	E/N	E/N	E/N	E/N	E/N	E/N	E/N	E/N	E/N
Dissolved Oxygen	Wet	11/8/2002	1/24/2013	-	-	1/42	0/18	-	-	-	-	-	-	-	-

E/N = Number of Exceedances/Number of Samples
- = No Data
[A] Copper, Lead, and Zinc measurements for Sampling Station S-28 were taken on the following dates: 2/27/2006 - 1/24/2013 (wet) and 5/16/2005-6/12/2013 (dry)
[B] E. Coli at Sampling Station S-28 was taken on the following dates: 10/11/2012 - 1/24/2013 (wet) and 10/10/2012-4/9/2013 (dry)

Table E.9: Summary of Exceedances at the Torrance Lateral Monitoring Location

				Main Street	
		Date Range		Overall	Past 5 Years
Constituent	Weather	From	To	E/N	E/N
	Wet	4/28/2005	2/22/2007	1/4	-
	Dry	1/27/2005	5/26/2009	7/47	1/16
Lead	Wet	4/28/2005	2/22/2007	1/3	-
	Dry	1/27/2005	5/26/2009	1/47	1/16
Zinc	Wet	4/28/2005	2/22/2007	1/4	-
Cadmium	Wet	4/28/2005	2/22/2007	1/4	-
	Dry	1/27/2005	5/26/2009	1/47	0/16
E. coli	Wet	2/27/2003	12/23/2008	7/12	2/2
	Dry	1/17/2002	5/26/2009	42/77	13/15

E/N = Number of Exceedances/Number of Samples
- = No Data

Table E.10: Summary of Exceedances for the Dominguez Channel Estuary Monitoring Locations

				Wilmington Avenue		Henry Ford Avenue	
		Date Range		Overall	Past 5 Years	Overall	Past 5 Years
Constituent	Weather	From	To	E/N	E/N	E/N	E/N
Copper	Wet	7/25/2002	2/22/2007	10/11	-	5/10	-
	Dry	4/26/2001	5/26/2009	44/72	10/10	43/73	9/10
Lead	Wet	7/25/2002	2/22/2007	0/11	-	2/11	-
	Dry	4/26/2001	5/26/2009	12/72	1/9	14/75	1/10
Zinc	Wet	7/25/2002	2/22/2007	2/10	-	1/11	-
	Dry	4/26/2001	5/26/2009	4/75	2/10	0/74	0/10
Silver	Dry	4/26/2001	5/26/2009	1/75	0/9	3/74	0/9
Nickel	Wet	7/25/2002	2/22/2007	1/11	-	1/11	-
	Dry	4/26/2001	5/26/2009	16/75	6/10	16/75	6/10
Mercury	Dry	4/26/2001	2/24/2006	10/46	-	8/45	-

Thallium	Wet	7/25/2002	8/25/2005	1/10	-	1/9	-
	Dry	4/26/2001	1/26/2006	4/47	-	4/46	-
Enterococcus	Wet	11/29/2001	12/23/2008	28/38	5/6	21/38	3/6
	Dry	4/3/2001	5/26/2009	31/250	4/34	12/250	0/34
Total Coliform	Wet	11/29/2001	12/23/2008	33/38	5/6	26/38	4/6
	Dry	4/3/2001	5/26/2009	57/250	5/34	11/250	2/34

E/N = Number of Exceedances/Number of Samples
- = No Data

Table E.11: Summary of Exceedances for the Machado Lake Monitoring Locations

				Machado Lake, ML-1		Machado Lake, ML-2		Machado Lake, ML-3		Machado Lake, ML-4		Project 77 Drain		Project 510 Drain	
		Date Range		Overall	Past 5 Years	Overall	Past 5 Years	Overall	Past 5 Years	Overall	Past 5 Years	Overall	Past 5 Years	Overall	Past 5 Years
Constituent	**Weather**	**From**	**To**	**E/N**	**E/N**	**E/N**	**E/N**	**E/N**	**E/N**	**E/N**	**E/N**	**E/N**	**E/N**	**E/N**	**E/N**
E.Coli	Wet	12/20/07	12/20/07	1/1	-	1/1	-	1/1	-	-	-	-	-	-	-
	Dry	12/26/07	9/29/08	24/54	24/54	18/55	17/54	43/55	43/54	8/47	8/47	2/4	1/3	0/1	-
Total Phosphorus	Wet	5/23/08	2/17/09	1/2	1/1	1/1	1/1	-	-	-	-	-	-	-	-
	Dry	5/19/08	2/7/11	43/52	45/45	45/45	45/45	-	-	-	-	-	-	-	-
Total Nitrogen	Wet	4/17/07	2/17/09	5/6	3/4	4/5	3/4	1/1	1/1	1/1	1/1	6/6	3/3	1/1	-
	Dry	6/16/06	2/7/11	89/106	70/87	92/106	74/87	45/47	45/47	44/47	44/47	40/41	31/32	29/31	22/22
Chlorophyll-a	Wet	5/23/08	2/17/09	1/2	1/2	1/2	1/2	1/1	1/1	1/1	1/1	-	-	-	-
	Dry	5/19/08	2/7/11	43/55	43/55	46/55	46/55	20/20	20/20	19/19	19/19	-	-	-	-
Dissolved Oxygen	Wet	12/26/12	12/26/12	1/1	1/1	1/1	1/1	-	-	-	-	-	-	-	-
	Dry	4/4/11	12/10/12	37/45	37/45	41/45	41/45	-	-	-	-	-	-	-	-

E/N = Number of Exceedances/Number of Samples
- = No Data

Table E.12: Summary of Exceedances at the Wilmington Drain Monitoring Location

				Wilmington Drain	
		Date Range		Overall	Past 5 Years
Constituent	**Weather**	**From**	**To**	**E/N**	**E/N**
E. Coli	Dry	12/26/2007	2/27/2008	1/4	0/3
Total Nitrogen	Wet	11/30/2007	2/17/2009	6/6	3/3
	Dry	10/19/2007	2/2/2009	30/30	21/21

E/N = Number of Exceedances/Number of Samples
- = No Data

The data analysis and results from monitoring reports were used to classify WBPCs into the subcategories of MS4 Permit Categories. A description of those subcategories is presented in Table E.14.

Table E.13: Categorized Water Body-Pollutant Combinations

Category	Water Body-Pollutant Combinations	Description
1	**Category 1A:** WBPCs with past due or current Permit term TMDL deadlines with exceedances in the past 5 years.	WBPCs with TMDLs with past due or current MS4 Permit term interim and/or final limits. These pollutants are the highest priority for the current MS4 Permit term.
	Category 1B: WBPCs with TMDL deadlines beyond the Permit term with exceedances in the past 5 years.	The MS4 Permit does not require the prioritization of TMDL interim and/or final deadlines outside of the Permit term or USEPA TMDLs, which do not have implementation schedules. To ensure EWMPs consider long term planning requirements and utilize the available compliance mechanisms, these WBPCs should be considered during BMP planning and scheduling, and during CIMP development.
	Category 1C: WBPCs addressed in USEPA TMDL without a Regional Board adopted Implementation Plan.	
	Category 1D: WBPCs with past due or current Permit term TMDL deadlines but have there have been no exceedances in the past 5 years.	WBPCs where specific actions may end up not being identified because recent exceedances have not been observed and specific actions may not be necessary. The CIMP should address these WBPCs to support future re-prioritization.
2	**Category 2A:** 303(d) Listed WBPCs or WBPCs that meet 303(d) Listing requirements with exceedances in the past 5 years.	WBPCs with confirmed impairment or exceedances of RWLs. WBPCs in a similar class[1] as those with TMDLs are identified. WBPCs currently on the 303(d) List are differentiated from those that are not to support utilization of EWMP compliance mechanisms.
	Category 2B: 303(d) Listed WBPCs or WBPCs that meet 303(d) Listing requirements that are not a "pollutant"2 (e.g., toxicity).	WBPCs where specific actions may not be identifiable because the cause of the impairment or exceedances is not resolved. Either routine monitoring or special studies identified in the CIMP should support identification of a "pollutant" linked to the impairment and re-prioritization in the future.
	Category 2C: 303(d) Listed WBPCs or WBPCs that meet 303(d) Listing requirements but there have been no exceedances in the past 5 years.	WBPCs where specific actions for implementation may end up not being identified because recent exceedances have not been observed (and thus specific BMPs may not be necessary). Pollutants that are in a similar class[1] as those with TMDLs are identified. Either routine monitoring or special studies identified in the CIMP should ensure these WBPCs are addressed to support re-prioritization in the future.
3	**Category 3A:** Other WBPCs that have exceeded in the past 5 years.	Pollutants that are in a similar class[1] as those with TMDLs are identified.
	Category 3B: Other WBPCs that are not a "pollutant"2 (e.g., toxicity).	WBPCs where specific actions may not be identifiable because the cause of the impairment or exceedances is not resolved. Either routine monitoring or special studies identified in the CIMP should support identification of a "pollutant" linked

Table E.13: Categorized Water Body-Pollutant Combinations

Category	Water Body-Pollutant Combinations	Description
		to the impairment and re-prioritization in the future.
	Category 3C: Other WBPCs that have exceeded in the past 10 years, but not in past 5 years.	Pollutants that are in a similar class[1] as those with TMDLs are identified.
	Category 3D: WBPCs identified by the DC WMG.	No other WBPCs were identified for consideration in EWMP planning.

Those pollutants with similar fate and transport mechanisms that can be addressed with the same types of control measures were also grouped into classes. These classes include:

- Bacteria
- Metals
- Nutrients
- Trash
- Historical Organics (HO) – organic compounds including pesticides that are no longer in use such as PCBs and DDT
- Current Organics (CO) – organic Compounds such as pesticides and PAHs that are still in use
- To be determined (TBD) – conditions such as pH, dissolved oxygen, and toxicity that are not classified as pollutants and will need further investigation before grouping into other classes

The tables below lists the subcategorized WBPCs for DC WMG (Table E.15), Torrance Lateral (Table E.16), Dominguez Channel Estuary (Table E.17), Machado Lake (Table E.18), Wilmington Drain (Table E.19), the Consolidated Slip (Table E.20), and the rest of the Los Angeles Harbor areas (Table E.21). Those designations that only apply to a specific weather condition (wet or dry) were marked as such. Refer to Table for a description of the subcategories. Subcategorizations may change as more recent monitoring data becomes available for evaluation.

Table E.14: Summary of Dominguez Channel1 Subcategorized WBPCs

Class	Constituents[2]	Subcategory
Metal	Dissolved Copper (Wet)	1A
Metal	Dissolved Lead (Wet)	1A
Metal	Dissolved Zinc (Wet)	1A
TBD	Toxicity	1D
Bacteria	Indicator Bacteria	2A
Nutrients	Ammonia (Dry)	2A
HO	Diazinon	2C
Metals	Dissolved Copper (Dry)	3A
Metals	Dissolved Lead (Dry)	3A
Metals	Dissolved Zinc (Dry)	3A
Metals	Dissolved Chromium (Dry)	3A
TBD	Cyanide	3A
TBD	pH	3B
Metals	Dissolved Cadmium	3C
Metals	Dissolved Mercury	3C
Metals	Dissolved Thallium (Dry)	3C
CO	Bis (2-Ethylhexl) phthalate	3C
TBD	Dissolved Oxygen	3C

[1] Dominguez Channel refers to lined portion above Vermont Avenue.
[2] If the constituent is noted as wet or dry, then the priority is only based on wet- or dry-weather.
UT = Unknown Toxicity
HO = Historical Organics
CO = Current Organics

Table E.15: Summary of Torrance Lateral Subcategorized WBPCs

Class	Constituents[1]	Subcategory
Metal	Dissolved Copper (Wet)	1A
Metal	Dissolved Lead (Wet)	1A
Metal	Dissolved Zinc (Wet)	1A
Bacteria	Coliform Bacteria	2A
Metals	Dissolved Copper (Dry)	3A
Metals	Dissolved Lead (Dry)	3A
TBD	Cyanide	3A
TBD	pH	3A
Nutrients	Ammonia (Dry)	3A
Metals	Dissolved Zinc (Dry)	3C
Metals	Dissolved Cadmium	3C
HO	DDT	3C
HO	PCBs	3C

[1] If the constituent is noted as wet or dry, then the priority is only based on wet- or dry-weather.
UT = Unknown Toxicity
HO = Historical Organics

Table E.16: Summary of Dominguez Channel Estuary Subcategorized WBPCs

Class	Constituents[1]	Subcategory
Metals	Cadmium (Sediment)	1A
Metals	Copper (Dissolved and Sediment)	1A
Metals	Lead (Dissolved and Sediment)	1A
Metals	Zinc (Dissolved and Sediment)	1A
HO	DDT (Sediment)	1A
HO	PCBs (Sediment)	1A
HO	Chlordane (Sediment)	1A
HO	Dieldrin (Sediment)	1A
CO	PAHs (Sediment)	1A
TBD	Benthic Community Effects	1D
TBD	Sediment Toxicity	1D
Bacteria	Coliform Bacteria	2A
Nutrients	Ammonia (Dry)	2C
Metals	Arsenic (Sediment)	3A
Metals	Chromium (Sediment)	3A
Metals	Mercury (Sediment)	3A
Metals	Silver (Sediment)	3A
Metals	Dissolved Silver (Dry)	3C
Metals	Dissolved Nickel	3C
Metals	Dissolved Mercury (Dry)	3C
Metals	Thallium (Dissolved)	3C

[1] If the constituent is noted as wet or dry, then the priority is only based on wet- or dry-weather.
UT = Unknown Toxicity

Table E.16: Summary of Dominguez Channel Estuary Subcategorized WBPCs		
Class	**Constituents[1]**	**Subcategory**

HO = Historical Organics
CO = Current Organics

Table E.17: Summary of Machado Lake Subcategorized WBPCs		
Class	**Constituents[1]**	**Subcategory**
Trash	Trash	1A
Nutrients	Total Phosphorus	1A
Nutrients	Total Nitrogen	1A
TBD	Dissolved Oxygen	1A
Nutrients	Chlorophyll-a	1A
HO	PCBs (Sediment)	1B
HO	DDT (Sediment)	1B
HO	Chlordane (Sediment)	1B
HO	Dieldrin (Sediment)	1D
Nutrients	Ammonia	1D
Bacteria	E. coli (Dry)	3A
TBD	pH	3C

[1] If the constituent is noted as wet or dry, then the priority is only based on wet- or dry-weather.
UT = Unknown Toxicity HO = Historical Organics

Table E.18: Summary of Wilmington Drain Subcategorized WBPCs		
Class	**Constituents**	**Subcategory**
Bacteria	Coliform Bacteria	2C
Metals	Dissolved Copper	2C
Metals	Dissolved Lead	2C
Nutrients	Total Nitrogen	3A
HO	DDT (Sediment)	3A
HO	Chlordane (Sediment)	3A
HO	Dieldrin (Sediment)	3A
HO	PCBs (Sediment)	3C

HO = Historical Organics

Table E.19: Summary of Consolidated Slip Subcategorized WBPCs		
Class	**Constituents**	**Subcategory**
Metals	Cadmium (Sediment)	1A
Metals	Chromium (Sediment)	1A
Metals	Copper (Sediment)	1A
Metals	Lead (Sediment)	1A
Metals	Mercury (Sediment)	1A
Metals	Zinc (Sediment)	1A
HO	DDT (Sediment)	1A
HO	PCBs (Sediment)	1A

Table E.19: Summary of Consolidated Slip Subcategorized WBPCs		
Class	**Constituents**	**Subcategory**
CO	PAHs (Sediment)	1A
HO	Chlordane (Sediment)	1A
HO	Dieldrin (Sediment)	1A
HO	Toxaphene (Sediment)	1D
TBD	Benthic Community Effects	1D
TBD	Sediment Toxicity	1D
Metals	Silver (Sediment)	3A
Metals	Arsenic (Sediment)	3A
Metals	Nickel (Sediment)	3A

UT = Unknown Toxicity
HO = Historical Organics
CO = Current Organics

Table E.20: Summary of Other Los Angeles Harbor Subcategorized WBPCs		
Class	**Constituents**	**Subcategory**
Fish Harbor		
Metals	Copper (Sediment)	1D
Metals	Lead (Sediment)	1D
Metals	Mercury (Sediment)	1D
Metals	Zinc (Sediment)	1D
HO	DDT (Sediment & Tissue)	1D
HO	PCBs (Sediment & Tissue)	1D
HO	Chlordane (Sediment)	1D
CO	PAHs (Sediment)	1D
TBD	Sediment Toxicity	1D
Inner Cabrillo Beach		
Bacteria	Indicator Bacteria	1A
HO	DDT (Sediment & Tissue)	1D
HO	PCBs (Sediment & Tissue)	1D
Cabrillo Marina		
HO	DDT (Sediment & Tissue)	1D
HO	PCBs (Sediment & Tissue)	1D
CO	PAHs (Sediment)	1D
Los Angeles/Long Beach Inner Harbor		
Bacteria	Indicator Bacteria	1D
Metals	Copper (Sediment)	1D
Metals	Zinc (Sediment)	1D
HO	DDT (Sediment & Tissue)	1D
HO	PCBs (Sediment & Tissue)	1D
CO	PAHs (Sediment)	1D
TBD	Benthic Community Effects	1D

Table E.20: Summary of Other Los Angeles Harbor Subcategorized WBPCs		
Class	**Constituents**	**Subcategory**
TBD	Sediment Toxicity	1D
Metals	Dissolved Copper	3C
Metals	Dissolved Silver	3C
Los Angeles/Long Beach Outer Harbor		
HO	DDT (Sediment & Tissue)	1A
HO	PCBs (Sediment & Tissue)	1A
TBD	Sediment Toxicity	1D
Metals	Cadmium (Sediment)	3A
Metals	Copper (Sediment)	3A
Metals	Nickel (Sediment)	3A
Metals	Mercury (Sediment)	3C
Metals	Dissolved Copper	3C
Metals	Dissolved Silver	3C

UT = Unknown Toxicity
HO = Historical Organics
CO = Current Organics

Sediment toxicity and benthic community effects are classified as not showing exceedances in the past five years, potentially due to the fact that few samples have been collected in the last 5 years. The POLA and POLB are currently conducting bioaccumulation modeling and studies, fish tissue studies, and additional sediment triad studies to ascertain observed effects associated with elevated sediment concentrations of toxic compounds in the Harbor. These WBPCs can be reclassified when more recent data becomes available.

Per Part VI.C.2.a.iii (pages 51-52), pollutants for which there are exceedances of receiving water limitations, but which the water body is not identified as impaired on the 303(d) List will be addressed in the EWMP process. For most of the watershed, the most critical requirements are associated with the DC and LA Harbor Waters Toxic Pollutants TMDL as well as the Machado Lake Nutrients and Machado Lake Toxics TMDLs.

In addition to addressing the TMDL pollutants, the DC WMG will also address the requirements set forth by the MS4 Permit in regards to Category 2 and 3 pollutants. Pursuant to the MS4 Permit, Parts VI.C.2.a.ii.(5) (pages 50-51) and VI.C.2.a.iii.(2).(d) (page 52), interim and final milestones for WBPCs identified as Category 2 or 3 in Section 2 will be established.

Compliance schedules for the water bodies within the DC WMA are presented in Table E.21 through Table E.26.

Table E.21: Dominguez Channel Watershed Management Area Compliance Schedule – Milestone: Dominguez Channel

	Date	Receiving Water Quality Objectives
Constituents Addressed in a TMDL		
Metals (Total Copper (Wet), Total Lead (Wet), Total Zinc (Wet)) and Toxicity		
Milestone 1	3/23/2026	50% reduction from baseline[1]
Milestone 2	3/23/2029	75% reduction from baseline[1]
Milestone 3	3/23/2032	Attain Receiving Water Targets
Meet Final WLAs and LAs for wet weather metals and toxicity	3/23/2032	Total Recoverable Metals Freshwater Targets: Copper (Wet)[2] = 9.7 ug/L; Lead (Wet)[2] = 42.7 ug/L; Zinc (Wet)[2]= 69.6 ug/L Toxicity = 1.0 Tuc
Constituents on the 2010 303(d) list, but not Addressed in a TMDL		
Indicator Bacteria		
Conduct Monitoring through CIMP	Ongoing	
Evaluate Monitoring Data and Determine if TMDL Development is Necessary	3/23/2017	
Meet Water Quality Objectives (Dry)	3/23/2032	Single Sample Limits: *E. coli* = 235/100 mL
Meet Water Quality Objectives (Wet)	3/23/2040	Single Sample Limits: *E. coli* = 235/100 mL
Ammonia		
Conduct Monitoring through CIMP	Ongoing	
Evaluate Monitoring Data to support recommended delisting	3/23/2017	Dry = 30-day average pH and temperature dependent[3] water quality objective for Ammonia as N Wet = One-hour average pH and temperature dependent[3] water quality objective for Ammonia as N
Diazinon		
Conduct Monitoring through CIMP	Ongoing	
Evaluate Monitoring Data to support recommended delisting	3/23/2017	Dry (chronic) = 0.05 ug/L; Wet (acute) = 0.08 ug/L
Constituents Exceeding Water Quality Objectives, but not on the 2010 303(d) List		
Metals (Total Copper (Dry), Total Lead (Dry), Total Zinc (Dry), Total Cadmium, Chromium (Dry), Mercury, Thallium (Dry))		
Review progress based on implementation of BMPs	3/23/2032	Anticipated significant reduction from baseline
Complete BMPs to achieve receiving water targets.	3/23/2040	Attain Receiving Water Targets: Total Recoverable Metals Freshwater Targets: Copper (Dry)[4] = 19.71 ug/L; Lead (Dry)[4] = 9.70 ug/L; Zinc (Dry)[4] = 251.58 ug/L; Cadmium (Dry)[4] = 4.90 ug/L; Cadmium (Wet)[4] = 2.07 ug/L; Chromium (Dry) = 11 ug/L; Mercury 0.051 ug/L; Thallium (Dry) = 6.3 ug/L
Cyanide		
Conduct Monitoring through CIMP	Ongoing	
Evaluate Monitoring Data	3/23/2017	Cyanide (Wet) = 22 ug/L; Cyanide (Dry) = 5.2 ug/L
Bis(2-Ethylhexel) phthalate		

Table E.21: Dominguez Channel Watershed Management Area Compliance Schedule – Milestone: Dominguez Channel

	Date	Receiving Water Quality Objectives
Conduct Monitoring through CIMP to confirm exceedances	Ongoing	
Evaluate Monitoring Data	3/23/2017	1.8 ug/L
pH		
Conduct Monitoring through CIMP	Ongoing	
Evaluate Monitoring Data	3/23/2017	6.5 < pH < 8.5
Dissolved Oxygen		
Conduct Monitoring through CIMP	Ongoing	
Evaluate Monitoring Data	3/23/2017	Dissolved Oxygen > 5mg/L

(1) Baseline will be identified during the Reasonable Assurance Analysis Process.
(2) Acute total recoverable metals freshwater targets shown using the site specific conversion factors listed in the Dominguez Channel Toxics TMDL. Factors utilize a hardness of 50 mg/L. Dissolved metals CTR criteria at the equivalent hardness are as follows: Copper (Wet) = 6.99 ug/L; Lead (Wet) = 30.14 ug/L; Zinc (Wet) = 65.13 ug/L.
(3) Ambient pH and temperature measurements will be taken at the time of sampling to determine the applicable receiving water quality target.
(4) A hardness of 50 mg/L was assumed for wet weather hardness-dependent metals and a hardness of 240 mg/L was assumed for dry weather hardness dependent metals. Site-Specific conversion factors were not available.
(5) The Dominguez Channel Estuary Water Quality Objectives are assuming saltwater conditions.
(6) A hardness of 205 mg/L was assumed for wet weather hardness-dependent metals and a hardness of 570 mg/L was assumed for dry weather hardness dependent metals. Site-Specific conversion factors were not available.

Table E.22: Dominguez Channel Watershed Management Area Compliance Schedule – Milestone: Torrance Lateral

	Date	Receiving Water Quality Objectives
Constituents Addressed in a TMDL		
Metals (Total Copper (Wet), Total Lead (Wet), Total Zinc (Wet))		
Milestone 1	3/23/2026	50% reduction from baseline[1]
Milestone 2	3/23/2029	75% reduction from baseline[1]
Milestone 3	3/23/2032	Attain Receiving Water Targets
Meet Final WLAs and LAs for wet weather metals and toxicity	3/23/2032	Total Recoverable Metals Freshwater Targets: Copper (Wet)[2] = 9.7 ug/L; Lead (Wet)[2] = 42.7 ug/L; Zinc (Wet)[2] = 69.6 ug/L
Constituents on the 2010 303(d) list, but not Addressed in a TMDL		
Coliform Bacteria		
Conduct Monitoring through CIMP	Ongoing	
Evaluate Monitoring Data and Determine if TMDL Development is Necessary	3/23/2017	
Meet Water Quality Objectives (Dry)	3/23/2032	Single Sample Limits: *E. coli* = 235/100 mL
Meet Water Quality Objectives (Wet)	3/23/2040	Single Sample Limits: *E. coli* = 235/100 mL
Constituents Exceeding Water Quality Objectives, but not on the 2010 303(d) List		
Metals (Total Copper (Dry), Total Lead (Dry), Total Zinc (Dry), Total Cadmium)		
Review progress based on implementation of BMPs	3/23/2032	Anticipated significant reduction from baseline
Complete BMPs to achieve receiving water targets.	3/23/2040	Attain Receiving Water Targets
Meet Water Quality Objectives	3/23/2040	Total Recoverable Metals Freshwater Targets: Copper (Dry)[4] = 19.71 ug/L; Lead (Dry)[4] = 9.70 ug/L; Zinc (Dry)[4] = 251.58 ug/L; Cadmium (Dry)[4] = 4.90 ug/L; Cadmium (Wet)[4] = 2.07 ug/L
Sediment-Bound Historical Organics (DDT, PCBs)		
Review progress based on implementation of BMPs	3/23/2032	Anticipated significant reduction from baseline
Complete BMPs to achieve receiving water targets.	3/23/2040	Attain Receiving Water Targets
Meet Water Quality Objectives	3/23/2040	Total DDT (ERL) = 1.58 ug/kg; Total DDT (ERM) = 46.1 ug/kg; Total PCBs (ERL) = 22.7 ug/kg; Total PCBs (ERM) = 180 ug/kg
Cyanide		
Conduct Monitoring through CIMP to confirm exceedances	Ongoing	
Evaluate Monitoring Data	3/23/2017	Cyanide (Dry) = 5.2 ug/L; Cyanide (Wet) = 22 ug/L
Ammonia (Dry)		
Conduct Monitoring through CIMP to confirm exceedances	Ongoing	
Evaluate Monitoring Data	3/23/2017	
Meet Water Quality Objectives (Dry)	3/23/2030	30-day average pH and temperature dependent[3] water quality objective for Ammonia as N
Meet Water Quality Objectives (Wet)	3/23/2040	One-hour average pH and temperature dependent[3] water quality objective for Ammonia as N
pH		
Conduct Monitoring through the CIMP	Ongoing	
Evaluate Monitoring Data	3/23/2017	6.5 < pH < 8.5

Table E.22: Dominguez Channel Watershed Management Area Compliance Schedule – Milestone: Torrance Lateral

	Date	Receiving Water Quality Objectives

(1) Baseline will be identified during the Reasonable Assurance Analysis Process.
(2) Acute total recoverable metals freshwater targets shown using the site specific conversion factors listed in the Dominguez Channel Toxics TMDL. Factors utilize a hardness of 50 mg/L. Dissolved metals CTR criteria at the equivalent hardness are as follows: Copper (Wet) = 6.99 ug/L; Lead (Wet) = 30.14 ug/L; Zinc (Wet) = 65.13 ug/L.
(3) Ambient pH and temperature measurements will be taken at the time of sampling to determine the applicable receiving water quality target.
(4) A hardness of 50 mg/L was assumed for wet weather hardness-dependent metals and a hardness of 240 mg/L was assumed for dry weather hardness dependent metals. Site-Specific conversion factors were not available.
(5) The Dominguez Channel Estuary Water Quality Objectives are assuming saltwater conditions.
(6) A hardness of 205 mg/L was assumed for wet weather hardness-dependent metals and a hardness of 570 mg/L was assumed for dry weather hardness dependent metals. Site-Specific conversion factors were not available.

Table E.23: Dominguez Channel Watershed Management Area Compliance Schedule – Milestone: Dominguez Channel Estuary

	Date	Receiving Water Quality Objectives
Constituents Addressed in a TMDL		
Metals (Copper, Lead, Zinc, and Cadmium (sediment)), Historical Organics (DDT, PCBs, Chlordane, Dieldrin), Current Organics (PAHs), Sediment Toxicity, Benthic Community Effects		
Milestone 1	3/23/2026	50% reduction from baseline[1]
Milestone 2	3/23/2029	75% reduction from baseline[1]
Milestone 3	3/23/2032	Attain Receiving Water Targets
Meet Final WLAs and LAs for wet weather metals and toxicity	3/23/2032	Receiving Water Targets: Copper (ERL) = 34 mg/kg; Lead (ERL) = 46.7 mg/kg; Zinc (ERL) = 150 mg/kg; Cadmium (ERL) = 1.2 mg/kg; Total DDT (ERL) = 1.58 ug/kg; Total PCBs (ERL) = 22.7 ug/kg; Chlordane (ERL) = 0.5 mg/kg; Dieldrin (ERL) = 0.02 ug/kg; Total PAHs (ERL) = 4,022 ug/kg
Constituents on the 2010 303(d) list, but not Addressed in a TMDL		
Coliform Bacteria		
Conduct Monitoring through CIMP	Ongoing	
Evaluate Monitoring Data and Determine if TMDL Development is Necessary	3/23/2017	
Meet Water Quality Objectives (Dry)	3/23/2032	Single Sample Limits: Total coliform = 10,000/100 mL; Fecal coliform = 400/100 mL; Enterococcus = 104/100 mL
Meet Water Quality Objectives (Wet)	3/23/2040	Single Sample Limits: Total coliform = 10,000/100 mL; Fecal coliform = 400/100 mL; Enterococcus = 104/100 mL
Ammonia		
Conduct Monitoring through CIMP	Ongoing	
Evaluate Monitoring Data to support recommended delisting	3/23/2017	Dry = Unionized Ammonia-N (Dry) = 0.0287 mg/L Wet = Unionized Ammonia-N (Wet) = 0.192 mg/L
Constituents Exceeding Water Quality Objectives, but not on the 2010 303(d) List		
Metals (Sediment - Arsenic, Chromium, Mercury, Silver; Dissolved - Silver, Nickel, Mercury, Thallium)		
Review progress based on implementation of BMPs	3/23/2032	Anticipated significant reduction from baseline
Complete BMPs to achieve receiving water targets.	3/23/2040	Attain Receiving Water Targets
Meet Water Quality Objectives	3/23/2040	Arsenic (ERL) = 8.2 mg/kg; Chromium (ERL) = 81 mg/kg; Mercury (ERL) =0.15 mg/kg; Silver (ERL)= 1.0 mg/kg; Silver = 1.9 ug/L; Nickel (Wet) = 74 ug/L; Nickel (Dry) = 8.2 ug/L; Mercury = 0.051 ug/L; Thallium = 6.3 ug/L

(1) Baseline will be identified during the Reasonable Assurance Analysis Process.
(2) Acute total recoverable metals freshwater targets shown using the site specific conversion factors listed in the Dominguez Channel Toxics TMDL. Factors utilize a hardness of 50 mg/L. Dissolved metals CTR criteria at the equivalent hardness are as follows: Copper (Wet) = 6.99 ug/L; Lead (Wet) = 30.14 ug/L; Zinc (Wet) = 65.13 ug/L.
(3) Ambient pH and temperature measurements will be taken at the time of sampling to determine the applicable receiving water quality target.
(4) A hardness of 50 mg/L was assumed for wet weather hardness-dependent metals and a hardness of 240 mg/L was assumed for dry weather hardness dependent metals. Site-Specific conversion factors were not available.
(5) The Dominguez Channel Estuary Water Quality Objectives are assuming saltwater conditions.
(6) A hardness of 205 mg/L was assumed for wet weather hardness-dependent metals and a hardness of 570 mg/L was assumed for dry weather hardness dependent metals. Site-Specific conversion factors were not available.

Table E.24: Dominguez Channel Watershed Management Area Compliance Schedule – Milestone: Machado Lake

	Date	Receiving Water Quality Objectives
Constituents Addressed in a TMDL		
Trash		
Achieve 20% Reduction from Baseline WLA through Installation of Full Capture Systems or Other Measures	3/6/2012	20% reduction from baseline
Achieve 40% Reduction from Baseline WLA through Installation of Full Capture Systems or Other Measures	3/6/2013	40% reduction from baseline
Achieve 60% Reduction from Baseline WLA through Installation of Full Capture Systems or Other Measures	3/6/2014	60% reduction from baseline
Achieve 80% Reduction from Baseline WLA through Installation of Full Capture Systems or Other Measures	3/6/2015	80% reduction from baseline
Achieve 100% Reduction from Baseline WLA through Installation of Full Capture Systems or Other Measures	3/6/2016	100% reduction from baseline
Nutrients (Total Phosphorus, Total Nitrogen, Dissolved Oxygen, Chlorophyll-a, Ammonia)		
LARWQCB approval of Nutrient LWQMP	2/14/2011	
LARWQCB approval of County's MRP	4/25/2012	
LARWQCB approval of County's Multipollutant TMDL Implementation Plan	9/12/2012	
LARWQCB conditional approval of LACFCD MRP	9/18/2013	
Meet 5-year Interim WLAs and LAs for Total Phosphorus and Total Nitrogen	3/11/2014	Total Phosphorus = 1.25 mg/L; Total Nitrogen = 2.45
LARWQCB approval of LACFCD's Nutrient TMDL Implementation Plan	4/17/2014	
TMDL Reconsideration by Regional Board (based on Optional Studies)	9/11/2016	
Meet Final WLAs and LAs for Total Phosphorus and Total Nitrogen	9/11/2018	Receiving Water Targets: Total Phosphorus = 0.1 mg/L; Total Nitrogen = 1.00; Ammonia (acute) = 5.95 mg/L; Ammonia (chronic) = 2.15 mg/L; Dissolved Oxygen = 5 mg/L; Chlorophyll a = 20 ug/L
Pesticides and PCBs (PCBs, DDT, Chlordane, Dieldrin)		
Submit MRP and QAPP (LACFCD)	9/20/2012	
Executive approval of MRP and QAPP	TBD	
Conduct Phase I Monitoring	2 year monitoring period beginning 60 days from the date of MRP and QAPP	
Conduct Phase II Monitoring	Conducted following Phase I Monitoring (for 5 year period)	
Submit Draft Implementation Plan to attain WLAs	6 months from the completion of Phase I Monitoring	
Submit Final Implementation Plan to attain WLAs (addressed through EWMP)	1 year from the	

Table E.24: Dominguez Channel Watershed Management Area Compliance Schedule – Milestone: Machado Lake

	Date	Receiving Water Quality Objectives
	completion of Phase I Monitoring	
Amend Machado Lake Nutrient LWQMP, MRP and QAPP (City of LA) to include Pesticides and PCBs	9/20/2014	
Begin Implementation of LWQMP	60 days from LWQMP approval	
Meet Final WLAs and LAs for Pesticides and PCBs	9/30/2019	Receiving Water Targets: Total PCBs = 0.00017 ug/L; 4,4' DDT = 0.00059 ug/L; 4,4' DDE = 0.00059 ug/L; 4,4' DDD = 0.00084 ug/L; Chlordane = 0.00059 ug/L; Dieldrin = 0.00014 ug/L
Constituents Exceeding Water Quality Objectives, but not on the 2010 303(d) List		
E. coli		
Conduct Monitoring under CIMP	3/23/2040	Single Sample Limits: *E. coli* = 235/100mL
pH		
Conduct general chemistry monitoring under the CIMP for Phase I of Machado Lake Pesticides and PCBs TMDL		6.5 < pH < 8.5
Conduct general chemistry monitoring under the CIMP for Phase II of Machado Lake Pesticides and PCBs TMDL		6.5 < pH < 8.5

(1) Baseline will be identified during the Reasonable Assurance Analysis Process.
(2) Acute total recoverable metals freshwater targets shown using the site specific conversion factors listed in the Dominguez Channel Toxics TMDL. Factors utilize a hardness of 50 mg/L. Dissolved metals CTR criteria at the equivalent hardness are as follows: Copper (Wet) = 6.99 ug/L; Lead (Wet) = 30.14 ug/L; Zinc (Wet) = 65.13 ug/L.
(3) Ambient pH and temperature measurements will be taken at the time of sampling to determine the applicable receiving water quality target.
(4) A hardness of 50 mg/L was assumed for wet weather hardness-dependent metals and a hardness of 240 mg/L was assumed for dry weather hardness dependent metals. Site-Specific conversion factors were not available.
(5) The Dominguez Channel Estuary Water Quality Objectives are assuming saltwater conditions.
(6) A hardness of 205 mg/L was assumed for wet weather hardness-dependent metals and a hardness of 570 mg/L was assumed for dry weather hardness dependent metals. Site-Specific conversion factors were not available.

Table E.25: Dominguez Channel Watershed Management Area Compliance Schedule – Milestone: Wilmington Drain

	Date	Receiving Water Quality Objectives
Constituents on the 2010 303(d) list, but not Addressed in a TMDL		
Coliform Bacteria		
Conduct Monitoring through CIMP	Ongoing	
Evaluate Monitoring Data	Ongoing	
Meet Water Quality Objectives (Dry)	2032	Single Sample Limits: *E. coli* = 235/100 mL
Meet Water Quality Objectives (Wet)	2040	Single Sample Limits: *E. coli* = 235/100 mL
Metals (Total Copper and Total Lead)		
Conduct Monitoring through CIMP		
Evaluate Monitoring Data to support recommended delisting	3/23/2017	Total Recoverable Metals: Copper (Dry)6 = 41.28 ug/L; Lead (Dry)6 =29.17 ug/L; Copper (Wet)[6] = 27.53 ug/L; Lead (Wet)[6] = 203.61 ug/L
Constituents Exceeding Water Quality Objectives, but not on the 2010 303(d) List		
Total Nitrogen		
Conduct Monitoring through the Machado Lake Nutrient TMDL requirements (LACFCD)		Total Nitrogen = 1.0 mg/L
Sediment-Bond Historical Organics (DDT, Chlordane, Dieldrin, PCBs)		
Conduct monitoring under Phase I of Machado Lake Pesticides and PCBs TMDL	2 year monitoring period beginning 60 days from the date of MRP approval	
Conduct monitoring under Phase II of Machado Lake Pesticides and PCBs TMDL	Conducted following Phase I Monitoring (for 5 year period)	Total PCBs = 0.00017 ug/L; 4,4' DDT = 0.00059 ug/L; 4,4' DDE = 0.00059 ug/L; 4,4' DDD = 0.00084 ug/L; Chlordane = 0.00059 ug/L; Dieldrin = 0.00014 ug/L

(1) Baseline will be identified during the Reasonable Assurance Analysis Process.
(2) Acute total recoverable metals freshwater targets shown using the site specific conversion factors listed in the Dominguez Channel Toxics TMDL. Factors utilize a hardness of 50 mg/L. Dissolved metals CTR criteria at the equivalent hardness are as follows: Copper (Wet) = 6.99 ug/L; Lead (Wet) = 30.14 ug/L; Zinc (Wet) = 65.13 ug/L.
(3) Ambient pH and temperature measurements will be taken at the time of sampling to determine the applicable receiving water quality target.
(4) A hardness of 50 mg/L was assumed for wet weather hardness-dependent metals and a hardness of 240 mg/L was assumed for dry weather hardness dependent metals. Site-Specific conversion factors were not available.
(5) The Dominguez Channel Estuary Water Quality Objectives are assuming saltwater conditions.
(6) A hardness of 205 mg/L was assumed for wet weather hardness-dependent metals and a hardness of 570 mg/L was assumed for dry weather hardness dependent metals. Site-Specific conversion factors were not available.

Table E.26: Dominguez Channel Watershed Management Area Compliance Schedule – Milestone: Los Angeles Harbor Waters

	Date	Receiving Water Quality Objectives
CONSOLIDATED SLIP		
Constituents Addressed in a TMDL		
Metals (Sediment - Cadmium, Chromium, Copper, Lead, Zinc, Mercury), Historical Organics (DDT, PCBs, Chlordane, Dieldrin, Toxaphene), Current Organics (PAHs), Sediment Toxicity, Benthic Community Effects		
Milestone 1	3/23/2026	50% reduction from baseline[1]
Milestone 2	3/23/2029	75% reduction from baseline[1]
Milestone 3	3/23/2032	Attain Receiving Water Targets
Meet Final WLAs and LAs	3/23/2032	Receiving Water Targets: Cadmium (ERL) = 1.2 mg/kg; Chromium (ERL) = 81 mg/kg; Copper (ERL) = 34 mg/kg; Lead (ERL) = 46.7 mg/kg; Zinc (ERL) = 150 mg/kg; Mercury (ERL) = 0.15 mg/kg; Total DDT (ERL) = 1.58 ug/kg; Total PCBs (ERL) = 22.7 ug/kg; Chlordane (ERL) = 0.5 ug/kg; Dieldrin (ERL) =0.02 ug/kg; Toxaphene (ERL) = 0.10 ug/kg; Total PAHs (ERL) = 4,022 ug/kg
Constituents Exceeding Water Quality Objectives, but not on the 2010 303(d) List		
Metals (Sediment - Silver, Arsenic, Nickel)		
Review progress based on implementation of BMPs	3/23/2032	Anticipated significant reduction from baseline
Complete BMPs to achieve receiving water targets.	3/23/2040	Attain Receiving Water Targets
Meet Water Quality Objectives	3/23/2040	Silver (ERL) = 1.0 mg/kg; Arsenic (ERL) = 8.2 mg/kg; Nickel (ERL) = 20.9 mg/kg
FISH HARBOR		
Constituents Addressed in a TMDL		
Metals (Sediment - Copper, Lead, Zinc, Mercury), Historical Organics (DDT, PCBs, Chlordane), Current Organics (PAHs), Sediment Toxicity		
Complete Implementation of Dominguez Channel Toxics TMDL Phase I	3/23/2026	50% reduction from baseline[1]
Complete Implementation of Dominguez Channel Toxics TMDL Phase II	3/23/2029	75% reduction from baseline[1]
Complete Implementation of Dominguez Channel Toxics TMDL Phase III	3/23/2032	Attain Receiving Water Targets
Meet Final WLAs and LAs	3/23/2032	Receiving Water Targets: Copper (ERL) = 34 mg/kg; Lead (ERL) = 46.7 mg/kg; Zinc (ERL) = 150 mg/kg; Mercury (ERL) = 0.15 mg/kg; Total DDT (ERL) = 1.58 ug/kg; Total PCBs (ERL) = 22.7 ug/kg; Chlordane (ERL) = 0.5 ug/kg; Total PAHs (ERL) = 4,022 ug/kg
INNER CABRILLO BEACH		
Constituents Addressed in a TMDL		
Indicator Bacteria		
Initial compliance deadline through Los Angeles Harbor Bacteria TMDL for Cabrillo Beach	3/10/2010	Single Sample Limits: Total coliform = 10,000/100 mL; Fecal coliform = 400/100 mL; Enterococcus = 104/100 mL
Time Schedule Order requested	12/24/2012	
Meet Interim number of allowable exceedance days of WQBELs and Receiving Water Limitations for total coliform, fecal coliform, and enterococcus	2/6/2013	Single Sample Summer Dry Weather = 23 days/year; Single Sample Winter Dry Weather = 18 days/year; Geometric Mean Year round = 79

Table E.26: Dominguez Channel Watershed Management Area Compliance Schedule – Milestone: Los Angeles Harbor Waters

	Date	Receiving Water Quality Objectives
		days/year
Investigate and institute additional non-structural BMPs and simple structural BMPs	7/31/2014	
Assess effectiveness of non-structural BMPs and simple structural BMPs	12/31/2014	
Assess feasibility of diversion of identified storm drains impacting Station CB01 and construct feasible storm drain modifications	12/31/2014	
Continue Monitoring through the CIMP	Ongoing	
Achieve final RWLs for total coliform, fecal coliform, and enterococcus	12/28/2017	Single Sample Limits: Total coliform = 10,000/100 mL; Fecal coliform = 400/100 mL; Enterococcus = 104/100 mL
Historical Organics (DDT, PCBs)		
Complete Implementation of Dominguez Channel Toxics TMDL Phase I	3/23/2026	50% reduction from baseline[1]
Complete Implementation of Dominguez Channel Toxics TMDL Phase II	3/23/2029	75% reduction from baseline[1]
Complete Implementation of Dominguez Channel Toxics TMDL Phase III	3/23/2032	Attain Receiving Water Targets
Meet Final WLAs and LAs	3/23/2032	Receiving Water Targets: Total DDT (ERL) = 1.58 ug/kg; Total PCBs (ERL) = 22.7 ug/kg
CABRILLO MARINA		
Constituents Addressed in a TMDL		
Historical Organics (DDT, PCBs), Current Organics (PAHs)		
Complete Implementation of Dominguez Channel Toxics TMDL Phase I	3/23/2026	50% reduction from baseline[1]
Complete Implementation of Dominguez Channel Toxics TMDL Phase II	3/23/2029	75% reduction from baseline[1]
Complete Implementation of Dominguez Channel Toxics TMDL Phase III	3/23/2032	Attain Receiving Water Targets
Meet Final WLAs and LAs	3/23/2032	Receiving Water Targets: Total DDT (ERL) = 1.58 ug/kg; Total PCBs (ERL) = 22.7 ug/kg; Total PAHs (ERL) = 4,022 ug/kg
LOS ANGELES / LONG BEACH INNER HARBOR		
Constituents Addressed in a TMDL		
Indicator Bacteria		
Expected Compliance through Los Angeles Harbor Bacteria TMDL for Main Ship Channel	3/10/2010	Single Sample Limits: Total coliform = 10,000/100 mL; Fecal coliform = 400/100 mL; Enterococcus = 104/100 mL
Conduct Monitoring through the CIMP	Ongoing	
Metals (Sediment - Copper, Zinc), Historical Organics (DDT, PCBs), Current Organics (PAHs), Benthic Community Effects, Sediment Toxicity		
Complete Implementation of Dominguez Channel Toxics TMDL Phase I	3/23/2026	50% reduction from baseline[1]
Complete Implementation of Dominguez Channel Toxics TMDL Phase II	3/23/2029	75% reduction from baseline[1]
Complete Implementation of Dominguez Channel Toxics TMDL Phase III	3/23/2032	Attain Receiving Water Targets
Meet Final WLAs and LAs	3/23/2032	Receiving Water Targets: Copper (ERL) = 34 mg/kg; Zinc (ERL) = 150 mg/kg; Total DDT (ERL) = 1.58 ug/kg; Total PCBs (ERL) = 22.7 ug/kg; Total PAHs (ERL) = 4,022 ug/kg
Constituents Exceeding Water Quality Objectives, but not on the 2010 303(d) List		
Metals (Total Copper, Total Silver)		
Review progress based on implementation of BMPs	3/23/2032	Anticipated significant reduction from baseline

Table E.26: Dominguez Channel Watershed Management Area Compliance Schedule – Milestone: Los Angeles Harbor Waters

	Date	Receiving Water Quality Objectives
Complete BMPs to achieve receiving water targets.	3/23/2040	Attain Receiving Water Targets
Meet Water Quality Objectives	3/23/2040	Total Recoverable Copper (Wet) = 5.8 ug/L; Dissolved Copper (Dry) = 3.1 ug/L; Total Recoverable Silver = 2.24 ug/L
LOS ANGELES / LONG BEACH OUTER HARBOR		
Constituents Addressed in a TMDL		
Historical Organics (DDT, PCBs, Sediment Toxicity)		
Milestone 1	3/23/2026	50% reduction from baseline[1]
Milestone 2	3/23/2029	75% reduction from baseline[1]
Milestone 3	3/23/2032	Attain Receiving Water Targets
Meet Final WLAs and LAs	3/23/2032	Receiving Water Targets: Total DDT (ERL) = 1.58 ug/kg; Total PCBs (ERL) = 22.7 ug/kg
Constituents Exceeding Water Quality Objectives, but not on the 2010 303(d) List		
Metals (Sediment - Cadmium, Copper, Nickel, Mercury; Dissolved - Copper, Silver)		
Review progress based on implementation of BMPs	3/23/2032	Anticipated significant reduction from baseline
Complete BMPs to achieve receiving water targets.	3/23/2040	Attain Receiving Water Targets
Meet Water Quality Objectives	3/23/2040	Cadmium (ERL) = 1.2 mg/kg; Copper (ERL) = 34 mg/kg; Nickel (ERL) = 20.9 mg/kg; Mercury (ERL) = 0.15 mg/kg; Copper (Wet) = 4.8 ug/L; Copper (Dry) = 3.1 ug/L; Silver = 1.9 ug/L

(1) Baseline will be identified during the Reasonable Assurance Analysis Process.
(2) Acute total recoverable metals freshwater targets shown using the site specific conversion factors listed in the Dominguez Channel Toxics TMDL. Factors utilize a hardness of 50 mg/L. Dissolved metals CTR criteria at the equivalent hardness are as follows: Copper (Wet) = 6.99 ug/L; Lead (Wet) = 30.14 ug/L; Zinc (Wet) = 65.13 ug/L.
(3) Ambient pH and temperature measurements will be taken at the time of sampling to determine the applicable receiving water quality target.
(4) A hardness of 50 mg/L was assumed for wet weather hardness-dependent metals and a hardness of 240 mg/L was assumed for dry weather hardness dependent metals. Site-Specific conversion factors were not available.
(5) The Dominguez Channel Estuary Water Quality Objectives are assuming saltwater conditions.

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Attachment F

RAA Modeling

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MEMORANDUM

Contents

1. Introduction

In response to the Los Angeles County National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) Permit (Permit), Order No. R4-2012-0175 the Dominguez Channel Watershed Management Group (DC WMG) is in the process of developing an Enhanced Watershed Management Program (EWMP). As specified in Part VI.C.1.g of the MS4 Permit, an EWMP comprehensively evaluates the opportunities that, wherever feasible, retain all non-stormwater, such as overflow irrigation, and stormwater runoff from the 85th percentile, 24-hour storm event from the tributary watershed. These projects are also referred to as regional EWMP projects. Areas that drain to regional EWMP projects are considered in compliance with all water quality standards. For the remaining areas a Reasonable Assurance Analysis (RAA) must be conducted to demonstrate that selected Best Management Practices (BMPs) provide reasonable assurance that applicable WQBELs and RWLs will be attained.

This Technical Memorandum (TM) explains the methodology of the RAA for the DC WMG EWMP. The RAA developed for the DC WMG is in conformance with the RAA Guidelines developed by the Regional Water Quality Control Board (RWQCB or Regional Board).

Additionally, this TM discusses in detail the calibration process associated with stormwater flow through the system and the corresponding water quality. The purpose of the RAA is to demonstrate that the implementation scenarios proposed in the EWMP will meet the applicable Water Quality Based Effluent Limitation (WQBELs) and Receiving Water Limitations (RWLs) within the DC WMG. This is done by demonstrating load reductions for the 85th percentile, 24-hour storm and the 90th percentile load. Typically, the 85th percentile, 24-hour storm event volume is addressed by regional projects. The 90th percentile load criteria was used to propose control measures, as addressing the 90th percentile load provides reasonable assurance with meeting water quality objectives. Capture of the 90^{th} percentile, 24-hour load and volume provides a high threshold for constituent loads to escape the BMPs. More detail is provided in the EWMP on selection of the appropriate storm/load for this criterion and the expected load reductions and constituent concentrations after the BMPs associated with this criterion are implemented. In many cases, the 90^{th} percentile loads with similar volumes to the 85^{th} percentile, 24-hour storm volume provide a double assurance that loads will meet MS4 Permit requirements and meet the Water Quality Objectives (WQOs).

2. Modeling Software Used for RAA

The RAA for the DC WMG was conducted using the BMP modeling system Watershed Management Modeling System (WMMS). WMMS is a regional model developed by the Los Angeles County Flood Control District (LACFCD) and is comprised of two main components: Load Simulation Program in C++ (LSPC) and the Regional Optimization system. The Regional Optimization system was not used while conducting the DC WMG RAA. LSPC was developed from the Hydrologic Simulation Program - FORTRAN (HSPF) used for simulating hydrology, sediment, and general water quality. The model generates runoff based on rainfall, snow, and groundwater inputs, determines pollutant loading and transport based on point source data, aerial deposition, and non-point source loadings, determines chemical and transport interactions within stream reaches, and can provide water quality data based on the interactions for specified locations. WMMS and the LSPC modeling component are included in the list of approved watershed models for conducting a RAA outlined in Part VI.C.5.b.iv.(5) of the MS4 Permit.

Additional information regarding WMMS and LSPCS is available from the Los Angeles County Department of Public Works (LACDPW) (2008, 2010a, 2010b, 2010c, 2011, 2013). Information pertaining to LSPC is available from the United States Environmental Protection Agency (USEPA, 2003). The documents can be found on the WMMS homepage (http://dpw.lacounty.gov/wmd/wmms/) where it can also be downloaded.

3. Dry-Weather Modeling Approach

The approach to the dry-weather portion of the DC WMG RAA is to evaluate the volume and sediment reduction potential provided by proposed regional and distributed BMP projects to determine how much of the dry-weather flows would be addressed. This approach does not include the use of a model due to data set limitations and significant spatial variation throughout the DC WMG for dry-weather flows. Estimated daily yields are derived from local dry-weather flow monitoring data collected at Mass Emissions site S28 and is summarized in **Table 3-1**. The monitoring data collected at S28 was analyzed to determine an average discharge per acre ratio per month for the period of analysis (2002-2012). The resulting monthly averages were then applied to the DC WMG area to identify the volume per day generated within the group area. The flows presented in the table represent existing conditions and do not take into account the control measures proposed in the EWMP.

Table 3-1 Average Monthly Dry-Weather Flow in DC WMG

Month	Average Flow (cfs)/Acre	DC WMG Volume per Day (acre-feet/day)
January	0.00026	19.41
February	0.00032	23.89
March	0.00033	24.64
April	0.00035	26.13
May	0.00025	18.66

June	0.00041	30.61
July	0.00030	22.4
August	0.00024	17.92
September	0.00022	16.42
October	0.00027	20.16
November	0.00020	14.93
December	0.00022	16.42

Flows captured through regional BMP implementation were subtracted from the total assumed non-stormwater flows (presented in the table) to quantify pollutant load reductions. The BMPs used for this analysis are discussed further in Section 4 of the EWMP. Based on the volume of storage provided by the proposed regional and distributed BMPs, the dry-weather flows will be eliminated, as encouraged by the MS4 Permit. The volume provided by the proposed control measures is significantly greater than the volume of dry-weather runoff produced within the DC WMG. The critical dry-weather conditions were not assessed, as the control measures proposed in the EWMP have adequate capacity to capture the dry-weather runoff.

Control measures specifically for dry-weather are not proposed in the DC WMG EWMP. An analysis was performed to assess how many low flow diversions would be required to address dry-weather flows and it was determined that over 100 would be necessary. By the time the wet-weather controls are implemented, the dry-weather diversions would not be used, as flows would be captured at the proposed BMPs. For this reason, dry-weather will be addressed by the wet-weather controls.

4. Wet-Weather Modeling Approach

The wet-weather RAA approach allowed for estimating the level of BMP implementation needed to meet applicable WQBELs and RWLs. This approach incorporated pollutant prioritization and structural BMP implementation scenarios, while considering stakeholder input through a transparent process.

The wet-weather RAA approach involved the estimation of both the existing pollutant loads (baseline) and target load reductions as a percentage of the total load. WMMS provided optimized load reduction targets, recommended distributed BMPs, and cost estimates, however, limited guidance on BMP placement is provided and the model does not optimize bacteria or trash Total Maximum Daily Load (TMDL). Trash is only a concern in the Machado Lake and Wilmington Drain Watersheds. Trash is assumed to be addressed through the installation of full capture devices as required by the Machado Lake Trash TMDL. Bacteria was modeled, however, it is not the limiting pollutant based on high flow suspension and allowable exceedance days.

Once the baseline conditions are estimated, watershed control measures were selected and modeled to be implemented over time to meet applicable WQBELs and RWLs. The selected control measures, such as regional BMP projects, distributed BMPs (green streets), and Minimum Control Measures (MCMs), were then modeled at various stages within the implementation time frame to estimate the quantity, location, and timing of BMP implementation to meet the interim and final WLAs applicable to the DC WMG. Targets for the RAA are based on interim time steps throughout the MS4 Permit time frame, which are defined by WQBELs and RWLS along with their corresponding schedules. The milestones used for the DC WMG RAA are outlined as follows:

- March 10, 2010 (Final WLAs Los Angeles Inner Harbor Bacteria TMDL)
- March 6, 2016 (Final WLAs Machado Lake Trash TMDL)
- September 11, 2018 (WLAs Machado Lake Nutrients TMDL)

- September 30, 2019 (Wet-Weather WLAs Machado Lake Pesticides and PCBs TMDL)
- September 30, 2026 (Internal Date for Construction Schedule Evaluation – 50 percent reduction in metals)
- September 30, 2029 (Internal Date for Construction Schedule Evaluation – 75 percent reduction in metals)
- March 23, 2032 (Wet-Weather Freshwater WQBEL Dominguez Channel and Greater Los Angeles and Long Beach Harbor Waters Toxic Pollutants TMDL)

Demonstrating compliance through the RAA is an iterative process. The model includes different BMP scenarios at the compliance time steps and different approaches to BMP implementation are modeled to determine the most cost effective approach. The iterative process involves model calibration, model validation, baseline simulation, determination of the limiting pollutant, evaluation of required volume and load reductions, and control measure implementation, all of which are further detailed in this TM and in the DC WMG EWMP.

5. LSPC Calibration

Calibration refers to the adjustment or fine-tuning of modeling parameters to reproduce observations on the basis of field monitoring data. The goal of the LSPC model calibration was to obtain physically realistic model predictions by selecting parameter values that reflect the unique characteristics of the DC WMA. Spatial and temporal aspects were evaluated through the calibration process. Model calibration and validation were necessary to demonstrate the calibrated model properly assessed all the model parameters and modeling conditions that can affect model results for hydrologic and water quality analyses. The Regional Board provided acceptable model calibration criteria in Table 3.0 of the RAA Guidelines. The hydrology (flow) from the DC WMG was calibrated along with the water quality parameters described in the following subsections.

5.1 Hydrologic Calibration

The hydrologic calibration effort resulted in parameter values that produced the best overall agreement between simulated and observed stream flow volumes and timing throughout the calibration period. The time interval used for the calibration period began October 1, 2004 and ended September 30, 2012 due to the limited water quality data from the closest Mass Emission Station (MES). Rainfall data was taken from three LACFCD recording rain gauges and one National Climatic Data Center (NCDC) rain gauge near the area upstream of the mass emission station that was used for calibration. Three other NCDC weather stations were used to provide both rainfall and air temperature. Air temperature is used to derive pan evapotranspiration (PET) values for use in evaluating the impact of climate on soil moisture and plant uptake conditions in the model. Calibration included a time series comparison of daily and monthly values. Composite comparisons were also made to evaluate average monthly stream flow values over the period of record.

The basis for distributing hydrologic and water quality parameters is provided by the current land use coverage of the entire watershed. Land unit representation should be sensitive to the features of the landscape that most affect hydrology and pollutant transport, including land use (impervious assumptions), soils, and slope. Although most of the DC WMA is comprised of relatively flat terrain, slope factors must also be taken into consideration. The combination of land use, soil hydrologic group, and slope were used to define the 21 hydrologic response units (HRUs) used in LSPC. Nine of the HRUs are considered impervious for which most of the hydrologic parameters are not relevant, and the other 12 are predominately pervious types such as vacant or vegetated open space. Mixed land use areas were divided into impervious area and pervious areas based on acceptable regional values. For example, a commercial development is considered to be 90 percent impervious. The Commercial HRU is 100 percent impervious, but the other 10 percent of a commercial parcel is added to the "Urban_Grass_Irrigated" HRU.

As part of the iterative calibration approach, default parameter values were modified and input to the LSPC model. The results were compared with observed values obtained from MES S28. MES S28 was used for both the hydrology and water quality calibrations and is located at the Artesia Boulevard Bridge, approximately 1.3 miles upstream from the transitions between Dominguez Channel and the Dominguez Channel Estuary. Statistical analysis was conducted to measure the difference between observed and modeled values. The analysis applied a linear bias as the general error percentage and added root mean square and coefficient of correlation evaluations to examine statistical variations. **Figure 5-1** illustrates the linear bias relationship from the statistical analysis. The objective was to achieve model results within the defined range specified in Table 3.0 of the RAA Guidelines.

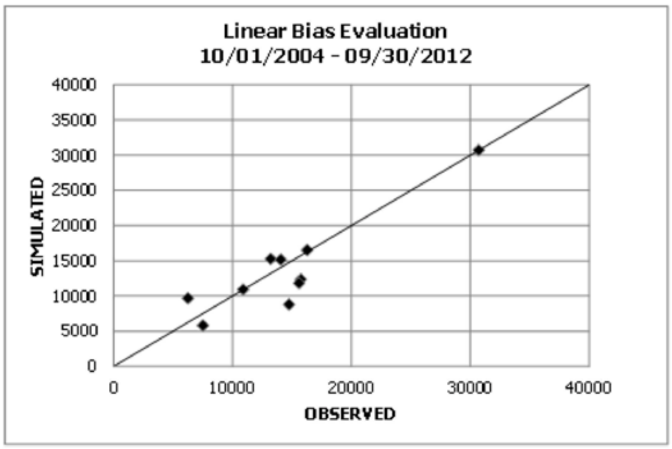

Figure 5-1 Linear Bias Evaluation for Flow Calibration at MES S28

5.1.1 Water Budget Parameter Calibration

The model set-up for the DC WMG RAA has 24 individual modeling parameters for the water budget (PWAT), three of which were selected as calibration parameters. **Table 5-1** summarizes the calibration parameters including their default values (def) and calibration values (cal) used in the model runs associated. The calibrated values are italicized in the table indicating values that differ from the default values. The table also identifies whether each HRU is pervious (p) or impervious (imp). The definitions for the calibrated parameters are as follows:

- lzsn – lower zone nominal storage (inches)
- deepfr – fraction of groundwater inflow which will enter deep (inactive) groundwater and be lost
- cepsc – interception storage capacity (inches)

Table 5-1 LSPC Calibrated Water Budget Parameter Values

LUID	HRU	p/imp	lzsn		deepfr		cepsc	
			def	cal	def	cal	def	cal
1	HD_SF_Residential	imp	0	0	0.0	0.00	0.05	*0.2*
2	LD_SF_Res_Moderate	imp	0	0	0.0	0.00	0.05	*0.2*
3	LD_SF_Res_Steep	imp	0	0	0.0	0.00	0.05	*0.2*
4	MF_Res	imp	0	0	0.0	0.00	0.05	*0.2*
5	Commercial	imp	0	0	0.0	0.00	0.05	*0.2*

Table 5-1 LSPC Calibrated Water Budget Parameter Values								
LUID	HRU	p/imp	lzsn		deepfr		cepsc	
			def	cal	def	cal	def	cal
6	Institutional	imp	0	0	0.0	0.00	0.05	*0.2*
7	Industrial	imp	0	0	0.0	0.00	0.05	*0.2*
8	Transportation	imp	0	0	0.0	0.00	0.05	*0.2*
9	Secondary_Roads	imp	0	0	0.0	0.00	0.05	*0.2*
10	Urban_Grass_Irrigated	p	7	*15*	0.5	*0.95*	0.10	*0.2*
11	Urban_Grass_NonIrrigated	p	7	*15*	0.5	*0.95*	0.10	*0.2*
12	Agriculture_Moderate_B	p	7	*15*	0.5	*0.95*	0.10	*0.2*
13	Agriculture_Moderate_D	p	7	*15*	0.5	*0.95*	0.10	*0.2*
14	Vacant_Moderate_B	p	7	*15*	0.5	*0.95*	0.15	*0.2*
15	Vacant_Moderate_D	p	7	*15*	0.5	*0.95*	0.15	*0.2*
16	Vacant_Steep_A	p	7	*15*	0.5	*0.95*	0.20	*0.2*
17	Vacant_Steep_B	p	7	*15*	0.5	*0.95*	0.20	*0.2*
18	Vacant_Steep_C	p	7	*15*	0.5	*0.95*	0.20	*0.2*
19	Vacant_Steep_D	p	7	*15*	0.5	*0.95*	0.20	*0.2*
20	Water	p	7	*15*	0.0	*0.95*	0.00	*0.2*
21	Water_Reuse	p	7	*15*	0.5	*0.95*	0.10	*0.2*

HD = High Density, HRU = Hydrologic Response Unit, LD = Low Density, LUID = Land Use Identification, MF = Multi Family, SF = Single Family

Table 3.1 in the RAA Guidelines identifies the acceptable "Range of Initial Values" for the model parameters based on the USEPA Basins Technical Note 6 (EPA BTN #6). The "Range of Initial Values" specified are as follows and the calibrated values used for the DC WMA are within the acceptable range:

- lzsn: 2.0 – 15.0
- deepfr: 0.0 – 0.50
- cepsc: 0.01 – 0.40

The modified lzsn and cepsc values are within the range specified in the RAA Guidelines, while the deepfr parameter is beyond the range specified in EPA BTN #6. The rationale for using a higher fraction of infiltration to deep groundwater is related to the urban setting of the DC WMA and the configuration of the storm drain network. The calibration section of the DC WMA is nearly completely developed with a high fraction of impervious surfaces which prevent a large fraction of water from infiltrating. The drainage system is comprised of streets, storm drains of reinforced concrete or metal pipe, and concrete lined channels, i.e., Dominguez Channel and the tributary lateral channels. The asphalt and concrete lined nature of the system allows virtually no connection between interflow/groundwater and the surface water bodies/receiving waters. This also explains the high value used for the lzsn parameter because there is little opportunity for lower zone water storage to migrate via interflow to receiving waters. The higher the lzsn value, the lower the probability that this water will flow to receiving waters. The water either runs off during the storm or infiltrates and is lost to evapotranspiration or groundwater aquifers without flowing to water bodies.

As a confirmation that model parameters modified in the calibration effort provide output results that are in agreement with observed values within the specified range noted in the RAA Guidelines, a statistical analysis to determine linear bias was performed to find the percent difference between simulated and observed values. Linear bias is a measure of the difference in the sum of all simulated output results and the sum of all observed values divided by the sum of all simulated output results.

$$Linear\ Bias\ (percent) = \frac{\sum LSPC\ Output - \sum Recorded\ Values}{\sum Recorded\ Values}\ x\ 100$$

Table 3.0 of the RAA Guidelines states that percent differences between 15 and 25 percent are considered fair, differences between ten and 15 percent are considered good, and differences less than ten percent are considered very good for the hydrology/flow model parameters. **Table 5-2** presents the results from the statistical analysis performed based on the calibrated and recorded values for the water budget parameters. The daily and monthly differences are less than ten percent which demonstrates a very good correlation between observed flow rates and modeled flow rates.

Table 5-2 Water Budget Parameter Statistics

Parameter	Root Mean Square (RMSE)	Linear Bias	Coefficient of Correlation (C.C.)
Water Budget - Daily	83.33	0.012	0.35
Water Budget - Monthly	12.26	0.014	0.89

5.2 Water Quality Calibration

The LACFCD operates the Los Angeles County Monitoring Program to provide technical data and information to support effective watershed stormwater quality management programs in Los Angeles County which includes MES S28 as previously mentioned. MES are equipped with automated water samplers and stage recorders that collect both composite and grab samples during storm events. The subwatershed tributary to MES S28 is comprised of 42 subbasins within the greater DC WMA. Although MES S28 is located in the upper half of the DC WMA, the subwatershed land use and hydrological characteristics are representative of the entire DC WMA with regard to water quality constituent composition and concentrations. As more water quality data is collected through the Coordinated Integrated Monitoring Program (CIMP), validation and fine tuning of the water quality parameters may be possible. The data collected at MES S28 is collected as an event mean concentration (EMC), which is done by either collecting one sample throughout the event or combining multiple samples collected throughout time into a combined sample for lab analysis. Event pollutographs have not been collected at MES S28, where the collected (observed) sample concentrations are averaged over the length of the rain event or a single grab sample is collected. The model is run on a daily basis and the simulated daily values are averaged over the time frame of the observed rain event. For example, an observed rain event may last two to three days and the observed EMC is derived from the number of samples collected (at the particular location) and mixed together and averaged over the length of event. The simulated results are taken from the same time period and averaged to derive a simulated EMC.

The model used for the DC WMG RAA was calibrated based on the following water quality calibration parameters. Each is further discussed in the following subsections:

- Total Suspended Solids (TSS)
- Metal parameters – copper, lead, and zinc
- Fecal coliform
- Total nitrogen and total phosphorus

Fecal coliform was used rather than E. coli because there are modeling standards established for fecal coliform, but not E. coli. E. coli has a freshwater standard that is applicable to the Dominguez Channel above the Estuary, but the marine water found downstream of Dominguez Channel in the Estuary and Harbor does not have an E. coli standard. However, in most cases fecal coliform is almost completely E. coli. Historical organics, such as PCBs and DDT, are often related to sediments. Relationships between TSS and historical organics were evaluated to determine if TSS could be used as a surrogate. There were too many non-detects in the available water quality data to establish any type of relationship. By addressing TSS, it is assumed that other historical organics will also be addressed.

Dry-weather flows were also calibrated in the initial phases of model calibration. Empirical data was incorporated into the model as point source to simulate dry-weather conditions. Current dry-weather flows are assumed to occur until the proposed wet-weather control measures are implemented, which will capture those flows as explained in **Section 3**. Once it was determined that wet-weather control measures would address dry-weather runoff, it was no longer considered a major component of the modeling.

5.2.1 Total Suspended Sediment Parameter Calibration

The model set-up for the DC WMG RAA has 18 individual modeling parameters for the sediment group (SED), five of which were selected as calibration parameters. **Table 5-3** summarizes the calibration parameters including their default values (def) and calibration values (cal) used in the model runs. The calibrated values are italicized in the table indicating values that differ from the default values. The definitions for the calibrated parameters are as follows:

- kser – coefficient in the detached sediment washoff equation
- accsdp – rate at which solids accumulate on the land surface
- sed_suro – constant surface trace sediment concentration
- sed_ifwo – constant interflow trace sediment concentration
- sed_agwo – constant groundwater trace sediment concentration

Table 5-3 LSPC Calibrated Sediment Parameters

LUID	kser		accsdp		sed_suro		sed_ifwo		sed_agwo	
	def	cal	def	cal	def	cal	def	cal	def	cal
1	0.035	*1*	0.001	*0.0007*	0	*75*	0	*75*	0	*75*
2	0.030	*1*	0.001	*0.0007*	0	*75*	0	*75*	0	*75*
3	0.030	*1*	0.001	*0.0007*	0	*75*	0	*75*	0	*75*
4	0.035	*1*	0.001	*0.0007*	0	*75*	0	*75*	0	*75*
5	0.070	*1*	0.001	*0.0007*	0	*75*	0	*75*	0	*75*
6	0.065	*1*	0.001	*0.0007*	0	*75*	0	*75*	0	*75*
7	0.065	*1*	0.001	*0.0007*	0	*75*	0	*75*	0	*75*
8	0.085	*1*	0.001	*0.0007*	0	*75*	0	*75*	0	*75*
9	0.085	*1*	0.001	*0.0007*	0	*75*	0	*75*	0	*75*
10	0.001	*1*	0.000	0.0000	0	*75*	0	*75*	0	*75*
11	0.100	*1*	0.000	0.0000	0	*75*	0	*75*	0	*75*
12	0.100	*1*	0.000	0.0000	0	*75*	0	*75*	0	*75*
13	0.100	*1*	0.000	0.0000	0	*75*	0	*75*	0	*75*
14	0.100	*1*	0.000	0.0000	0	*75*	0	*75*	0	*75*
15	0.100	*1*	0.000	0.0000	0	*75*	0	*75*	0	*75*

Table 5-3 LSPC Calibrated Sediment Parameters

LUID	kser		accsdp		sed_suro		sed_ifwo		sed_agwo	
	def	cal	def	cal	def	cal	def	cal	def	cal
16	0.150	*1*	0.000	0.0000	0	*75*	0	*75*	0	*75*
17	0.150	*1*	0.000	0.0000	0	*75*	0	*75*	0	*75*
18	0.150	*1*	0.000	0.0000	0	*75*	0	*75*	0	*75*
19	0.150	*1*	0.000	0.0000	0	*75*	0	*75*	0	*75*
20	0.000	*1*	0.000	0.0000	0	*75*	0	*75*	0	*75*
21	0.100	*1*	0.000	0.0000	0	*75*	0	*75*	0	*75*

LUID = Land Use Identification (defined in **Table 5-1**)

Sediment concentration parameters (sed_suro, sed_ifwo, sed_agwo) provide the model with the capability to match baseflow observations. These variables have no range specified in the RAA Guidelines. The coefficient for detachment, kser, is a primary parameter in calibrating sediment loading rates which is a measure of the build-up of surface sediment between rain events. This is a calibration parameter with a typical calibration range between 0.5 and 5. The rate of solids accumulation, accsdp, is the primary source of solids from impervious areas with a range on impervious surfaces from 0.0 to 2.

Table 3.0 of the RAA Guidelines states that percent differences between 30 and 45 percent are considered fair, differences between 20 and 30 percent are considered good, and differences less than 20 percent are considered very good for sediment model parameters. **Table 5-4** and **Figure 5-2** summarize the statistical data associated with the calibrated model (SIM) as compared to the recorded values (OBS) for TSS. The RAA Guidelines specify that the model calibration criteria for the simulated results for the sediment falls into the very good ranking with a percent difference less than twenty percent.

Table 5-4 Sediment Parameter Statistics			
Parameter	**Root Mean Square (RMSE)**	**Linear Bias**	**Coefficient of Correlation (C.C.)**
TSS	159.25	-0.0016	0.49

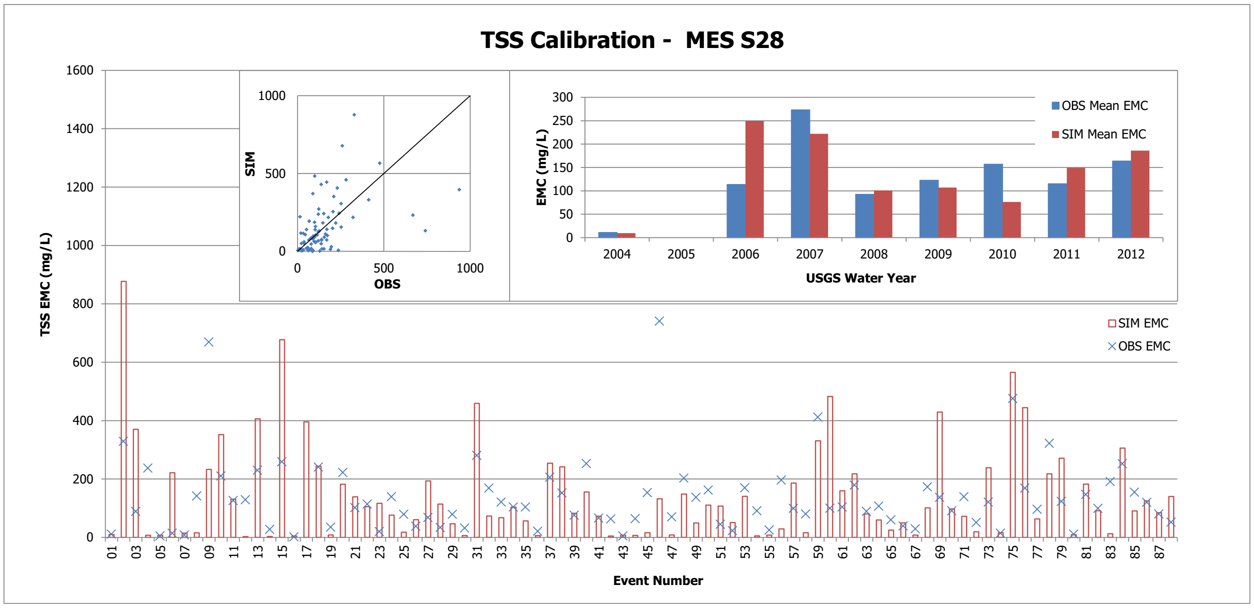

Figure 5-2 Sediment Calibration Statistics at MES S28

5.2.2 Metal Parameter Calibration

The LSPC model for general water quality parameters (GQUAL) uses three priority metal pollutants, copper, lead, and zinc. This section discusses the parameter calibration for the three metal pollutants while the following subsections cover the remaining general water quality parameters. The model set-up for the DC WMG RAA has 12 individual modeling parameters for each of the general water quality parameters, one of which was selected as a calibration parameter. **Table 5-3** summarizes the calibration parameters including their default values (def) and calibration values (cal) used in the model runs. The calibrated values are italicized in the table indicating values that differ than the default values. The definitions for the calibrated parameters are as follows:

- potfw – washoff potency factor

Table 5-5 LSPC Calibrated Metals Parameters						
LUID	**Copper**		**Lead**		**Zinc**	
	potfw		**potfw**		**potfw**	
	def	**cal**	**def**	**cal**	**def**	**cal**
1	0.800	*1.072*	0.800	*0.313*	7.50	*4.484*
2	0.600	*0.804*	0.200	*0.078*	1.20	*0.717*
3	0.600	*0.804*	0.200	*0.078*	1.20	*0.717*
4	0.800	*1.072*	0.800	*0.313*	7.50	*4.484*
5	1.140	*1.528*	1.000	*0.391*	10.20	*6.098*

Table 5-5 LSPC Calibrated Metals Parameters

LUID	Copper		Lead		Zinc	
	potfw		potfw		potfw	
	def	cal	def	cal	def	cal
6	0.400	*0.536*	0.180	*0.070*	5.08	*3.037*
7	0.400	*0.536*	0.180	*0.070*	5.08	*3.037*
8	0.800	*1.072*	0.800	*0.313*	7.50	*4.484*
9	0.800	*1.072*	0.800	*0.313*	7.50	*4.484*
10	0.600	*0.804*	0.200	*0.078*	1.20	*0.717*
11	0.600	*0.804*	0.200	*0.078*	1.20	*0.717*
12	0.300	*0.402*	0.100	*0.039*	2.50	*1.495*
13	0.300	*0.402*	0.100	*0.039*	2.50	*1.495*
14	0.012	*0.016*	0.002	*0.001*	0.05	*0.030*
15	0.012	*0.016*	0.002	*0.001*	0.05	*0.030*
16	0.012	*0.016*	0.002	*0.001*	0.05	*0.030*
17	0.012	*0.016*	0.002	*0.001*	0.05	*0.030*
18	0.012	*0.016*	0.002	*0.001*	0.05	*0.030*
19	0.012	*0.016*	0.002	*0.001*	0.05	*0.030*
20	0.000	0.000	0.000	0.000	0.00	0.000
21	0.600	*0.804*	0.200	*0.078*	1.20	*0.717*

LUID = Land Use Identification (defined in **Table 5-1**)

The default value of potfw for each land use was modified by assuming a linear build-up/washoff relationship of the metal of interest and adjusting the input parameter accordingly to achieve the best agreement of simulated and observed values. **Table 5-6**, **Figure 5-3**, **Figure 5-4**, and **Figure 5-5** summarize the statistical data associated with the calibrated model (SIM) as compared to the recorded values (OBS) for copper, lead, and zinc. The RAA Guidelines do not specify the modal calibration criteria for metals, but it can be assumed the calibration would fall into very good as the percent differences are less than ten percent.

Table 5-6 Metal Parameter Statistics

Parameter	Root Mean Square (RMSE)	Linear Bias	Coefficient of Correlation (C.C.)
Copper	93.76	8.32E-05	0.54
Lead	23.02	1E-03	0.61
Zinc	360.40	-6E-06	0.62

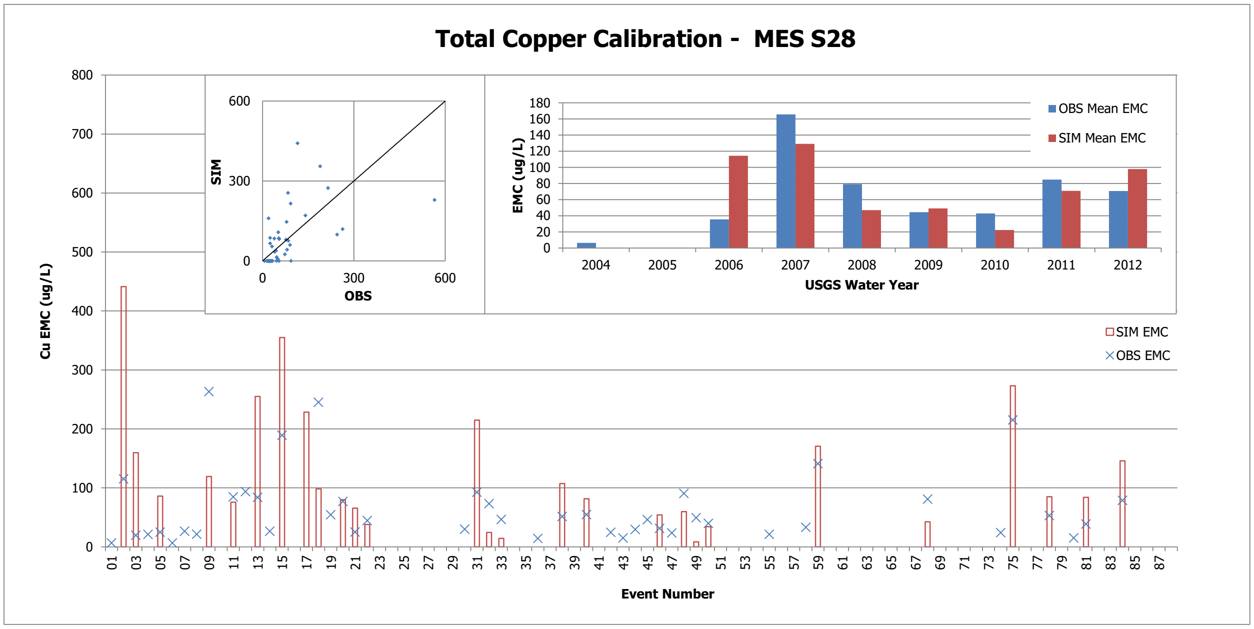

Figure 5-3 Copper Calibration Statistics at MES S28

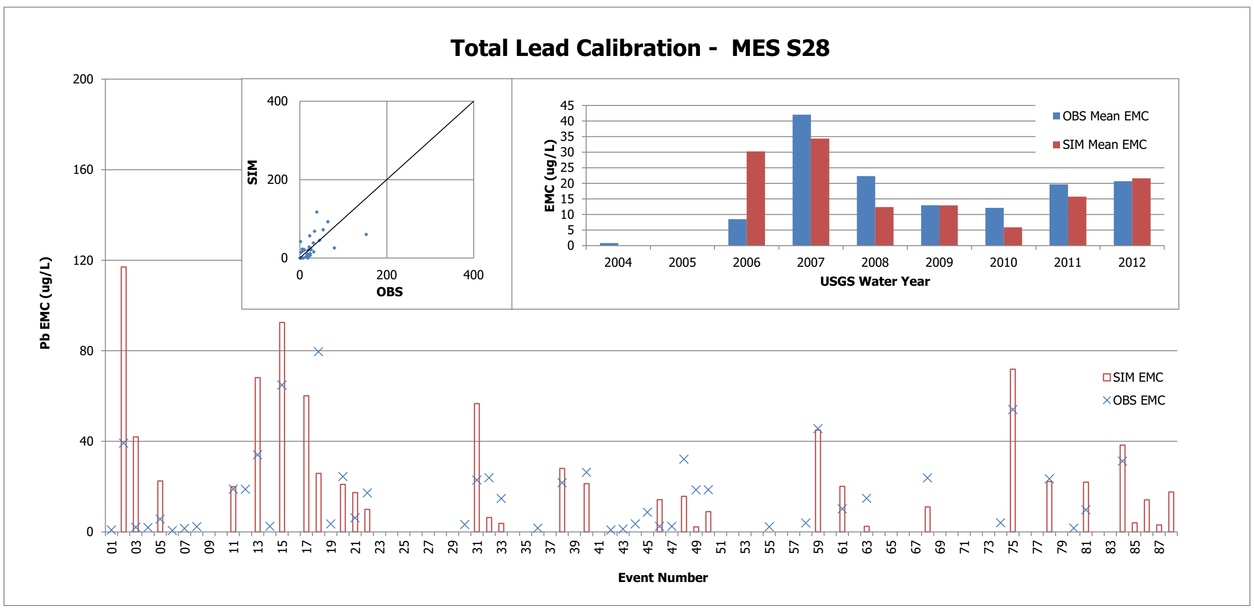

Figure 5-4 Lead Calibration Statistics at MES S28

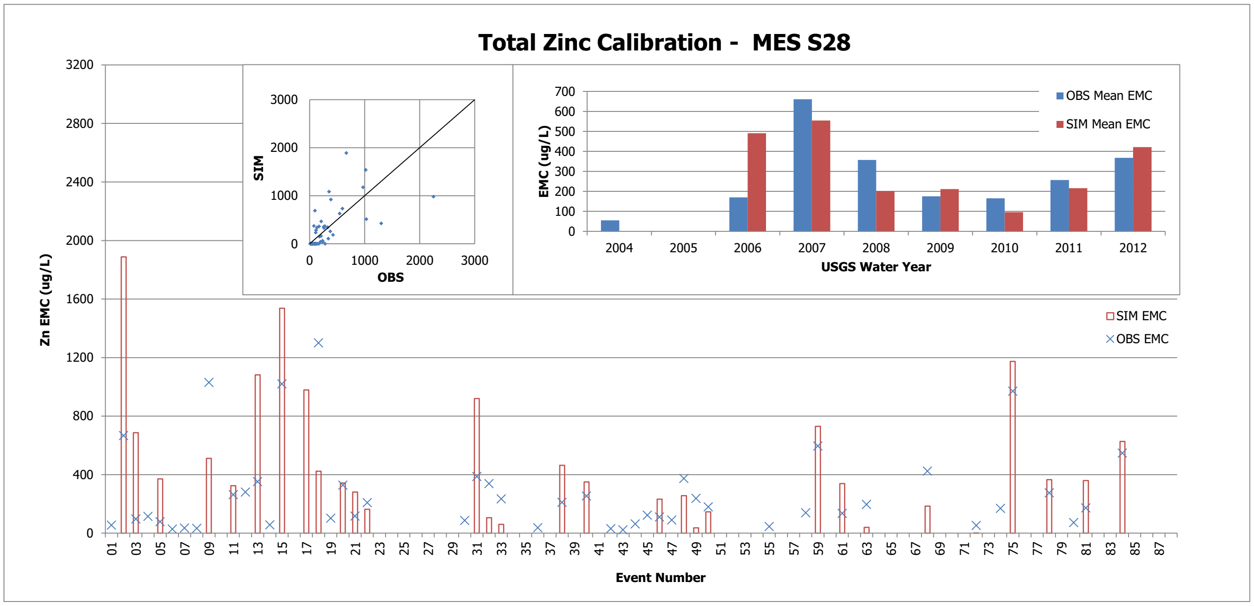

Figure 5-5 Zinc Calibration Statistics at MES S28

5.2.3 Fecal Coliform Parameter Calibration

The LSPC model for general water quality parameter (GQUAL) uses total fecal coliform as the indicator bacteria. Although the indicator used in more recent tests is fecal coliform, the historic data was collected using total fecal coliform as the bacteria sample criteria. The model set-up for the DC WMG RAA has 12 individual modeling parameters for each of the general water quality parameters, two of which were selected as calibration parameters. **Table 5-7** summarizes the calibration parameters including their default values (def) and calibration values (cal) used in the model runs. The calibrated values are italicized in the table. The parameter definitions are as follows:

- soqc – surface outflow
- iogc – inflow concentrations

Table 5-7 LSPC Calibrated Fecal Coliform Parameter Values

LUID	soqc		ioqc	
	def	cal	def	cal
1	6,600	*1,550,000*	6,600	*1,550,000*
2	19,000	*1,550,000*	19,000	*1,550,000.*
3	19,000	*1,550,000*	19,000	*1,550,000*
4	6,600	*1,700,000*	6,600	*1,700,000*
5	40,000	*1,740,000*	40,000	*1,740,000*
6	2,300	*173,000*	2,300	*173,000*
7	2,300	*911,000*	2,300	*911,000*
8	1,000	*419,000*	1,000	*419,000*
9	1,000	*419,000*	1,000	*419,000*
10	3,500	*6,310*	3,500	*6,310*
11	3,500	*6,310*	3,500	*6,310*

Table 5-7 LSPC Calibrated Fecal Coliform Parameter Values

LUID	soqc		ioqc	
	def	cal	def	cal
12	91,000	*60,300*	91,000	*60,300*
13	91,000	*60,300*	91,000	*60,300*
14	1,000	*6,310*	1,000	*6,310*
15	1,000	*6,310*	1,000	*6,310*
16	1,000	*6,310*	1,000	*6,310*
17	1,000	*6,310*	1,000	*6,310*
18	1,000	*6,310*	1,000	*6,310*
19	1,000	*6,310*	1,000	*6,310*
20	0	0	0	0
21	3,500	*3,500*	3,500	*3,500*

LUID = Land Use Identification (defined in **Table 5-1**)

The default values for both soqc and ioqc are identical for each LUID and were calibrated with identical values. **Table 5-8** and **Figure 5-6** summarize the statistical data associated with the calibrated model (SIM) as compared to the recorded values (OBS) for fecal coliform. The RAA Guidelines do not specify the modal calibration criteria for bacteria, but it can be assumed the calibration would fall into very good as the percent difference is less than ten percent.

Table 5-8 Fecal Coliform Parameter Statistics

Parameter	Root Mean Square (RMSE)	Linear Bias	Coefficient of Correlation (C.C.)
Fecal Coliform	595,054	-0.04	0.49

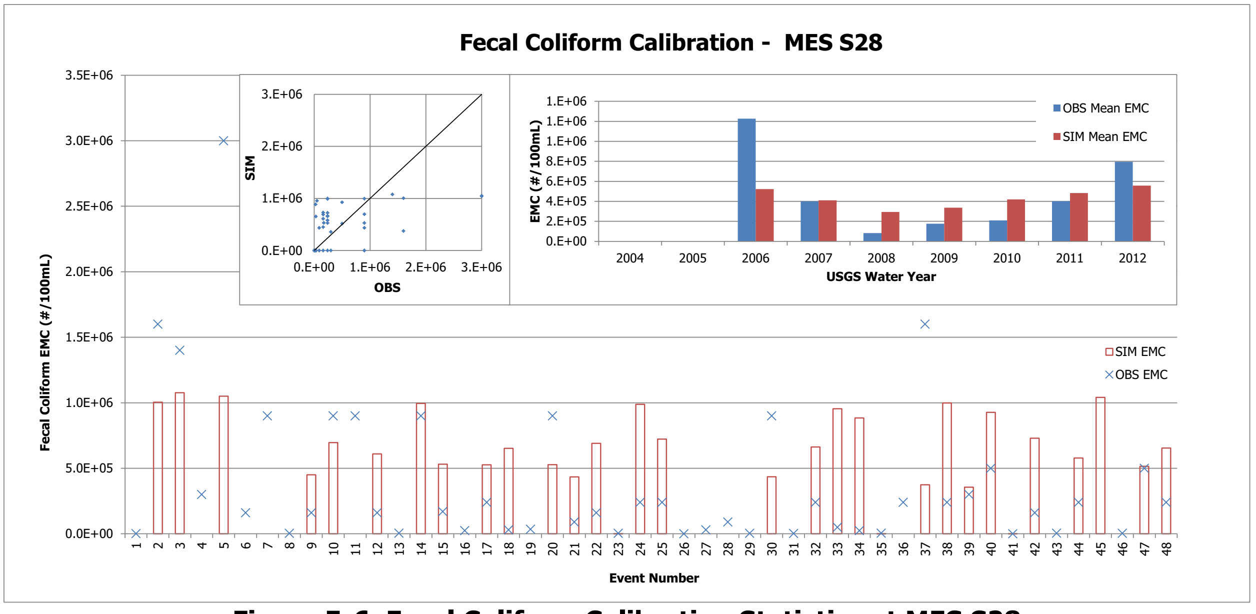

Figure 5-6 Fecal Coliform Calibration Statistics at MES S28

5.2.4 Total Nitrogen and Total Phosphorus Parameter Calibration

The LSPC model for general water quality parameter (GQUAL) uses total nitrogen and total phosphorous to assess the nutrient related impairments. The model set-up for the DC WMG RAA has 12 individual modeling parameters for each of the general water quality parameters, four of which were selected as calibration parameters. **Table 5-9** and **Table 5-10** summarize the calibration parameters including their default values (def) and calibration values (cal) used in the model runs. The calibrated values are italicized in the table. The parameter definitions are as follows:

- potfw – washoff potency factor
- potfs – scour potency factor
- soqc – surface outflow
- iogc – inflow concentrations

Table 5-9 LSPC Calibrated Total Nitrogen Parameters

LUID	potfw		potfs		soqc		ioqc	
	def	cal	def	cal	def	cal	def	cal
1	0	*72.9725*	0	*0.1292*	2	*0*	2	*0*
2	0	*72.9725*	0	*0.1292*	2	*0*	2	*0*
3	0	*72.9725*	0	*0.1292*	2	*0*	2	*0*
4	0	*72.9725*	0	*0.1292*	2	*0*	2	*0*
5	0	*72.9725*	0	*0.1292*	2	*0*	2	*0*
6	0	*72.9725*	0	*0.1292*	2	*0*	2	*0*
7	0	*72.9725*	0	*0.1292*	2	*0*	2	*0*
8	0	*72.9725*	0	*0.1292*	2	*0*	2	*0*
9	0	*72.9725*	0	*0.1292*	2	*0*	2	*0*
10	0	*21.7046*	0	*0.1292*	2	*0*	2	*0*
11	0	*21.7046*	0	*0.1292*	2	*0*	2	*0*
12	0	*21.7046*	0	*0.1292*	2	*0*	2	*0*
13	0	*21.7046*	0	*0.1292*	2	*0*	2	*0*
14	0	*21.7046*	0	*0.1292*	2	*0*	2	*0*
15	0	*21.7046*	0	*0.1292*	2	*0*	2	*0*
16	0	*21.7046*	0	*0.1292*	2	*0*	2	*0*
17	0	*21.7046*	0	*0.1292*	2	*0*	2	*0*
18	0	*21.7046*	0	*0.1292*	2	*0*	2	*0*
19	0	*21.7046*	0	*0.1292*	2	*0*	2	*0*
20	0	*21.7046*	0	*0.1292*	2	*0*	2	*0*
21	0	*21.7046*	0	*0.1292*	2	*0*	2	*0*

LUID = Land Use Identification (defined in **Table 5-1**)

Table 5-10 LSPC Calibrated Total Phosphorus Parameters

LUID	potfw		potfs		soqc		ioqc	
	def	cal	def	cal	def	cal	def	cal
1	0.01	*72.97*	0.01	*0.1291*	1.90	*0.01*	1.90	*0*
2	0.01	*72.97*	0.01	*0.1291*	1.08	*0.01*	1.08	*0*
3	0.01	*72.97*	0.01	*0.1291*	1.08	*0.01*	1.08	*0*
4	0.01	*72.97*	0.01	*0.1291*	1.90	*0.01*	1.90	*0*
5	0.01	*72.97*	0.01	*0.1291*	3.00	*0.01*	3.00	*0*
6	0.01	*72.97*	0.01	*0.1291*	1.26	*0.01*	1.26	*0*
7	0.01	*72.97*	0.01	*0.1291*	1.26	*0.01*	1.26	*0*
8	0.01	*72.97*	0.01	*0.1291*	1.00	*0.01*	1.00	*0*
9	0.01	*72.97*	0.01	*0.1291*	1.00	*0.01*	1.00	*0*
10	0.01	*21.70*	0.01	*0.1291*	1.08	*0.00*	1.08	*0*
11	0.01	*21.70*	0.01	*0.1291*	1.08	*0.00*	1.08	*0*
12	0.01	*21.70*	0.01	*0.1291*	1.76	*0.00*	1.76	*0*
13	0.01	*21.70*	0.01	*0.1291*	1.76	*0.00*	1.76	*0*
14	0.01	*21.70*	0.01	*0.1291*	1.00	*0.00*	1.00	*0*
15	0.01	*21.70*	0.01	*0.1291*	1.00	*0.00*	1.00	*0*
16	0.01	*21.70*	0.01	*0.1291*	1.00	*0.00*	1.00	*0*
17	0.01	*21.70*	0.01	*0.1291*	1.00	*0.00*	1.00	*0*
18	0.01	*21.70*	0.01	*0.1291*	1.00	*0.00*	1.00	*0*
19	0.01	*21.70*	0.01	*0.1291*	1.00	*0.00*	1.00	*0*
20	0.01	*21.70*	0.01	*0.1291*	0.00	0.00	0.00	0
21	0.01	*21.70*	0.01	*0.1291*	1.00	*0.00*	1.00	*0*

LUID = Land Use Identification (defined in **Table 5-1**)

The surface outflow quality concentrations for total nitrogen and total phosphorus were modified for impervious surfaces and were kept to zero for the interflow parameters. **Table 5-11**, **Figure 5-7**, and **Figure 5-8** summarize the statistical data associated with the calibrated model (SIM) as compared to the recorded values (OBS) for total nitrogen and total phosphorus. The RAA Guidelines do not specify the modal calibration criteria for these pollutants, but it can be assumed the calibration would rank very good for total nitrogen as the percent differences are less than ten percent and very good for total phosphorus as the percent differences are less than ten.

Table 5-11 Total Nitrogen and Total Phosphorus Parameter Statistics

Parameter	Root Mean Square (RMSE)	Linear Bias	Coefficient of Correlation (C.C.)
Total Nitrogen	6.06	0.03	0.28
Total Phosphorus	0.57	-0.02	0.24

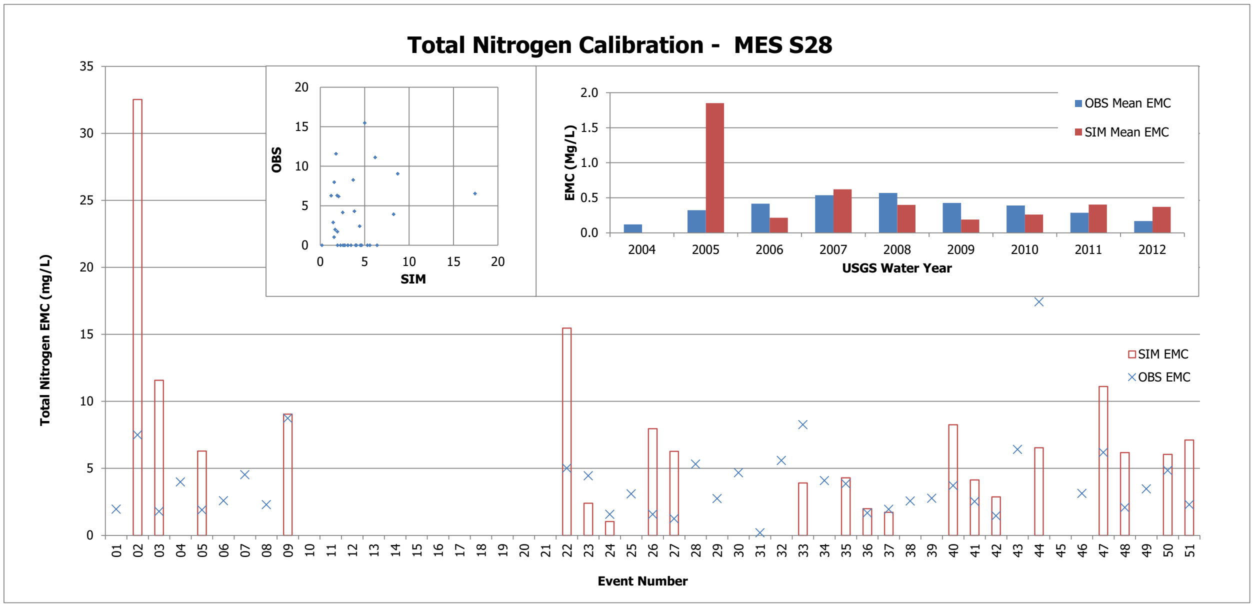

Figure 5-7 Total Nitrogen Calibration Statistics at MES S28

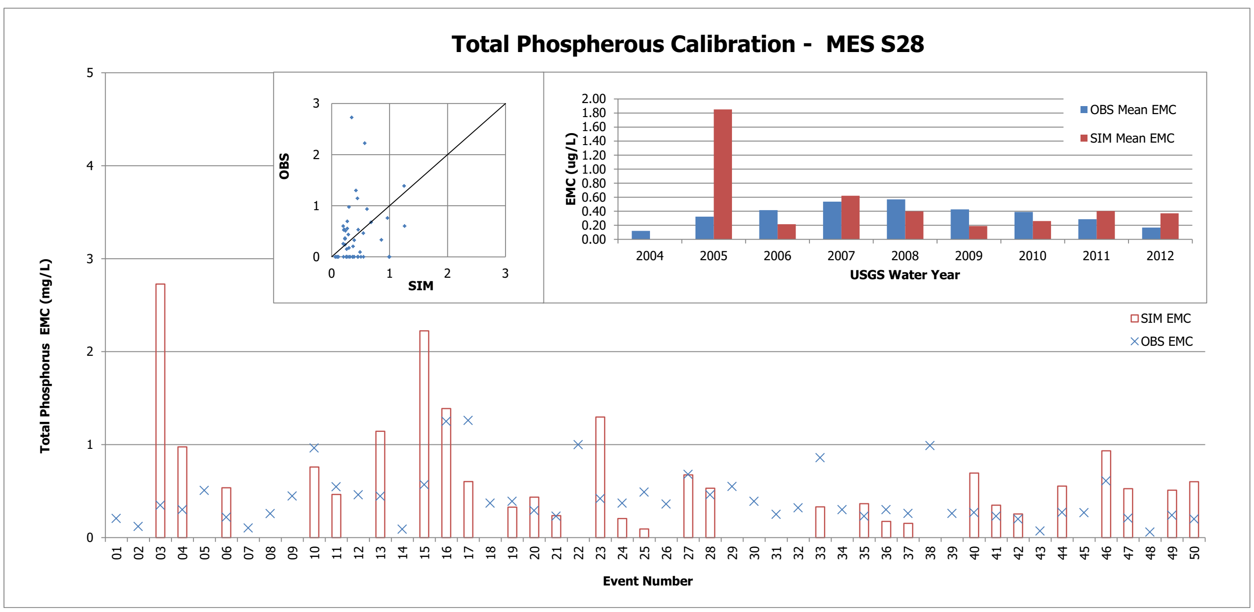

Figure 5-8 Total Phosphorus Calibration Statistics at MES S28

5.2.5 Relationships for Other Constituents of Concern

As discussed above, the model parameters for the major pollutants with current TMDLs have been developed using LSPC. Other relationships for pollutants of concern were evaluated to see if relationships could be found with the other constituents analyzed. The constituents evaluated include: oil and grease, pH, cadmium, arsenic, and dissolved oxygen. No relationships were found with strong correlation to the other water quality constituents. However, these constituents have lower concentrations in the flows in Dominguez Channel. It is assumed that by capturing the limiting pollutants described in Section 3.3.5 of the EWMP, these other constituents will be accounted for. Legacy pollutants such as DDT and organophosphates had too many non-detects to establish any type of relationship and are expected to be associated mainly with sediments already deposited in the estuary or with Superfund sites already under mitigation operations. The analyses of these other pollutants of concern are provided in **Attachment A**.

6. LSPC Validation

After the model was calibrated it was validated. During the calibration effort, hydrology, sediment, and general water quality parameters were varied to develop a best fit of HRU/EMC responses. The validation effort evaluated responses at tributary stations (TS) where the record is not long enough to be used for calibration, but may be used to evaluate performance of the model by comparing simulated model results with the observed record at each TS. The tributary stations are located at the following locations, all within LACFCD facilities:

- TS 19: Reinforced concrete rectangular channel at Figueroa Street, south of Del Amo Boulevard
- TS 20: Del Amo Channel - reinforced concrete trapezoidal channel at Avalon Boulevard
- TS 21: Reinforced concrete rectangular channel near 173rd Street and Merit Avenue
- TS 22: Hollypark Drain - reinforced concrete rectangular channel at 135th Street
- TS 23: Yukon Lateral - reinforced concrete rectangular channel at Crenshaw Boulevard
- TS 24: Dominguez Channel - reinforced concrete box near 116th Street and Isis Avenue

The validation effort used simulated model results of the general water quality constituents – TSS, copper, lead, zinc, fecal coliform, total nitrogen, and total phosphorus, and compared them to the observed records at TS19 - 24. **Figure 6-1** shows the location of Tributary Stations and MES - S28 used in calibration and validation. The figure also identifies the rain gages used for calibration. The value of the constituents is based on EMCs.

Table 6-1 through **Table 6-7** summarize the observed (OBS) versus simulated (SIM) constituent concentrations used for model validation. For illustration purposes, the water quality constituent will be examined on an annual mean basis in the following tables. The complete set of the validation results are included in **Attachment B**.

Validation of the baseline condition at the various temporary stations has bias numbers that reflect the lack of long term records and the potential issue of the EMC of observed samples not being representative of the event pollutograph during collection. It is expected that as more data is collected through CIMP efforts, the calibration of the model may be refined for areas tributary to the TS locations.

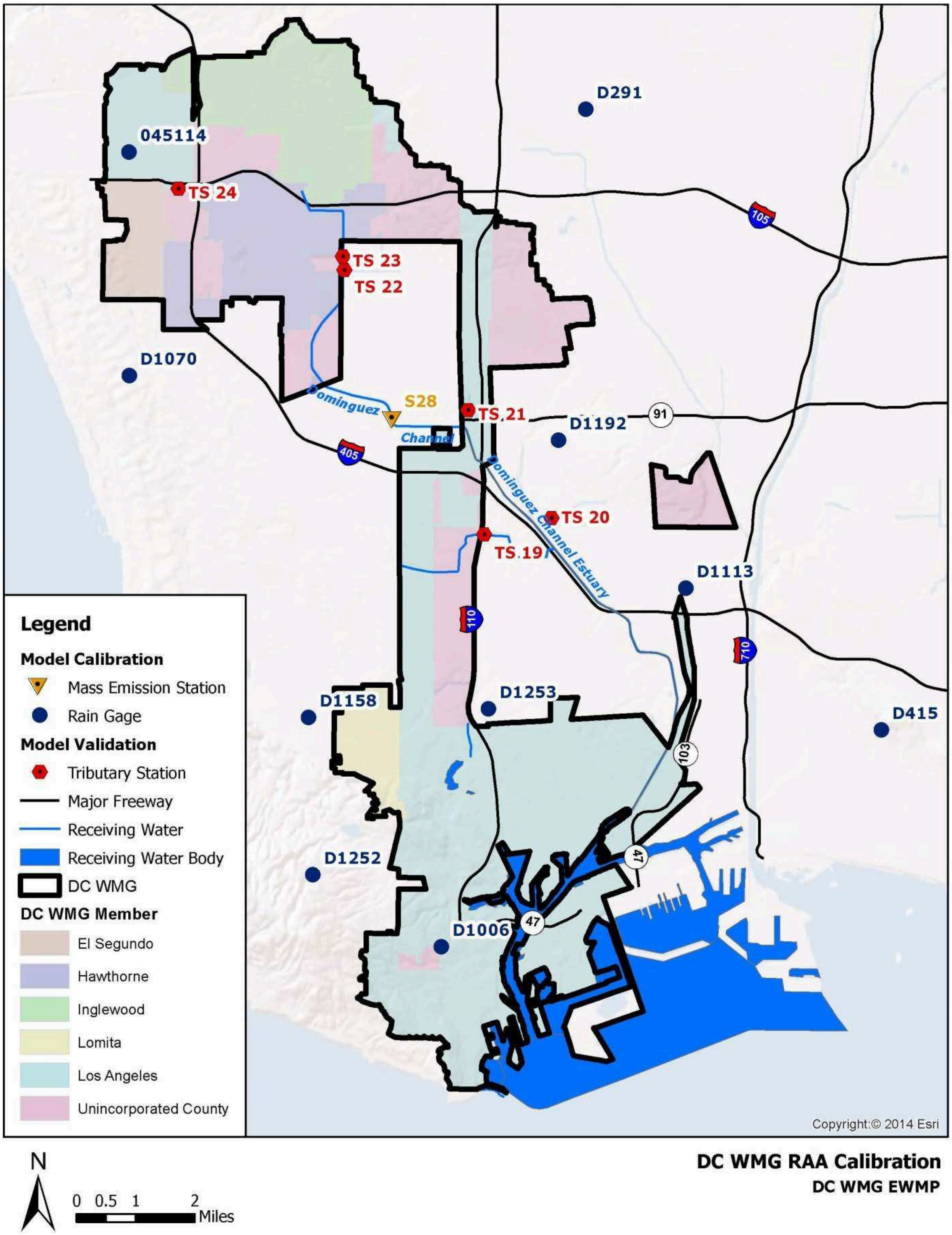

Figure 6-1 Monitoring Stations for Calibration and Validation

Table 6-1 Annual Mean Concentration - TSS (mg/L)

TS #	Water Year						Bias
	2008		2009		2010		
	OBS	SIM	OBS	SIM	OBS	SIM	
19	200	88	147	91	101	142	-28.35%
20	109	82	175	88	102	95	-31.35%
21	180	82	183	88	373	99	-63.45%
22	125	85	202	95	154	117	-38.25%
23	47	82	78	80	87	105	25.94%
24	65	80	114	78	40	96	15.98%

Table 6-2 Annual Mean Concentration - Copper (µg/L)

TS #	Water Year						Bias
	2008		2009		2010		
	OBS	SIM	OBS	SIM	OBS	SIM	
19	50.82	46.66	28.66	41.66	77.50	92.58	7.38%
20	45.72	51.65	41.11	43.78	180.00	141.07	4.70%
21	54.10	49.00	39.25	41.28	136.00	102.39	-17.47%
22	35.38	50.59	26.15	51.25	92.43	98.28	44.03%
23	28.36	61.47	35.79	42.27	101.25	132.21	73.01%
24	68.23	61.45	121.61	45.03	72.88	73.61	-33.96%

Table 6-3 Annual Mean Concentration - Lead (µg/L)

TS #	Water Year						Bias
	2008		2009		2010		
	OBS	SIM	OBS	SIM	OBS	SIM	
19	20.18	8.38	11.97	7.84	16.32	29.40	-5.89%
20	5.42	9.48	9.53	7.81	23.33	25.39	11.45%
21	27.83	8.59	19.07	7.02	30.93	15.44	-60.11%
22	9.51	9.53	11.02	10.63	34.93	19.30	-28.82%
23	7.35	12.75	12.45	8.71	22.16	21.46	2.32%
24	9.30	12.44	16.51	9.23	10.84	17.07	5.69%

Table 6-4 Annual Mean Concentration - Zinc (µg/L)

TS #	Water Year						Bias
	2008		2009		2010		
	OBS	SIM	OBS	SIM	OBS	SIM	
19	308.28	169.00	172.84	147.62	309.91	253.83	-27.89%
20	118.46	180.06	174.51	148.41	262.90	288.94	11.07%
21	346.45	172.94	272.00	141.26	340.29	272.80	-38.77%
22	143.70	170.07	121.26	185.70	262.91	281.13	20.65%
23	122.72	213.31	167.56	146.00	264.41	303.57	19.50%
24	263.43	210.40	600.00	155.40	265.51	192.10	-50.58%

Table 6-5 Annual Mean Concentration – Fecal Coliform (MPN/100 mL)

TS #	Water Year 2008 OBS	2008 SIM	2009 OBS	2009 SIM	2010 OBS	2010 SIM	Bias
19	129,978	710,015	198,188	809,375	207,214	1,222,387	4.10
20	16,182	518,065	63,563	578,962	130,757	873,616	9.05
21	29,819	655,259	178,213	723,640	2,353,000	1,101,086	0.10
22	16,145	279,573	52,190	459,325	95,133	703,465	8.30
23	22,341	286,298	71,163	449,882	611,067	551,333	1.19
24	4,217	297,585	38,160	559,261	46,617	471,424	15.50

Table 6-6 Annual Mean Concentration – Total Nitrogen (mg/L)

TS #	Water Year 2008 OBS	2008 SIM	2009 OBS	2009 SIM	2010 OBS	2010 SIM	Bias
19	3.16	2.33	2.23	2.38	2.97	4.87	-4.91%
20	2.38	2.48	2.82	1.80	4.94	5.13	-7.99%
21	3.78	2.53	4.36	2.47	5.40	5.89	-23.55%
22	124.90	85.35	201.63	94.92	153.88	117.43	-35.56%
23	1.85	2.91	2.74	3.14	6.91	5.48	9.89%
24	3.91	2.46	5.69	1.77	3.45	2.57	-47.71%

Table 6-7 Annual Mean Concentration – Total Phosphorus (mg/L)

TS #	Water Year 2008 OBS	2008 SIM	2009 OBS	2009 SIM	2010 OBS	2010 SIM	Bias
19	0.54	0.24	0.36	0.18	0.33	0.42	-36.80%
20	0.32	0.21	0.39	0.16	0.18	0.44	-19.46%
21	0.60	0.21	0.55	0.16	0.33	0.44	-51.25%
22	0.46	0.46	0.42	0.42	0.25	0.59	-22.74%
23	0.32	0.27	0.43	0.15	0.36	0.42	-27.38%
24	0.44	0.23	0.63	0.16	0.20	0.26	-53.77%

7. Baseline Simulation

A baseline analysis was performed as part of the DC WMG RAA which represents the current watershed condition based on existing stormwater programs. Stormwater runoff was simulated based on the time series record of rainfall between October 2002 and September 2012. This period represents the most recent 10 years of record as required by the MS4 Permit. The water quality constituent mass loading is determined by multiplying the stormwater runoff volume by the water quality constituent concentration. As part of the baseline analysis, the industrial permitted and other permitted facilities were identified. These facilities are modeled as compliant, meaning the parcels did not contribute to the flow, volume, or constituent loading, as they are covered under a stormwater permit and not regulated by the jurisdiction in which they are located. These facilities are illustrated and listed in Attachment M of the EWMP.

The baseline and subsequent simulations analyzed the DC WMG area based on five distinct watersheds, each tributary to different receiving waters. The five watersheds include the Dominguez Channel, Dominguez Channel Estuary, Wilmington Drain, Machado Lake, and the Harbor. These watersheds are shown in **Figure 7-1**. The baseline simulation and 90th percentile analysis were performed for each of the watersheds.

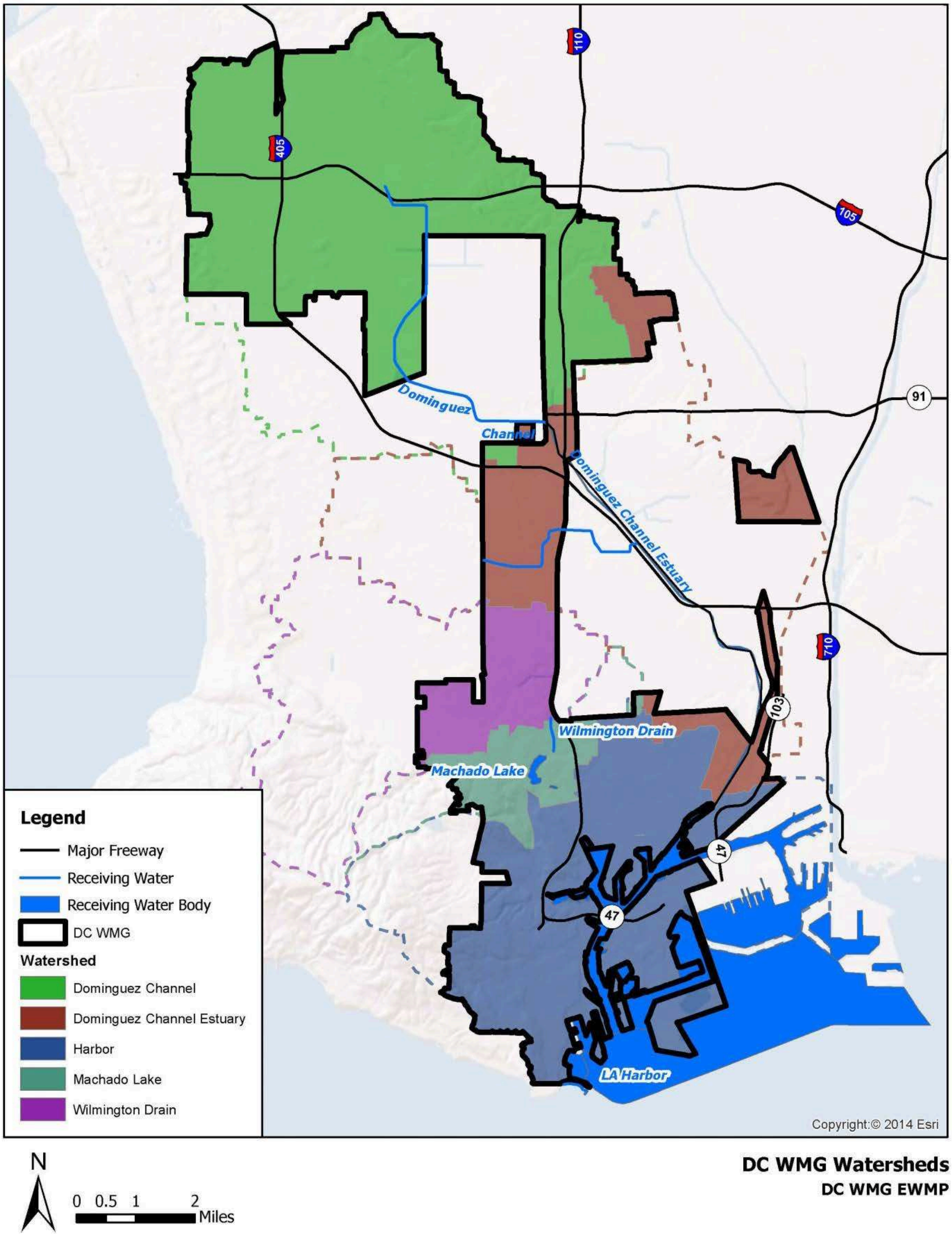

Figure 7-1 DC WMG Watersheds

The baseline hydrology and simulated constituent loading serves as the basis for compliance. The load reductions represent the difference between the baseline conditions and the water quality objectives. The 85th percentile, 24-hour rainfall event baseline simulation is based on the LACFCD 85th percentile rainfall isohyets and unit hyetograph, consistent with the Standard Urban Stormwater Mitigation Plan (SUSMP) and Low Impact Development (LID) methods used within the County. The loads for this event are generated by the model. The volume of runoff for capture under this criterion is determined from the LSPC output to be 1,523 acre-feet.

The 90th percentile load baseline is determined from the 2002-2012 water years based on the loads generated before any BMPs are implemented. This analysis was performed for each of the five watersheds. **Table 7-1** through **Table 7-5** summarizes the results of the LSPC simulation of the load analysis for each of the watersheds. The tables demonstrate that the 90th percentile load exceeds the WQO for most constituents with associated TMDLs. The objective loads are the final target for the simulated constituents. Total nitrogen and total phosphorus are included in the 90th percentile load analysis for the Wilmington Drain and Machado Lake Watersheds, as these are pollutants of concern in these watersheds and not the others based on the Machado Lake Nutrients TMDL.

Table 7-1 Dominguez Channel Watershed – 90th Percentile Baseline Load Analysis

Constituent	Storm Event	P_{90} Load (kg)	Objective Load (kg)	Objective Conc.
Copper	1/21/2012	92.97	5.03	**9.7 ìg/L**
Lead	1/21/2012	24.55	22.16	**42.7 ìg/L**
Zinc	12/16/2002	351.61	61.62	**69.6 ìg/L**
Fecal Coliform	10/30/2010	1.94E+15 MPN	6.76E+11 MPN	400 MPN/100mL

Table 7-2 Dominguez Channel Estuary Watershed – 90th Percentile Baseline Load Analysis

Constituent	Storm Event	P_{90} Load (kg)	Objective Load (kg)	Objective Conc.
Copper	2/27/2006	35.10	2.64	**9.7 ìg/L**
Lead	1/21/2012	7.23	6.95	**42.7 ìg/L**
Zinc	2/27/2006	164.34	18.95	**69.6 ìg/L**
Fecal Coliform	10/30/2010	1.24E+15 MPN	2.50E+11 MPN	400 MPN/100mL

Table 7-3 Wilmington Drain Watershed – 90th Percentile Baseline Load Analysis

Constituent	Storm Event	P_{90} Load (kg)	Objective Load (kg)	Objective Conc.
Copper	12/7/2009	16.93	1.09	**9.7 ìg/L**
Lead	4/12/2010	3.70	3.20	**42.7 ìg/L**
Zinc	12/17/2010	54.96	9.67	**69.6 ìg/L**
Fecal Coliform	10/14/2004	5.84E+14 MPN	1.29E+11 MPN	235 MPN/100mL
Nitrogen	12/17/2010	918.93	138.87	1.0 mg/L
Phosphorus	4/12/2010	83.20	7.49	0.1 mg/L

Table 7-4 Machado Lake Watershed – 90^{th} Percentile Baseline Load Analysis

Constituent	Storm Event	P_{90} Load (kg)	Objective Load (kg)	Objective Conc.
Copper	2/18/2005	9.24	0.59	**9.7 ìg/L**
Lead	10/14/2004	1.89	1.25	**42.7 ìg/L**
Zinc	12/31/2005	30.33	5.98	**69.6 ìg/L**
Fecal Coliform	2/21/2011	2.70E+14 MPN	7.03E+10 MPN	235 MPN/100mL
Nitrogen	12/31/2005	563.84	85.98	1.0 mg/L
Phosphorus	4/12/2010	52.78	5.10	1.04 mg/L

Table 7-5 Harbor Watershed – 90^{th} Percentile Baseline Load Analysis

Constituent	Storm Event	P_{90} Load (kg)	Objective Load (kg)	Objective Conc.
Copper	3/25/2012	64.88	7.05	**9.7 ìg/L**
Lead	10/17/2005	12.91	7.93	**42.7 ìg/L**
Zinc	12/23/2003	241.31	44.32	**69.6 ìg/L**
Fecal Coliform	12/31/2003	3.60E+15 MPN	6.75E+11 MPN	400 MPN/100mL

Table 7-6 through **Table 7-10** summarize the results of the LSPC simulation for the water years beginning the first day of October and ending the final day of September from 2002 to 2012 for each of the five major watersheds. The table compares the six major water quality constituents with adopted TMDLs and identifies the annual load and corresponding volume for each year analyzed. The average annual loads are also provided for the simulation period.

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Table 7-6 Dominguez Channel Watershed – Annual Loads and Volume

Start	End	Volume (ac-ft)	TSS (kg)	Copper (kg)	Lead (kg)	Zinc (kg)	Fecal Coliform (MPN)
10/1/02	9/30/03	10,785.64	1,653,025.57	692.82	162.88	2,697.80	1.06E+17
10/1/03	9/30/04	8,224.93	1,217,251.86	578.41	132.83	2,215.55	6.84E+16
10/1/04	9/30/05	23,889.84	3,590,190.72	1,066.94	205.39	3,168.54	2.65E+17
10/1/05	9/30/06	8,721.22	1,488,277.84	730.87	173.42	2,871.92	7.51E+16
10/1/06	9/30/07	3,586.61	426,006.76	377.42	79.68	1,359.38	8.21E+15
10/1/07	9/30/08	10,589.63	1,336,606.77	561.38	126.51	2,106.17	1.03E+17
10/1/08	9/30/09	8,139.89	1,147,055.49	550.43	125.58	2,099.04	6.87E+16
10/1/09	9/30/10	10,885.81	1,602,439.10	689.04	162.07	2,690.55	1.05E+17
10/1/10	9/30/11	15,477.34	1,952,793.20	721.63	168.11	2,778.03	1.64E+17
10/1/11	9/30/12	7,236.76	1,369,686.88	740.79	175.86	2,914.19	5.68E+16
Average Annual:		**10,753.77**	**1,578,333.42**	**670.97**	**151.23**	**2,490.12**	**1.02E+17**

Table 7-7 Dominguez Channel Estuary Watershed – Annual Loads and Volume

Start	End	Volume (ac-ft)	TSS (kg)	Copper (kg)	Lead (kg)	Zinc (kg)	Fecal Coliform (MPN)
10/1/02	9/30/03	4,861.77	694,715.88	243.97	49.86	1,021.84	8.73E+16
10/1/03	9/30/04	3,135.93	420,958.55	187.35	36.81	750.84	4.48E+16
10/1/04	9/30/05	9,952.87	1,162,293.46	273.30	54.21	1,092.27	2.01E+17
10/1/05	9/30/06	3,222.85	499,614.41	223.42	44.96	920.85	4.74E+16
10/1/06	9/30/07	1,421.54	179,264.43	138.18	25.40	524.27	5.69E+15
10/1/07	9/30/08	4,522.77	584,767.06	204.65	40.64	831.22	7.80E+16
10/1/08	9/30/09	3,818.80	476,251.09	182.00	35.25	722.60	6.17E+16
10/1/09	9/30/10	5,292.34	770,497.66	256.92	51.29	1,043.02	9.51E+16
10/1/10	9/30/11	6,780.96	901,271.36	310.72	58.11	1,144.16	1.28E+17
10/1/11	9/30/12	2,898.58	546,749.57	253.16	51.75	1,059.08	3.99E+16
Average Annual:		**4,590.84**	**623,638.35**	**227.37**	**44.83**	**911.01**	**7.89E+16**

Table 7-8 Wilmington Drain Watershed – Annual Loads and Volume

Start	End	Volume (ac-ft)	TSS (kg)	Copper (kg)	Lead (kg)	Zinc (kg)	Fecal Coliform (MPN)	Total Nitrogen (kg)	Total Phosphorus (kg)
10/1/02	9/30/03	2,009.77	339,107.92	127.24	28.13	448.19	1.75E+16	9,025.56	859.23
10/1/03	9/30/04	1,215.21	157,036.98	74.13	16.42	272.96	8.32E+15	5,979.13	563.85
10/1/04	9/30/05	3,754.98	834,479.83	285.77	48.19	684.59	3.53E+16	14,654.85	1,626.27
10/1/05	9/30/06	1,336.46	203,415.91	99.31	23.27	382.06	9.69E+15	7,788.94	715.67
10/1/06	9/30/07	712.80	159,474.41	102.05	24.03	393.97	2.48E+15	7,999.65	725.93
10/1/07	9/30/08	1,815.29	208,272.28	78.56	17.64	292.34	1.53E+16	6,302.86	597.77
10/1/08	9/30/09	1,432.70	187,697.17	79.57	17.71	292.41	1.08E+16	6,309.17	596.37
10/1/09	9/30/10	2,367.94	380,187.83	132.97	28.43	449.50	2.10E+16	9,192.61	892.44
10/1/10	9/30/11	2,547.68	331,262.56	115.65	27.49	448.20	2.37E+16	8,907.66	825.72
10/1/11	9/30/12	1,156.48	206,660.51	112.37	26.82	437.70	7.64E+15	8,715.54	791.20
Average Annual:		**1,834.93**	**300,759.54**	**120.76**	**25.81**	**410.19**	**1.52E+16**	**8,487.60**	**819.45**

Table 7-9 Machado Lake Watershed – Annual Loads and Volume

Start	End	Volume (ac-ft)	TSS (kg)	Copper (kg)	Lead (kg)	Zinc (kg)	Fecal Coliform (MPN)	Total Nitrogen (kg)	Total Phosphorus (kg)
10/1/02	9/30/03	1,565.22	349,726.31	133.03	22.61	341.45	1.38E+16	7,712.97	822.70
10/1/03	9/30/04	918.20	110,541.16	52.93	10.94	189.36	6.16E+15	4,461.29	426.00
10/1/04	9/30/05	2,637.23	532,556.39	174.83	28.44	419.75	2.55E+16	9,520.55	1,049.75
10/1/05	9/30/06	991.32	156,228.00	74.53	16.77	283.85	7.05E+15	6,059.23	559.14
10/1/06	9/30/07	556.30	110,719.45	69.93	15.43	264.93	1.71E+15	5,786.09	531.16
10/1/07	9/30/08	1,327.33	152,887.64	57.00	11.92	205.09	1.12E+16	4,741.95	455.44
10/1/08	9/30/09	1,007.99	126,020.52	57.63	12.26	210.27	7.33E+15	4,802.14	454.95
10/1/09	9/30/10	1,814.18	347,631.37	124.90	21.73	333.03	1.64E+16	7,524.73	794.25
10/1/10	9/30/11	2,014.21	282,987.89	92.06	19.64	325.00	1.91E+16	6,909.76	663.20
10/1/11	9/30/12	801.67	124,080.47	65.66	14.23	246.89	4.84E+15	5,502.40	510.54
Average Annual:		**1,363.37**	**229,337.92**	**90.25**	**17.40**	**281.96**	**1.13E+16**	**6,302.11**	**626.71**

Table 7-10 Harbor Watershed – Annual Loads and Volume

Start	End	Volume (ac-ft)	TSS (kg)	Copper (kg)	Lead (kg)	Zinc (kg)	Fecal Coliform (MPN)
10/1/02	9/30/03	12,003.98	2,095,957.03	571.09	93.62	2,081.62	2.32E+17
10/1/03	9/30/04	6,825.41	1,034,047.48	339.14	58.63	1,406.83	1.07E+17
10/1/04	9/30/05	20,160.47	3,033,366.45	657.76	108.45	2,401.93	4.12E+17
10/1/05	9/30/06	6,749.71	1,342,996.20	456.18	82.43	1,989.55	1.04E+17
10/1/06	9/30/07	3,719.28	967,491.79	418.54	75.46	1,796.73	3.26E+16
10/1/07	9/30/08	10,945.49	1,500,407.62	385.57	62.98	1,434.51	2.05E+17
10/1/08	9/30/09	6,174.41	958,435.33	333.54	57.78	1,376.68	8.89E+16
10/1/09	9/30/10	13,643.10	2,721,003.99	781.23	114.38	2,288.11	2.62E+17
10/1/10	9/30/11	14,501.56	2,744,594.68	756.12	116.18	2,435.63	2.83E+17
10/1/11	9/30/12	5,062.31	1,047,431.77	403.57	71.95	1,726.03	6.31E+16
Average Annual:		**9,978.57**	**1,744,573.23**	**510.27**	**84.19**	**1,893.76**	**1.79E+17**

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Attachment A

Relationships for Other Constituents of Concern

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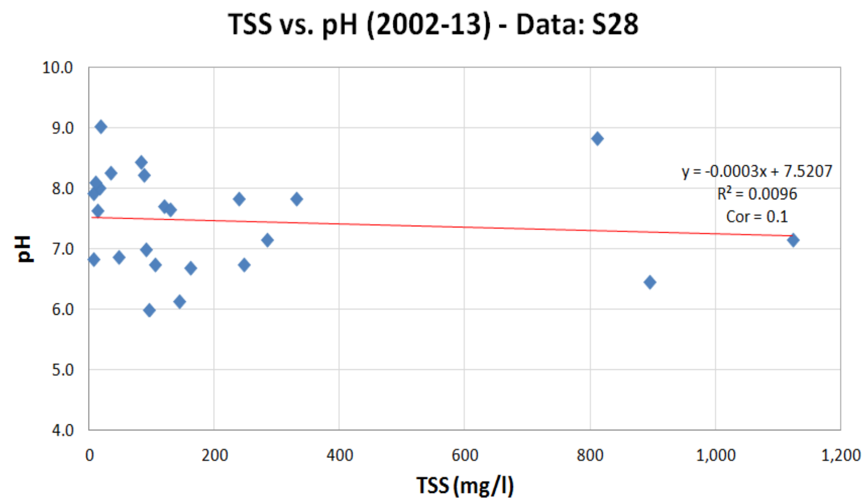
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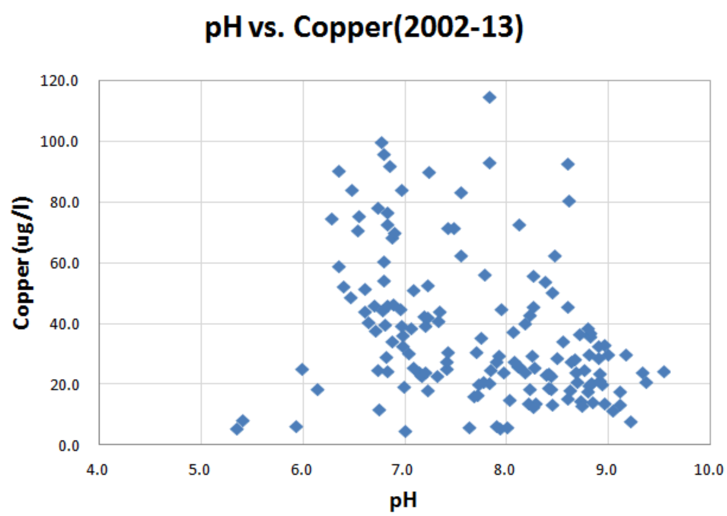
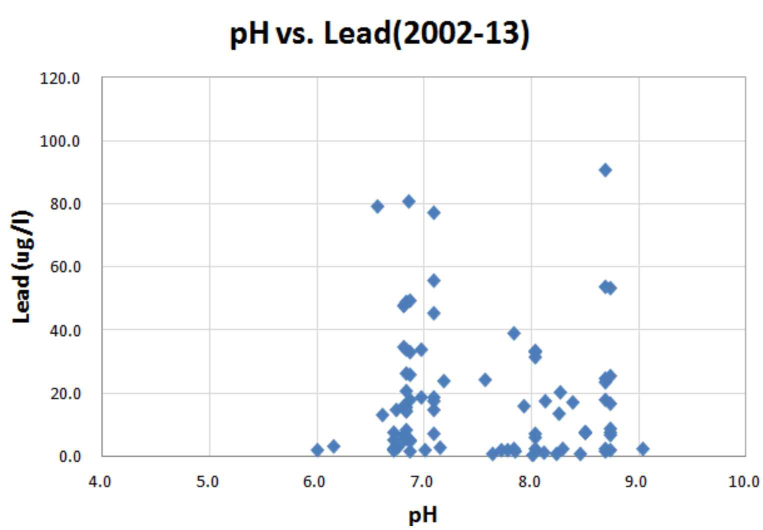
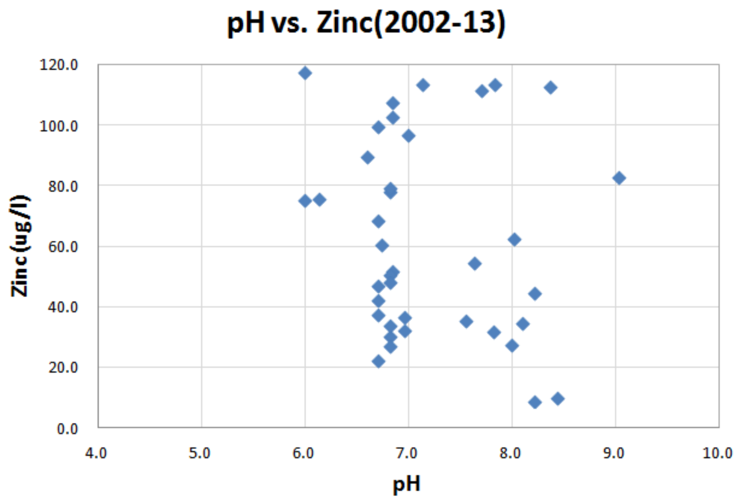
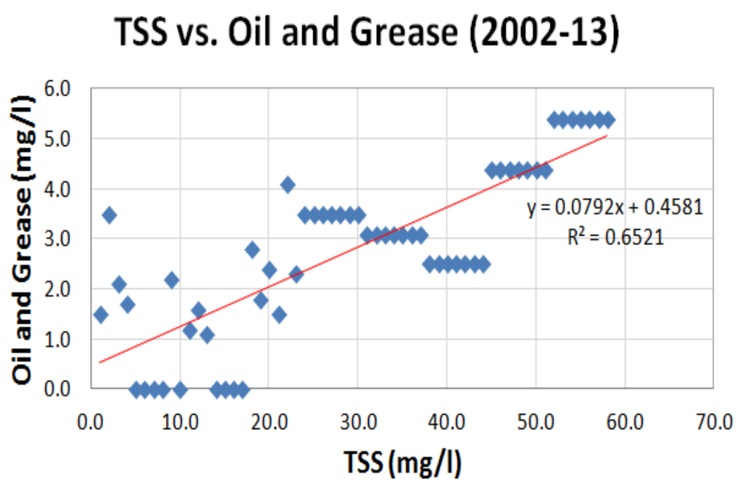
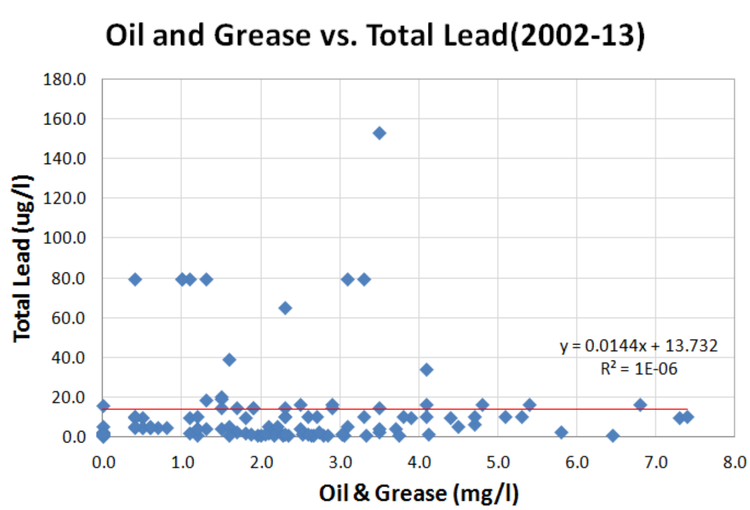
10.0
9.0
8.0
7.0
6.0
5.0
4.0
pH
y = -0.0003x + 7.5207
R² = 0.0096
Cor = 0.1
0
200
400
600
800
1,000
1,200
TSS (mg/l)

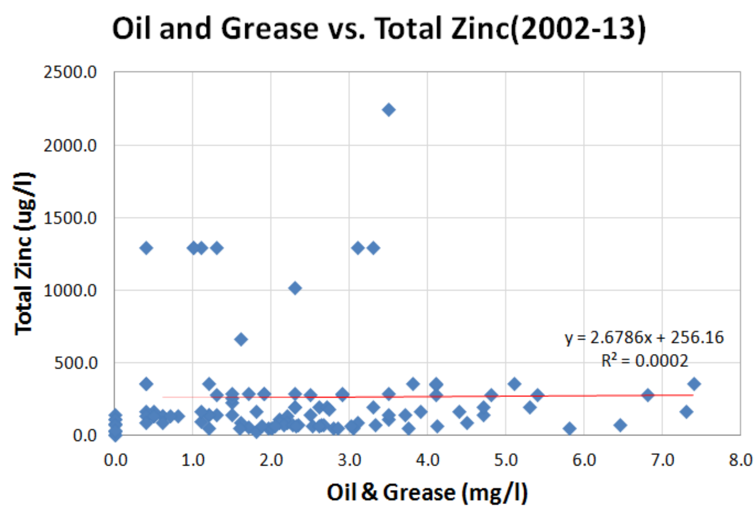

pH vs. Copper(2002-13)
120.0
100.0
80.0
60.0
40.0
20.0
0.0
Copper (ug/l)
4.0
5.0
6.0
7.0
8.0
9.0
10.0
pH

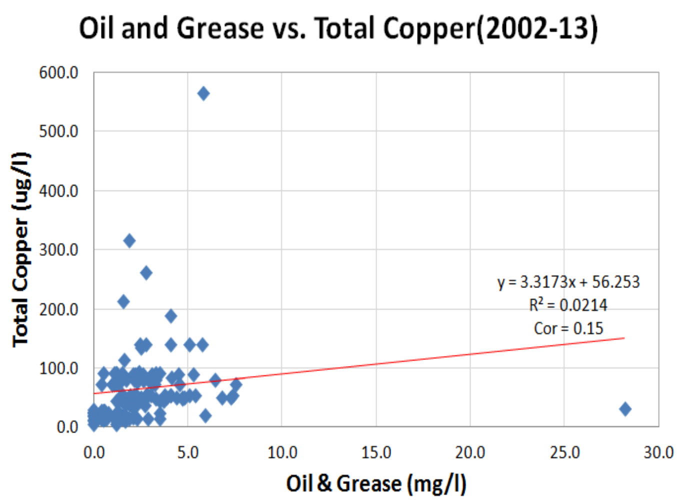

pH vs. Lead(2002-13)
120.0
100.0
80.0
60.0
40.0
20.0
0.0
Lead (ug/l)
4.0
5.0
6.0
7.0
8.0
9.0
10.0
pH


pH vs. Zinc(2002-13)
120.0
100.0
80.0
60.0
40.0
20.0
0.0
Zinc (ug/l)
4.0
5.0
6.0
7.0
8.0
9.0
10.0
pH


TSS vs. Oil and Grease (2002-13)
6.0
5.0
4.0
3.0
2.0
1.0
0.0
Oil and Grease (mg/l)
y = 0.0792x + 0.4581
R² = 0.6521
0.0
10.0
20.0
30.0
40.0
50.0
60.0
70.0
TSS (mg/l)


Oil and Grease vs. Total Lead(2002-13)
180.0
160.0
140.0
120.0
100.0
80.0
60.0
40.0
20.0
0.0
Total Lead (ug/l)
y = 0.0144x + 13.732
R² = 1E-06
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
Oil & Grease (mg/l)


Oil and Grease vs. Total Zinc(2002-13)
Total Zinc (ug/l)
Oil & Grease (mg/l)
y = 2.6786x + 256.16
R² = 0.0002
2500.0
2000.0
1500.0
1000.0
500.0
0.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0


Oil and Grease vs. Total Copper(2002-13)
Total Copper (ug/l)
Oil & Grease (mg/l)
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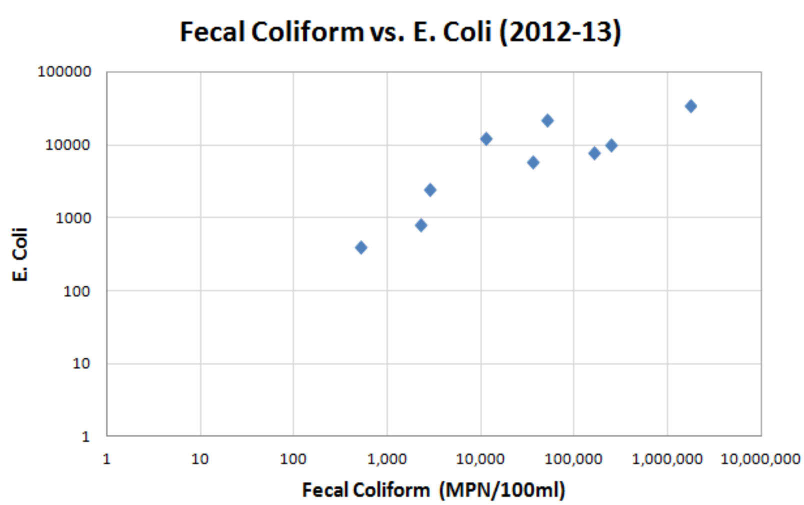
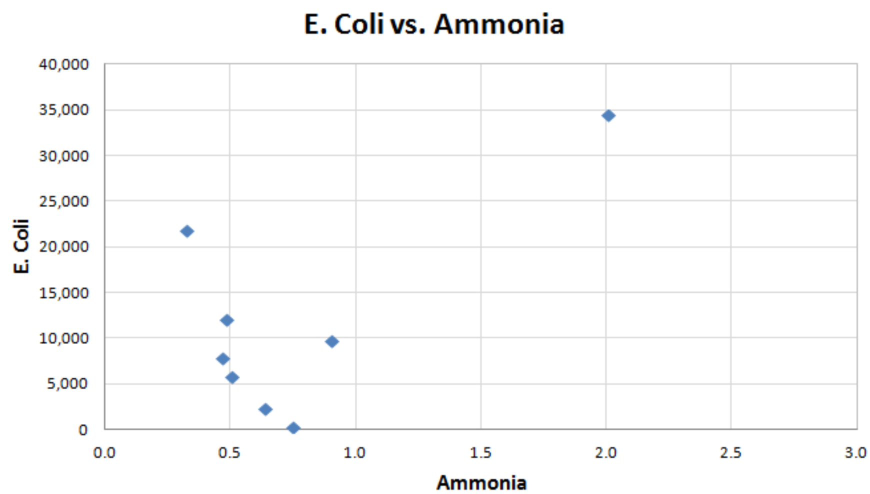
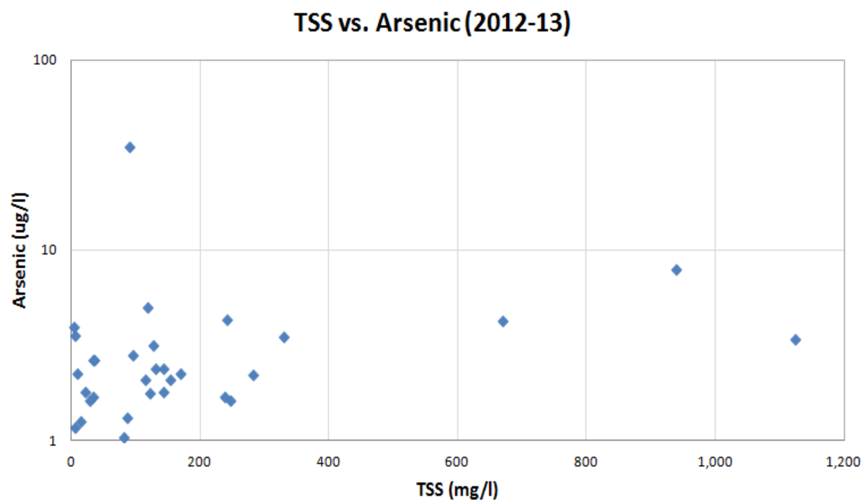
R² = 0.0214
Cor = 0.15
600.0
500.0
400.0
300.0
200.0
100.0
0.0
0.0
5.0
10.0
15.0
20.0
25.0
30.0

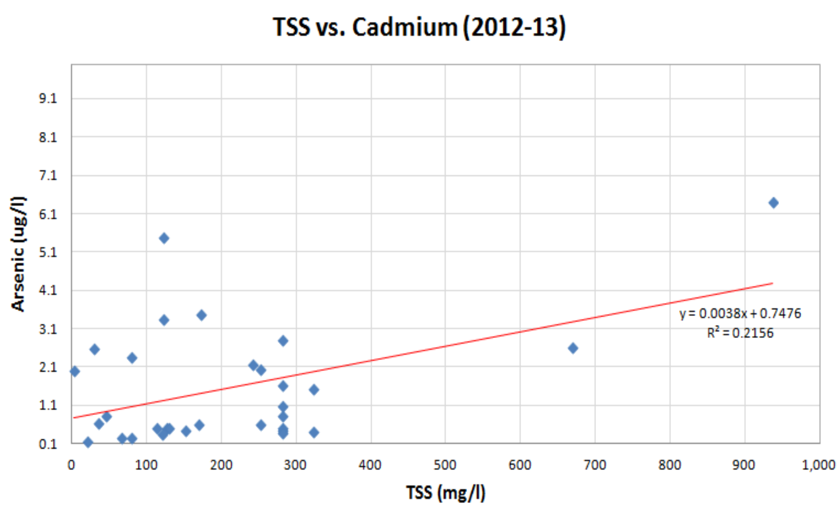

Fecal Coliform vs. E. Coli (2012-13)
E. Coli
Fecal Coliform (MPN/100ml)
100000
10000
1000
100
10
1
1
10
100
1,000
10,000
100,000
1,000,000
10,000,000



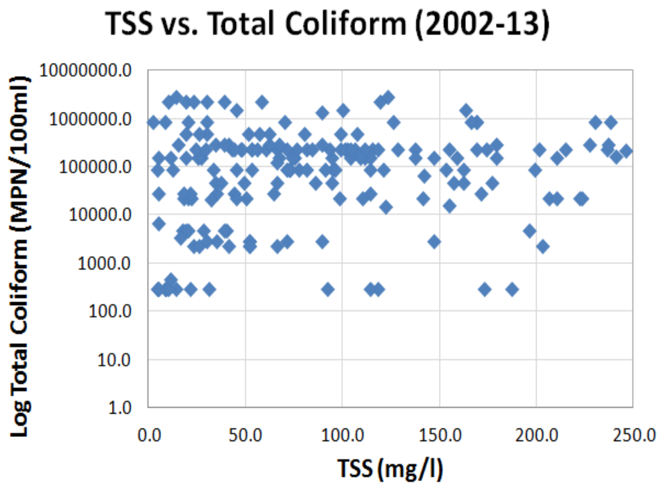
E. Coli vs. Ammonia
E. Coli
Ammonia
40,000
35,000
30,000
25,000
20,000
15,000
10,000
5,000
0
0.0
0.5
1.0
1.5
2.0
2.5
3.0



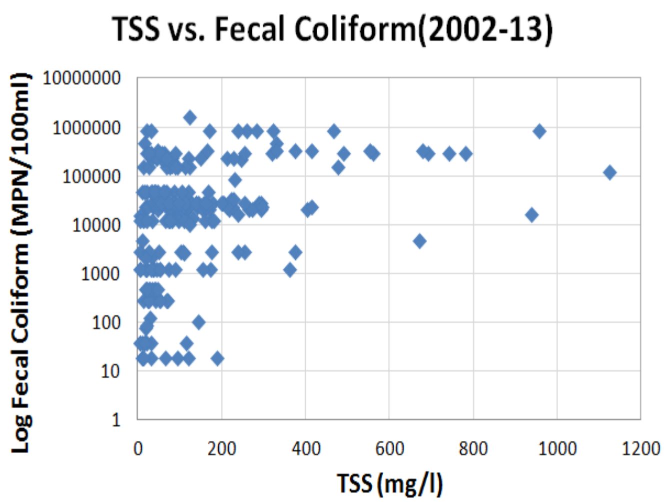
TSS vs. Arsenic (2012-13)
Arsenic (ug/l)
TSS (mg/l)
100
10
1
0
200
400
600
800
1,000
1,200



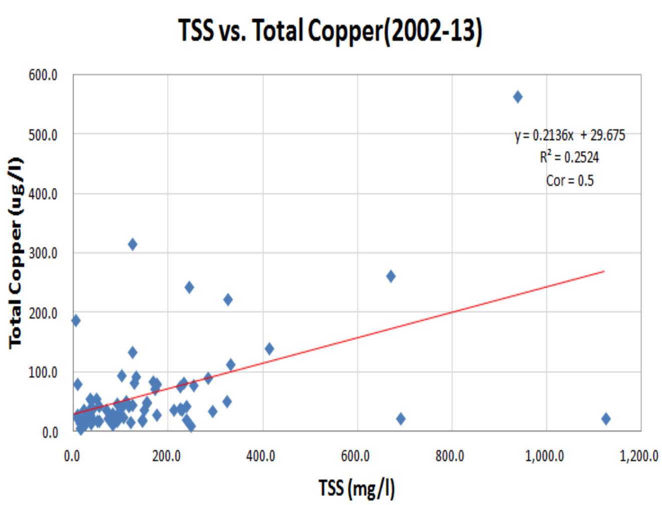
TSS vs. Cadmium (2012-13)
Arsenic (ug/l)
TSS (mg/l)
9.1
8.1
7.1
6.1
5.1
4.1
3.1
2.1
1.1
0.1
0
100
200
300
400
500
600
700
800
900
1,000
y = 0.0038x + 0.7476
R² = 0.2156



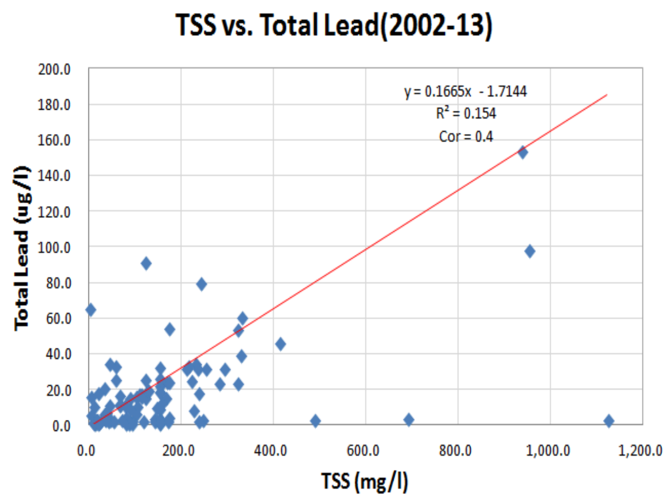
TSS vs. Total Coliform (2002-13)
Log Total Coliform (MPN/100ml)
10000000.0
1000000.0
100000.0
10000.0
1000.0
100.0
10.0
1.0
0.0
50.0
100.0
150.0
200.0
250.0
TSS (mg/l)

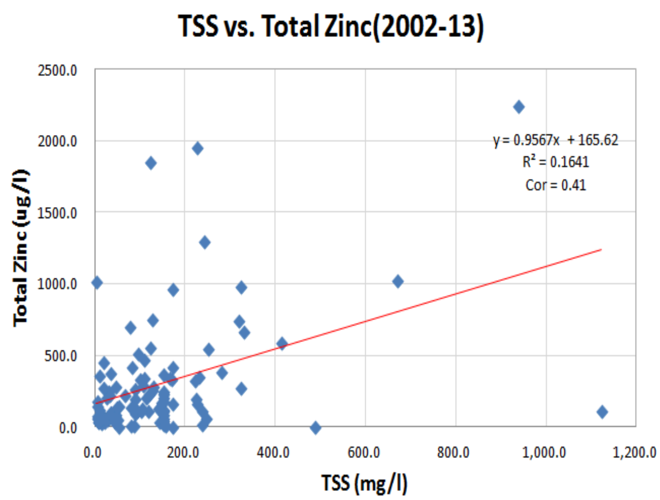


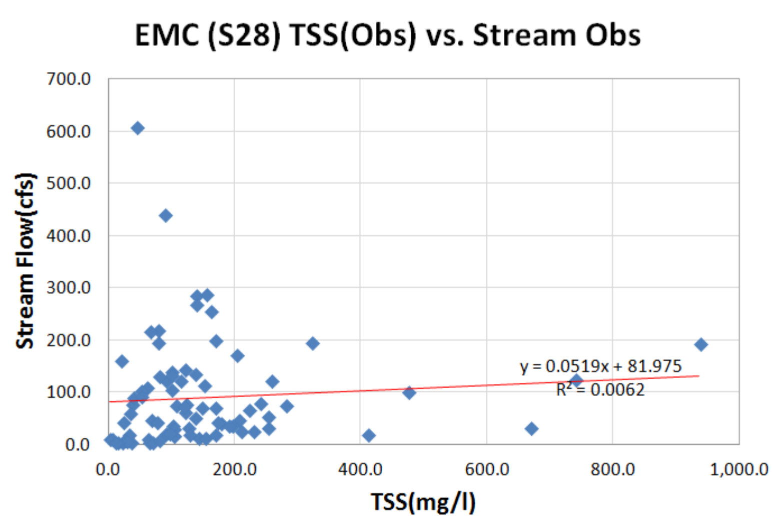
TSS vs. Fecal Coliform(2002-13)
Log Fecal Coliform (MPN/100ml)
10000000
1000000
100000
10000
1000
100
10
1
0
200
400
600
800
1000
1200
TSS (mg/l)

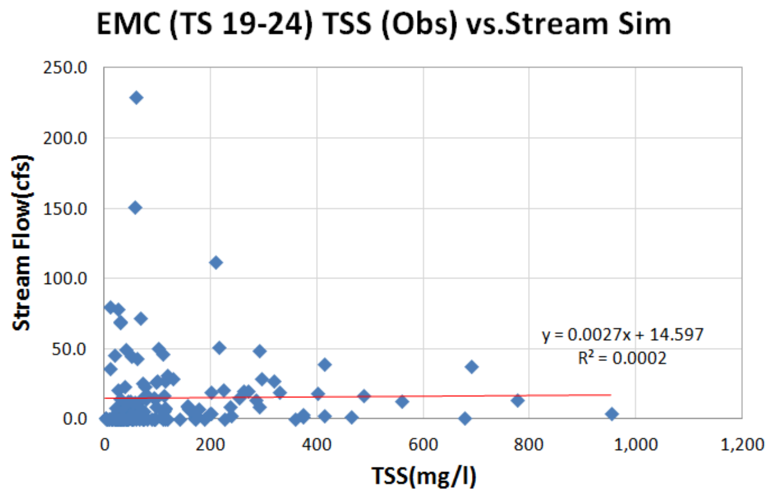


TSS vs. Total Copper(2002-13)
Total Copper (ug/l)
600.0
500.0
400.0
300.0
200.0
100.0
0.0
y = 0.2136x + 29.675
R^2 = 0.2524
Cor = 0.5
0.0
200.0
400.0
600.0
800.0
1,000.0
1,200.0
TSS (mg/l)


TSS vs. Total Lead(2002-13)
y = 0.1665x - 1.7144
R² = 0.154
Cor = 0.4
Total Lead (ug/l)
TSS (mg/l)


TSS vs. Total Zinc(2002-13)
y = 0.9567x + 165.62
R² = 0.1641
Cor = 0.41
Total Zinc (ug/l)
TSS (mg/l)


EMC (S28) TSS(Obs) vs. Stream Obs
y = 0.0519x + 81.975
R² = 0.0062
Stream Flow(cfs)
TSS(mg/l)


EMC (TS 19-24) TSS (Obs) vs.Stream Sim
Stream Flow(cfs)
250.0
200.0
150.0
100.0
50.0
0.0
0
200
400
600
800
1,000
1,200
TSS(mg/l)
y = 0.0027x + 14.597
R^2 = 0.0002

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Attachment B

Validation Data Sets

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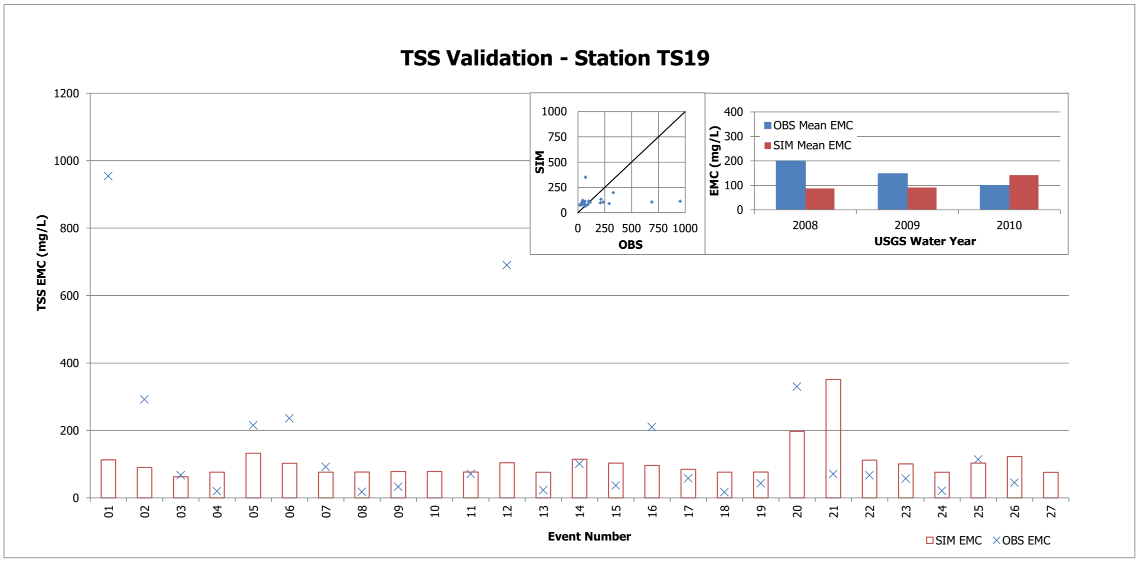
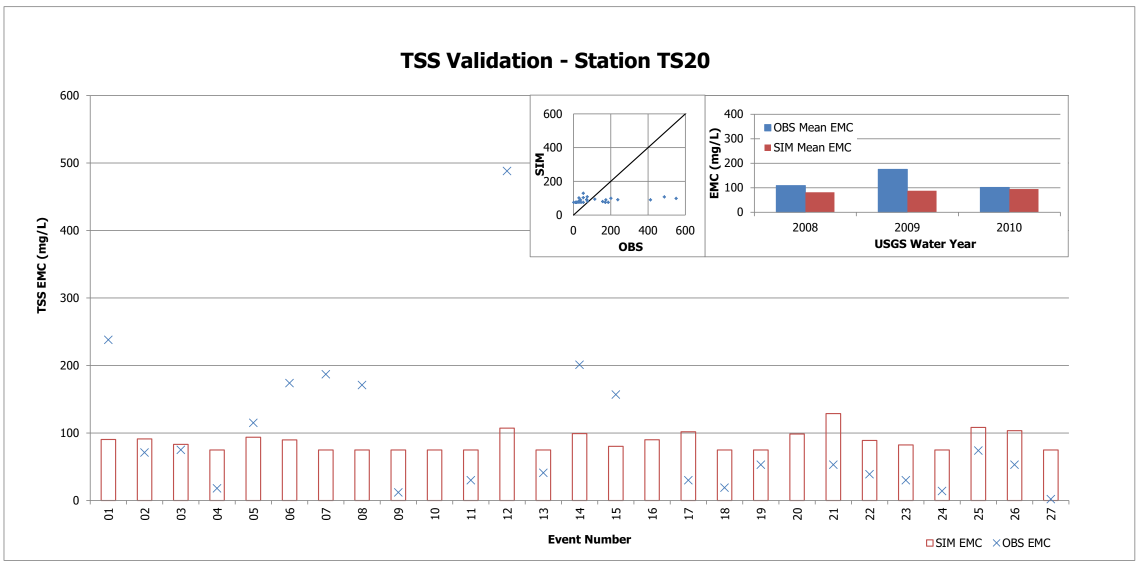
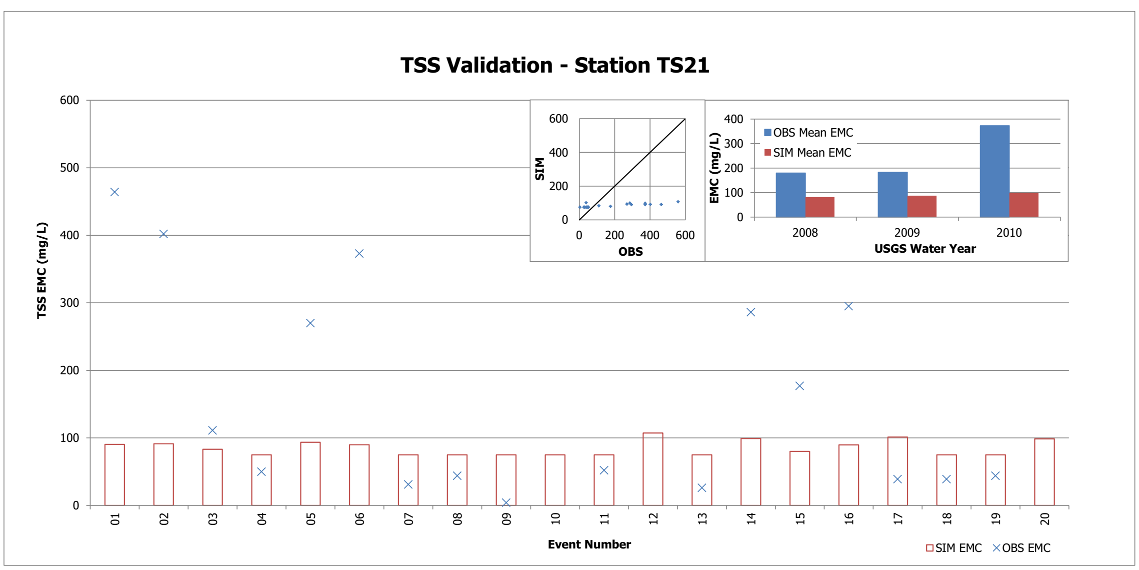
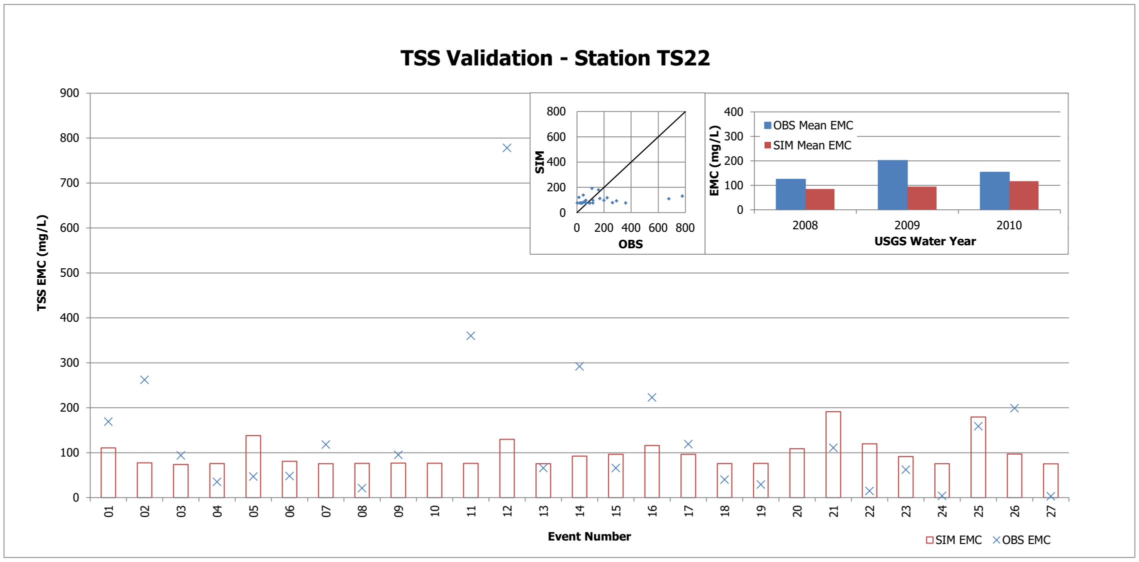
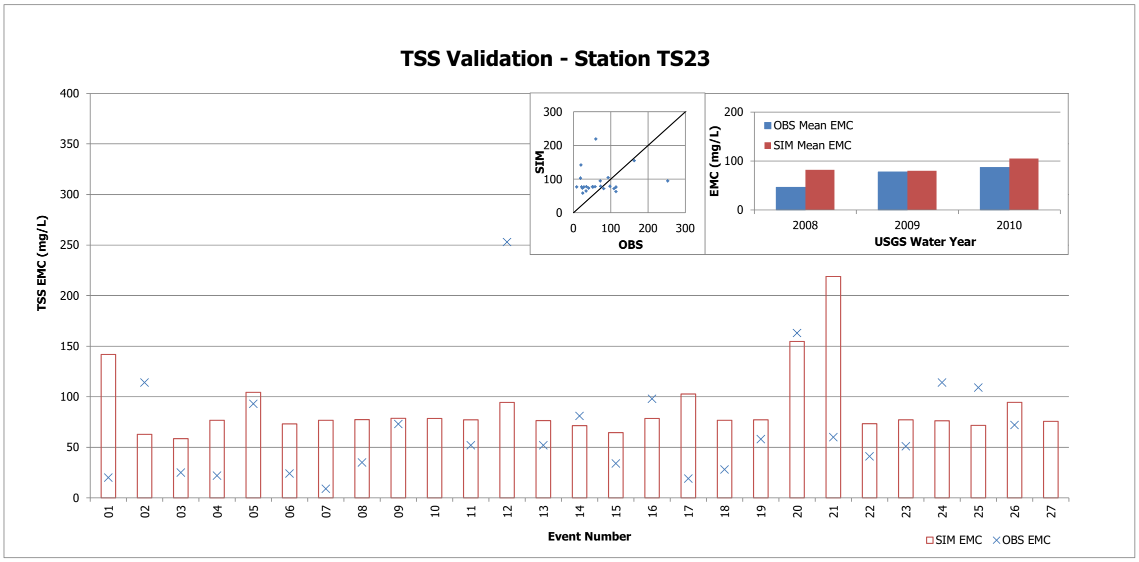

TSS Validation - Station TS19
TSS EMC (mg/L)
Event Number
SIM EMC
OBS EMC
SIM
OBS
EMC (mg/L)
OBS Mean EMC
SIM Mean EMC
2008
2009
2010
USGS Water Year


TSS Validation - Station TS20
TSS EMC (mg/L)
Event Number
SIM EMC
OBS EMC
SIM
OBS
EMC (mg/L)
OBS Mean EMC
SIM Mean EMC
2008
2009
2010
USGS Water Year

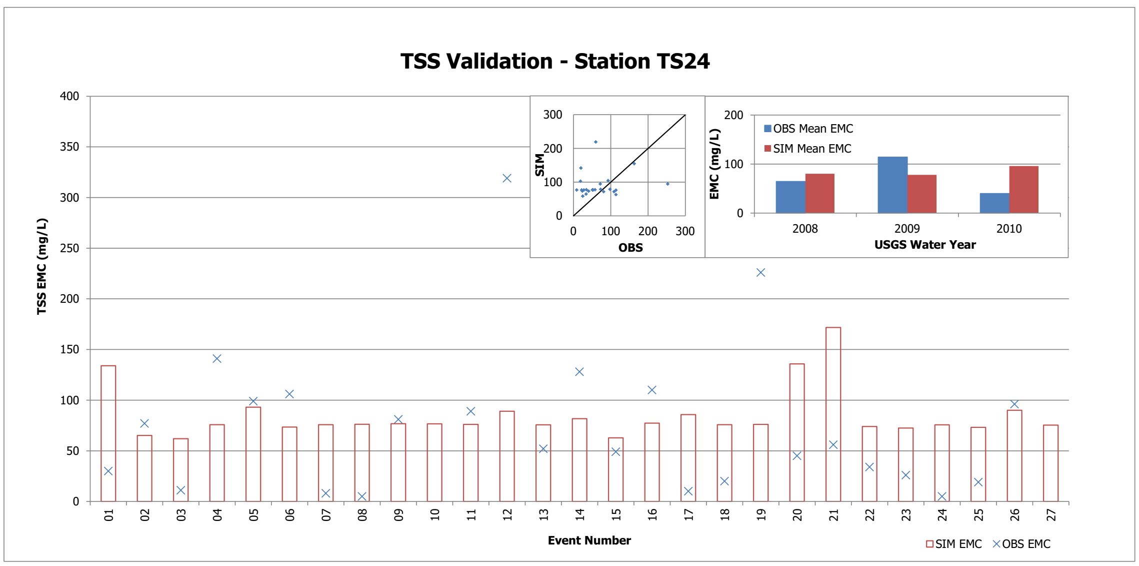

TSS Validation - Station TS21
TSS EMC (mg/L)
Event Number
SIM EMC
OBS EMC
SIM
OBS
EMC (mg/L)
OBS Mean EMC
SIM Mean EMC
2008
2009
2010
USGS Water Year



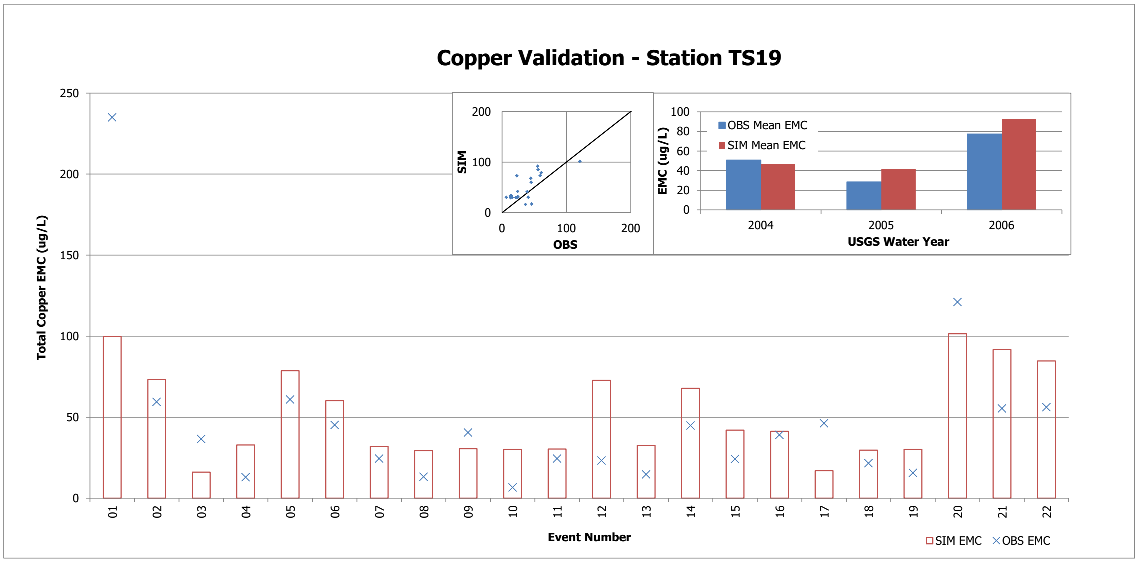
TSS Validation - Station TS22
TSS EMC (mg/L)
Event Number
SIM EMC
OBS EMC
SIM
OBS
EMC (mg/L)
OBS Mean EMC
SIM Mean EMC
2008
2009
2010
USGS Water Year



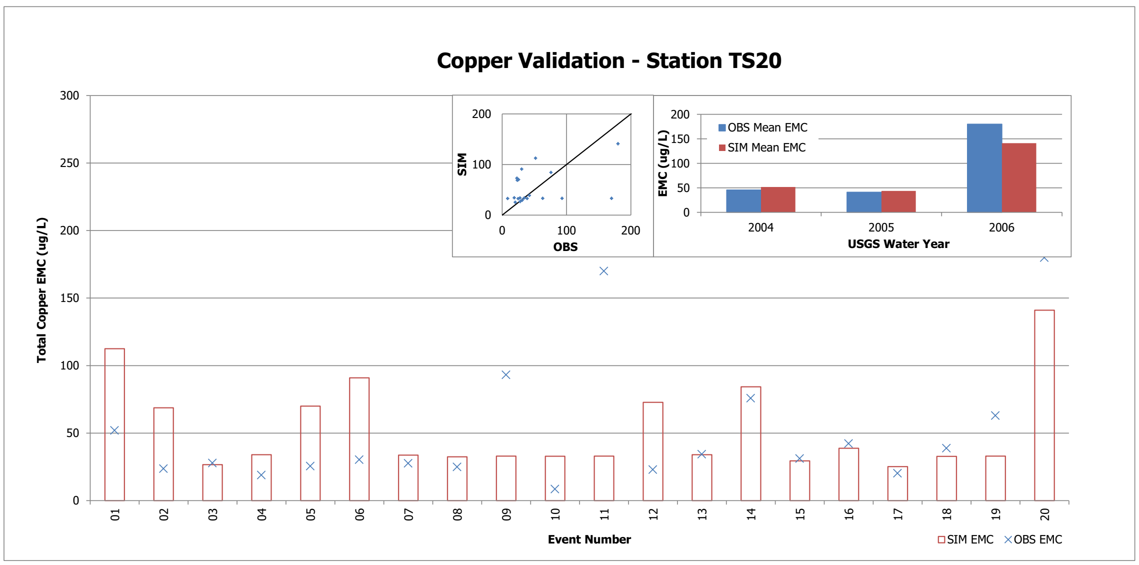
TSS Validation - Station TS23
TSS EMC (mg/L)
Event Number
SIM EMC
OBS EMC
SIM
OBS
EMC (mg/L)
OBS Mean EMC
SIM Mean EMC
2008
2009
2010
USGS Water Year



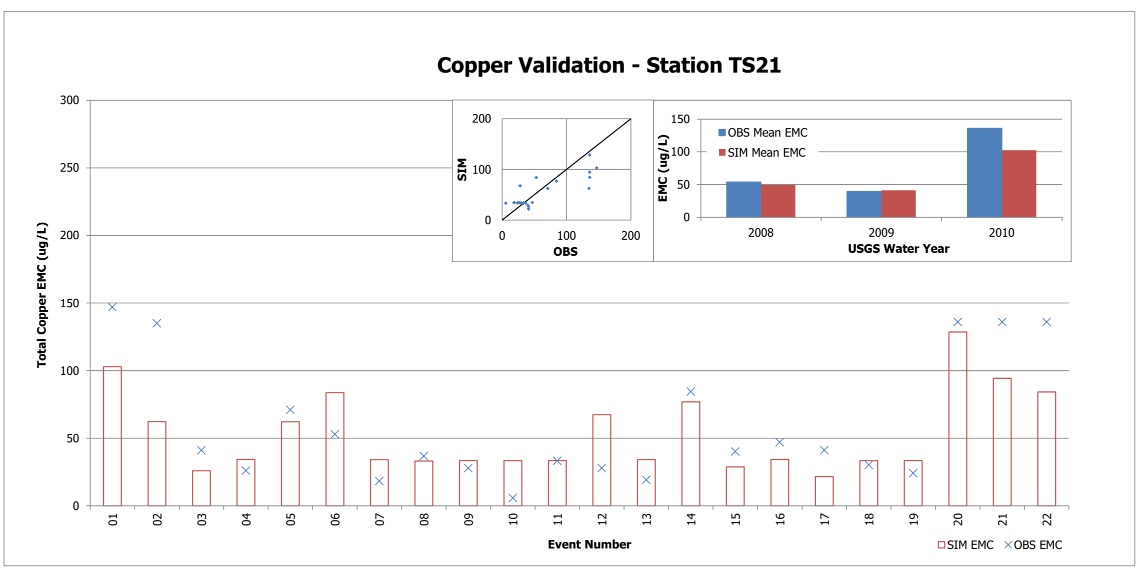
TSS Validation - Station TS24
TSS EMC (mg/L)
Event Number
SIM EMC
OBS EMC
SIM
OBS
EMC (mg/L)
OBS Mean EMC
SIM Mean EMC
2008
2009
2010
USGS Water Year



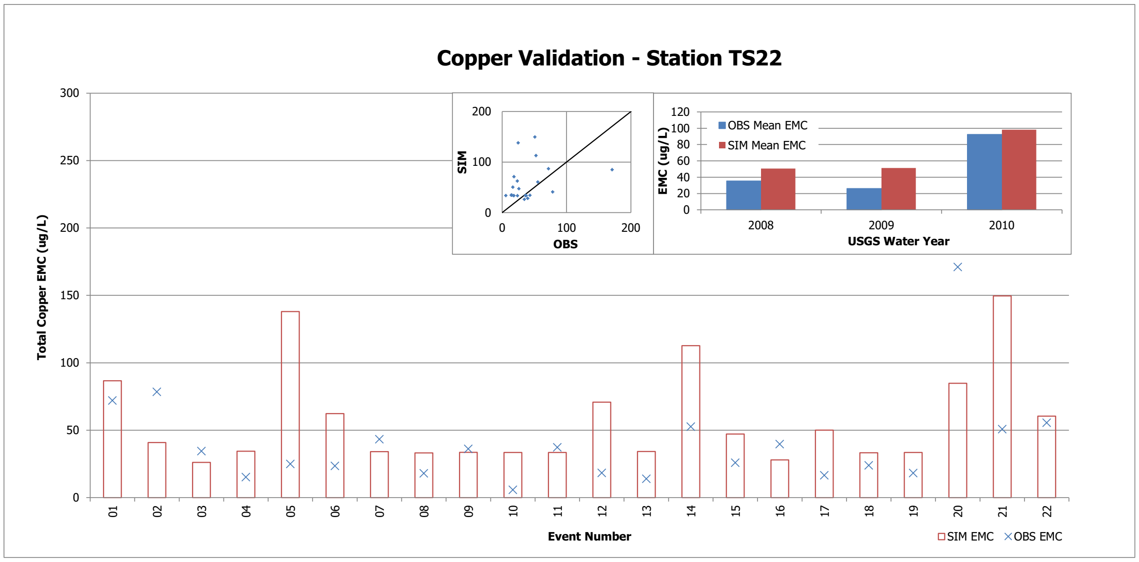
Copper Validation - Station TS19
Total Copper EMC (ug/L)
Event Number
SIM EMC
OBS EMC
SIM
OBS
EMC (ug/L)
OBS Mean EMC
SIM Mean EMC
2004
2005
2006
USGS Water Year

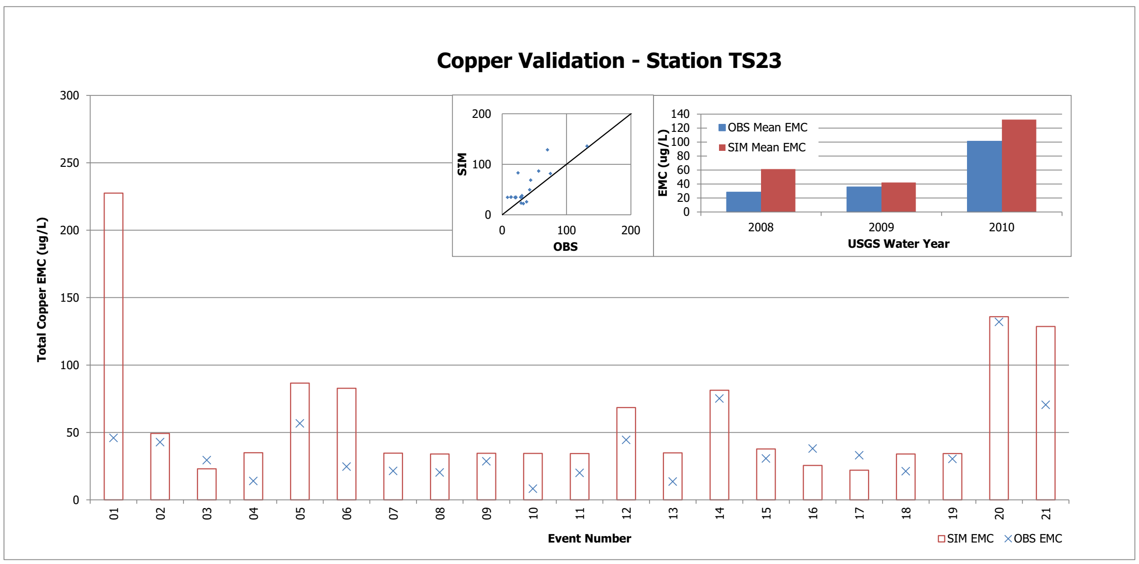


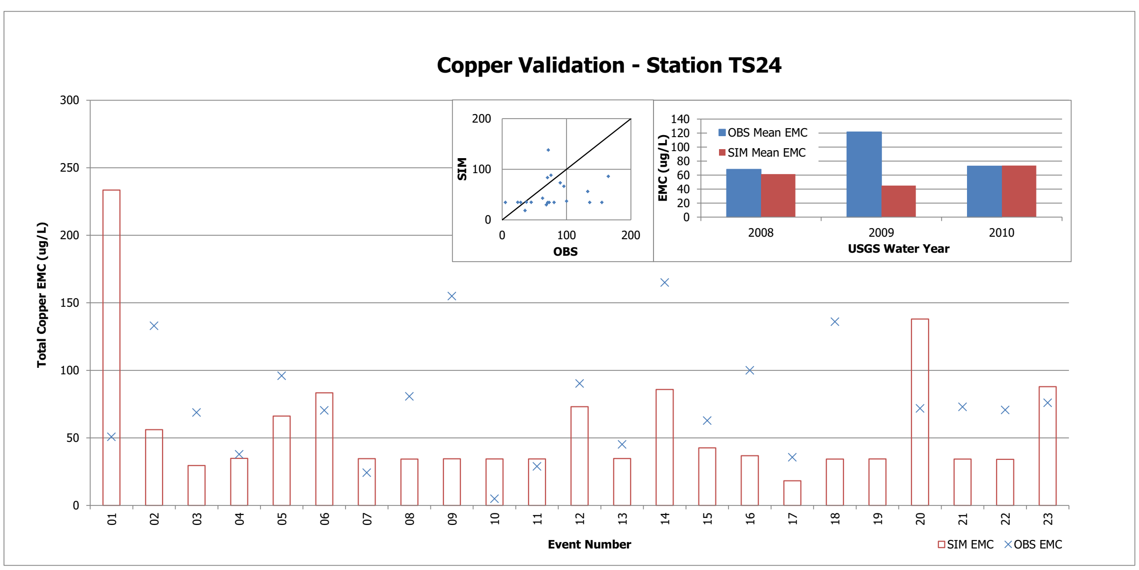
Copper Validation - Station TS20
Total Copper EMC (ug/L)
Event Number
SIM EMC
OBS EMC
SIM
OBS
EMC (ug/L)
OBS Mean EMC
SIM Mean EMC
2004
2005
2006
USGS Water Year

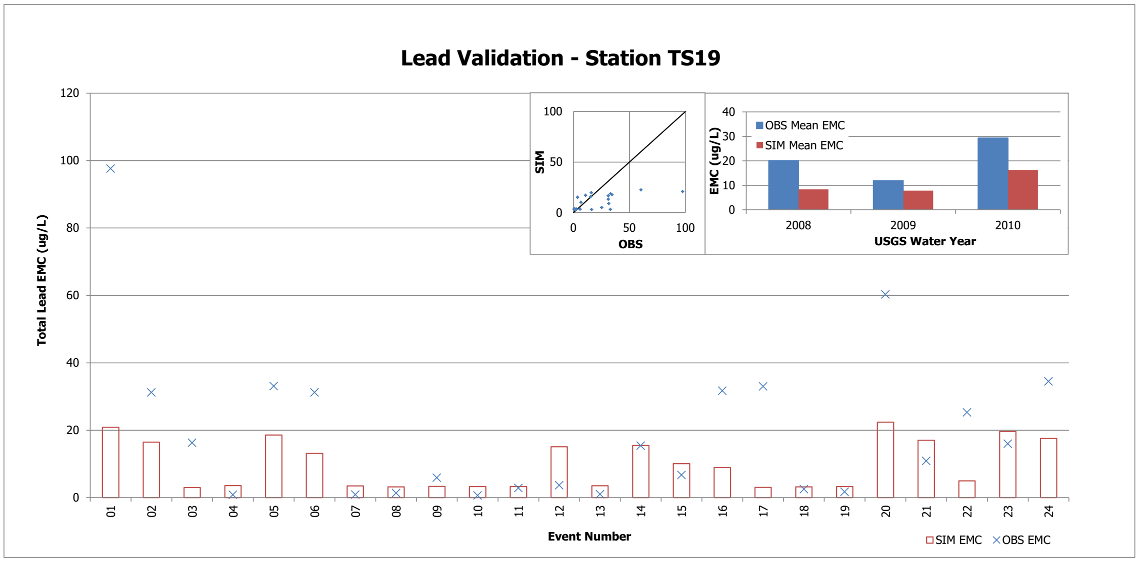


Copper Validation - Station TS21
Total Copper EMC (ug/L)
Event Number
SIM EMC
OBS EMC
SIM
OBS
EMC (ug/L)
OBS Mean EMC
SIM Mean EMC
2008
2009
2010
USGS Water Year

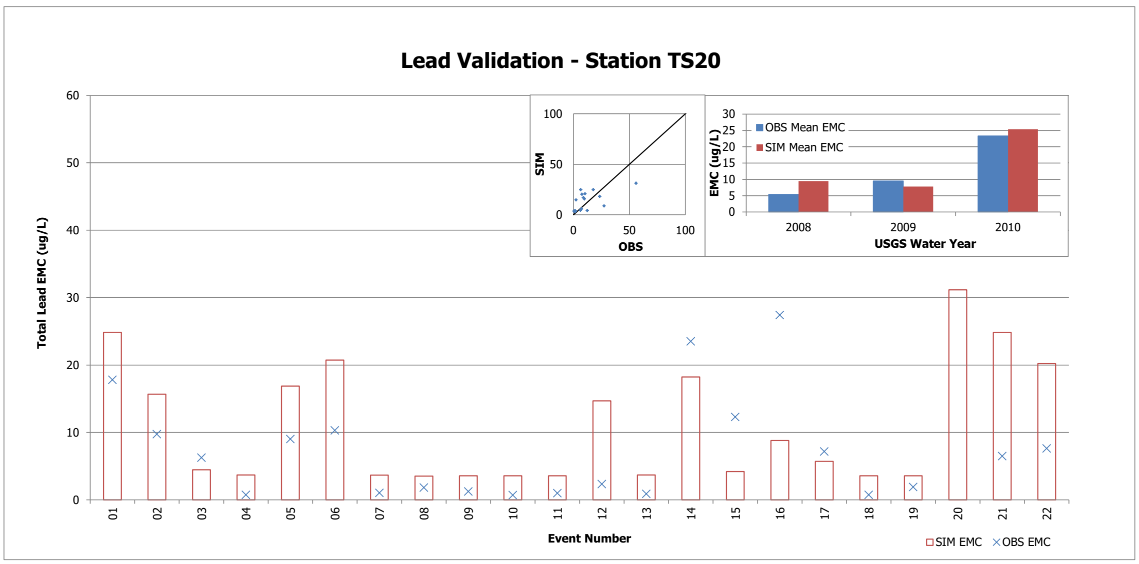

Copper Validation - Station TS22
Total Copper EMC (ug/L)
Event Number
SIM EMC
OBS EMC
SIM
OBS
EMC (ug/L)
OBS Mean EMC
SIM Mean EMC
2008
2009
2010
USGS Water Year


Copper Validation - Station TS23
Total Copper EMC (ug/L)
Event Number
SIM EMC
OBS EMC
SIM
OBS
EMC (ug/L)
OBS Mean EMC
SIM Mean EMC
2008
2009
2010
USGS Water Year

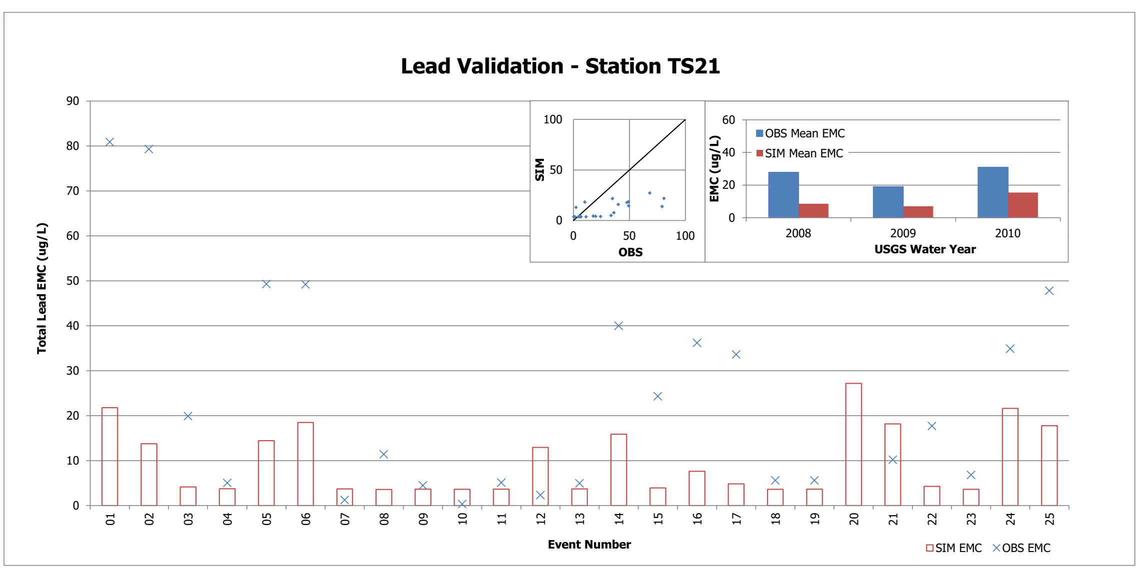

Copper Validation - Station TS24
Total Copper EMC (ug/L)
Event Number
SIM EMC
OBS EMC
SIM
OBS
EMC (ug/L)
OBS Mean EMC
SIM Mean EMC
2008
2009
2010
USGS Water Year



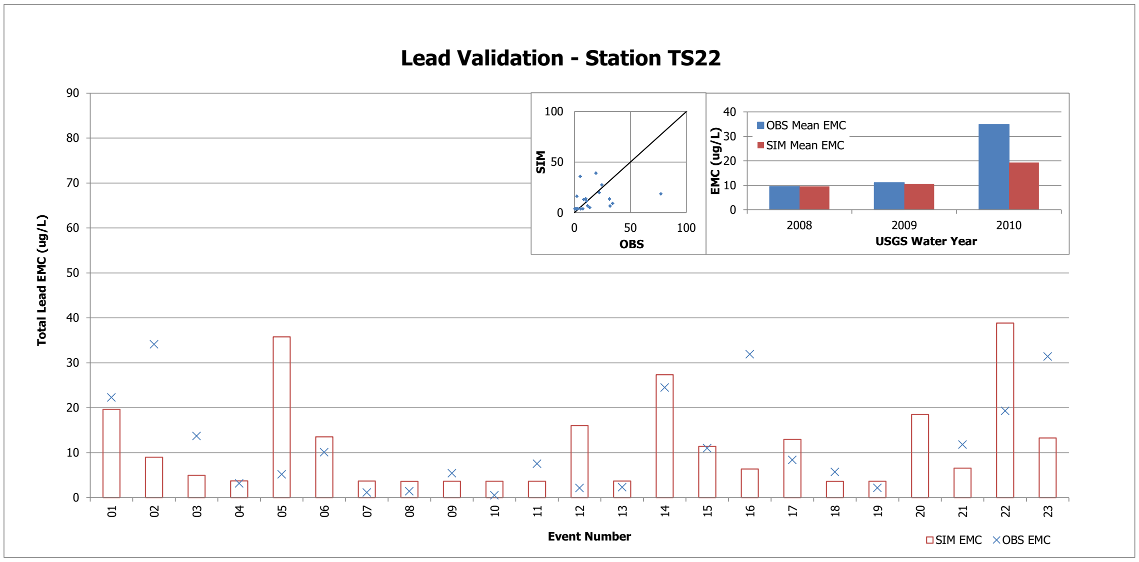
Lead Validation - Station TS19
Total Lead EMC (ug/L)
Event Number
SIM EMC
OBS EMC
SIM
OBS
EMC (ug/L)
OBS Mean EMC
SIM Mean EMC
2008
2009
2010
USGS Water Year



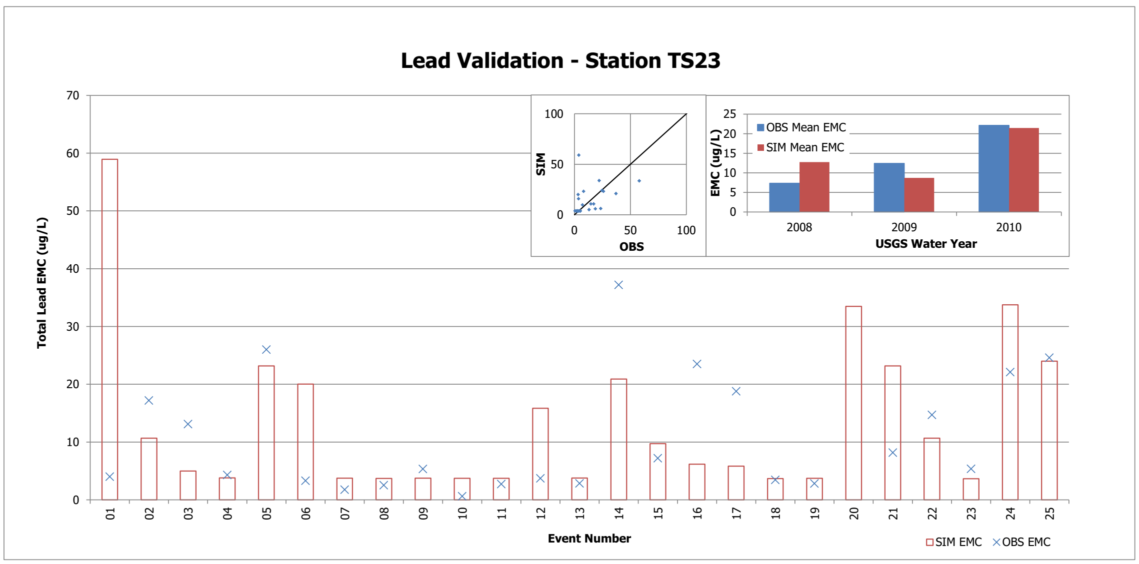
Lead Validation - Station TS20
Total Lead EMC (ug/L)
Event Number
SIM EMC
OBS EMC
SIM
OBS
EMC (ug/L)
OBS Mean EMC
SIM Mean EMC
2008
2009
2010
USGS Water Year



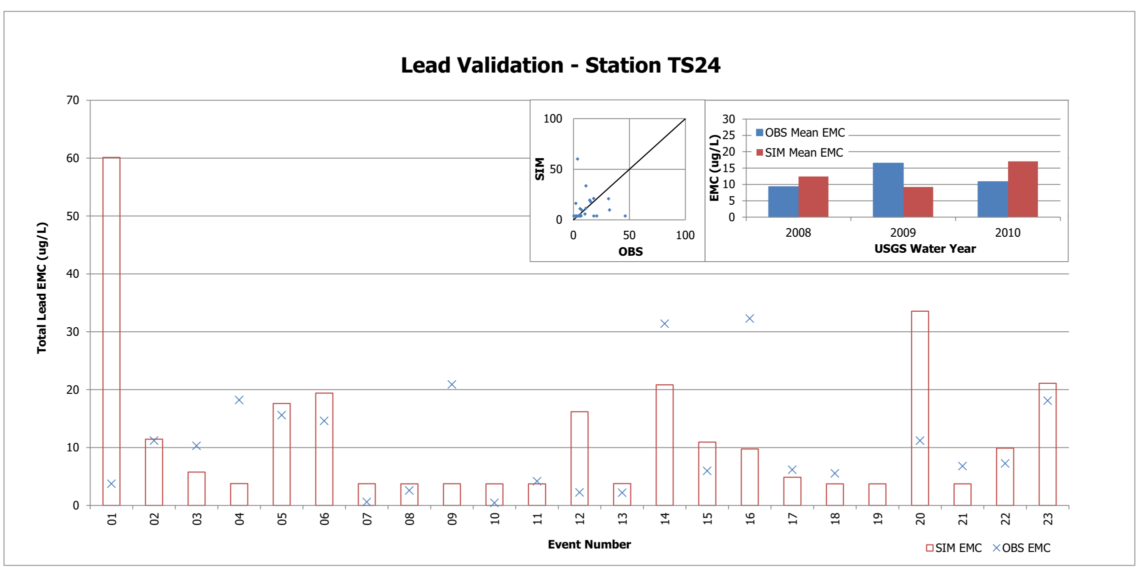
Lead Validation - Station TS21
Total Lead EMC (ug/L)
Event Number
SIM EMC
OBS EMC
SIM
OBS
EMC (ug/L)
OBS Mean EMC
SIM Mean EMC
2008
2009
2010
USGS Water Year



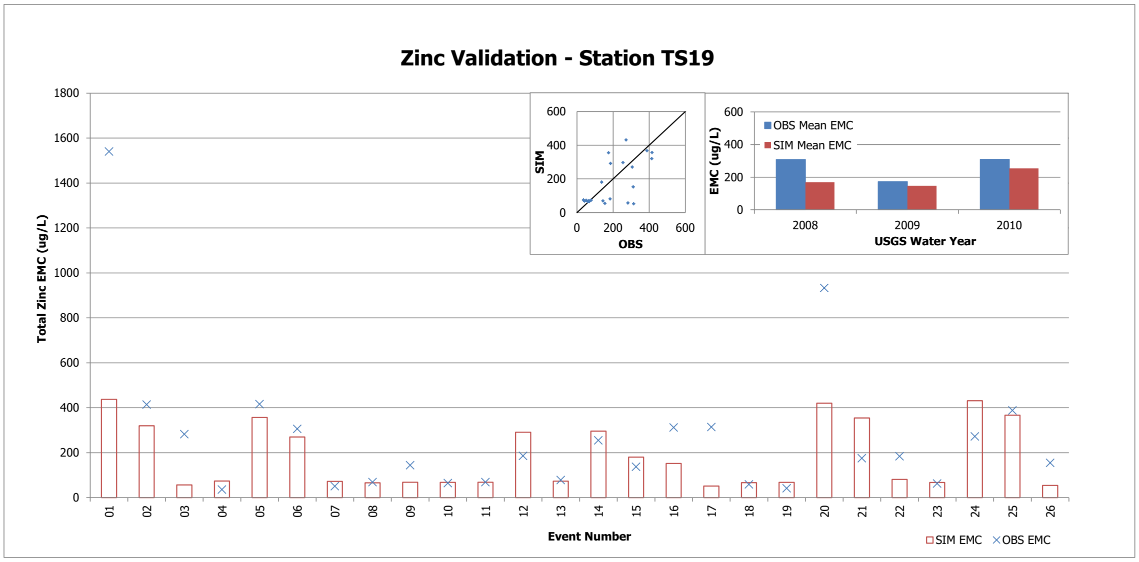
Lead Validation - Station TS22
Total Lead EMC (ug/L)
Event Number
SIM EMC
OBS EMC
SIM
OBS
EMC (ug/L)
OBS Mean EMC
SIM Mean EMC
2008
2009
2010
USGS Water Year

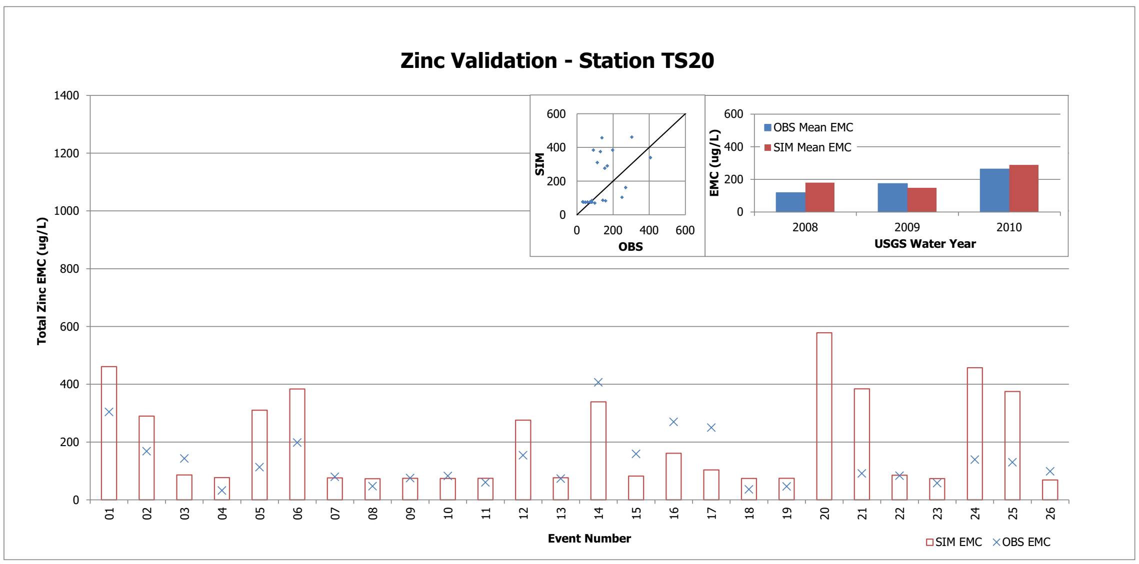


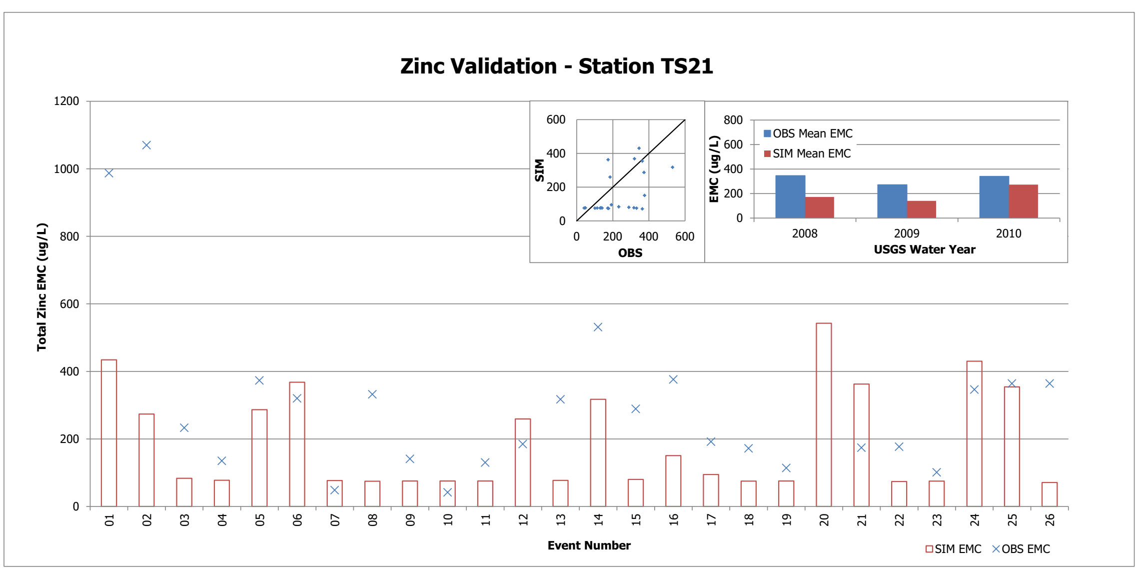
Lead Validation - Station TS23
Total Lead EMC (ug/L)
Event Number
SIM EMC
OBS EMC
SIM
OBS
EMC (ug/L)
OBS Mean EMC
SIM Mean EMC
2008
2009
2010
USGS Water Year

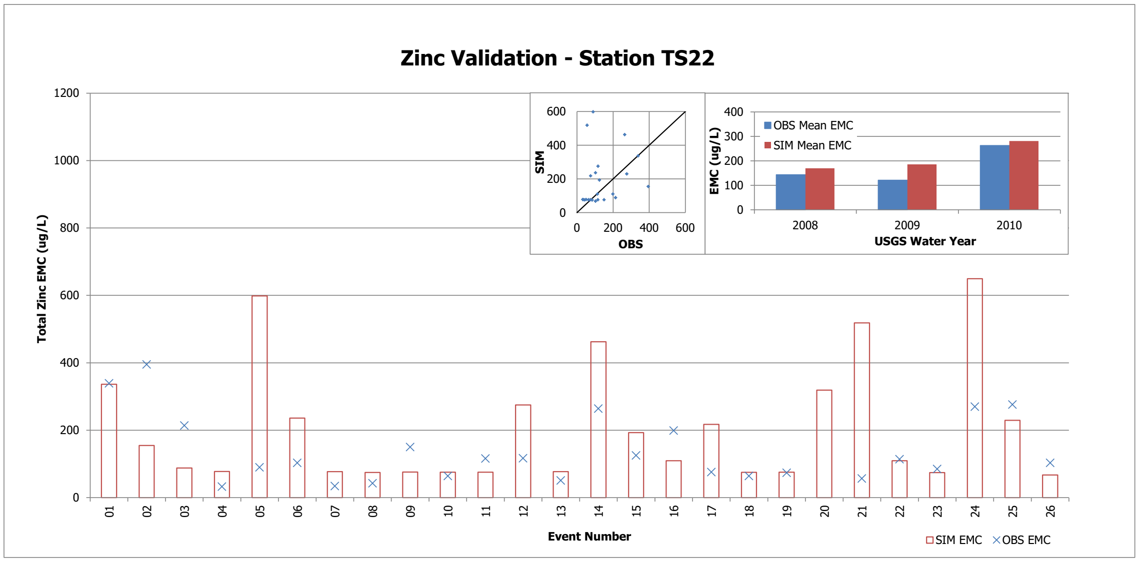


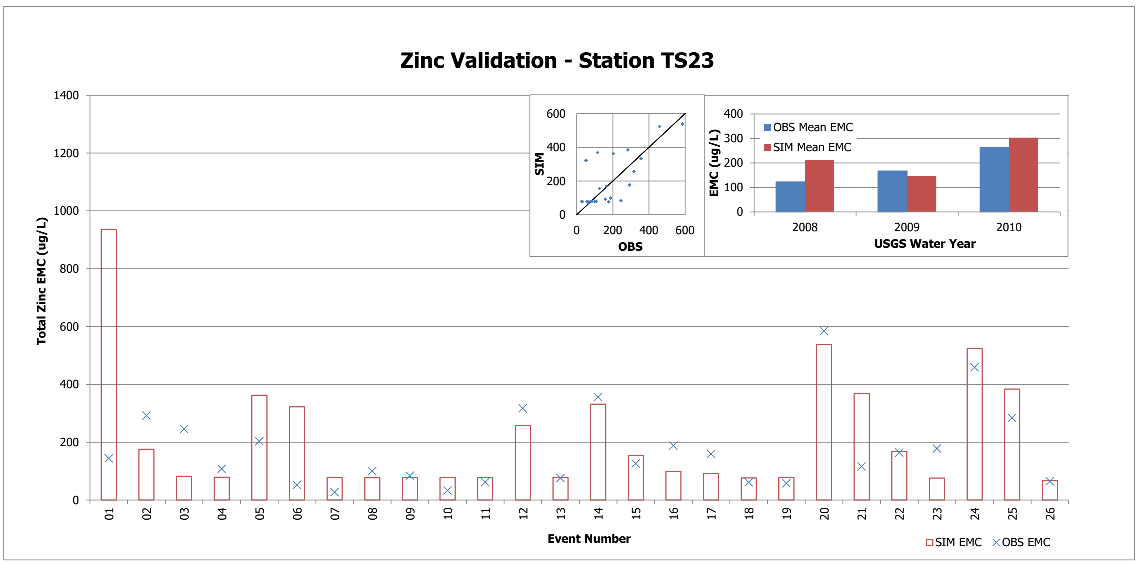
Lead Validation - Station TS24
Total Lead EMC (ug/L)
Event Number
SIM EMC
OBS EMC
SIM
OBS
EMC (ug/L)
OBS Mean EMC
SIM Mean EMC
2008
2009
2010
USGS Water Year

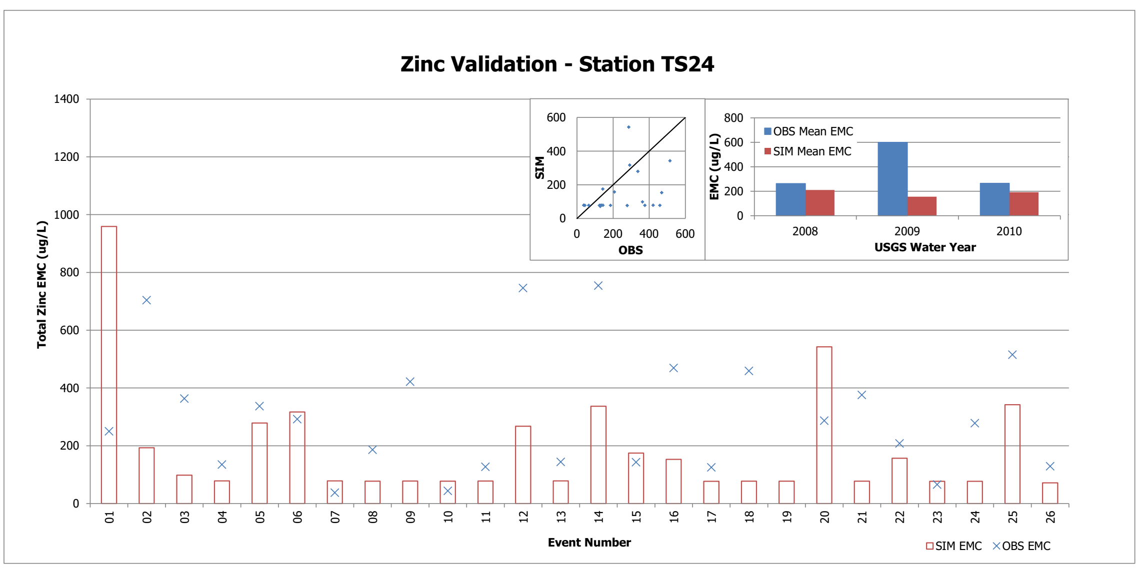

Zinc Validation - Station TS19
Total Zinc EMC (ug/L)
Event Number
SIM EMC
OBS EMC
SIM
OBS
EMC (ug/L)
OBS Mean EMC
SIM Mean EMC
USGS Water Year
2008
2009
2010

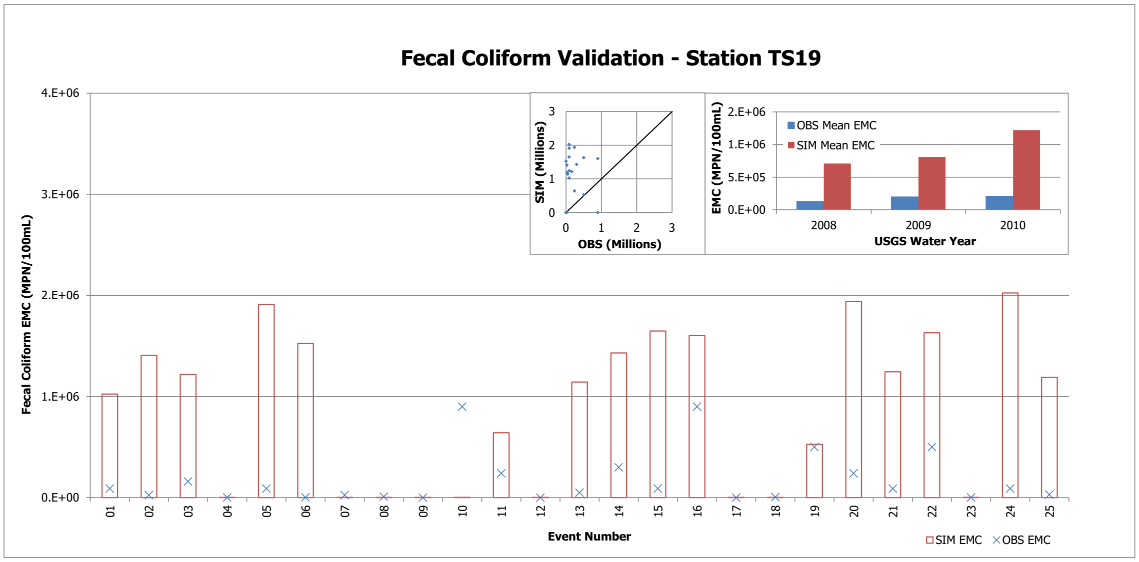

Zinc Validation - Station TS20
Total Zinc EMC (ug/L)
Event Number
SIM EMC
OBS EMC
SIM
OBS
EMC (ug/L)
OBS Mean EMC
SIM Mean EMC
USGS Water Year
2008
2009
2010

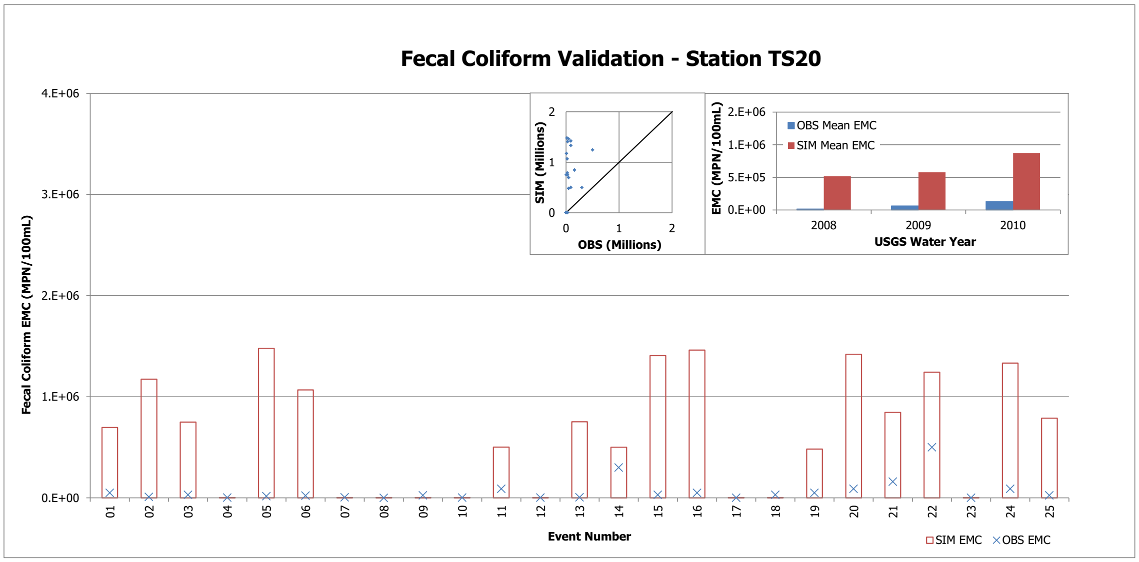

Zinc Validation - Station TS21
Total Zinc EMC (ug/L)
Event Number
SIM EMC
OBS EMC
SIM
OBS
EMC (ug/L)
OBS Mean EMC
SIM Mean EMC
USGS Water Year
2008
2009
2010

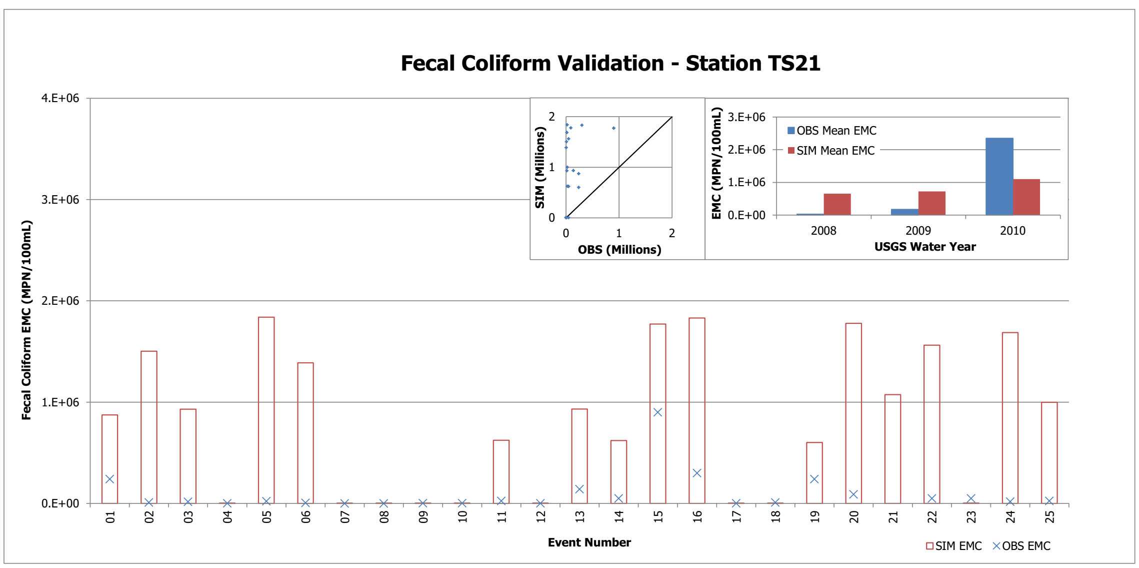

Zinc Validation - Station TS22
Total Zinc EMC (ug/L)
Event Number
SIM EMC
OBS EMC
SIM
OBS
EMC (ug/L)
OBS Mean EMC
SIM Mean EMC
2008
2009
2010
USGS Water Year

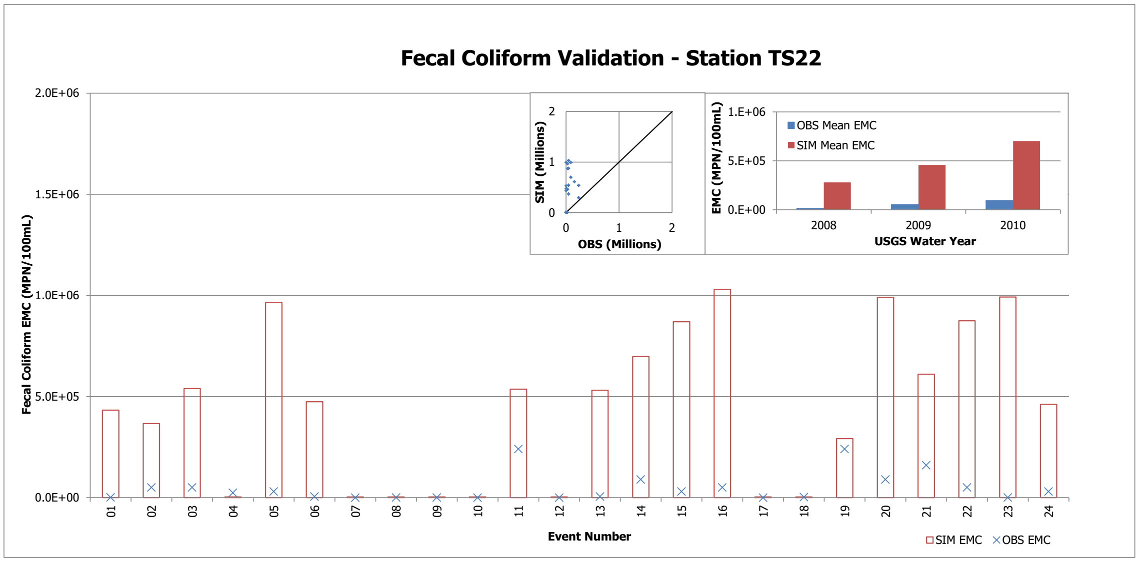

Zinc Validation - Station TS23
Total Zinc EMC (ug/L)
Event Number
SIM EMC
OBS EMC
SIM
OBS
EMC (ug/L)
OBS Mean EMC
SIM Mean EMC
2008
2009
2010
USGS Water Year

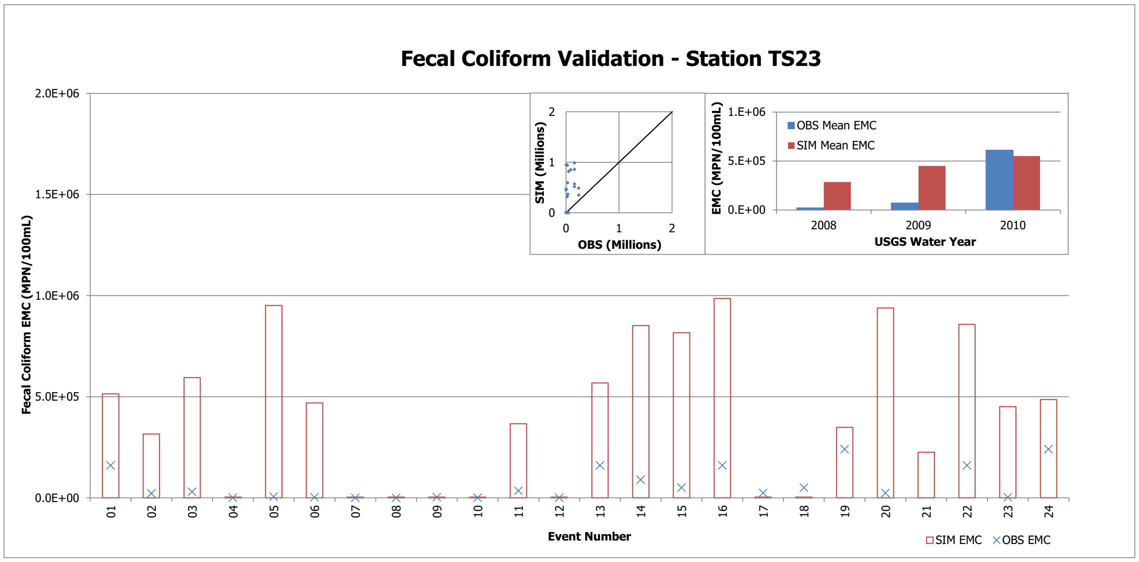

Zinc Validation - Station TS24
Total Zinc EMC (ug/L)
Event Number
SIM EMC
OBS EMC
SIM
OBS
EMC (ug/L)
OBS Mean EMC
SIM Mean EMC
2008
2009
2010
USGS Water Year

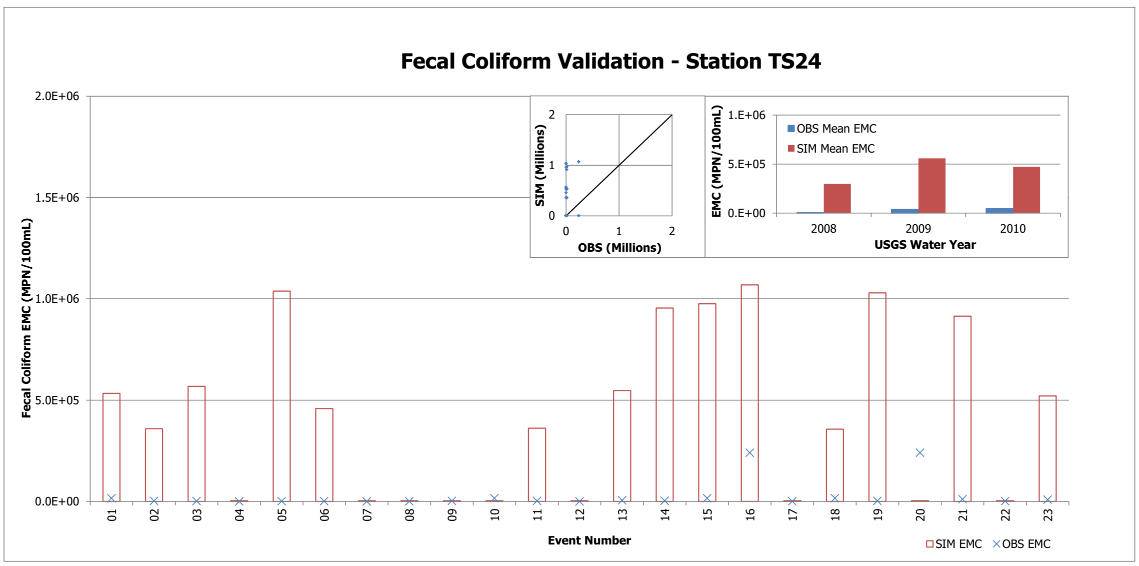

Fecal Coliform Validation - Station TS19
Fecal Coliform EMC (MPN/100mL)
Event Number
SIM EMC
OBS EMC
SIM (Millions)
OBS (Millions)
EMC (MPN/100mL)
OBS Mean EMC
SIM Mean EMC
2008
2009
2010
USGS Water Year

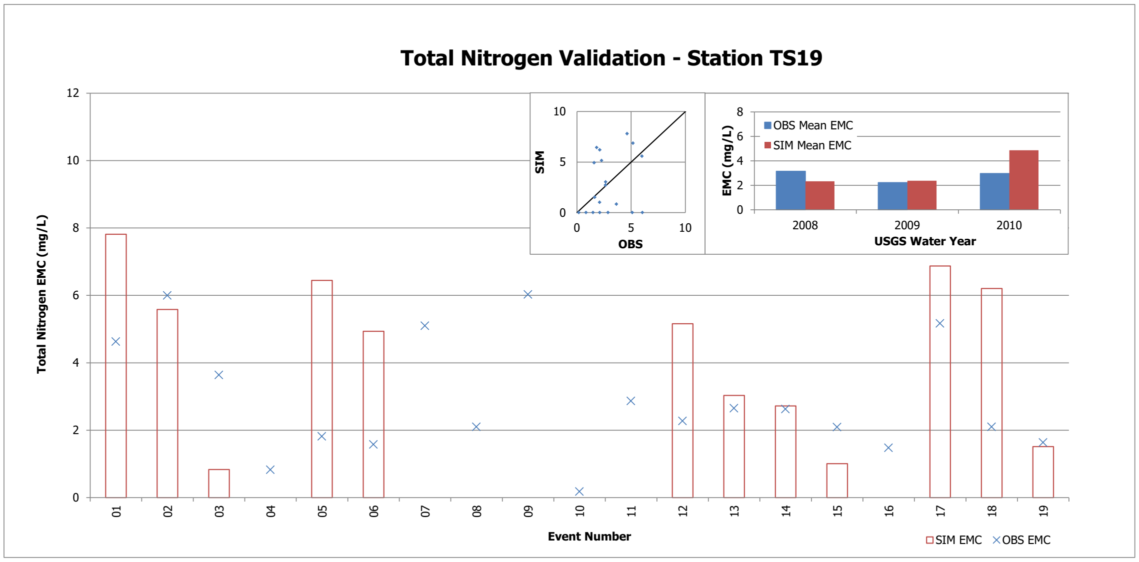

Fecal Coliform Validation - Station TS20
Fecal Coliform EMC (MPN/100mL)
Event Number
SIM EMC
OBS EMC
SIM (Millions)
OBS (Millions)
EMC (MPN/100mL)
OBS Mean EMC
SIM Mean EMC
2008
2009
2010
USGS Water Year

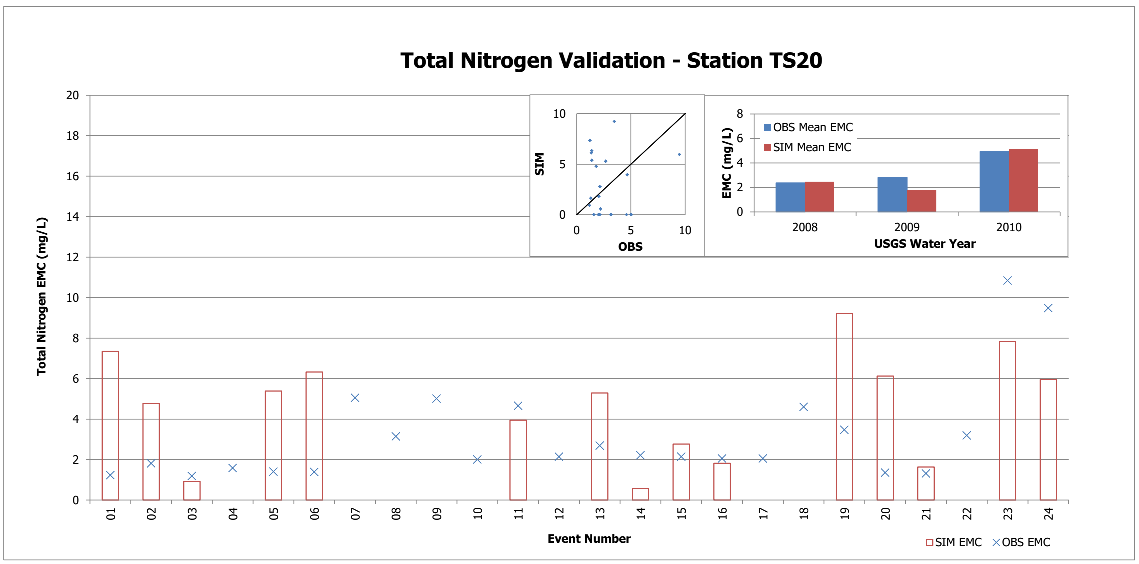

Fecal Coliform Validation - Station TS21
Fecal Coliform EMC (MPN/100mL)
Event Number
SIM EMC
OBS EMC
SIM (Millions)
OBS (Millions)
EMC (MPN/100mL)
OBS Mean EMC
SIM Mean EMC
2008
2009
2010
USGS Water Year

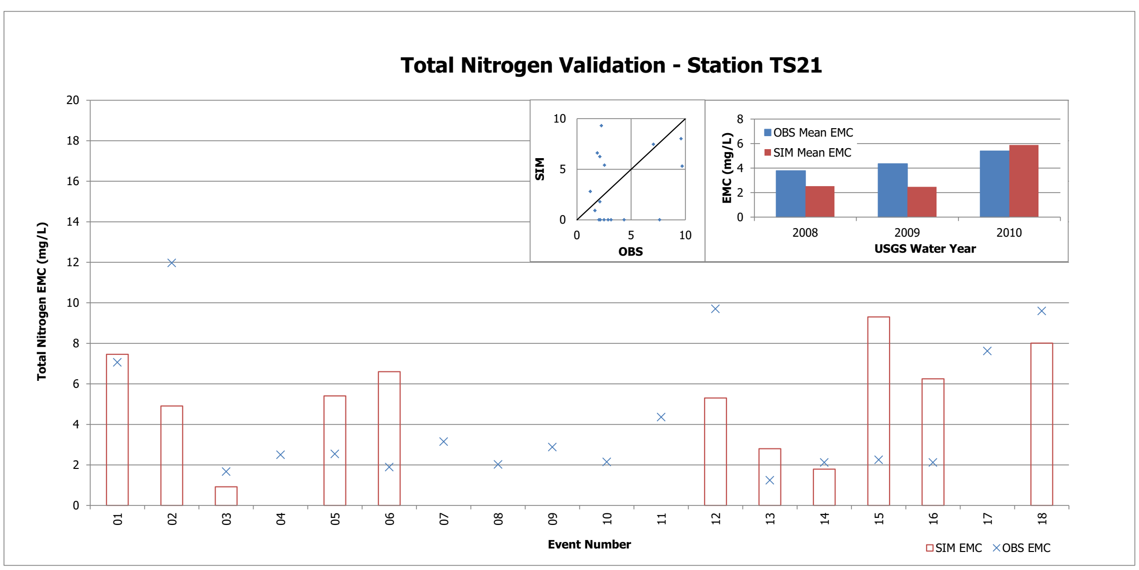

Fecal Coliform Validation - Station TS22
Fecal Coliform EMC (MPN/100mL)
2.0E+06
1.5E+06
1.0E+06
5.0E+05
0.0E+00
01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
Event Number
SIM EMC
OBS EMC
SIM (Millions)
OBS (Millions)
EMC (MPN/100mL)
OBS Mean EMC
SIM Mean EMC
2008
2009
2010
USGS Water Year

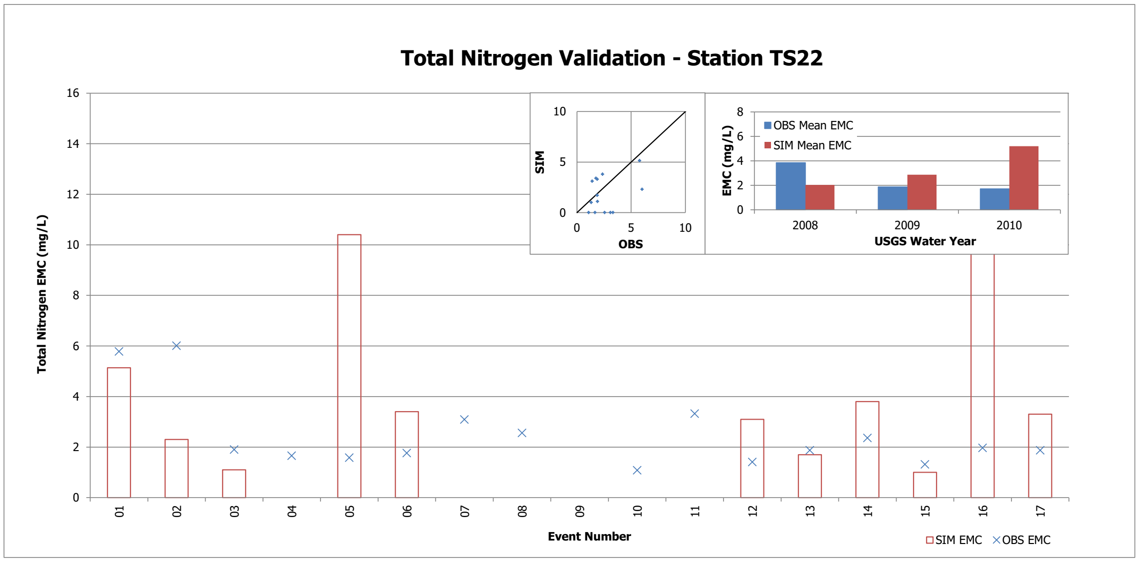

Fecal Coliform Validation - Station TS23
Fecal Coliform EMC (MPN/100mL)
2.0E+06
1.5E+06
1.0E+06
5.0E+05
0.0E+00
01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
Event Number
SIM EMC
OBS EMC
SIM (Millions)
OBS (Millions)
EMC (MPN/100mL)
OBS Mean EMC
SIM Mean EMC
2008
2009
2010
USGS Water Year


Fecal Coliform Validation - Station TS24
Fecal Coliform EMC (MPN/100mL)
2.0E+06
1.5E+06
1.0E+06
5.0E+05
0.0E+00
01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23
Event Number
SIM EMC
OBS EMC
SIM (Millions)
OBS (Millions)
EMC (MPN/100mL)
OBS Mean EMC
SIM Mean EMC
2008
2009
2010
USGS Water Year

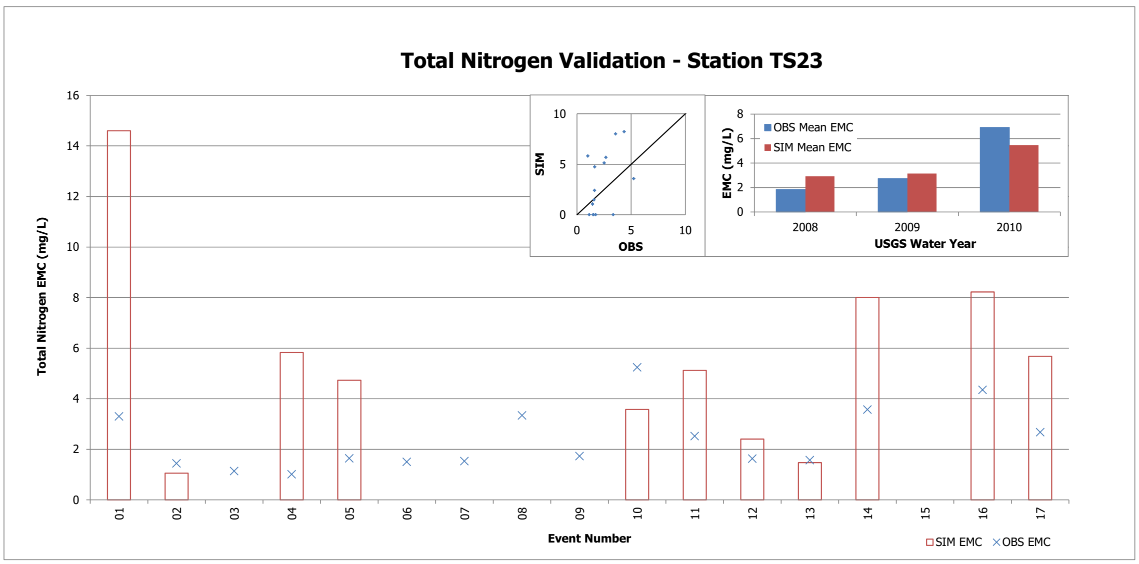

Total Nitrogen Validation - Station TS19
Total Nitrogen EMC (mg/L)
Event Number
SIM EMC
OBS EMC
SIM
OBS
EMC (mg/L)
OBS Mean EMC
SIM Mean EMC
2008
2009
2010
USGS Water Year


Total Nitrogen Validation - Station TS20
Total Nitrogen EMC (mg/L)
Event Number
SIM EMC
OBS EMC
SIM
OBS
EMC (mg/L)
OBS Mean EMC
SIM Mean EMC
2008
2009
2010
USGS Water Year

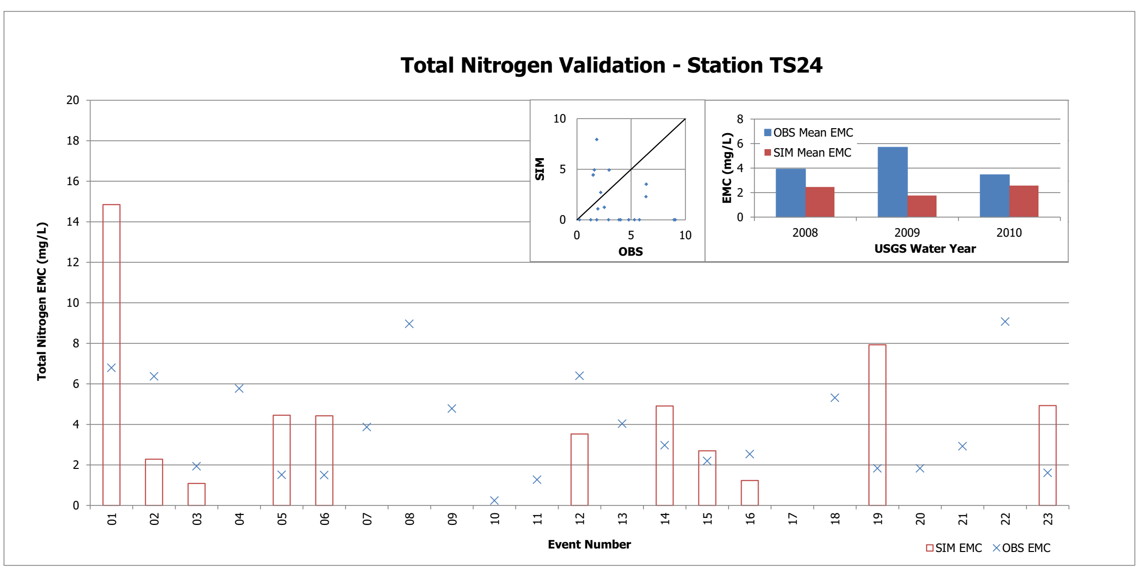

Total Nitrogen Validation - Station TS21
Total Nitrogen EMC (mg/L)
Event Number
SIM EMC
OBS EMC
SIM
OBS
EMC (mg/L)
OBS Mean EMC
SIM Mean EMC
2008
2009
2010
USGS Water Year



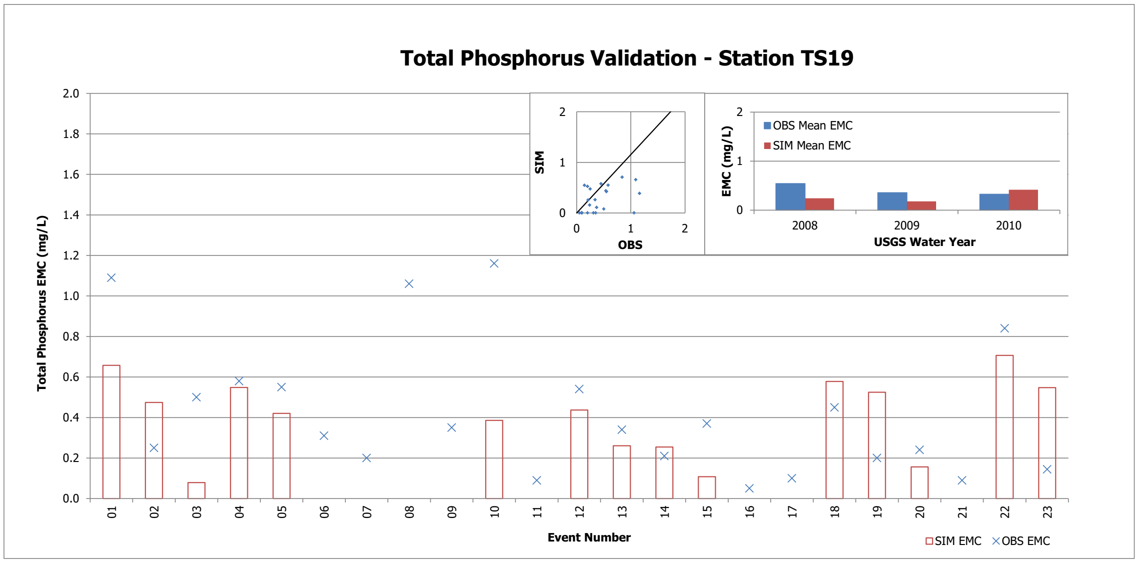
Total Nitrogen Validation - Station TS22
Total Nitrogen EMC (mg/L)
Event Number
SIM EMC
OBS EMC
SIM
OBS
EMC (mg/L)
OBS Mean EMC
SIM Mean EMC
USGS Water Year
2008
2009
2010

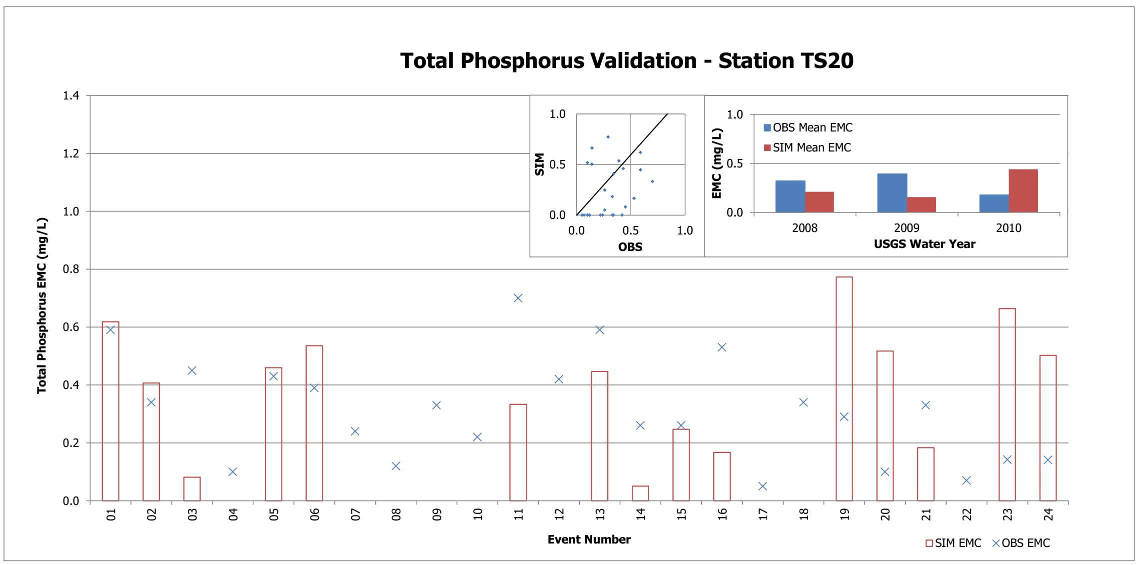


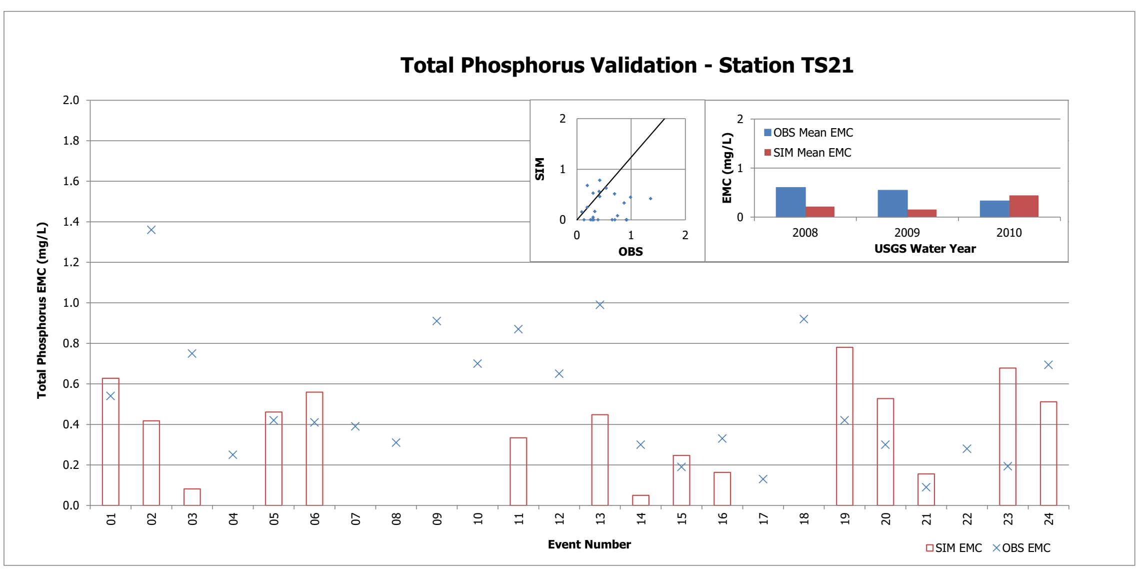
Total Nitrogen Validation - Station TS23
Total Nitrogen EMC (mg/L)
Event Number
SIM EMC
OBS EMC
SIM
OBS
EMC (mg/L)
OBS Mean EMC
SIM Mean EMC
USGS Water Year
2008
2009
2010

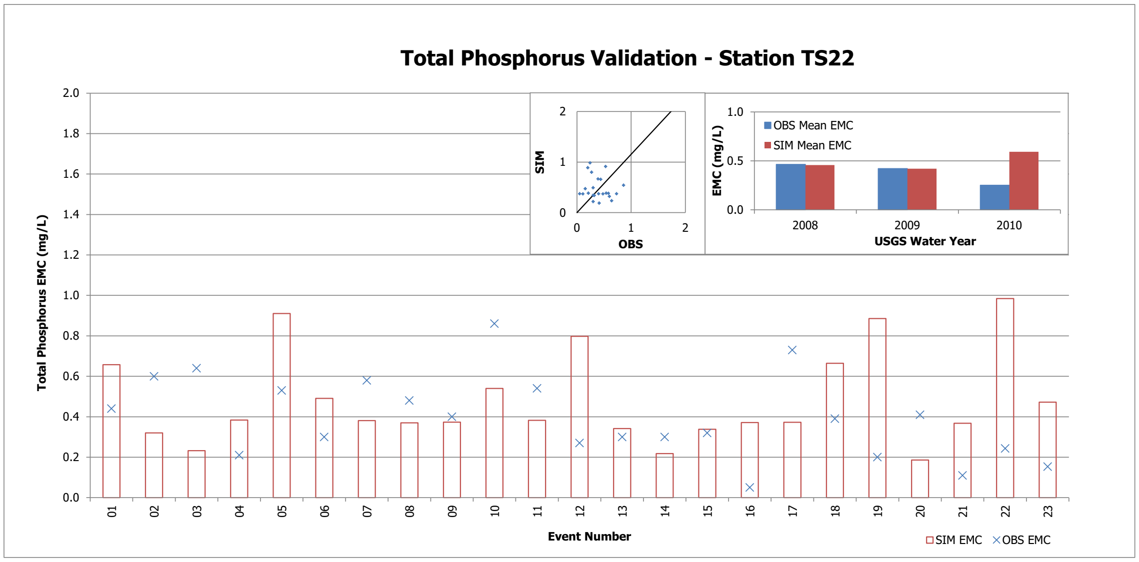


Total Nitrogen Validation - Station TS24
Total Nitrogen EMC (mg/L)
Event Number
SIM EMC
OBS EMC
SIM
OBS
EMC (mg/L)
OBS Mean EMC
SIM Mean EMC
USGS Water Year
2008
2009
2010

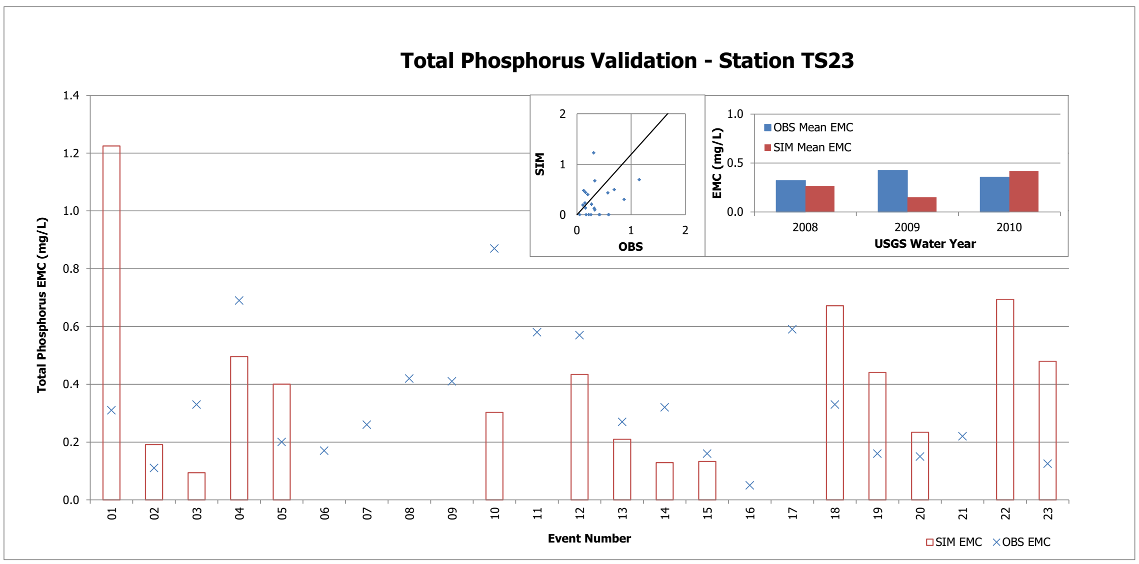

Total Phosphorus Validation - Station TS19
Total Phosphorus EMC (mg/L)
Event Number
SIM EMC
OBS EMC
SIM
OBS
EMC (mg/L)
OBS Mean EMC
SIM Mean EMC
2008
2009
2010
USGS Water Year


Total Phosphorus Validation - Station TS20
Total Phosphorus EMC (mg/L)
Event Number
SIM EMC
OBS EMC
SIM
OBS
EMC (mg/L)
OBS Mean EMC
SIM Mean EMC
2008
2009
2010
USGS Water Year

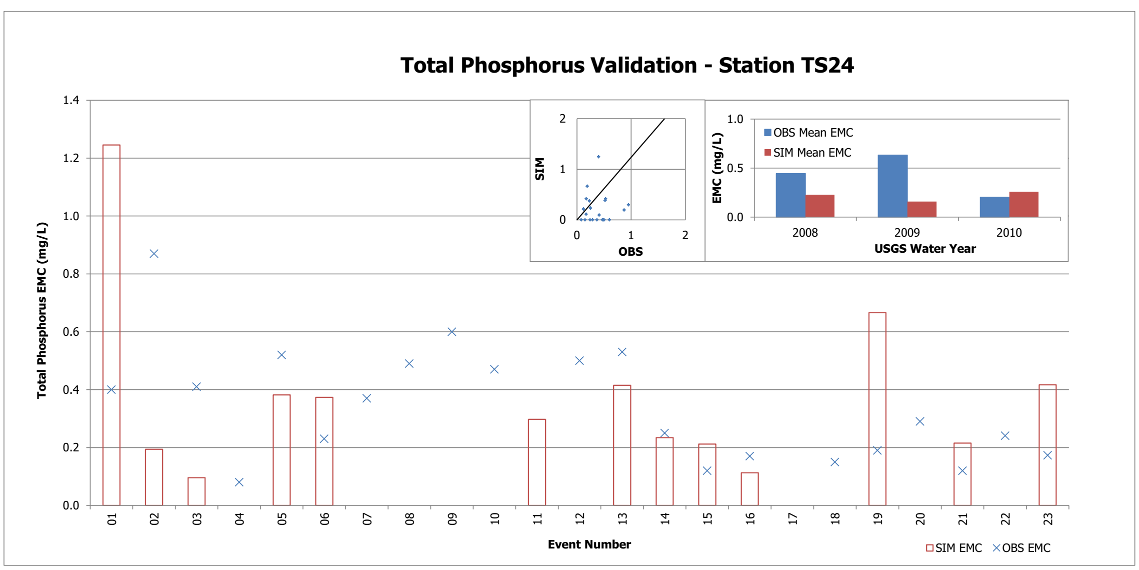

Total Phosphorus Validation - Station TS21
Total Phosphorus EMC (mg/L)
Event Number
SIM EMC
OBS EMC
SIM
OBS
EMC (mg/L)
OBS Mean EMC
SIM Mean EMC
2008
2009
2010
USGS Water Year



Total Phosphorus Validation - Station TS22
Total Phosphorus EMC (mg/L)
Event Number
SIM EMC
OBS EMC
SIM
OBS
EMC (mg/L)
OBS Mean EMC
SIM Mean EMC
2008
2009
2010
USGS Water Year



Total Phosphorus Validation - Station TS23
Total Phosphorus EMC (mg/L)
Event Number
SIM EMC
OBS EMC
SIM
OBS
EMC (mg/L)
OBS Mean EMC
SIM Mean EMC
2008
2009
2010
USGS Water Year



Total Phosphorus Validation - Station TS24
Total Phosphorus EMC (mg/L)
Event Number
SIM EMC
OBS EMC
SIM
OBS
EMC (mg/L)
OBS Mean EMC
SIM Mean EMC
2008
2009
2010
USGS Water Year

Attachment G

RAA Approach Figures

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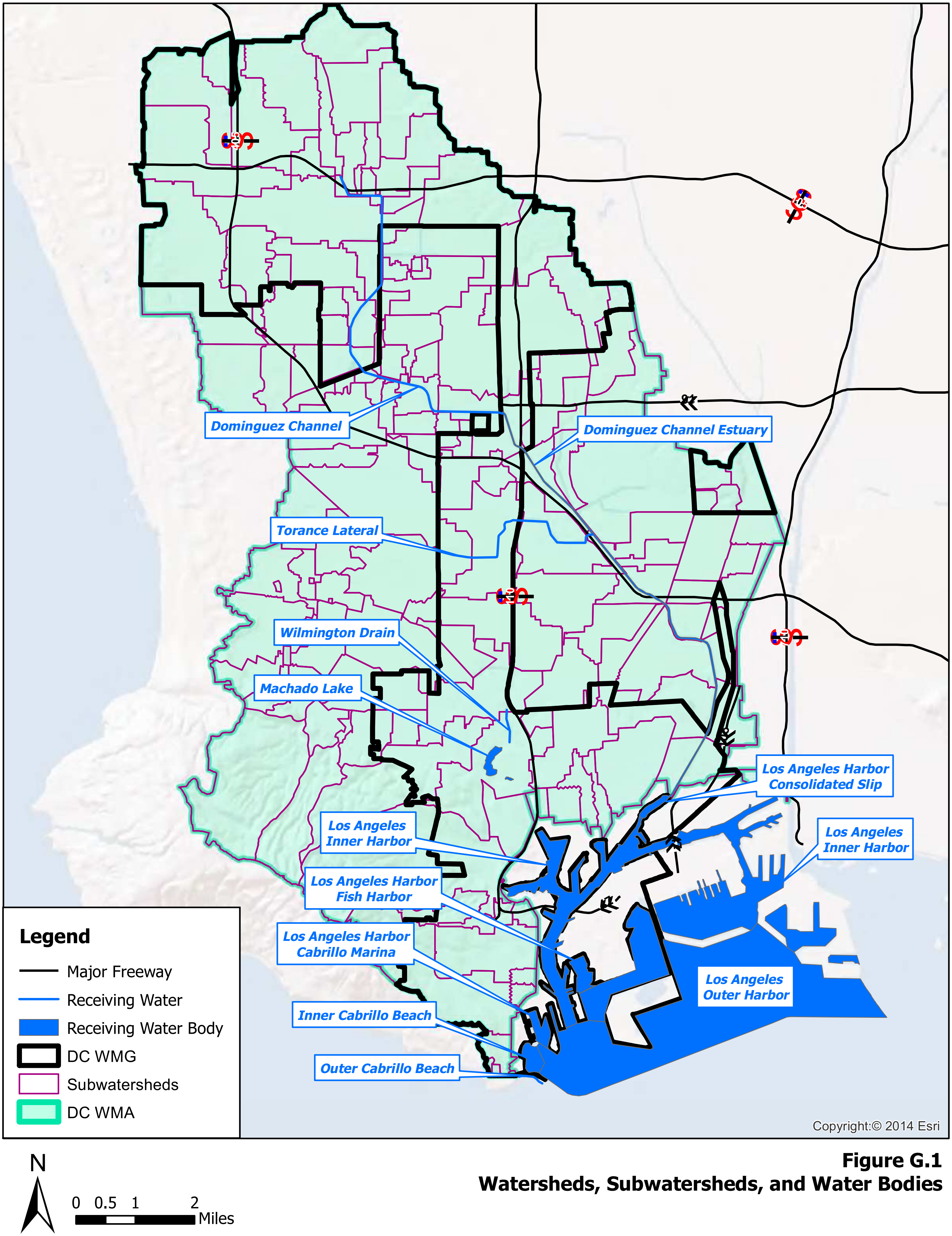

Figure G.1
Watersheds, Subwatersheds, and Water Bodies

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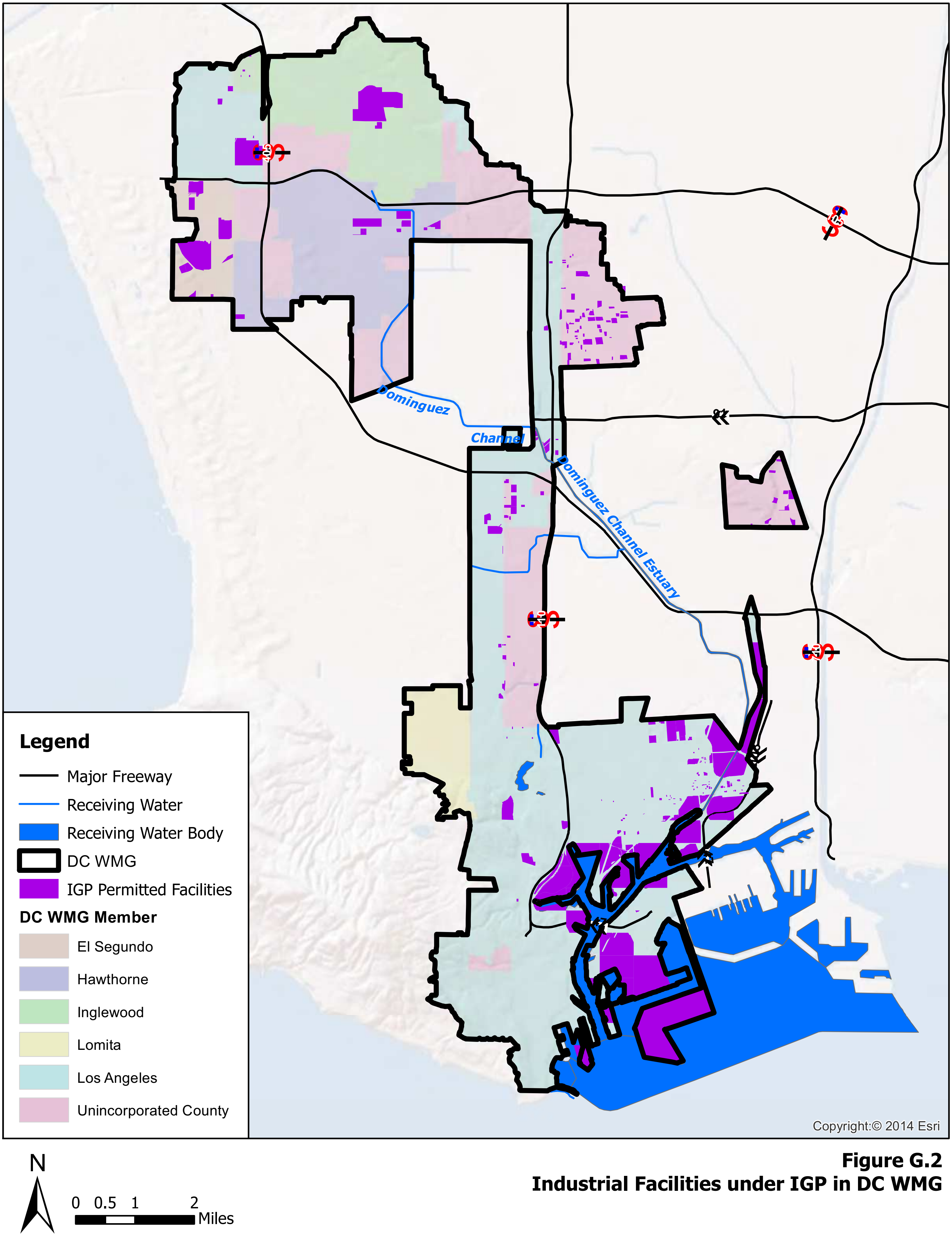

Figure G.2
Industrial Facilities under IGP in DC WMG

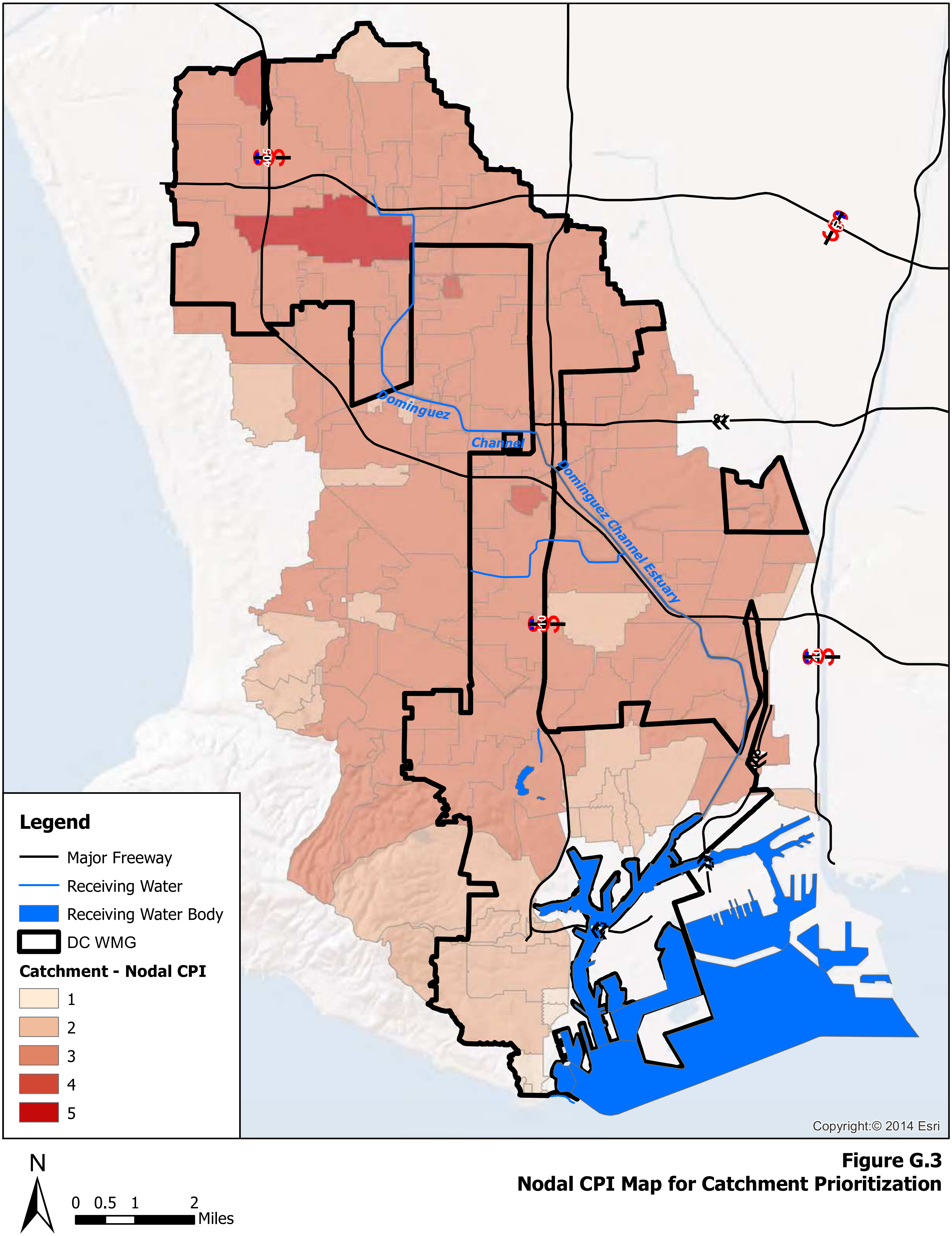

Figure G.3
Nodal CPI Map for Catchment Prioritization

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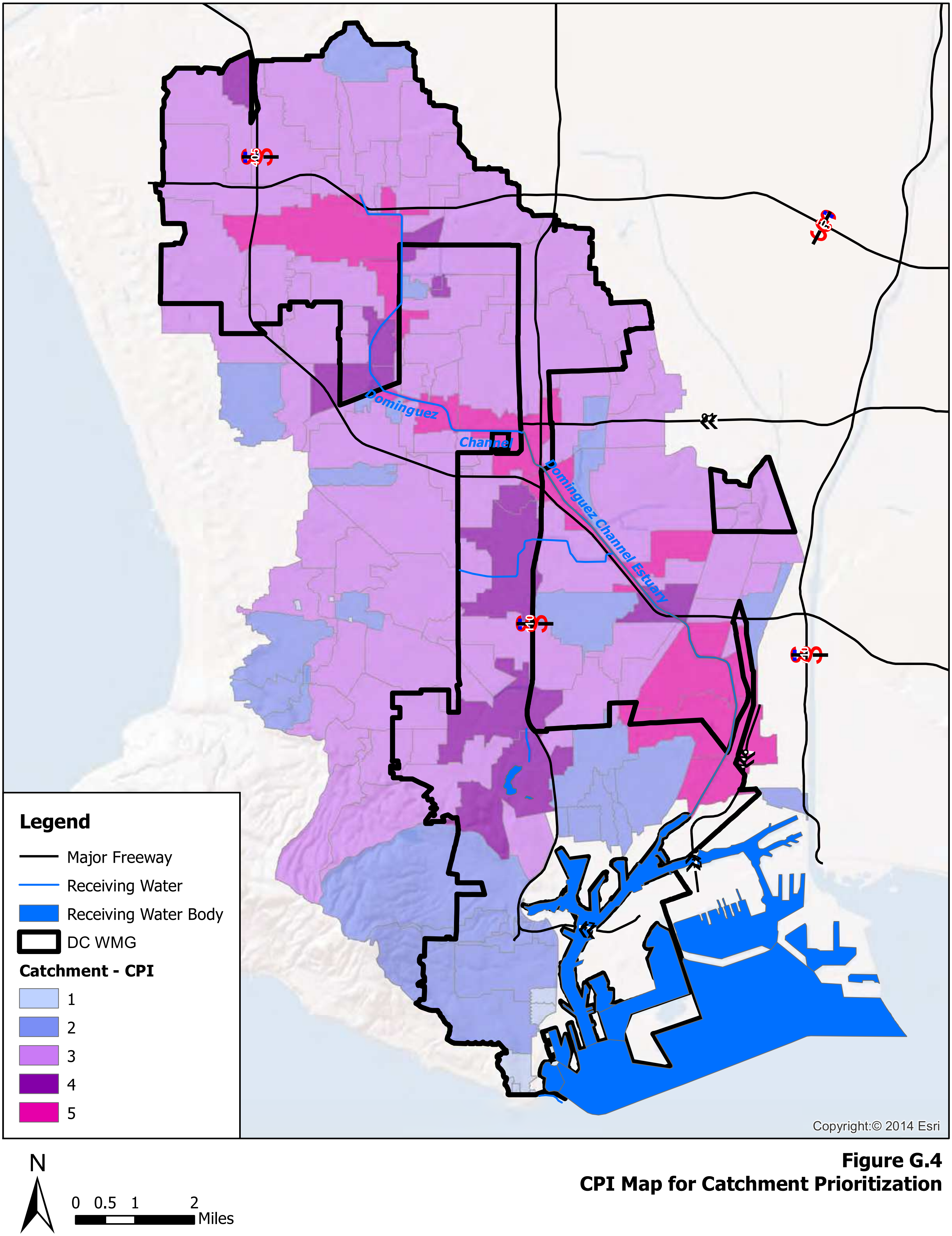

Figure G.4
CPI Map for Catchment Prioritization

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Attachment H

Industrial Facilities Covered Under the IGP in DC WMG

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This attachment includes a table summarizing the industrial facilities covered under the Industrial General Permit (IGP) within the Dominguez Channel Watershed Management Group (DC WMG), corresponding with Section 4.3 of the DC WMG Enhanced Watershed Management Program (EWMP). The table corresponds with Figure G.2 in Attachment G. Note that the postal addresses may designate a city that is not part of the DC WMG. However, the physical location, based on GIS mapping of the facilities, places them in one of the DC MWG agencies jurisdictions.

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Table H.1: Summary of Industrial Facilities Covered Under the IGP in DC WMG

Application ID	WDID	Status Date	Owner/Operator Name	Site/Facility Name	Address	City	WMG City	Zip Code	APN
188744	4 19I001069	3/25/1992	C Brite Metal Finishing Inc Joh	C Brite Co	1213 253rd St	Harbor City	City of Los Angeles	90710	7413006010
189722	4 19I007371	7/6/1993	Bryant Rubber Corp	Bryant Rubber Corp Steve Bryan	1112 Lomita Blvd	Harbor City	City of Los Angeles	90710	7413008018
190809	4 19I014945	2/11/1999	California Metals Recycling	CA Metals Recycling	1022 Lomita Blvd	Harbor City	City of Los Angeles	90710	7413017019
190226	4 19I011879	9/21/1995	Zachers Automotive Recycler	Zachers Automotive Recycler	25224 Vermont	Harbor City	City of Los Angeles	90710	7413020022
188939	4 19I002342	3/31/1992	Brea Canon Oil Co	Brea Canon Oil Co Joughin Facility	23903 Normandie	Harbor City	City of Los Angeles	90710	7438017013
323973	4 19I020849	4/27/2007	Plasticorp	Plasticorp	24105 24049 Frampton Ave	Harbor City	City of Los Angeles	90710	7439011037
370246	4 19I022300	8/31/2009	Plains Midstream Canada	Rancho LPG Holdings LLC	2110 N Gaffey St	San Pedro	City of Los Angeles	90731	7412026006
190642	4 19I014039	6/1/1998	Seaside Transportation Service	Marine Terminals Corp Yang Min	2050 John S Gibson Blvd # Bert	San Pedro	City of Los Angeles	90731	7440016911
188568	4 19I000231	3/2/1992	Yusen Terminal Inc	Yusen Terminal Inc	701 New Dock St	San Pedro	City of Los Angeles	90731	7440022911
433704	4 19I023989	12/27/2012	Catalina Express	Catalina Express	Berth 95	San Pedro	City of Los Angeles	90731	7440024911
189488	4 19I005178	4/8/1992	City of Los Angeles	Terminal Island WWTP	445 Ferry St	San Pedro	City of Los Angeles	90731	7440027914
190481	4 19I013131	6/25/1997	Eagle Marine Services Ltd	Eagle Marine Services Ltd	614 Terminal Way	San Pedro	City of Los Angeles	90731	7440028905
189709	4 19I007310	2/3/1993	US Coast Guard CO	US Coast Guard Support Ctr San Pedro	1001 S Seaside Ave	San Pedro	City of Los Angeles	90731	7440033903
191471	4 19I017765	1/21/2003	Southern California Ship Services	So Cal Ship Services	971 S Seaside Ave	San Pedro	City of Los Angeles	90731	7440033903
189857	4 19I009687	1/8/1993	Jankovich Co	Jankovich Co San Pedro Marine	Berth 74	San Pedro	City of Los Angeles	90731	7440034902
431612	4 19I023843	10/1/2012	SSA Marine	Outer Harbor Berths 54 and 55	Outer Harbor Berths 54 and 55	San Pedro	City of Los Angeles	90731	7440039910
191518	4 19I018069	4/8/2003	APM Terminals	APM Terminals	2500 Navy Way	San Pedro	City of Los Angeles	90731	7440042904
292961	4 19I019214	12/16/2004	BNSF Railway Company	Terminal Island	100 Navy Way	San Pedro	City of Los Angeles	90731	7440042904
189522	4 19I005602	12/20/2011	Defense Logistics Agency	US Defense Fuel Support Point	3171 N Gaffey St	San Pedro	City of Los Angeles	90731	7442001915
189308	4 19I004159	4/6/1992	Ciro Coppa	Coppa Woodworking	1231 Paraiso St	San Pedro	City of Los Angeles	90731	7445012047
331011	4 19I021125	9/5/2007	SA Recycling LLC	SA Recycling LLC dba SA Recycling of Los Angeles	901 New Dock St	Terminal Island	City of Los Angeles	90731	7440013907
422641	4 19I023444	12/15/2011	Progress Rail Services	United Industries Corp	710 Earle St	Terminal Island	City of Los Angeles	90731	7440029917
190173	4 19I011597	5/9/1995	Seaside Transportation Service	Evergreen Terminal	389 Terminal Wy	Terminal Island	City of Los Angeles	90731	7440029917
298504	4 19I020148	3/16/2006	Ardagh Metal Packaging USA Inc	Ardagh Metal Packaging USA Inc	936 Barracuda St	Terminal Island	City of Los Angeles	90731	7440029917
337275	4 19I021320	12/4/2007	General Petroleum Corporation	General Petroleum Corporation Terminal Island	1028 S Seaside Ave	Terminal Island	City of Los Angeles	90731	7440031906
340586	4 19I021437	2/6/2008	American Marine Corp	American Marine Corp	1500 S Barracuda St	Terminal Island	City of Los Angeles	90731	7440032905

Table H.1: Summary of Industrial Facilities Covered Under the IGP in DC WMG

Application ID	WDID	Status Date	Owner/Operator Name	Site/Facility Name	Address	City	WMG City	Zip Code	APN
410531	4 19I022958	12/27/2010	CA United Terminals	CA United Terminals	2525 Navy Wy	Terminal Island	City of Los Angeles	90731	7440042904
189105	4 19I003212	4/3/1992	California Cartage Co	CA Cartage Co	2401 E Pacific Coast Hwy	Wilmington	City of Los Angeles	90744	7315015905
332751	4 19I021192	10/4/2007	Tesoro Refining & Marketing Co	Tesoro Refining & Marketing Co	1930 Pacific Coast Hwy	Wilmington	City of Los Angeles	90744	7315017005
189766	4 19I009176	11/9/1992	GS Roofing dba CertainTeed RPG	GS Roofing dba CertainTeed RPG	1431 E	Wilmington	City of Los Angeles	90744	7412025009
188959	4 19I002397	3/31/1992	Brea Canon Oil Co	Brea Canon Oil Co South Torrance	630 Lomita	Wilmington	City of Los Angeles	90744	7414001902
190768	4 19I014799	12/5/1998	Honda and Toyota Auto Parts	Honda Toyota Auto Parts Dis	707 E Anaheim St	Wilmington	City of Los Angeles	90744	7416021035
190789	4 19I014881	12/31/1998	Car Aroma Supplies	Car Aroma Supplies	412 W Anaheim St	Wilmington	City of Los Angeles	90744	7416028004
347060	4 19I021624	6/18/2008	West Coast Aerospace Inc	West Coast Aerospace	220 W E St	Wilmington	City of Los Angeles	90744	7418005015
190153	4 19I011485	3/9/1995	Garcia Mario	C & G Auto Wrecking	516 Quay Ave	Wilmington	City of Los Angeles	90744	7418009023
347059	4 19I021625	6/18/2008	West Coast Aerospace Inc	West Coast Aerospace Inc	516 Marine St	Wilmington	City of Los Angeles	90744	7418015008
292925	4 19I018664	3/2/2004	Smart Recycling Inc	Smart Recycling Inc	424 426 N Fries Ave	Wilmington	City of Los Angeles	90744	7418015011
191519	4 19I018076	4/10/2003	Milans Honda	Milans Honda	225 E Harry Bridges Blvd	Wilmington	City of Los Angeles	90744	7418030015
337578	4 19I021327	12/5/2007	Marine Technical Services	Marine Technical Services	211 N Marine Ave	Wilmington	City of Los Angeles	90744	7418033907
188641	4 19I000538	3/16/1992	Wilmington Woodworks Inc	Wilmington Woodworks Inc	318 C St	Wilmington	City of Los Angeles	90744	7418034900
189939	4 19I010244	6/28/1993	Auto Recycling Wilmington I	Auto Recycling Wilmington I	418 E Anaheim St	Wilmington	City of Los Angeles	90744	7423015013
307626	4 19I020405	1/6/2014	Warren E and P Inc	Warren E and P Inc WTU	625 E Anaheim St	Wilmington	City of Los Angeles	90744	7423024032
293435	4 19I019979	12/19/2005	Royal Adhesives & Sealants LLC	Royal Adhesives & Sealants LLC	800 E Anaheim St	Wilmington	City of Los Angeles	90744	7424011056
431152	4 19I023817	9/14/2012	Potential Industries	Potential Industries	922 East E St	Wilmington	City of Los Angeles	90744	7424017043
425346	4 19I023570	3/20/2012	Shokri Sayegh	Nu Way Auto Dismantling Inc	1022 E Anaheim St	Wilmington	City of Los Angeles	90744	7424021006
370632	4 19I022314	9/9/2009	Ford Only Inc	Ford Only Inc	728 N Sanford Ave	Wilmington	City of Los Angeles	90744	7424021012
307192	4 19I020391	8/3/2006	Adrian Orozco	Motor Sport Auto Body	734 N Flint Ave	Wilmington	City of Los Angeles	90744	7424022008
190912	4 19I015333	8/12/1999	Quintanilla Maria	Mid Auto Dismantler & Sales	725 Watson Ave	Wilmington	City of Los Angeles	90744	7424023012
191313	4 19I017067	2/6/2002	Gil Perez	M G Auto Dismantlers	711 Watson Ave	Wilmington	City of Los Angeles	90744	7424023014
191420	4 19I017505	9/25/2002	Garcias Auto Sales & Dismantling Inc	Garcias Auto Dismantling	640 Flint Ave	Wilmington	City of Los Angeles	90744	7424024038
190299	4 19I012295	5/9/1996	Mikes Foreign Auto Parts	Mikes Foreign Auto Parts	921 E Anaheim St	Wilmington	City of Los Angeles	90744	7425011018
189482	4 19I005131	4/7/1992	Pick Your Partners Auto Wrecking	Pick Your Part Help Yourself	1232 Blinn Ave	Wilmington	City of Los Angeles	90744	7425026002
189087	4 19I003067	4/2/1992	Jacks Foreign Auto Wrecking	Jacks Foreign Auto Wrecking	1019 E Anaheim St	Wilmington	City of Los Angeles	90744	7425037015

Table H.1: Summary of Industrial Facilities Covered Under the IGP in DC WMG

Application ID	WDID	Status Date	Owner/Operator Name	Site/Facility Name	Address	City	WMG City	Zip Code	APN
440599	4 19I024417	8/19/2013	Davilas Enterprise LLC	4 Wheel Dismantling	1034 Cristobal Ave	Wilmington	City of Los Angeles	90744	7425042009
366197	4 19I022175	6/3/2009	Howdy Auto Dismantler Inc	Howdy Auto Dismantler	1018 Alameda St	Wilmington	City of Los Angeles	90744	7425042021
190157	4 19I011502	3/14/1995	Liberty Auto Sales & Dismantling	Liberty Auto Sales & Dismantling	1542 E Opp St	Wilmington	City of Los Angeles	90744	7425043024
190269	4 19I012137	2/7/1996	Japanese Truck Dismantling	Japanese Truck Dismantling	940 Alameda St	Wilmington	City of Los Angeles	90744	7425043045
190840	4 19I015054	4/8/1999	Blanco Engine Core	Blanco Engine Core	925 Henry Ford	Wilmington	City of Los Angeles	90744	7425043050
442792	4 19I024557	11/14/2013	Roland A Molina	Blanco Auto Wrecking and Repair	925 N Henry Ford Ave	Wilmington	City of Los Angeles	90744	7425043050
191013	4 19I015737	4/12/2000	Juan Cerna	4 Stars Auto Dismantler Sales	921 N Henry Ford Ave	Wilmington	City of Los Angeles	90744	7425043055
435549	4 19I024124	3/5/2013	Commercial Truck Used Parts	Commercial Truck Used Parts	1523 East I Street	Wilmington	City of Los Angeles	90744	7425043057
189443	4 19I004915	4/7/1992	International Cargo Equipment	International Cargo Equipment	1540 Eubank Ave	Wilmington	City of Los Angeles	90744	7426001013
189114	4 19I003269	4/3/1992	Norwalk Industries Co	Ecology Auto Wrecking	1000 Lomita	Wilmington	City of Los Angeles	90744	7426001014
190462	4 19I012997	3/19/1997	BNSF Railway Co	BNSF Railway Watson	1302 Lomita	Wilmington	City of Los Angeles	90744	7426001808
315179	4 19I020571	11/27/2006	Martin Container Inc	Martin Container Inc	1402 E Lomita Blvd	Wilmington	City of Los Angeles	90744	7426006001
189430	4 19I004876	4/7/1992	AMC Auto Salvage	AMC Auto Salvage	1310 E Lomita Blvd	Wilmington	City of Los Angeles	90744	7426006016
189484	4 19I005133	4/7/1992	Pick Your Partners Auto Wrecking	Pick Your Part	1903 Blinn Ave	Wilmington	City of Los Angeles	90744	7426007001
324019	4 19I020852	4/27/2007	Estes Express West	GI Trucking Co dba Estes West	1531 Blinn Ave	Wilmington	City of Los Angeles	90744	7426007002
189167	4 19I003490	4/3/1992	Ace High Truck	Ace High Truck	1305 Sandison	Wilmington	City of Los Angeles	90744	7426008034
410443	4 19I022956	12/23/2010	Ruben Chavez	West Coast Dismantlers	1523 E Sandison St	Wilmington	City of Los Angeles	90744	7426024038
442369	4 19I024542	10/28/2013	Maria Leticia Urias Alfonso Urias Alfonso Hijinio Urias Junior	Tex Auto Wrecking	1549 East Sandison Street	Wilmington	City of Los Angeles	90744	7426024043
293027	4 19I019352	3/16/2005	Juniors Auto Parts	Juniors Auto Parts	1535 E Sandison St	Wilmington	City of Los Angeles	90744	7426024054
191190	4 19I016559	6/5/2001	Valero Refining Co California	Valero Refining Co CA	1651 Alameda St	Wilmington	City of Los Angeles	90744	7426028005
190946	4 19I015482	11/9/1999	Paramount Forge Inc	Paramount Forge Inc	1721 E Colon St	Wilmington	City of Los Angeles	90744	7426031023
189238	4 19I003787	4/3/1992	Action Sales & Metal Co	Action Sales & Metal Co	1625 E Pacific Coast Hwy	Wilmington	City of Los Angeles	90744	7426033030
345563	4 19I021575	5/27/2008	New Bone Inc DBA Boneyard Auto Parts	New Bone Inc DBA Boneyard Auto Parts	1807 E M St	Wilmington	City of Los Angeles	90744	7428002009
191050	4 19I015957	7/19/2000	Wilmington Auto Wrecking	Wilmington Auto Wrecking	1817 M	Wilmington	City of Los Angeles	90744	7428002012
365982	4 19I022166	5/29/2009	Tonys Vette Inc	Tonys Vette Inc	1818 E Mauretania St	Wilmington	City of Los Angeles	90744	7428002026
191613	4 19I018414	10/16/2003	Martinez Engine Cores	Martinez Engine Cores	1814 E Mauretania St	Wilmington	City of Los Angeles	90744	7428002027
426005	4 19I023594	4/10/2012	Elvira Mercedes Lezama Ruiz	CL Auto Parts & Dismantling	1714 E Mauretania St	Wilmington	City of Los Angeles	90744	7428002031
190970	4 19I015579	1/12/2000	Lincoln Iron & Metals	Lincoln Iron & Metals	1262 Alameda St	Wilmington	City of Los Angeles	90744	7428002037
189244	4 19I003826	4/3/1992	Alco Truck & Auto Inc	Alco Truck & Van Parts	1230 Alameda St	Wilmington	City of Los Angeles	90744	7428003003

Table H.1: Summary of Industrial Facilities Covered Under the IGP in DC WMG

Application ID	WDID	Status Date	Owner/Operator Name	Site/Facility Name	Address	City	WMG City	Zip Code	APN
426874	4 19I023621	5/7/2012	Recycling Unlimited Metal Co	Recycling Unlimited Metal Co	1813 E Robidoux St	Wilmington	City of Los Angeles	90744	7428003015
428728	4 19I023699	7/2/2012	Wilmington Recycling Group LLC	Wilmington Recycling Group LLC	1248 Alameda St	Wilmington	City of Los Angeles	90744	7428003048
191263	4 19I016818	9/25/2001	Moine Charles A	Wilmington Recyclers	1120 Henry Ford	Wilmington	City of Los Angeles	90744	7428005025
189495	4 19I005229	4/9/1992	Savage Industries Inc	Savage Industries Inc	1635 E Denni St	Wilmington	City of Los Angeles	90744	7428005028
303010	4 19I020236	5/30/2006	Clean Harbors Wilmington LLC	Clean Harbors Wilmington LLC	1737 E Denni St	Wilmington	City of Los Angeles	90744	7428006006
326777	4 19I020937	6/20/2007	Tesoro Refining and Marketing Company LLC	Tesoro Los Angeles Refinery	2101 E Pacific Coast Highway	Wilmington	City of Los Angeles	90744	7428007009
189047	4 19I002849	4/2/1992	VOPAK Terminal Los Angeles Inc	Vopak Terminal Los Angeles Inld	2200 Pacific Coast	Wilmington	City of Los Angeles	90744	7428007009
190640	4 19I014013	5/21/1998	Penzoil Quaker State Co SOPUS Products	Sopus Prod LA Lubes Plant	1926 E Pacific Coast Hwy	Wilmington	City of Los Angeles	90744	7428007010
188733	4 19I001017	3/23/1992	Praxair Inc	Praxair Inc	2300 E Pacific Coast Hwy	Wilmington	City of Los Angeles	90744	7428008905
190102	4 19I011272	11/22/1994	Apple Auto Dismantling Inc	Apple Auto Dismantling	2701 Anaheim	Wilmington	City of Los Angeles	90744	7428014029
191317	4 19I017082	2/6/2002	Rugerio Moises	Chicos Auto Wrecking	905 Farragut Ave	Wilmington	City of Los Angeles	90744	7428015030
191614	4 19I018415	10/16/2003	B & R Auto Dismantling	B & R Auto Dismantling	902 Foote Ave	Wilmington	City of Los Angeles	90744	7428017940
191154	4 19I016406	3/16/2001	AJC Sandblasting Inc	AJC Sandblasting Inc	932 Schley	Wilmington	City of Los Angeles	90744	7428019064
358274	4 19I021964	12/19/2008	Astro Auto Wrecking	Astro Auto Wrecking	1002 Schley Ave	Wilmington	City of Los Angeles	90744	7428019066
190453	4 19I012926	2/20/1997	Guadalupe Rivas	Lupes Auto Sales & Dismantling	918 Schley	Wilmington	City of Los Angeles	90744	7428019092
191194	4 19I016573	6/11/2001	Pacific Auto Dismantler LLC LRP	Pacific Auto Dismantler	2423 E Anaheim St	Wilmington	City of Los Angeles	90744	7428020023
190354	4 19I012541	9/6/1996	M & R Auto Sales	M & R Auto Sales	820 Macdonough Ave	Wilmington	City of Los Angeles	90744	7428020029
191002	4 19I015698	3/23/2000	Olmedos Auto Sales Dismantler	Olmedos Auto Sales Dismantler	828 Macdonough Ave	Wilmington	City of Los Angeles	90744	7428020029
191040	4 19I015917	7/6/2000	Barillas Nicolas	Nicks Auto Wrecking	2211 E Anaheim St	Wilmington	City of Los Angeles	90744	7428021049
439672	4 19I024363	7/16/2013	Anoosh Dayani	Harbor Auto LLC	2223 E Anaheim Street	Wilmington	City of Los Angeles	90744	7428021050
188667	4 19I000668	1/12/1993	HJ Baker & Bro Inc	H J Baker & Bro Inc	1001 Schley Ave	Wilmington	City of Los Angeles	90744	7428022903
306858	4 19I020378	7/27/2006	Warren E & P Inc	Warren E & P Inc	2209 E I St	Wilmington	City of Los Angeles	90744	7428023050
409668	4 19I022930	12/3/2010	Rafael Ruiz Sanchez	Sanchez Auto Service Dismantling	2113 E I St	Wilmington	City of Los Angeles	90744	7428024001
429198	4 19I023724	7/17/2012	G M B Auto Sales & Dismantling	G M B Auto Sales & Dismantling	1008 Vreeland Ave	Wilmington	City of Los Angeles	90744	7428030005
189424	4 19I004763	4/7/1992	Vanderwerff Chip	Alle Auto Wrecking	1710 E Opp St	Wilmington	City of Los Angeles	90744	7428033042
412771	4 19I023050	3/7/2011	Luis Castro and Pablo Rene Cruz	Element Auto Dismantling	1800 E Opp St	Wilmington	City of Los Angeles	90744	7428034020
411829	4 19I023015	2/9/2011	Shoreline Auto Wrecking	Shoreline Auto Wrecking	911 S Vreeland Ave	Wilmington	City of Los Angeles	90744	7428034031
432146	4 19I023876	10/19/2012	Titos Auto Dismantling and Used	Titos Auto Dismantling and Used	1801 East I Street	Wilmington	City of Los Angeles	90744	7428034036
190162	4 19I011535	4/6/1995	Medrano George	George S Body Shop Auto Sales	927 Vreeland Ave	Wilmington	City of Los Angeles	90744	7428034906

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Application ID	WDID	Status Date	Owner/Operator Name	Site/Facility Name	Address	City	WMG City	Zip Code	APN
191716	4 19I018761	4/29/2004	Aguar Auto Dismantling	Aguar Auto Dismantling	908 Vreeland Ave	Wilmington	City of Los Angeles	90744	7428035018
191744	4 19I018854	6/23/2004	I De L Auto Dismantling	I De L Auto Dismantling	1907 E I St	Wilmington	City of Los Angeles	90744	7428035020
441218	4 19I024461	9/13/2013	William Miranda	Idel Auto Dismantling and Body Work	1907 East I Street	Wilmington	City of Los Angeles	90744	7428035021
190464	4 19I013005	3/19/1997	Salvador Danny	Danny Auto Dismantling	1919 I	Wilmington	City of Los Angeles	90744	7428035025
402387	4 19I022548	3/3/2010	Walid Jahchan	WJ Auto Wrecking Inc Wally Auto Dismantling	942 N Vreeland Ave	Wilmington	City of Los Angeles	90744	7428035039
327168	4 19I020955	6/29/2007	Robertos Auto Dismantler	Robertos Auto Dismantler	912 Vreeland Ave	Wilmington	City of Los Angeles	90744	7428035046
293255	4 19I019816	10/11/2005	Tension Member Technology	Coordinated Equipment Co	1707 E Anaheim St	Wilmington	City of Los Angeles	90744	7428036045
443539	4 19I024612	12/31/2013	Manson Construction Co	Manson Construction Co	Berth 200 611 Henry Ford	Wilmington	City of Los Angeles	90744	7440001912
293285	4 19I019868	10/31/2005	Air Product & Chemicals	Air Products & Chemicals Inc	700 N Henry Ford Ave	Wilmington	City of Los Angeles	90744	7440002034
189346	4 19I004312	4/6/1992	Tidelands Oil Production Co	Tidelands Oil Production Co	420 Henry Ford	Wilmington	City of Los Angeles	90744	7440004271
189491	4 19I005196	4/9/1992	Los Angeles Department of Water and Power Power	Harbor Generating Station	161 Island	Wilmington	City of Los Angeles	90744	7440006911
188702	4 19I000868	3/23/1992	Trans Pacific Container	Trans Pac Container	920 W Harry Bridges Blvd	Wilmington	City of Los Angeles	90744	7440008901
189576	4 19I006177	4/22/1992	Catalina Freight Line	Catalina Freight Line	100 W Water St	Wilmington	City of Los Angeles	90744	7440009911
189048	4 19I002850	4/2/1992	VOPAK Terminal Los Angeles Inc	Vopak Terminal Los Angeles	401 Canal	Wilmington	City of Los Angeles	90744	7440010910
188808	4 19I001436	3/27/1992	Colonial Yacht Anchorage	Colonial Yacht Anchorage	Berth 204 Anchorage Rd	Wilmington	City of Los Angeles	90744	7440011908
368978	4 19I022242	7/28/2009	Associated Pacific Contructors Inc.	APC Berth 193	325 Yacht St	Wilmington	City of Los Angeles	90744	7440013909
191604	4 19I018386	9/30/2003	Cerritos Yacht Anchorage	Cerritos Yacht Anchorage	205 Berth Ste C	Wilmington	City of Los Angeles	90744	7440014904
189064	4 19I002928	4/2/1992	Pasha Stevedoring & Terminal	Pasha Stevedoring & Terminal	802 S Fries Ave	Wilmington	City of Los Angeles	90744	7440014904
324960	4 19I020888	5/16/2007	Shore Terminals LLC	Shore Terminals LLC	841 La Paloma Ave	Wilmington	City of Los Angeles	90744	7440014904
189009	4 19I002660	4/1/1992	US Borax Inc	U S Borax	300 Falcon	Wilmington	City of Los Angeles	90744	7440019001
432128	4 19I023869	10/19/2012	Impresa Aerospace LLC	Impresa Aerospace LLC	344 W 157th Street	Gardena	Unincorporated	90248	6125001002
410489	4 19I022954	12/22/2010	RJs Demolition & Disposal	RJs Chipping & Grinding	355 W Alondra Blvd	Gardena	Unincorporated	90248	6125001012
346405	4 19I021608	6/10/2008	Environmental Recovery Services Inc	Environmental Recovery Services Inc	15902 S Main St	Gardena	Unincorporated	90248	6125003003
190973	4 19I015609	2/1/2000	Bay Cities Metal Production	Bay Cities Metal Production	301 E Alondra Blvd	Gardena	Unincorporated	90248	6125004006
189616	4 19I006362	4/24/1992	Northrop Grumman Corp	Northrop Grumman Mil Air Sys	1 Hornet	El Segundo	El Segundo	90245	4138002901
191274	4 19I016870	10/17/2001	CoorsTek	Coors Tek	2051 E Maple Ave	El Segundo	El Segundo	90245	4138005016
189564	4 19I006091	4/21/1992	The Boeing Company	The Boeing Company	2060 E Imperial Hwy	El Segundo	El Segundo	90245	4138005067

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Application ID	WDID	Status Date	Owner/Operator Name	Site/Facility Name	Address	City	WMG City	Zip Code	APN
190113	4 19I011326	12/29/1994	CalPortland Co	Catalina Pacific Concrete Co	339 S Aviation Blvd	El Segundo	El Segundo	90245	4138008002
439562	4 19I024358	7/11/2013	Carlisle Interconnect Tech Inc	Tri Star Electronics Intl Inc	2201 Rosecrans Ave	El Segundo	El Segundo	90245	4138011011
339622	4 19I021413	1/16/2008	Raytheon Co	Raytheon Co	2000 E El Segundo Blvd	El Segundo	El Segundo	90245	4138014047
190263	4 19I012074	1/3/1996	West Basin MWD	West Basin Mun Water Dist Recl	1935 Hughes	El Segundo	El Segundo	90245	4138014906
189128	4 19I003356	4/3/1992	Air Product & Chemicals	Air Prod & Chemicals	2021 Rosecrans Ave	El Segundo	El Segundo	90245	4138015012
339623	4 19I021414	1/16/2008	Raytheon Co	Raytheon Co	2030 E Maple Ave	El Segundo	El Segundo	90245	4138019001
188987	4 19I002527	4/1/1992	Mattel Toys	Mattel Toys Design Ctr	2031 E Mariposa Ave	El Segundo	El Segundo	90245	4138019002
191530	4 19I018105	4/28/2003	California Waste Services LLC	California Waste Services LLC	621 152nd	Gardena	City of Los Angeles	90247	6120001017
188950	4 19I002372	3/31/1992	Harbor Auto Liquidators	U Pick U Save	17800 S Vermont Ave	Gardena	City of Los Angeles	90248	6121019005
190810	4 19I014946	2/11/1999	California Metals Recycling	CA Metals Recycling	833 W 182nd St	Gardena	City of Los Angeles	90248	6121019009
190096	4 19I011249	11/1/1994	Los Angeles Unified School District	LA Unified Sch Dist Gardena Ga	18421 S Hoover St	Gardena	City of Los Angeles	90248	6121020904
189659	4 19I006973	5/15/1992	Cast Rite Corp	Cast Rite Corp	515 E Airline Way	Gardena	Unincorporated	90248	6125011028
423791	4 19I023491	1/30/2012	Umair Syed	Fastener Innovation Tech	14601 S Broadway	Gardena	Unincorporated	90248	6129001047
189782	4 19I009247	11/11/1992	Binder Metal Product Inc	Binder Metal Prod Inc	14909 S Broadway St	Gardena	Unincorporated	90248	6129002018
298183	4 19I020140	3/10/2006	Waste Resources Recovery Inc	Waste Resources Recovery	357 Compton	Gardena	Unincorporated	90248	6129002029
433466	4 19I023969	1/22/2014	Metric Precision	Metric Precision	350 W Compton Blvd	Gardena	Unincorporated	90248	6129003010
293088	4 19I019473	5/5/2005	Designed Metal Connections	Designed Metal Connections	14800 S Figueroa St	Gardena	City of Los Angeles	90248	6129001046
189130	4 19I003359	4/3/1992	Westway Auto Dismantlers	Westway Auto Dismantlers	15414 S Figueroa St	Gardena	Unincorporated	90248	6129004014
304186	4 19I020268	6/5/2006	Gerald Tupper	American Aircraft Products	15411 S Broadway Ave	Gardena	Unincorporated	90248	6129004029
189310	4 19I004162	4/6/1992	Huniu Norman	Capital Auto Wrecking	15326 S Figueroa St	Gardena	Unincorporated	90248	6129004033
191446	4 19I017633	11/18/2002	Grow More Inc	Grow More Inc	15600 New Century Dr	Gardena	Unincorporated	90248	6129005045
432837	4 19I023928	11/16/2012	Rex Foreign Used Auto Parts	Rex Foreign Used Auto Parts	15601 S Main St	Gardena	Unincorporated	90248	6129006023
307772	4 19I020413	8/16/2006	Sanchez Auto Wrecking	Sanchez Auto Wrecking	15503 1/2 Main	Gardena	Unincorporated	90248	6129006033
400870	4 19I022416	11/23/2009	MDH Auto Wrecking	MDH Auto Wrecking	15503 3/4 S Main St	Gardena	Unincorporated	90248	6129006033
402718	4 19I022570	3/24/2010	Main St Auto Dismantlers Inc	Main St Auto Dismantlers Inc	15503 S Main St	Gardena	Unincorporated	90248	6129006033
189680	4 19I007120	6/2/1992	A & A Ready Mixed Concrete	A&A Ready Mixed Concrete	100 Redondo Beach	Gardena	Unincorporated	90248	6129007017
189682	4 19I007122	6/2/1992	A & A Ready Mixed Concrete	A&A Ready Mixed Concrete	134 Redondo Beach	Gardena	Unincorporated	90248	6129007017
189335	4 19I004271	4/6/1992	Coast Plating	Coast Plating Co	128 W 154th St # 150	Gardena	Unincorporated	90248	6129007035
322389	4 19I020739	3/23/2007	Lite Extrusions Mfg	Lite Extrusions Mfg	15025 S Main St	Gardena	Unincorporated	90248	6129008038

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323958	4 19I020839	4/25/2007	Amfoam Inc	American Foam & Packaging	15110 S Broadway	Gardena	Unincorporated	90248	6129008044
188533	4 19I000043	2/10/1992	Mechanical Metal Finishing	Mechanical Metal Finishing	15220 S Broadway St	Gardena	Unincorporated	90248	6129008050
410815	4 19I022992	1/27/2011	Gamma 2	Gamma 2	14505 S Main St	Gardena	Unincorporated	90248	6129009048
188864	4 19I001829	3/30/1992	Superior Gear Facility	Superior Gear Facility	14814 Broadway	Gardena	Unincorporated	90248	6129009065
191717	4 19I018765	4/30/2004	JB Chemical Co Inc	J B Chemical Co Inc	14803 S Spring St	Gardena	Unincorporated	90248	6129009072
189441	4 19I004906	4/7/1992	Any Kar Auto Dismantling	Any Kar Auto Dismantling	150 W Lennon St	Gardena	Unincorporated	90248	6129009075
188928	4 19I002282	3/31/1992	TCI Precision Metals	TCI Precision Metals	240 E Rosecrans Ave	Gardena	Unincorporated	90248	6129010036
401870	4 19I022501	1/27/2010	Proplas Technologies	Proplas Technologies	14600 S Main St	Gardena	Unincorporated	90248	6129010040
370140	4 19I022330	9/17/2009	Ecology Auto Parts Inc	Ecology Auto Parts Inc	14701 S Maple	Gardena	Unincorporated	90248	6129010041
351216	4 19I021762	8/25/2008	Richard Hough	Cosway Company	14805 S Maple	Gardena	Unincorporated	90247	6129011020
191688	4 19I018650	2/25/2004	Carson Trailer	Carson Trailer inc	14831 S Maple Ave	Gardena	Unincorporated	90248	6129011021
189640	4 19I006665	7/9/1993	Mills Iron Works	Mills Iron Works	14834 S Maple Ave	Gardena	Unincorporated	90248	6129011027
403279	4 19I022633	5/13/2010	Maya Steel Fabrications Inc	Maya Steel Fabrications Inc	301 E Compton Blvd	Gardena	Unincorporated	90248	6129011030
189502	4 19I005353	4/10/1992	Allied Waste Services of North America LLC	Gardena Hauling	14905 S San Pedro Street	Gardena	Unincorporated	90248	6129011040
434520	4 19I024036	1/30/2013	Samuel Cohen	Vege Misting Alco Designs	407 E Redondo Beach Blvd	Gardena	Unincorporated	90248	6129014037
189746	4 19I009076	11/7/1992	Blue Daisy Cement Product	Blue Daisy Cement Prod	314 E Compton Blvd	Gardena	Unincorporated	90248	6129015049
293047	4 19I019382	3/23/2005	FedEx Freight	Fedex Freight Gardena	15200 S Main St	Gardena	Unincorporated	90248	6129018054
189395	4 19I004554	4/8/1992	Angelus Block Co Inc	Angelus Block Co Inc	252 E Redondo Beach Blvd	Gardena	Unincorporated	90248	6129019053
189092	4 19I003126	4/2/1992	YRC Freight	YRC Inc	15400 S Main St	Gardena	Unincorporated	90248	6129019057
190664	4 19I014209	11/29/2012	Hubbard Casting Co Inc	Hubbard Casting Co Inc	127 E 157th St	Gardena	Unincorporated	90248	6129020035
189944	4 19I010285	7/8/1993	Thomas Auto Salvage	Thomas Auto Salvage	440 E Redondo Beach Blvd	Gardena	Unincorporated	90248	6129021031
189729	4 19I008028	9/26/1992	Letvin Ronald A	S Letvin & Son	13210 S Figueroa Steet	Los Angeles	Unincorporated	90248	6132008020
191316	4 19I017076	2/6/2002	Stepstone Inc	Stepstone Inc Plant No 3	13238 S Figueroa St	Los Angeles	Unincorporated	90061	6132008038
403688	4 19I022657	6/1/2010	River Star Inc	River Star Inc	378 W 133rd St	Los Angeles	Unincorporated	90061	6132009001
188651	4 19I000584	3/16/1992	Als Plating Co Inc	Al S Plating Co Inc	318 W 131st St	Los Angeles	Unincorporated	90061	6132011016
293279	4 19I019852	10/21/2005	Nasco Aircraft Brake Inc	Nasco Aircraft Brake Inc	13300 Estrella Ave	Gardena	City of Los Angeles	90248	6132004029
363241	4 19I022095	4/1/2009	Connector Plating Corp	Connector Plating Corp	327 W 132nd St	Los Angeles	Unincorporated	90061	6132011022
190485	4 19I013149	6/25/1997	Phillips 66 Company	Phillips 66 Company LA Terminal	13500 S Broadway	Los Angeles	Unincorporated	90061	6132042022
336892	4 19I021302	11/28/2007	D&D Palstics Inc	D&D Palstics Inc	13920 S Figueroa	Los Angeles	Unincorporated	90061	6132044007
191454	4 19I017672	12/9/2002	Robertsons Ready Mix	Robertsons Ready Mix Gardena	301 Rosecrans	Gardena	Unincorporated	90248	6132044033
190177	4 19I011620	5/30/1995	Parkers Towing & Salvage Inc	Parker S Towing & Salvage Inc	14116 Avalon Blvd	Los Angeles	Unincorporated	90061	6134018039
188732	4 19I001009	3/23/1992	V & M Plating Co	V & M Plating Co	14024 Avalon Blvd	Los Angeles	Unincorporated	90061	6134018056

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190142	4 19I011444	2/27/1995	Hi Craft Metal Product	Hi Craft Metal Prod	606 W 184th St	Gardena	City of Los Angeles	90248	7339008029
190120	4 19I011370	1/25/1995	Scotch Paint	Scotch Paint	555 W 189th St	Gardena	City of Los Angeles	90248	7339008030
190311	4 19I012361	6/4/1996	Spectrum Laboratory Product Inc	Spectrum Laboratory Prod Inc	14422 S San Pedro St	Gardena	Unincorporated	90248	6137001004
189698	4 19I007219	6/18/1992	International Die Casting	International Die Casting	14733 Avalon	Gardena	Unincorporated	90248	6137002019
191221	4 19I016662	7/25/2001	OSI Optoelectronics Inc	Udt Sensors Inc	12525 Chadron Ave	Hawthorne	Hawthorne	90250	4049007042
190566	4 19I013631	12/30/1997	Fed Ex	Fed Ex	12600 Prairie Ave	Hawthorne	Hawthorne	90250	4049011017
405512	4 19I022728	7/19/2010	Triumph Aerostructures LLC	Triumph Aerostructures Hawthorne	3901 Jack Northrop Ave	Hawthorne	Hawthorne	90250	4049013004
188930	4 19I002294	3/31/1992	Hawthorne City	Hawthorne City Airport	12101 Crenshaw Blvd	Hawthorne	Hawthorne	90250	4049017905
424943	4 19I023543	3/6/2012	Space Exploration Technologies	Space Exploration Technologies	1 Rocket Rd	Hawthorne	Hawthorne	90250	4049019013
443973	4 19I024648	1/23/2014	Arrow Recycling Solutions Inc	Arrow Recycling Solutions Inc	12410 Wilkie Ave	Hawthorne	Hawthorne	90250	4056032045
188701	4 19I000862	3/23/1992	Interplastic Corp	Interplastic Corp	12335 S Van Ness Ave	Hawthorne	Hawthorne	90250	4056032051
293257	4 19I019821	10/12/2005	Hollywood Park Land Co LLC	Hollywood Park Racetrack	1050 S Prairie Ave	Inglewood	Inglewood	90301	4025011037
293147	4 19I019606	6/28/2005	UPS Cartage Services Inc	UPS Cartage Services Inc CAIWD	3600 W Century Blvd	Inglewood	Inglewood	90303	4032004045
189311	4 19I004165	4/6/1992	Chromplate Co Inc	Chromplate Co Inc	1127 W Hillcrest Blvd	Inglewood	Inglewood	90301	4126003013
188819	4 19I001526	3/27/1992	Rho Chem LLC	Rho Chem LLC	425 Isis Ave	Inglewood	Inglewood	90301	4126003020
188945	4 19I002358	3/31/1992	Microplate Inc	Microplate Inc	1013 W Hillcrest Blvd	Inglewood	Inglewood	90301	4126006011
189658	4 19I006958	5/14/1992	Standun Inc	Zephyr Manufacturing	201 Hindry Ave	Inglewood	Inglewood	90301	4127029001
190221	4 19I011858	9/6/1995	LACMTA	Metro Division 22 Green Line	14724 Aviation Blvd	Lawndale	Hawthorne	90260	4149011910
190630	4 19I013944	4/30/1998	Union Pacific Railroad	ICTF	2401 E Sepulveda Blvd	Long Beach	City of Los Angeles	90810	7315011804
338208	4 19I021353	12/20/2007	Mortimer & Wallace Inc	Mortimer & Wallace Inc	2422 E Sepulveda Blvd	Long Beach	City of Los Angeles	90810	7315015905
189775	4 19I009217	11/10/1992	Merle Norman	Norman Merle	9130 Bellanca Ave	Los Angeles	City of Los Angeles	90045	4125010015
189959	4 19I010364	7/22/1993	Neutrogena	Neutrogena	5755 W 96th St	Los Angeles	City of Los Angeles	90045	4125021030
292954	4 19I019183	12/7/2004	National Technical Systems Inc	National Technical Systems Inc	5320 W 104th St	Los Angeles	City of Los Angeles	90045	4129035022
321914	4 19I020720	3/9/2007	CalPortland Co	Catalina Pacific Concrete Co	5299 W 111th St	Los Angeles	City of Los Angeles	90045	4129036908
191835	4 19I019135	12/1/2004	Moonlight Molds Inc	Moonlight Molds Inc	14920 S San Pedro St	Gardena	Unincorporated	90248	6137003015
190823	4 19I014999	3/12/1999	Chemtrans	Chemtrans	14700 S Avalon Blvd	Gardena	Unincorporated	90248	6137005005
190121	4 19I011377	1/26/1995	First Student Inc co Strata Env	First Student Inc 12477	14800 S Avalon Blvd	Gardena	Unincorporated	90248	6137005029
418710	4 19I023288	8/10/2011	CRM CO LLC H Barry Takallou	CRM CO LLC	15800 Avalon Blvd	Rancho Dominguez	Unincorporated	90220	6139013006
402389	4 19I022550	3/4/2010	Golden Gate Steel Inc	Golden Gate Steel Inc	19826 S Alameda St	Los Angeles	Unincorporated	90221	7306006034
189785	4 19I009280	11/13/1992	Nabors Completion & Production	Nabors Completion & Production	19431 S Santa Fe Ave	Rancho Dominguez	Unincorporated	90221	7306017007

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191325	4 19I017122	3/11/2002	General Petroleum Corporation	General Petroleum Rancho Dominguez	19501 S Santa Fe Ave	Rancho Dominguez	Unincorporated	90221	7306017012
190590	4 19I013713	1/23/1998	TA Davies Co	Ta Davies Co	19500 S Alameda St	Compton	Unincorporated	90221	7306017013
430619	4 19I023799	8/29/2012	First Transit Inc	First Transit Inc 55580	2727 E Del Amo Blvd	Compton	Unincorporated	90221	7306018042
431624	4 19I023845	10/1/2012	Fargo Trucking Co Inc	Fargo Trucking Co Inc	2727 E Del Amo Blvd	Rancho Dominguez	Unincorporated	90221	7306018042
191053	4 19I015979	7/31/2000	Plaskolite West Inc	Plaskolite West Inc	2225 Del Amo	Compton	Unincorporated	90220	7318007034
425138	4 19I023557	3/13/2012	Quality Forming LLC	Quality Forming LLC	22906 Frampton Ave	Torrance	City of Los Angeles	90501	7347018009
340590	4 19I021438	2/11/2008	Sims Recycling Solutions	Sims Recycling Solutions	20212 S Rancho Way	Rancho Dominguez	Unincorporated	90220	7318007043
191845	4 19I019159	12/2/2004	MK Diamond Product	MK Diamond Prod	1315 Storm Pkwy	Torrance	City of Los Angeles	90501	7347018034
189361	4 19I004385	4/6/1992	Farmer Bros Co	Farmer Bros Co	20333 Normandie Ave	Torrance	City of Los Angeles	90502	7351020021
191802	4 19I019016	9/7/2004	Rolling Frito Lay Sales	LA Mega	1500 Francisco St	Torrance	City of Los Angeles	90501	7351021039
190380	4 19I012624	10/30/1996	Ecology Control Industries	Ecology Control Industries	20846 Normandie	Torrance	City of Los Angeles	90502	7351027001
439786	4 19I024407	8/9/2013	Pellico Investments LLC	Laclede Inc	2103 East University Drive	Rancho Dominguez	Unincorporated	90220	7318009028
443596	4 19I024619	1/3/2014	AGC Automotive California Inc	AGC Automotive California Inc	19301 Pacific Gateway Drive	Torrance	City of Los Angeles	90502	7351031007
189132	4 19I003373	4/3/1992	RR Donnelley	RR Donnelley LA Div	19681 Pacific Gateway Dr	Torrance	City of Los Angeles	90502	7351034015
191503	4 19I017993	3/18/2003	Ace Clearwater Ent	Ace Clearwater Ent	19815 Magellan Dr	Torrance	City of Los Angeles	90502	7351034043
189628	4 19I006466	4/24/1992	BCI CocaCola Bottling Company of LA	BCI Coca Cola Co of Los Angeles - Torrance Facility	19875 Pacific Gateway	Torrance	City of Los Angeles	90502	7351034057
408447	4 19I022875	10/14/2010	Praxair Surface Technologies	Praxair Surface Technologies	18502 Laurel Park Rd	Compton	Unincorporated	90220	7318019033
439465	4 19I024349	7/9/2013	Puratos Corporation	Puratos Corporation	18831 Laurel Park Road	Rancho Dominguez	Unincorporated	90220	7318019044
190488	4 19I013173	6/26/1997	Aerol Co	Aerol Co	19560 S Rancho Way	Rancho Dominguez	Unincorporated	90220	7318023014
351475	4 19I021776	10/15/2013	Sea Recovery Corp	Sea Recovery Corp	19610 S Rancho Way	Rancho Dominguez	Unincorporated	90220	7318023019
189322	4 19I004213	4/6/1992	Schimmicks Dismantling	Schimmick S Dismantling	22704 Normandie Ave	Torrance	Unincorporated	90502	7344018023
190158	4 19I011513	4/4/1995	Industrial Parts Depot	Industrial Parts Depot	23231 Normandie Ave	Torrance	Unincorporated	90501	7347018024
321913	4 19I020719	3/9/2007	CalPortland Co	Catalina Pacific Concrete Co	19030 S Normandie Ave	Torrance	Unincorporated	90502	7351030003
190255	4 19I012046	12/18/1995	Power Magnetics	Power Magnetics	711 W Knox St	Gardena	Unincorporated	90248	7351032034
419881	4 19I023318	9/7/2011	Redman Equipment & Manufacturing Co	Redman Equipment & Manufacturing Co	19800 Normandie Ave	Torrance	Unincorporated	90502	7351035018
296617	4 19I020093	2/23/2006	Crossfields Products	Crossfield Products Torrance Plant	19514 Normandie Avenue	Torrance	Unincorporated	90502	7351035020
190344	4 19I012498	8/15/1996	Metro Truck Body Inc	Metro Truck Body Inc	1201 Jon St	Torrance	Unincorporated	90502	7351036011
191241	4 19I016724	8/21/2001	Sonic Industries	Sonic Industries	20030 Normandie Ave	Torrance	Unincorporated	90502	7351036020

Table H.1: Summary of Industrial Facilities Covered Under the IGP in DC WMG

Application ID	WDID	Status Date	Owner/Operator Name	Site/Facility Name	Address	City	WMG City	Zip Code	APN
190238	4 19I011957	11/2/1995	Stewart Filmscreen Corp	Stewart Filmscreen Corp	1161 Sepulveda Blvd	Torrance	Unincorporated	90502	7407016045
293153	4 19I019621	6/30/2005	Maxima Ent Inc	Maxima Ent Inc	23920 Vermont Ave	Harbor City	Unincorporated	90710	7409019015
191350	4 19I017191	4/4/2002	Ultramar Inc Hanford	Ultramar Inc Wilmington Refine	2402 E Anaheim St	Wilmington	City of Los Angeles	90744	7440002032

1.San Pedro, Terminal Island, and Wilmington are locations in the City of Los Angeles. Listed separately for reference.

2. Although locations such as Gardena, Torrance, Long Beach, Lawndale, and Rancho Dominguez are not part of the DC WMG, the parcels listed here have postal addresses in those cities but are located within the DC WMG jurisdictions' boundaries.

Attachment I

90th Percentile Determination Statistics

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Copper Percentile Loads for Dominguez Channel Watershed Storm Events				
Date	**Flow (cfs)**	**Volume (ac-ft)**	**Concentration (µg/l)**	**Copper Load (kg)**
12/25/2003	253.73	503.27	157.72	97.85
4/12/2010	237.2	470.48	167.36	97.07
9/22/2007	86.62	171.81	446.46	94.56
1/21/2012	**212.2**	**420.9**	**179.19**	**92.97**
1/18/2010	332.66	659.82	107.77	87.66
12/16/2002	362.08	718.17	92.83	82.18
2/11/2003	213.08	422.63	156.92	81.75
5/22/2006	149.49	296.5	220.73	80.68
11/26/2008	343.78	681.88	93.58	78.66
11/6/2011	99.65	197.65	308.68	75.21
2/27/2006	282.68	560.68	104.99	72.56

Copper Percentile Load Statistics for Dominguez Channel Watershed Storm Events		
Statistical Analysis	**Volume (ac-ft)**	**Copper Load (kg)**
Mean	463.98	85.56
Standard Error	56.35	2.69
Median	470.48	82.18
Standard Deviation	186.89	8.93
Sample Variance	34,929.49	79.71
Kurtosis	-1.00	-1.48
Skewness	-0.25	0.12
Range	546.36	25.29
Minimum	171.81	72.56
Maximum	718.17	97.85
95% Confidence Range for Mean	220.89	10.55

Lead Percentile Loads for Dominguez Channel Watershed Storm Events				
Date	**Flow (cfs)**	**Volume (ac-ft)**	**Concentration (µg/l)**	**Lead Load (kg)**
12/25/2003	253.73	503.27	41.65	25.84
4/12/2010	237.2	470.48	44.19	25.63
9/22/2007	86.62	171.81	117.21	24.82
1/21/2012	**212.2**	**420.9**	**47.32**	**24.55**
1/18/2010	332.66	659.82	28.47	23.16
2/11/2003	213.08	422.63	41.9	21.83
12/16/2002	362.08	718.17	24.59	21.77
5/22/2006	149.49	296.5	58.92	21.53
11/26/2008	343.78	681.88	24.77	20.82
11/6/2011	99.65	197.65	82.42	20.08
2/27/2006	282.68	560.68	27.66	19.11

Lead Percentile Load Statistics for Dominguez Channel Watershed Storm Events		
Statistical Analysis	**Volume (ac-ft)**	**Lead Load (kg)**
Mean	463.98	22.65
Standard Error	56.35	0.69
Median	470.48	21.83
Standard Deviation	186.89	2.30
Sample Variance	34,929.49	5.28
Kurtosis	-1.00	-1.33
Skewness	-0.25	0.06
Range	546.36	6.73
Minimum	171.81	19.11
Maximum	718.17	25.84
95% Confidence Range for Mean	220.89	2.72

Zinc Percentile Loads for Dominguez Channel Watershed Storm Events				
Date	Flow (cfs)	Volume (ac-ft)	Concentration (µg/l)	Zinc Load (kg)
4/12/2010	237.20	470.48	716.77	415.72
9/22/2007	86.62	171.81	1910.75	404.70
1/21/2012	212.20	420.90	767.35	398.15
12/28/2004	1559.54	3093.31	100.01	381.37
1/18/2010	332.66	659.82	461.51	375.39
12/16/2002	**362.08**	**718.17**	**397.15**	**351.61**
2/11/2003	213.08	422.63	669.17	348.64
5/22/2006	149.49	296.50	941.96	344.30
11/26/2008	343.78	681.88	401.68	337.65
11/6/2011	99.65	197.65	1315.56	320.54
2/27/2006	282.68	560.68	450.53	311.40

Zinc Percentile Load Statistics for Dominguez Channel Watershed Storm Events		
Statistical Analysis	Volume (ac-ft)	Zinc Load (kg)
Mean	699.44	362.68
Standard Error	245.90	10.46
Median	470.48	351.61
Standard Deviation	815.55	34.69
Sample Variance	665,125.16	1,203.72
Kurtosis	9.52	-1.21
Skewness	3.00	0.12
Range	2,921.49	104.32
Minimum	171.81	311.40
Maximum	3,093.31	415.72
95% Confidence Range for Mean	963.92	41.01

Fecal Coliform Percentile Loads for Dominguez Channel Watershed Storm Events				
Date	**Flow (cfs)**	**Volume (ac-ft)**	**Concentration (MPN/100mL)**	**Fecal Coliform Load (MPN)**
10/16/2004	50.49	100.14	1,630,351.54	2.01E+15
10/30/2010	**69.09**	**137.04**	**1,149,140.04**	**1.94E+15**
12/6/2010	51.04	101.24	1,129,834.20	1.41E+15
4/27/2005	36.41	72.21	1,526,996.91	1.36E+15

Fecal Coliform Percentile Load Statistics for Dominguez Channel Watershed Storm Events		
Statistical Analysis	**Volume (ac-ft)**	**Fecal Coliform Load (MPN)**
Mean	102.66	1.68E+15
Standard Error	13.28	1.72E+14
Median	100.69	1.68E+15
Standard Deviation	26.57	3.44E+14
Sample Variance	705.84	1.18E+29
Kurtosis	1.60	-5.68
Skewness	0.44	0.02
Range	64.83	6.53E+14
Minimum	72.21	1.36E+15
Maximum	137.04	2.01E+15
95% Confidence Range for Mean	52.07	6.74E+14

Copper Percentile Loads for Dominguez Channel Estuary Watershed Storm Events				
Date	**Flow (cfs)**	**Volume (ac-ft)**	**Concentration (µg/l)**	**Copper Load (kg)**
11/12/2003	117.00	232.07	132.45	37.89
10/13/2007	54.05	107.21	278.61	36.82
3/17/2012	49.56	98.31	303.12	36.74
4/12/2010	99.88	198.11	144.65	35.33
12/25/2003	100.43	199.21	143.37	35.21
2/27/2006	**111.35**	**220.86**	**128.92**	**35.10**
5/22/2006	72.22	143.25	187.33	33.08
12/28/2004	326.94	648.49	41.00	32.78
1/21/2012	66.56	132.02	195.06	31.75

Copper Percentile Load Statistics for Dominguez Channel Estuary Watershed Storm Events		
Statistical Analysis	**Volume (ac-ft)**	**Copper Load (kg)**
Mean	219.95	34.97
Standard Error	56.00	0.69
Median	198.11	35.21
Standard Deviation	168.01	2.06
Sample Variance	28,227.37	4.26
Kurtosis	6.93	-1.05
Skewness	2.52	-0.25
Range	550.18	6.15
Minimum	98.31	31.75
Maximum	648.49	37.89
95% Confidence Range for Mean	219.53	2.70

Lead Percentile Loads for Dominguez Channel Estuary Watershed Storm Events				
Date	**Flow (cfs)**	**Volume (ac-ft)**	**Concentration (μg/l)**	**Lead Load (kg)**
10/13/2007	54.05	107.21	64.42	8.51
3/17/2012	49.56	98.31	69.13	8.38
4/12/2010	99.88	198.11	33.05	8.07
2/27/2006	111.35	220.86	29.26	7.97
12/25/2003	100.43	199.21	32.14	7.89
5/22/2006	72.22	143.25	42.64	7.53
12/28/2004	326.94	648.49	9.35	7.47
1/21/2012	**66.56**	**132.02**	**44.41**	**7.23**
2/5/2009	71.71	142.23	39.98	7.01

Lead Percentile Load Statistics for Dominguez Channel Estuary Watershed Storm Events		
Statistical Analysis	**Volume (ac-ft)**	**Lead Load (kg)**
Mean	209.96	7.78
Standard Error	56.62	0.17
Median	143.25	7.89
Standard Deviation	169.86	0.51
Sample Variance	28,851.97	0.26
Kurtosis	7.44	-1.08
Skewness	2.65	-0.07
Range	550.18	1.50
Minimum	98.31	7.01
Maximum	648.49	8.51
95% Confidence Range for Mean	221.95	0.67

Table Error! No text of specified style in document.**.1: Zinc Percentile Loads for Dominguez Channel Estuary Watershed Storm Events**				
Date	**Flow (cfs)**	**Volume (ac-ft)**	**Concentration (µg/l)**	**Zinc Load (kg)**
3/17/2012	49.56	98.31	1414.74	171.45
10/13/2007	54.05	107.21	1292.39	170.8
12/25/2003	100.43	199.21	673.97	165.51
4/12/2010	99.88	198.11	675.31	164.92
2/27/2006	**111.35**	**220.86**	**603.59**	**164.34**
5/22/2006	72.22	143.25	874.65	154.45
12/28/2004	326.94	648.49	191.28	152.91
1/21/2012	66.56	132.02	911.48	148.34
2/5/2009	71.71	142.23	824.4	144.54

Table Error! No text of specified style in document.**.2: Zinc Percentile Load Statistics for Dominguez Channel Estuary Watershed Storm Events**		
Statistical Analysis	**Volume (ac-ft)**	**Zinc Load (kg)**
Mean	209.96	159.7
Standard Error	56.62	3.28
Median	143.25	164.34
Standard Deviation	169.86	9.85
Sample Variance	28,851.97	97.05
Kurtosis	7.44	-1.47
Skewness	2.65	-0.33
Range	550.18	26.91
Minimum	98.31	144.54
Maximum	648.49	171.45
95% Confidence Range for Mean	221.95	12.87

Fecal Coliform Percentile Loads for Dominguez Channel Watershed Storm Events				
Date	**Flow (cfs)**	**Volume (ac-ft)**	**Concentration (MPN/100mL)**	**Fecal Coliform Load (MPN)**
12/6/2010	31.82	63.12	2,091,531.88	1.63E+15
10/30/2010	**25.52**	**50.62**	**1,986,091.77**	**1.24E+15**
10/25/2010	19.86	39.40	1,883,671.12	9.15E+14
2/27/2003	17.23	34.17	2,107,207.76	8.88E+14

Fecal Coliform Percentile Load Statistics for Dominguez Channel Watershed Storm Events		
Statistical Analysis	**Volume (ac-ft)**	**Fecal Coliform Load (MPN)**
Mean	46.83	1.17E+15
Standard Error	6.42	1.73E+14
Median	45.01	1.08E+15
Standard Deviation	12.85	3.46E+14
Sample Variance	165.07	1.20E+29
Kurtosis	-1.34	-0.68
Skewness	0.61	0.96
Range	28.95	7.40E+14
Minimum	34.17	8.88E+14
Maximum	63.12	1.63E+15
95% Confidence Range for Mean	25.18	6.78E+14

Copper Percentile Loads for Wilmington Drain Watershed Storm Events				
Date	**Flow (cfs)**	**Volume (ac-ft)**	**Concentration (µg/l)**	**Copper Load (kg)**
1/19/2010	93.98	186.40	74.43	17.10
11/30/2007	53.77	106.66	128.97	16.96
12/7/2009	**46.07**	**91.38**	**150.29**	**16.93**
10/14/2004	22.48	44.58	272.11	14.96
10/5/2011	15.23	30.21	391.63	14.59
12/12/2003	14.23	28.23	415.90	14.47
4/12/2010	30.64	60.77	183.61	13.76
2/18/2005	32.15	63.78	173.16	13.61

Copper Percentile Load Statistics for Wilmington Drain Watershed Storm Events		
Statistical Analysis	**Volume (ac-ft)**	**Copper Load (kg)**
Mean	76.50	15.30
Standard Error	18.47	0.52
Median	62.28	14.77
Standard Deviation	52.25	1.47
Sample Variance	2,729.76	2.17
Kurtosis	2.36	-2.01
Skewness	1.48	0.32
Range	158.17	3.49
Minimum	28.23	13.61
Maximum	186.40	17.10
95% Confidence Range for Mean	72.41	2.04

Lead Percentile Loads for Wilmington Drain Watershed Storm Events				
Date	**Flow (cfs)**	**Volume (ac-ft)**	**Concentration (µg/l)**	**Lead Load (kg)**
2/11/2003	194.83	386.44	9.17	4.37
12/27/2004	106.40	211.05	16.17	4.21
10/14/2004	22.48	44.58	72.69	4.00
10/5/2011	15.23	30.21	106.36	3.96
12/12/2003	14.23	28.23	111.05	3.86
4/12/2010	**30.64**	**60.77**	**49.44**	**3.70**
12/15/2002	73.72	146.22	19.61	3.54
12/17/2010	56.80	112.65	24.77	3.44

Lead Percentile Load Statistics for Wilmington Drain Watershed Storm Events		
Statistical Analysis	**Volume (ac-ft)**	**Lead Load (kg)**
Mean	127.52	3.88
Standard Error	43.35	0.11
Median	86.71	3.91
Standard Deviation	122.62	0.32
Sample Variance	15,035.41	0.10
Kurtosis	2.38	-0.87
Skewness	1.57	0.07
Range	358.21	0.93
Minimum	28.23	3.44
Maximum	386.44	4.37
95% Confidence Range for Mean	169.94	0.44

Table Error! No text of specified style in document.**.3: Zinc Percentile Loads for Wilmington Drain Watershed Storm Events**				
Date	**Flow (cfs)**	**Volume (ac-ft)**	**Concentration (µg/l)**	**Zinc Load (kg)**
12/12/2003	14.23	28.23	1795.85	62.50
10/5/2011	15.23	30.21	1671.86	62.27
2/11/2003	194.83	386.44	127.38	60.68
4/12/2010	30.64	60.77	787.98	59.03
12/15/2002	73.72	146.22	312.39	56.31
12/17/2010	**56.80**	**112.65**	**395.76**	**54.96**
1/17/2010	32.47	64.40	659.75	52.37
11/20/2011	33.76	66.95	599.41	49.47

Table Error! No text of specified style in document.**.4: Zinc Percentile Load Statistics for Wilmington Drain Watershed Storm Events**		
Statistical Analysis	**Volume (ac-ft)**	**Zinc Load (kg)**
Mean	127.52	3.88
Standard Error	43.35	0.11
Median	86.71	3.91
Standard Deviation	122.62	0.32
Sample Variance	15,035.41	0.10
Kurtosis	2.38	-0.87
Skewness	1.57	0.07
Range	358.21	0.93
Minimum	28.23	3.44
Maximum	386.44	4.37
95% Confidence Range for Mean	169.94	0.44

Fecal Coliform Percentile Loads for Wilmington Drain Watershed Storm Events				
Date	**Flow (cfs)**	**Volume (ac-ft)**	**Concentration (MPN/100mL)**	**Fecal Coliform Load (MPN)**
1/6/2005	33.08	65.62	836,849.34	6.77E+14
10/14/2004	**22.48**	**44.58**	**1,061,970.28**	**5.84E+14**
4/21/2005	16.28	32.28	1,061,582.75	4.22E+14
3/20/2005	14.31	28.38	1,061,652.16	3.71E+14

Fecal Coliform Percentile Load Statistics for Wilmington Drain Watershed Storm Events		
Statistical Analysis	**Volume (ac-ft)**	**Fecal Coliform Load (MPN)**
Mean	42.72	5.14E+14
Standard Error	8.38	7.08E+13
Median	38.43	5.03E+14
Standard Deviation	16.76	1.42E+14
Sample Variance	280.74	2.00E+28
Kurtosis	0.42	-3.43
Skewness	1.12	0.25
Range	37.23	3.05E+14
Minimum	28.38	3.71E+14
Maximum	65.62	6.77E+14
95% Confidence Range for Mean	32.84	2.77E+14

Total Nitrogen Percentile Loads for Wilmington Drain Watershed Storm Events				
Date	**Flow (cfs)**	**Volume (ac-ft)**	**Concentration (mg/l)**	**Total Nitrogen Load (kg)**
2/11/2003	194.83	386.44	2.53	1,204.68
12/27/2004	106.40	211.05	4.44	1,155.85
10/14/2004	22.48	44.58	19.85	1,090.73
12/12/2003	14.23	28.23	30.34	1,056.02
10/5/2011	15.23	30.21	27.70	1,031.86
4/12/2010	30.64	60.77	13.17	987.00
12/15/2002	**73.72**	**146.22**	**5.21**	**939.74**
12/17/2010	56.80	112.65	6.62	918.93

Total Nitrogen Percentile Load Statistics for Wilmington Drain Watershed Storm Events		
Statistical Analysis	**Volume (ac-ft)**	**Total Nitrogen Load (kg)**
Mean	127.52	1,048.10
Standard Error	43.35	35.46
Median	86.71	1,043.94
Standard Deviation	122.62	100.31
Sample Variance	15,035.41	10,061.55
Kurtosis	2.38	-0.94
Skewness	1.57	0.28
Range	358.21	285.75
Minimum	28.23	918.93
Maximum	386.44	1,204.68
95% Confidence Range for Mean	169.94	139.02

Total Phosphorus Percentile Loads for Wilmington Drain Watershed Storm Events				
Date	**Flow (cfs)**	**Volume (ac-ft)**	**Concentration (mg/l)**	**Total Phosphorus Load (kg)**
11/30/2007	53.77	106.66	0.78	102.52
12/7/2009	46.07	91.38	0.91	102.38
10/14/2004	22.48	44.58	1.67	91.67
12/12/2003	14.23	28.23	2.54	88.57
10/5/2011	15.23	30.21	2.32	86.58
4/12/2010	**30.64**	**60.77**	**1.11**	**83.20**
12/15/2002	73.72	146.22	0.45	80.28
12/17/2010	56.80	112.65	0.56	78.15

Total Phosphorus Percentile Load Statistics for Wilmington Drain Watershed Storm Events		
Statistical Analysis	**Volume (ac-ft)**	**Total Phosphorus Load (kg)**
Mean	77.59	89.17
Standard Error	15.25	3.28
Median	76.08	87.58
Standard Deviation	43.14	9.28
Sample Variance	1,861.09	86.03
Kurtosis	-1.27	-0.98
Skewness	0.30	0.58
Range	117.99	24.37
Minimum	28.23	78.15
Maximum	146.22	102.52
95% Confidence Range for Mean	59.79	12.85

Copper Percentile Loads for Machado Lake Watershed Storm Events				
Date	**Flow (cfs)**	**Volume (ac-ft)**	**Concentration (µg/l)**	**Copper Load (kg)**
10/17/2004	59.30	117.61	66.98	9.71
1/9/2005	83.35	165.31	47.12	9.60
2/19/2007	17.43	34.57	225.28	9.60
10/17/2005	7.80	15.47	486.19	9.27
2/18/2005	**24.79**	**49.17**	**152.40**	**9.24**
12/10/2006	7.18	14.24	519.90	9.12
9/22/2007	7.46	14.79	469.98	8.57
12/15/2002	45.92	91.09	75.08	8.43
5/20/2006	8.21	16.28	409.83	8.22
4/12/2010	20.85	41.35	161.04	8.21
10/14/2004	11.93	23.66	262.51	7.66
12/12/2003	7.35	14.58	406.69	7.31
11/2/2008	3.41	6.77	860.53	7.18

Copper Percentile Load Statistics for Machado Lake Watershed Storm Events		
Statistical Analysis	**Volume (ac-ft)**	**Copper Load (kg)**
Mean	46.53	8.63
Standard Error	13.49	0.24
Median	23.66	8.57
Standard Deviation	48.63	0.88
Sample Variance	2,364.95	0.77
Kurtosis	1.90	-1.18
Skewness	1.62	-0.37
Range	158.54	2.53
Minimum	6.77	7.18
Maximum	165.31	9.71
95% Confidence Range for Mean	52.87	0.95

Lead Percentile Loads for Machado Lake Watershed Storm Events				
Date	**Flow (cfs)**	**Volume (ac-ft)**	**Concentration (µg/l)**	**Lead Load (kg)**
2/8/2010	68.01	134.89	12.94	2.15
5/20/2006	8.21	16.28	107.06	2.15
3/20/2011	108.72	215.63	8.00	2.13
4/12/2010	20.85	41.35	41.60	2.12
9/22/2007	7.46	14.79	116.11	2.12
11/2/2008	3.41	6.77	237.73	1.98
10/14/2004	**11.93**	**23.66**	**64.71**	**1.89**
12/25/2003	10.35	20.52	73.61	1.86
12/12/2003	7.35	14.58	100.16	1.80
2/27/2006	72.57	143.94	9.97	1.77
12/31/2005	35.16	69.74	19.70	1.69
2/5/2009	14.50	28.77	44.29	1.57
1/20/2010	77.12	152.96	8.30	1.57

Lead Percentile Load Statistics for Machado Lake Watershed Storm Events		
Statistical Analysis	**Volume (ac-ft)**	**Lead Load (kg)**
Mean	67.99	1.91
Standard Error	19.25	0.06
Median	28.77	1.89
Standard Deviation	69.42	0.22
Sample Variance	4,819.74	0.05
Kurtosis	-0.19	-1.33
Skewness	1.07	-0.32
Range	208.86	0.59
Minimum	6.77	1.57
Maximum	215.63	2.15
95% Confidence Range for Mean	75.48	0.24

Table Error! No text of specified style in document.**.5: Zinc Percentile Loads for Machado Lake Watershed Storm Events**

Date	**Flow (cfs)**	**Volume (ac-ft)**	**Concentration (µg/l)**	**Zinc Load (kg)**
10/17/2004	59.30	117.61	243.73	35.34
10/14/2004	11.93	23.66	1156.74	33.74
12/12/2003	7.35	14.58	1792.56	32.23
3/15/2003	111.01	220.18	116.94	31.74
2/27/2006	72.57	143.94	173.41	30.77
12/31/2005	**35.16**	**69.74**	**352.80**	**30.33**
3/20/2011	108.72	215.63	114.09	30.33
11/2/2008	3.41	6.77	3632.30	30.32
2/17/2005	53.45	106.02	221.66	28.97
12/25/2003	10.35	20.52	1124.71	28.45
2/5/2009	14.50	28.77	766.20	27.17
4/20/2007	6.87	13.63	1608.79	27.04
12/12/2011	45.71	90.66	229.08	25.60

Table Error! No text of specified style in document.**.6: Zinc Percentile Load Statistics for Machado Lake Watershed Storm Events**

Statistical Analysis	**Volume (ac-ft)**	**Zinc Load (kg)**
Mean	82.44	30.16
Standard Error	20.84	0.76
Median	69.74	30.33
Standard Deviation	75.14	2.75
Sample Variance	56,45.88	7.55
Kurtosis	-0.46	-0.24
Skewness	0.84	0.19
Range	213.41	9.74
Minimum	6.77	25.60
Maximum	220.18	35.34
95% Confidence Range for Mean	81.69	2.99

Fecal Coliform Percentile Loads for Machado Lake Watershed Storm Events				
Date	**Flow (cfs)**	**Volume (ac-ft)**	**Concentration (MPN/100mL)**	**Fecal Coliform Load (MPN)**
2/28/2011	13.74	27.26	905,009.24	3.04E+14
2/21/2011	**12.23**	**24.26**	**901,607.98**	**2.70E+14**
4/21/2005	8.50	16.86	1,211,501.63	2.52E+14
3/20/2005	8.77	17.40	1,157,856.24	2.48E+14

Fecal Coliform Percentile Load Statistics for Machado Lake Watershed Storm Events		
Statistical Analysis	**Volume (ac-ft)**	**Fecal Coliform Load (MPN)**
Mean	21.44	2.68E+14
Standard Error	2.57	1.28E+13
Median	20.83	2.61E+14
Standard Deviation	5.14	2.55E+13
Sample Variance	26.39	6.52E+26
Kurtosis	-4.32	1.06
Skewness	0.28	1.30
Range	10.41	5.58E+13
Minimum	16.86	2.48E+14
Maximum	27.26	3.04E+14
95% Confidence Range for Mean	10.07	5.01E+13

Total Nitrogen Percentile Loads for Machado Lake Watershed Storm Events				
Date	**Flow (cfs)**	**Volume (ac-ft)**	**Concentration (mg/l)**	**Total Nitrogen Load (kg)**
4/12/2010	20.85	41.35	12.28	625.76
10/14/2004	11.93	23.66	21.45	625.56
5/20/2006	8.21	16.28	30.63	614.65
3/20/2011	108.72	215.63	2.29	609.73
2/8/2010	68.01	134.89	3.62	602.62
12/12/2003	7.35	14.58	33.25	597.88
10/17/2004	**59.30**	**117.61**	**4.09**	**592.50**
12/31/2005	35.16	69.74	6.56	563.84
2/27/2006	72.57	143.94	3.15	558.53
4/20/2007	6.87	13.63	29.87	501.99
2/5/2009	14.50	28.77	13.88	492.06
11/2/2008	3.41	6.77	58.49	488.21
12/25/2003	10.35	20.52	18.09	457.74

Total Nitrogen Percentile Load Statistics for Machado Lake Watershed Storm Events		
Statistical Analysis	**Volume (ac-ft)**	**Total Nitrogen Load (kg)**
Mean	65.18	563.93
Standard Error	18.45	16.37
Median	28.77	592.50
Standard Deviation	66.52	59.02
Sample Variance	4,425.07	3,483.27
Kurtosis	0.45	-1.13
Skewness	1.19	-0.68
Range	208.86	168.03
Minimum	6.77	457.74
Maximum	215.63	625.76
95% Confidence Range for Mean	72.32	64.17

Total Phosphorus Percentile Loads for Machado Lake Watershed Storm Events				
Date	**Flow (cfs)**	**Volume (ac-ft)**	**Concentration (mg/l)**	**Total Phosphorus Load (kg)**
10/17/2005	7.80	15.47	2.90	55.32
1/19/2010	65.26	129.44	0.34	55.02
10/17/2004	59.30	117.61	0.38	54.49
12/15/2002	45.92	91.09	0.48	54.29
12/10/2006	7.18	14.24	3.08	54.05
4/12/2010	**20.85**	**41.35**	**1.04**	**52.78**
10/14/2004	11.93	23.66	1.80	52.56
5/20/2006	8.21	16.28	2.57	51.56
12/12/2003	7.35	14.58	2.79	50.14
2/27/2006	72.57	143.94	0.27	48.41
12/31/2005	35.16	69.74	0.56	47.96
12/28/2004	65.59	130.10	0.29	45.81
1/9/2005	83.35	165.31	0.22	44.21

Total Phosphorus Percentile Load Statistics for Machado Lake Watershed Storm Events		
Statistical Analysis	**Volume (ac-ft)**	**Total Phosphorus Load (kg)**
Mean	74.83	51.28
Standard Error	15.83	1.02
Median	69.74	52.56
Standard Deviation	57.09	3.67
Sample Variance	3,259.34	13.49
Kurtosis	-1.72	-0.67
Skewness	0.24	-0.74
Range	151.08	11.11
Minimum	14.24	44.21
Maximum	165.31	55.32
95% Confidence Range for Mean	62.07	3.99

Copper Percentile Loads for Harbor Watershed Storm Events				
Date	**Flow (cfs)**	**Volume (ac-ft)**	**Concentration (µg/l)**	**Copper Load (kg)**
12/12/2011	404.05	801.42	68.83	68.00
5/20/2006	120.28	238.57	228.19	67.11
12/31/2005	566.58	1,123.79	47.65	66.01
2/5/2009	148.97	295.48	179.61	65.42
4/12/2010	141.87	281.39	187.10	64.90
3/25/2012	**297.39**	**589.85**	**89.23**	**64.88**
12/15/2002	476.17	944.48	54.30	63.22
11/20/2011	171.78	340.72	146.82	61.67
10/17/2005	75.96	150.67	325.35	60.43
2/19/2007	175.05	347.21	137.27	58.76
2/24/2008	1,076.71	2,135.62	20.67	54.42
2/18/2011	115.47	229.04	186.88	52.76
12/23/2003	260.45	516.60	75.28	47.94
3/20/2011	628.05	1,245.72	30.10	46.23
1/18/2010	484.40	960.80	38.68	45.82
1/23/2012	152.28	302.05	122.12	45.47

Copper Percentile Load Statistics for Harbor Watershed Storm Events		
Statistical Analysis	**Volume (ac-ft)**	**Copper Load (kg)**
Mean	656.46	58.32
Standard Error	131.96	2.07
Median	431.91	61.05
Standard Deviation	527.84	8.28
Sample Variance	278,612.10	68.55
Kurtosis	2.93	-1.35
Skewness	1.61	-0.54
Range	1,984.95	22.53
Minimum	150.67	45.47
Maximum	2,135.62	68.00
95% Confidence Range for Mean	517.28	8.11

Lead Percentile Loads for Harbor Watershed Storm Events				
Date	**Flow (cfs)**	**Volume (ac-ft)**	**Concentration (µg/l)**	**Lead Load (kg)**
12/31/2005	566.58	1,123.79	9.53	13.20
3/25/2012	297.39	589.85	18.15	13.20
2/5/2009	148.97	295.48	36.16	13.17
9/21/2007	142.91	283.46	37.44	13.08
4/12/2010	141.87	281.39	37.68	13.07
10/17/2005	**75.96**	**150.67**	**69.49**	**12.91**
12/15/2002	476.17	944.48	11.07	12.89
11/20/2011	171.78	340.72	30.22	12.69
2/19/2007	175.05	347.21	28.54	12.22
2/18/2011	115.47	229.04	36.58	10.33
1/19/2010	797.43	1,581.68	4.84	9.45
12/23/2003	260.45	516.60	14.67	9.34
9/22/2007	164.20	325.69	22.86	9.18
5/18/2011	105.88	210.01	35.06	9.08
1/23/2012	152.28	302.05	24.20	9.01
1/18/2010	484.40	960.80	7.58	8.97

Lead Percentile Load Statistics for Harbor Watershed Storm Events		
Statistical Analysis	**Volume (ac-ft)**	**Lead Load (kg)**
Mean	530.18	11.36
Standard Error	102.00	0.47
Median	333.20	12.46
Standard Deviation	408.02	1.88
Sample Variance	166,476.47	3.54
Kurtosis	1.57	-2.04
Skewness	1.49	-0.30
Range	1,431.01	4.22
Minimum	150.67	8.97
Maximum	1,581.68	13.20
95% Confidence Range for Mean	399.85	1.84

Table Error! No text of specified style in document.**.7: Zinc Percentile Loads for Harbor Watershed Storm Events**				
Date	**Flow (cfs)**	**Volume (ac-ft)**	**Concentration (µg/l)**	**Zinc Load (kg)**
3/25/2012	297.39	589.85	441.07	320.72
12/15/2002	476.17	944.48	268.17	312.23
11/20/2011	171.78	340.72	721.76	303.15
10/17/2005	75.96	150.67	1577.85	293.07
2/19/2007	175.05	347.21	672.12	287.68
2/18/2011	115.47	229.04	938.95	265.11
12/23/2003	**260.45**	**516.60**	**378.91**	**241.31**
1/20/2010	1,176.45	2,333.45	81.12	233.36
1/18/2010	484.40	960.80	194.12	229.92
1/23/2012	152.28	302.05	610.3	227.24
5/18/2011	105.88	210.01	874.59	226.42
3/15/2003	1,143.71	2,268.52	79.31	221.78
12/1/2005	59.04	117.10	1442.49	208.23
3/28/2006	378.42	750.58	220.84	204.33
10/13/2007	177.21	351.49	460.84	199.68
3/20/2011	628.05	1245.72	128.7	197.64

Table Error! No text of specified style in document.**.8: Zinc Percentile Load Statistics for Harbor Watershed Storm Events**		
Statistical Analysis	**Volume (ac-ft)**	**Zinc Load (kg)**
Mean	728.64	248.24
Standard Error	173.52	10.58
Median	434.05	231.64
Standard Deviation	694.07	42.33
Sample Variance	481,732.36	1,792.18
Kurtosis	1.79	-1.24
Skewness	1.60	0.53
Range	2,216.35	123.08
Minimum	117.10	197.64
Maximum	2,333.45	320.72
95% Confidence Range for Mean	680.19	41.49

Attachment J

Hourly Flow Analysis

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Dominguez Channel Watershed – Hourly Analysis for Zinc				
Date	**Total Volume (cf)**	**Zinc Load (kg)**	**Volume Captured (%)**	**Load Captured (%)**
4/12/2010	470.48	415.72	93.00%	99.00%
9/22/2007	171.81	404.70	96.00%	99.00%
1/21/2012	420.90	398.15	91.00%	99.00%
12/28/2004	3,093.31	381.37	43.00%	78.00%
1/18/2010	659.82	375.39	86.00%	98.00%
12/16/2002	718.17	351.61	93.00%	99.00%
2/11/2003	422.63	348.64	87.00%	99.00%
5/22/2006	296.50	344.30	99.00%	99.00%
11/26/2008	681.88	337.65	86.00%	99.00%
11/6/2011	197.65	320.54	90.00%	99.00%
2/27/2006	560.68	311.40	90.00%	99.00%
Average:	**699.44**	**362.68**	**86.73%**	**97.00%**
		Use Reduction:	**90.00%**	

Dominguez Channel Estuary Watershed – Hourly Analysis for Zinc				
Date	**Total Volume (cf)**	**Zinc Load (kg)**	**Volume Captured (%)**	**Load Captured (%)**
3/17/2012	98.31	171.45	94.00%	99.00%
10/13/2007	107.21	170.80	99.00%	99.90%
12/25/2003	203.56	165.93	99.00%	99.00%
4/12/2010	198.11	164.92	87.00%	99.00%
2/27/2006	220.86	164.34	90.00%	99.00%
5/22/2006	143.25	154.45	91.00%	99.00%
12/28/2004	648.49	152.91	53.00%	97.00%
1/21/2012	132.02	148.34	97.00%	99.00%
2/5/2009	142.23	144.54	99.00%	99.90%
Average:	**210.45**	**159.74**	**89.89%**	**98.98%**
		Use Reduction:	**90.00%**	

Wilmington Drain Watershed – Hourly Analysis for Total Nitrogen				
Date	**Total Volume (cf)**	**Total Nitrogen Load (kg)**	**Volume Captured (%)**	**Load Captured (%)**
2/11/2003	386.44	1,204.68	60.00%	90.00%
12/27/2004	211.05	1,155.85	95.00%	99.00%
10/14/2004	44.58	1,090.73	50.00%	100.00%
12/12/2003	28.23	1,056.02	58.00%	99.00%
10/5/2011	30.21	1,031.86	86.00%	99.00%
4/12/2010	60.77	987.00	74.00%	100.00%
12/15/2002	146.22	939.74	92.00%	99.00%
12/17/2010	112.65	918.93	95.00%	99.00%
Average:	**127.52**	**1,048.10**	**76.25%**	**98.13%**
		Use Reduction:	**80.00%**	

Machado Lake Watershed – Hourly Analysis for Fecal Coliform				
Date	**Total Volume (cf)**	**Fecal Coliform Load (MPN)**	**Volume Captured (%)**	**Load Captured (%)**
2/28/2011	27.26	3.04E+14	100.00%	100.00%
2/21/2011	24.26	2.70E+14	100.00%	100.00%
4/21/2005	16.86	2.52E+14	60.00%	99.00%
3/20/2005	17.40	2.48E+14	96.00%	99.00%
Average:	**21.44**	**2.68E+14**	**89.00%**	**99.50%**
		Use Reduction:	**90.00%**	

Harbor Watershed – Hourly Analysis for Zinc				
Date	**Total Volume (cf)**	**Zinc Load (kg)**	**Volume Captured (%)**	**Load Captured (%)**
3/25/2012	589.85	320.72	71.00%	98.00%
12/15/2002	944.48	312.23	94.00%	99.00%
11/20/2011	340.73	303.15	96.00%	99.00%
10/17/2005	150.67	293.07	52.00%	98.00%
2/19/2007	347.21	287.68	51.00%	98.00%
2/18/2011	229.04	265.11	98.00%	99.00%
12/23/2003	516.59	241.31	42.00%	93.00%
1/20/2010	2,333.47	233.45	59.00%	92.00%
1/18/2010	960.80	229.92	50.00%	88.00%
1/23/2012	302.05	227.24	99.00%	99.90%
5/18/2011	210.01	226.42	98.00%	99.90%
3/15/2003	2,268.61	222.12	32.00%	64.00%
12/1/2005	117.10	208.23	99.00%	99.90%
3/28/2006	750.58	204.33	45.00%	95.00%
10/13/2007	351.49	199.68	99.00%	99.90%
3/20/2011	1,245.72	197.64	30.00%	85.00%
Average:	**728.65**	**248.27**	**69.69%**	**94.23%**
		Use Reduction:	**70.00%**	

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Attachment K

Comparison between 2001 and 2012 MS4 Permit MCM Requirements

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The table presented in this attachment compares the Minimum Control Measure (MCM) requirements per the 2001 MS4 Permit (Order No. 01-182) and the current 2012 MS4 Permit (Order No. R4-2012-0175), and corresponds with Section 3.2 of the Dominguez Channel Watershed Management Group (DC WMG) Enhanced Watershed Management Program (EWMP).

Table K.1: Comparison of 2001 MS4 Permit MCMs to 2012 MS4 Permit MCMs

Program	Activity	2012 MS4 Permit Part	2001 MS4 Permit Part
Public Information and Participation Program	Public Education Program - advisory committee meeting (once per year)		4.B
	"No Dumping" message on storm drain inlets (by 2/2/2004)		4.B.1.a
	Reporting hotline for the public (e.g., 888-CLEAN-LA)	VI.D.5.c.i.(1)	4.B.1.b
	Outreach and Education	VI.D.5.d.i.(2)	4.B.1.c
	Make reporting info available to public	VI.D.5.d.i.(4)	4.B.1.b
	Public service announcements, advertising, and media relations	VI.D.5.d.i.(1)	4.B.1.c.(1).(iii)
	Public education materials - proper handling	VI.D.5.d.i.(2)	
	Public education materials - activity specific	VI.D.5.d.i.(3)	
	Educational activities and countywide events	VI.D.5.c.ii	4.B.1.c.(4)
	Quarterly public outreach strategy meetings (by 5/1/2002)		4.B.1.c.(1).(iii)
	Ensure 35 million impressions per year are made on the general public via print, local TV, radio, or other appropriate media		4.B.1.d.(6)
	Constituent-specific outreach information made available to public		4.B.1.d
	Business Assistance Program		4.B.2
	Educate and inform corporate managers about stormwater regulations		4.B.2.a
	Maintain storm water websites	VI.D.5.d.i.(4)	
	Provide education materials to schools (50 percent of all K-12 children every two years)		4.B.1.d.(7)
	Provide independent, parochial, and public schools within jurisdiction with K-12 educational materials	VI.D.5.d.i.(5)	
	LACFCD shall develop a strategy to measure the effectiveness of in-school education programs		4.B.1.d.(9)
	LACFCD shall develop a behavioral change assessment strategy (by 5/1/2002)		4.B.1.d.(10)
	Educate and involve ethnic communities and businesses	VI.D.5.a.i.(3)	4.B.1.d.(2)
Industrial/Commercial Facilities Program	Track critical sources – restaurants	VI.D.6.b.i.(1)	4.C.1.a.(1)
	Track critical sources - automotive service facilities	VI.D.6.b.i.(1)	4.C.1.a.(1)
	Track critical sources – RGOs	VI.D.6.b.i.(1)	4.C.1.a.(1)
	Track critical sources - nurseries and nursery centers	VI.D.6.b.i.(1)	
	Track critical sources – USEPA Phase I facilities	VI.D.6.b.i.(2)	4.C.1.a.(2)
	Track critical sources - other federally-mandated facilities [40 Code of Federal Regulations (CFR) 122.26(d)(2)(iv)(C)]	VI.D.6.b.i.(3)	4.C.1.a.(2)
	Track critical sources - other commercial/industrial facilities that Permittee determines may contribute substantial constituent load to MS4	VI.D.6.b.i.(4)	
	Facility information - name of facility	VI.D.6.b.ii.(1)	4.C.1.b
	Facility information - name of owner/operator	VI.D.6.b.ii.(2)	4.C.1.b
	Facility information - contact information of owner/operator	VI.D.6.b.ii.(2)	
	Facility information - address	VI.D.6.b.ii.(3)	4.C.1.b
	Facility information – North American Industry Classification System (NAICS) code	VI.D.6.b.ii.(4)	
	Facility information – Standard Industrial Classification (SIC) code	VI.D.6.b.ii.(5)	4.C.1.b
	Facility information - narrative description of the activities performed and/or principal products produced	VI.D.6.b.ii.(6)	4.C.1.b
	Facility information - status of exposure of materials to storm water	VI.D.6.b.ii.(7)	
	Facility information - name of receiving water	VI.D.6.b.ii.(8)	
	Facility information - ID whether tributary to 303(d) listed water and generates constituents for which water is impaired	VI.D.6.b.ii.(9)	
	Facility information - NPDES/general industrial permit status	VI.D.6.b.ii.(10)	4.C.1.b
	Facility information - No Exposure Certification status	VI.D.6.b.ii.(11)	
	Update inventory of critical sources annually	VI.D.6.b.iii	4.C.1.c
	Notify inventoried industrial/commercial sites on BMP requirement	VI.D.6.c.i	
	Business Assistance Program	VI.D.6.c.ii	
	Inspect critical commercial sources (restaurants, automotive service facilities, retail gasoline outlets and automotive dealerships)	VI.D.6.d.i	4.C.2.a
	Inspect critical industrial sources (phase 1 facilities and federally-mandated facilities)	VI.D.6.e	4.C.2.b
	Verify No Exposure Certifications of applicable facilities	VI.D.6.e.i.(3)	
	Verify Waste Discharge Identification (WDID) Number of applicable facilities	VI.D.6.e.ii.(1)	4.C.2.b
	Source control BMPs	VI.D.6.f	4.C.3
	Provisions for Significant Ecological Areas (SEAs) (Environmentally Sensitive Areas (ESAs))	VI.D.6.g	4.C.3.b
	Progressive enforcement of compliance with stormwater requirements	VI.D.6.h	4.C.3.c
	Interagency coordination		4.C.3.d

Table K.1: Comparison of 2001 MS4 Permit MCMs to 2012 MS4 Permit MCMs			
Program	**Activity**	**2012 MS4 Permit Part**	**2001 MS4 Permit Part**
Planning and Land Development Program	Peak flow control (post-development stormwater runoff rates, velocities, and duration)	VI.D.7.c.i	4.D.1
	Hydromodification Control Plan	VI.D.7.c.iv	4.D.1
	SUSMP Ordinance		4.D.2
	LID Ordinance	VI.D.7.d.i	
	Volumetric treatment control (SWQDv) BMPs	VI.D.7.c.i	4.D.3.a
	Flow-based treatment control BMPs	VI.D.7.c.i.(3)	4.D.3.b
	Prioritize BMP selection based on retention/detention versus treatment	VI.D.7.a.i.(7)	
	Alternative compliance measures through groundwater replenishment	VI.D.7.c.ii	
	Alternative compliance measures through biofiltration on- or off-site	VI.D.7.c.iii	
	Require implementation of post-construction Planning Priority Projects as treatment controls to mitigate storm water pollution	VI.D.7.b.ii	4.D.4
	Require verification of maintenance provisions for BMPs	VI.D.7.d.i	4.D.8
	California Environmental Quality Act process update to include consideration of potential stormwater quality impacts	VI.D.7.d.i	4.D.11
	General Plan Update to include stormwater quality and quantity management considerations and policies		4.D.12
	Targeted employee training of development planning employees		4.D.13
	Bioretention and biofiltration systems	VI.D.7.c.iii.(1)	
	SUSMP guidance document		4.D.14
	Annual reporting of mitigation project descriptions	VI.D.7.c.vi	
	Implement post construction BMP maintenance inspections	VI.D.7.d.iv.(c)	
Development and Construction Program	Erosion control BMPs	VI.D.8.d	4.E.1.d
	Sediment control BMPs	VI.D.8.d	4.E.1.a
	For sites less than 1 acre, implement erosion and sediment control BMPs through the use of a erosion and sediment control ordinance	VI.D.8.d	
	Non-storm water containment on project site	VI.D.8.d	4.E.1.c
	Waste containment on project site	VI.D.8.d	4.E.1.c
	Require preparation of a Local SWPPP or Erosion and Sediment Control Plan/SWPPP for approval of permitted sites	VI.D.8.d	4.E.2
	Inspect construction sites equal to or greater than one acre		4.E.2.b
	Electronic tracking system (database and/or Geographic Information System)	VI.D.8.g	
	Required documents prior to issuance of building/grading permit	VI.D.8.h.ii.(1)	4.E.3.a
	Implement technical BMP standards	VI.D.8.i.i	
	Progressive enforcement	VI.D.8.k	4.E.4
	Permittee staff training	VI.D.8.l	4.E.5
Public Agency Activities Program	Sewage system, maintenance, overflow, and spill prevention plans		4.F.1
	Public construction activities management	VI.D.9.b	4.F.2
	Public facility inventory	VI.D.9.c	
	Inventory of existing development for retrofitting opportunities	VI.D.9.d	
	Public facility and activity management	VI.D.9.e	
	Vehicle maintenance, material storage facilities, corporation yard management	VI.D.9.f	4.F.3
	Landscape, park, and recreational facilities management	VI.D.9.g	4.F.4
	Storm drain operation and maintenance	VI.D.9.h	4.F.5
	Streets, roads, and parking facilities maintenance	VI.D.9.i	4.F.6
	Parking facilities management	VI.D.9.i	4.F.7
	Emergency procedures	VI.D.9.j	4.F.8
	Alternative treatment control BMPs feasibility study		4.F.10
	Municipal employee and contractor training	VI.D.9.k	
IC/ID Program	Implementation program	VI.D.10.a.i	4.G.1.a
	MS4 Tracking (mapping) of permitted connections and illicit connections and discharges		4.G.1.b
	Procedures for conducting source investigations for IC/IDs	VI.D.10.b	4.G.2.a
	Procedures for eliminating IC/IDs	VI.D.10.c	4.G.2.b
	Procedures for public reporting of ID	VI.D.10.d	
	IC/ID response plan	VI.D.10.e	4.G.1.a
	IC/IDs education and training for staff	VI.D.10.f	4.G.1.c

Attachment L

Summary of Existing MCMs Implemented by the DC WMG

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This attachment includes tables summarizing the existing Minimum Control Measures (MCMs) implemented by the Dominguez Channel Watershed Management Group (DC WMG), corresponding with Section 4.2 of the DC WMG Enhanced Watershed Management Program (EWMP).

Attachment L List of Tables

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Table L.1: DC WMG Existing Minimum Control Measures Reported during Permit Year 2010-2011

Program Tasks and Milestones	2001 MS4 Permit Part	Due Date	El Segundo	Hawthorne	Inglewood	Lomita	Los Angeles	Los Angeles County[1]
General Permit Requirements								
Prohibit non-stormwater discharges into the MS4 and watercourses	1	Feb-02	I	I	I	I	I	I
Comply with Receiving Water Limitations (RWL) requirements	2	Feb-02	I	I	I	I	I	I
Implement the Stormwater Quality Management Plan (SQMP)	3.A.1	Feb-02	I	I	I	I	I	I
Revise the SQMP	3.A.4	Aug-02	NA	I	NA	I	NA	I
Implement the most effective combination of BMPs for storm water/ urban runoff pollution	3.B	Feb-02	I	I	I	D	I	I
Prepare and submit Annual Budget Summary as part of the annual report to the RWQCB	3.E.5	Oct-02	I	I	I	I	I	I
Conduct quarterly watershed management committee meetings	3.F.3.g	Mar-02	NA	NA	NA	NA	I	I
Amend and adopt county ordinance to enforce all requirements of the permit, if needed	3.G.3	Nov-02	I	I	I	NA	I	I
Submit to RWQCB a legal statement demonstrating the necessary legal authority	3.G.4	Dec-02	I	I	I	I	I	I
Prepare and submit to the RQWCB individual annual reports	1.B	Aug-02	I	I	I	I	I	I
Special Provisions								
Public Information and Participation - Permit Requirements								
Implement public information and participation program	4.B	Feb-02	I	I	I	I	I	I
Convene an Advisory Committee	4.B	ASAP	NA	NA	NA	I	NA	I
Mark all storm drain inlets with a "no dumping" message	4.B.1.a	Feb-04	I	I	I	I	I	I
Maintain the (888) CLEAN-LA hotline	4.B.1.b	Feb-02	NA	NA	NA	I	NA	I
Provide a list of reporting contacts to public through www.888CleanLA.com	4.B.1.b	Mar-02	I	NA	NA	NA	I	I
Media campaign for Storm Water Pollution Prevention (SPP)	4.B.1.c.1	Feb-02	NAv	NA	NA	NA	NA	I
Strategy to educate ethnic communities about SPP	4.B.1.c.2	Feb-03	NA	NA	NA	NA	NA	I
Enhance outreach for proper disposal of cigarette butts	4.B.1.c.3	Feb-02	NA	NA	NA	I	NA	I

Table L.1: DC WMG Existing Minimum Control Measures Reported during Permit Year 2010-2011

Program Tasks and Milestones	2001 MS4 Permit Part	Due Date	El Segundo	Hawthorne	Inglewood	Lomita	Los Angeles	Los Angeles County[1]
Conduct educational activities within jurisdiction and participate in county-wide events	4.B.1.c.4	Feb-02	I	I	I	I	I	I
Organize Public Outreach Strategy meetings quarterly	4.B.1.c.5	May-02	NA	NA	NA	NA	NA	I
Conduct Media Outreach to 35 million impressions per year	4.B.1.c.6	Annually	NA	NA	NA	NA	NA	I
Distribute SPP information to K-12 schools	4.B.1.c.7	-	I	NC	NA	I	I	I
Coordinate and provide contact information for public education activities	4.B.1.c.8	Apr-02	I	I	I	I	I	I
Strategy to measure effectiveness of in-school programs	4.B.c.9	May-02	NA	NA	NA	NA	NA	I
Behavioral change assessment strategy towards SPP	4.B.c.10	May-02	NA	NA	NA	NA	NA	I
Coordinate watershed-specific pollution prevention outreach programs	4.B.1.d	Feb-03	I	NA	I	NA	I	I
Corporate Outreach Program to target retail gas outlets and restaurant chains	4.B.2.a	Feb-03	I	NA	NA	NA	NA	I
Coordinate an SPP program for a Business Assistance Program	4.B.2.b	Optional	NA	I	NA	NA	I	I
Industrial/Commercial Facilities Control - Permit Requirements								
Maintain a list of industrial/commercial facilities to be inspected	4.C.1	Aug-02	I	I	I	I	I	I
Inspect/visit industrial/commercial facilities appropriately	4.C.2	Aug-04	I	I	I	I	I	I
Initiate progressive enforcement for facilities failing to implement BMP's	4.C.3	-	I	I	I	I	I	I
Inspect restaurants twice during Permit cycle	4.C.2	Aug-04	I	I	I	I	I	I
Development Planning - Permit Requirements								
Implement development planning program that requires SUSMP	4.D	Feb-02	I	I	I	I	I	I
Develop peak flow control criteria	4.D.1	Feb-05	NA	NA	NA	NA	I	I
Amend codes and ordinances to give legal effect to SUSMP changes in permit	4.D.2.a	Aug-02	I	I	I	I	I	I
Implement revised SUSMP	4.D.2.b	Sep-02	I	I	I	I	I	I
Submit an Environmentally Sensitive Areas (ESAs) Delineation map to RWQCB	4.D.2.d	Jun-02	I	I	I	I	I	I

Table L.1: DC WMG Existing Minimum Control Measures Reported during Permit Year 2010-2011

Program Tasks and Milestones	2001 MS4 Permit Part	Due Date	El Segundo	Hawthorne	Inglewood	Lomita	Los Angeles	Los Angeles County[1]
Implement SUSMP requirements for industrial/commercial projects >1 acre	4.D.5	Mar-03	I	I	I	I	I	I
Update CEQA guidelines to include specific storm water related issues	4.D.11	Feb-02	I	I	I	I	I	I
Update General Plan to include specific storm water related issues	4.D.12	-	I	NA	NA	I	I	I
Train targeted employees in permit requirements for Development Planning	4.D.13	Varies	I	I	I	I	I	I
Develop and make SUSMP guidelines available to the developer	4.D.14.a	Feb-02	I	I	I	I	I	I
Develop a technical manual for the siting and design of BMPs	4.D.14.b	Feb-04	I	NA	NA	NA	I	I
Development Construction - Permit Requirements								
Implement a development construction program	4.E.1 &2	Feb-02	I	I	I	I	I	I
Require proof of a Waste Discharger ID (WDID) number prior to filing Notice of Intent (NOI)	4.E.2.c	Mar-03	I	I	I	I	I	I
Require proof of an NOI and a copy of SWPPP for a transfer of ownership	4.E.3	Feb-02	I	I	I	I	I	I
Track the number of issued building and grading permits	4.E.3.c	Feb-02	I	I	I	I	I	I
Refer General Construction Activities Stormwater Permit (GCASP) violations to RWQCB	4.E.4	Feb-02	I	I	I	I	I	I
Train targeted employees in permit requirements for Development Construction	4.E.5	Varies	I	I	I	I	I	I
Public Agency Activities - Permit Requirements								
Implement a sewer overflow prevention and response program	4.F.1	Aug-02	I	I	I	I	I	I
Implement Development Planning Program at Permittee-owned construction projects	4.F.2.a	Aug-02	I	I	I	I	I	I
Implement Development Construction Program at Permittee-owned construction projects	4.F.2.b	Feb-02	I	I	I	I	I	I
Develop, if needed, and implement SWPPPs for field facilities	4.F.3	Feb-02	I	I	I	I	I	I
Equip wash areas with a clarifier, pre-treatment device, or be connected to sewer	4.F.3.c	Feb-02	I	I	I	I	I	I
Store pesticides/herbicides/fertilizers indoors and apply only in accordance	4.F.4.c&g	Feb-02	I	I	I	I	I	I
Designate Catch Basins as priority A, B, or C	4.F.5.a	Feb-02	I	I	I	I	I	I