



ADAPTIVE MANAGEMENT REPORT

JUNE 29, 2017

Lower San Gabriel River Watershed Group

ARTESIA • BELLFLOWER • CERRITOS • DIAMOND BAR • DOWNEY • HAWAIIAN GARDENS • LA MIRADA • LAKEWOOD
• LONG BEACH • NORWALK • PICO RIVERA • SANTA FE SPRINGS • WHITTIER •
LOS ANGELES COUNTY FLOOD CONTROL DISTRICT

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I. Introduction

The Lower San Gabriel River Watershed Management Program (LSGR WMP) was developed to implement the requirements of Los Angeles Regional Water Quality Control Board (Regional Board) Orders R4-2012-0175 and R4-2014-0024 (the LA County area-wide MS4 NPDES Permit and the Long Beach MS4 NPDES Permit, respectively) on a watershed scale. This WMP is a collaborative effort of the LSGR Watershed Management Group (WMP), which consists of fourteen agencies: Artesia, Bellflower, Cerritos, Diamond Bar, Downey, Hawaiian Gardens, La Mirada, Lakewood, Long Beach, Norwalk, Pico Rivera, Santa Fe Springs, Whittier, and the Los Angeles County Flood Control District (LACFCD). See Figure 1 for a map of the WMP members and LSGR drainage area.

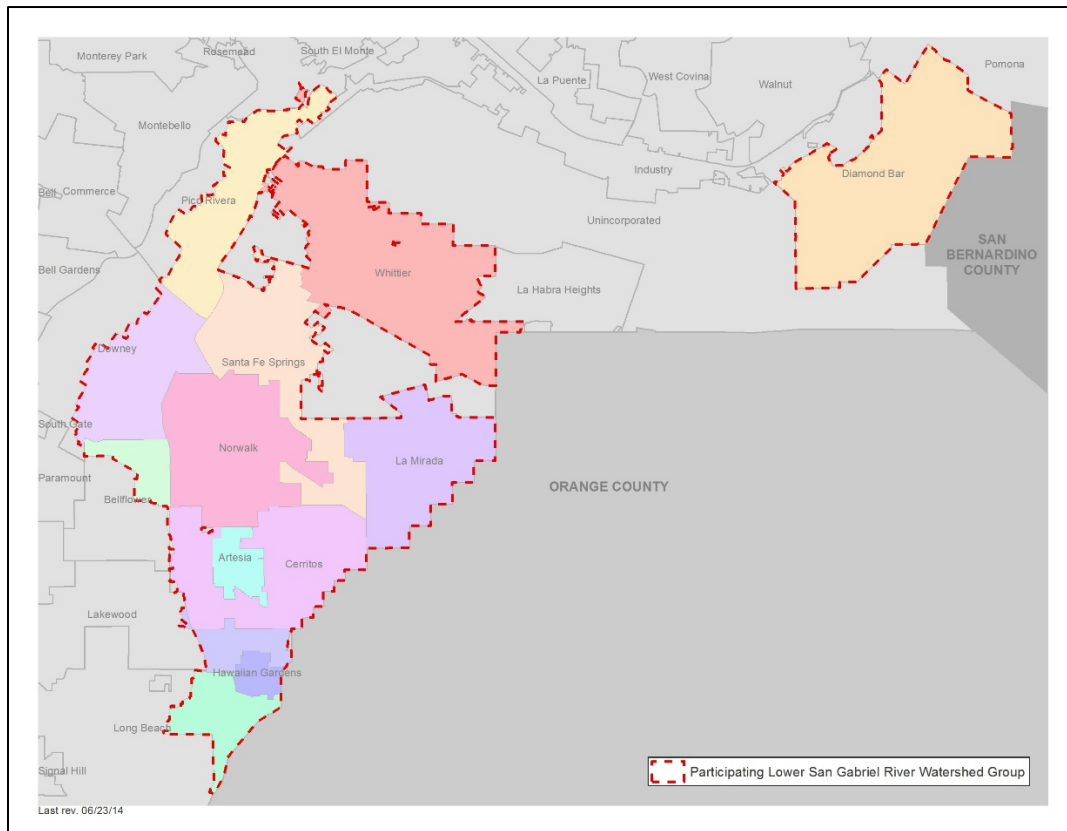


Figure 1. Map of WMG members and LSGR drainage area

The LSGR WMP was approved by the Regional Board on April 28, 2015. As outlined in the Los Angeles County MS4 Permit and Long Beach MS4 Permit, every two years from the date of approval the WMP¹ the WMG shall implement an Adaptive Management Process (AMP). The purpose of the AMP is to adapt the WMP to become more effective. The basis for evaluating effectiveness is included in the MS4 Permits. This basis serves as the structure of this report.

¹ This first Adaptive Management report is to be submitted to the Regional Board along with the Report of Waste Discharge.

II. Progress Toward Achieving Improved Water Quality

This section addresses progress toward achieving improved water quality in MS4 Permit discharges. The section is divided into progress toward Total Maximum Daily Loads (TMDLs) limits and progress toward other water quality priority (WQP) pollutants. Progress is determined through an evaluation of monitoring results and watershed control measures. The results of this section are considered in the WMP Modifications section of this report.

A. Progress Toward TMDLs

This section addresses progress toward achieving TMDL limits. Two TMDLs were in effect prior to approval of the WMP. The TMDLs include the San Gabriel River and Impaired Tributaries Metals and Selenium TMDL (Metals TMDL) and the Greater Los Angeles and Long Beach Harbor Waters Toxic Pollutants TMDL (Harbor Toxics TMDL). A third TMDL, the San Gabriel River, Estuary and Tributaries Indicator Bacteria TMDL (Bacteria TMDL), became effective on June 15, 2016.

1. TMDL Milestones

The WMP includes interim and final milestones to achieve water quality based effluent limitations (WQBELs) and/or receiving water limitations for applicable TMDLs. This section summarizes these milestones.

The WMP includes interim and final milestones to achieve water quality based effluent limitations (WQBELs) and/or receiving water limitations for the Metals TMDL. These milestones are 30% dry / 10% wet weather compliance by September 30, 2017 (by total drainage area served), 70% dry / 35% wet weather compliance by September 30, 2020, 100% dry weather compliance by September 30, 2023, and 100% wet weather compliance by September 30, 2026. See Tables 1 and 2 for Metals TMDL limits.

Table 1. LSGR Metals TMDL Limits – Wet Weather

Waterbody	WLA Daily Maximum (kg/day) ²		
	Copper	Lead	Zinc
San Gabriel River Reach 2	–	81.34 µg/L x daily storm volume (L)	–
Coyote Creek	24.71 µg/L x daily storm volume (L)	96.99 µg/L x daily storm volume (L)	144.57 µg/L x daily storm volume (L)

² The wet weather and dry weather water Waste Load Allocations (WLAs) are group-based and shared among all MS4 Permittees, which includes LA MS4 Permittees, the City of Long Beach, and Orange County MS4 Permittees located within the drainage area and Caltrans.

Permittees may convert the grouped mass-based WLAs into individual WLAs based on the percentage of the watershed and land uses within the Permittee’s jurisdiction, upon approval of the Regional Water Board Executive Officer.

Table 2. LSGR Metals TMDL Limits – Dry Weather

Waterbody	WLA Daily Maximum (kg/day) ³	
	Copper	Selenium
San Gabriel River Reach 1	18 µg/L	–
Coyote Creek	0.941 kg/day ⁴	–
San Jose Creek Reach 1 and 2	–	5 µg/L

The Harbor Toxics TMDL does not establish WLAs for the San Gabriel River, therefore there are no corresponding milestones at this time. However, the WMP predicts that control measures identified to reduce metals loading will also address toxic pollutants.

Bacteria TMDL milestones in the TMDL Basin Plan Amendment include achieving compliance with applicable WLAs expressed in terms of allowable exceedance days of the single sample objectives and for dry weather by June 14, 2026, and (2) achieve compliance with the allowable exceedance days during wet weather and geometric mean targets for all seasonal periods by June 14, 2036. See Table 3 for WLAS expressed in terms of allowable exceedance days.

Table 3. San Gabriel River and Tributaries WLA (Single Sample)

Allowable Number of Exceedance Days	San Gabriel River and Tributaries (Daily Sampling)	San Gabriel River and Tributaries (Weekly Sampling)
Dry Weather	5	1
Non-HFS* Waterbodies Wet Weather	17	3
HFS Waterbodies Wet Weather	11 (not including HFS days)	2 (not including HFS days)

* HFS – High Flow Suspension is applied to waterbodies with concrete-lined channels during days with greater than or equal to 0.5 inch of rain and the following 24 hours. HFS can be applied to all reaches and tributaries within the LSGR watershed.

³ The wet weather and dry weather water Waste Load Allocations (WLAs) are group-based and shared among all MS4 Permittees, which includes LA MS4 Permittees, the City of Long Beach, and Orange County MS4 Permittees located within the drainage area and Caltrans. Permittees may convert the grouped mass-based WLAs into individual WLAs based on the percentage of the watershed and land uses within the Permittee’s jurisdiction, upon approval of the Regional Water Board Executive Officer.

⁴ Calculated based upon the median flow at LACDPW Station F354-R of 19 cfs multiplied by the numeric target of 20 µg/L, minus direct air deposition of 0.002 kg/d.

2. TMDL Progress

Progress towards achieving TMDL milestones is measured in part by the Coordinated Integrated Monitoring Program (CIMP). The CIMP developed by the LSGR WMG included phased implementation of monitoring with three receiving water monitoring sites implemented during the first year (2015-16) and two outfall monitoring sites added during the second year of the monitoring program. See Figure 2 for all monitoring station locations in the LSGR watershed.

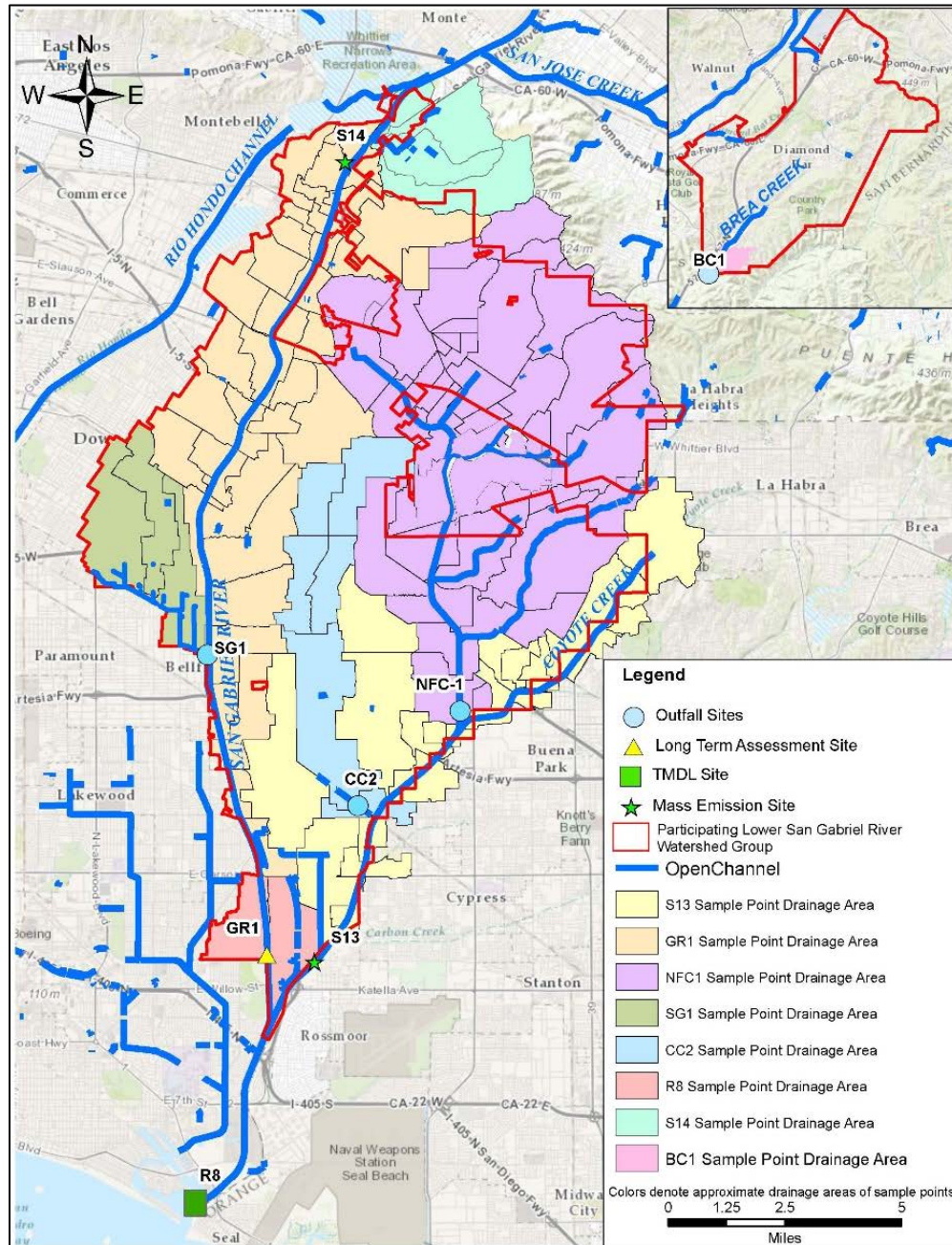


Figure 2. Monitoring station locations in the LSGR watershed

a) **Progress Based on Water Quality Monitoring Trends**

Historic water quality data exists for receiving water monitoring station location S13. The following is a summary of results at S13 for the Metals and Bacteria TMDL constituents.

- **Copper:** Total copper concentrations show evidence of decreasing over time, the majority of which occurred prior to 2008. Since that time, total copper concentrations in dry weather flows have been stable. Dissolved copper concentrations suggest evidence of decline since 2010.
- **Lead:** Total and dissolved lead concentrations show evidence of decreasing since 2010-2011, with the highest concentrations were measured during dry weather conditions. No exceedances were observed during this reporting period (2015-16), and overall values are less than water quality objectives.
- **Zinc:** Total and dissolved zinc concentrations show evidence of an increase prior to 2010-2011. Since that time, both total and dissolved zinc concentrations indicate a decline. No exceedances were observed for dry weather events during this reporting period (2015-16).
- **E. coli:** Dry weather data for E. coli is available from 2012; however, the time frame is short-term and the data too variable to evaluate trends.

b) **CIMP and Watershed Control Measure Implementation Review**

This section summarizes the status and progress towards meeting applicable TMDL limits based on 2015-16 CIMP monitoring data.

(1) **Metals TMDL**

TMDL numeric targets were met for dry and wet weather samples collected for total recoverable copper, lead, and zinc. Additionally, there were no exceedances for dissolved metals. These results satisfy compliance schedule milestones beyond the timeframe of this report, which are limited to those addressed in the Achievement of Interim Milestones Section.

The RAA and Chapter 5 of the WMP provide a compliance plan to achieve the Metals TMDL limits. The RAA—considered existing watershed control measures and monitoring data—predicted the need for a significant number of additional control measures to meet the final 2026 milestone. The 2015-2016 CIMP results for metals may be an indication that more progress has been made toward achieving the Metals TMDL limits than assumed in the RAA. However, evaluation of long term trends are not achievable at this time.

(2) **Harbor Toxics TMDL**

The Harbor Toxics TMDL requires monitoring at the San Gabriel river-estuary interface, monitoring station locations S13 and GR1. This monitoring has been implemented and has been a shared effort with the majority of upstream Permittees. Monitoring was conducted during two wet weather events at both S13 and GR1. See Table 4 for Harbor Toxics TMDL monitoring results. Dry weather sampling will commence in July 2017 at monitoring station location R8 in the San Gabriel River Estuary and sampling will be coordinated with the Los Angeles County Sanitation Districts.

The Harbor Toxics TMDL does not establish WLAs for the San Gabriel River. However, the WMP's RAA predicts that control measures implemented to reduce metals loading will also address toxic pollutants.

Table 4. Harbor Toxics Monitoring Results, S13/GR1 monitoring station locations

Constituent (dry weight µg/g)	1/15/2016 Wet, S13	2/1/2016 Wet ⁵ , S13	2/18/2016 Wet, GR1	3/6/2016 Wet, GR1
Total Copper	112	188	275	200
Total Lead	77	139	160	102
Total Zinc	584	837	1817	1323
Total DDT	0.0882	0.0610	0.101	0.0656
Total PAHs ⁶	5.02	4.56	10.34	8.74
Total PCBs	0.122	0.0845	0.195	0.105

(3) Bacteria TMDL

Table 5 lists the wet and dry monitoring results for E. coli at monitoring station locations S13, GR1, S14 and NFC1. Results indicate one dry weather exceedance for three sampling events, and five wet weather exceedances for fourteen sampling events. The nine wet weather events without exceedances were under high flow suspension. The interim compliance milestones for bacteria are beyond the timeframe addressed by this report.

Table 5. E. Coli Monitoring Results (MPN/100mL)

Date	Condition	Monitoring Location	Result	Exceedance	HFS?
2/17/2016	Wet	GR1	6200	No	Yes
2/17/2016	Wet	GR1	9800	No	Yes
3/6/2016	Wet	GR1	680	Yes	No
3/11/2016	Wet	GR1	780	Yes	No
3/11/2016	Wet	GR1	710	No	Yes
1/5/2016	Wet	NFC1	2000	No	Yes
2/17/2016	Wet	NFC1	1000	No	Yes
3/6/2016	Wet	NFC1	500	No	Yes
7/28/2015	Dry	S13	253	Yes	No
12/13/2015	Wet	S13	15531	Yes	No
1/5/2016	Wet	S13	3050	No	Yes
2/4/2016	Dry	S13	231	No	Yes
2/18/2016	Wet	S13	9850	No	Yes
12/14/2015	Wet	S14	7540	No	Yes
1/31/2016	Wet	S14	10190	Yes	No
2/14/2016	Dry	S14	218.7	No	No
2/19/2016	Wet	S14	11450	Yes	No

⁵ The Harbor Toxics Monitoring Program was designed to sample all organic constituents requiring special handling using a separate sampling system that was cleaned to allow for collection of trace organic compounds. Metals data was to be obtained from the other set of equipment designed to collect water for all CIMP analytes. During the February 1, 2016 storm event, the LACFCD did not mobilize for the storm event. The missing metals data were supplemented with those from the February 18, 2016 storm.

⁶ Work necessary to further develop method modifications for PAHs were not completed at the time of the initial surveys. Four low molecular weight PAHs (1-methylnaphthalene, biphenyl, 1-methylphenanthrene, and dimethylnaphthalene) were not included in these initial analyses. Initial results indicated that analysis of PAHs using HRMS methods required substantial sample dilution due to high concentrations in the stormwater. Comparison of HRMS PAH analyses with concurrent PAH analyses using EPA Method 625 at GR1 demonstrated that conventional methods could be applied without requiring expensive method validation and verification studies to add these four compounds to the modified EPA Method 1625.

Currently the WMP's RAA predicts that control measures implemented to address metals loading will also address bacteria pollutants. However the 2015-2016 CIMP results for metals may be an indication that more progress has been made toward achieving the Metals TMDL limits than assumed in the RAA. If trends continue, planned control measures in the WMP to achieve metals TMDL limits may be reconsidered to focus on Bacteria TMDL limits. However, evaluation of long term trends are not achievable at this time, and as such there is not sufficient justification for modifications to the WMP in this regard.

B. Progress Toward Achieving Receiving Water Limitations

This section addresses other watershed WQPs, toxicity monitoring, and other constituents monitored as listed in the CIMP.

1. CIMP Data Review and Compliance Status

Monitoring during the July 2015 to June 2016 period was limited to four locations (S13, NFC1, GR1, and S14) considered to be receiving water quality monitoring station locations. The Upper San Gabriel River Enhanced Watershed Management Group monitored S14 in coordination with the LACFCD, initiating dry weather monitoring in February 2016. The LACFCD initiated dry weather sampling at S13 in July 2015 by analysis of Table E2 constituents during a critical dry weather period. LACFCD conducted a second round of dry weather testing during a dry period in February 2016. The dry weather testing program was not initiated at the remaining stations since contracts and access permits were not fully completed until late December 2015. Dry weather testing program started in July 2016 at both NFC1 and GR1 monitoring station locations.

Table 6 lists exceedances not addressed in the prior TMDL section. They consist of four exceedances for organochlorides (two constituents) and 13 exceedances for PAHs (seven constituents). The organochloride exceedances detected were the pesticides DDE and pentachlorophenol. The PAH exceedances detected were Benz(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Chrysene, Dibenz(a,h)anthracene, and Indeno(1,2,3-c,d)pyrene. There were no other applicable water quality objective exceedances. There were no upstream outfalls monitored for these receiving water quality exceedances.

Table 6. Constituents without TMDL WLAs Exceeding Water Quality Objectives for FY 2015-16

Date	Condition	Receiving Water Location	Parameter	Result (µg/L)
1/5/2016	Wet	NFC1	4,4'-DDE	0.0267
1/5/2016	Wet	NFC1	Benz(a)anthracene	0.1352
1/5/2016	Wet	NFC1	Benzo(a)pyrene	0.1734
1/5/2016	Wet	NFC1	Benzo(b)fluoranthene	0.2661
1/5/2016	Wet	NFC1	Benzo(k)fluoranthene	0.1711
1/5/2016	Wet	NFC1	Chrysene	0.2796
1/5/2016	Wet	NFC1	Dibenz(a,h)anthracene	0.0436
1/5/2016	Wet	NFC1	Indeno(1,2,3-c,d)pyrene	0.1985
1/5/2016	Wet	NFC1	Pentachlorophenol	0.83513
2/18/2016	Wet	GR1	Benz(a)anthracene	0.0359
2/18/2016	Wet	GR1	Benzo(a)pyrene	0.0166
2/18/2016	Wet	GR1	Benzo(b)fluoranthene	0.0422
2/18/2016	Wet	GR1	Benzo(k)fluoranthene	0.0151
2/18/2016	Wet	GR1	Chrysene	0.1244
2/18/2016	Wet	GR1	Indeno(1,2,3-c,d)pyrene	0.0077
2/18/2016	Wet	GR1	Pentachlorophenol	0.3925
2/19/2016	Wet	S14	Pentachlorophenol	0.82

The WMP incorporated an interim 10% pollutant reduction milestone for September 30, 2017, for progress toward achieving compliance with water quality objectives for all WQPs, with zinc operating as the limiting pollutant. With no metals exceedances observed, the 2015-2016 CIMP results indicate compliance with this milestone.

(1) **Wet Weather Outfall Monitoring**

Stormwater outfall based monitoring was not conducted during the 2015-16 monitoring period. Two stormwater outfall monitoring station locations (SG1 and CC2) were installed during the 2016-17 period.

(2) **Toxicity**

Two wet weather events and one dry weather event were sampled for toxicity in 2015-16 at monitoring station location S13. All samples passed the TST test for survival and reproduction.

III. Achievement of Interim Milestones

The WMP includes many interim and final milestones with completion dates ranging from the approval date of the WMP to 2036. This section provides an update on WMP milestones not already addressed in the prior sections of this report, ranging from WMP adoption to June 30, 2017.

A. Minimum Control Measures and Non-stormwater Discharge Measure Milestones

The Minimum Control Measures (MCMs) are baseline Watershed Control Measures (WCMs) required for all Permittees. The MS4 Permit defines the MCMs, which are generally individually implemented by each Permittee. The objectives of the MCMs are to:

- Result in a significant reduction in pollutants discharged into receiving waters
- Satisfy the requirements of 40 CFR §122.26(d)(2)(iv).

The WMG members are implementing the MCMs and Non-Stormwater Discharges as set forth in the MS4 Permits.

B. Targeted Control Measures

Targeted Control Measures (TCMs) are supplemental enhancements of the required MCMs. TCMs are designed to reduce pollutant loading to meet interim and final compliance milestones for WQBELs and receiving water limitations. TCMs are divided into structural and non-structural control measures.

1. Structural Targeted Control Measures

The RAA placed an emphasis on structural control measures such as Best Management Practices (BMPs), to address pollutant load reduction to meet WQBELs and receiving water limitations. Structural BMPs are constructed on-the-ground controls designed to capture, treat, and/or infiltrate stormwater back into the ground. There are two main types of structural BMPs; Distributed and Regional. Distributed BMPs are small scale BMPs designed to capture runoff from a small drainage area. Regional BMPs are large scale BMPs designed to capture stormwater from acres of drainage area. The WMG is planning to continue to implementing both type of BMPs in cooperation with neighboring WMGs, Los Cerritos Channel and Lower

Los Angeles River, to meet WQBELs and receiving water limitations. The following is an update on active and planned structural BMP projects within the LSGR watershed.

a) **Proposition 84 Projects**

The Cities of Downey, Norwalk, Santa Fe Springs, and Whittier, along with seven other cities in neighboring watersheds, were awarded a \$1,037,000 grant from the Prop 84 Multi- Agency/Multi-Watershed Project to incorporate Low Impact Development (LID) BMPs into Major Transportation Corridors. The project allows the Cities to install tree box filters, bioretention tree wells, and a bioswale at the locations listed in Table 7. These LID BMPs are located in high volume transportation corridors where high concentrations of metals are typically found⁷. In addition to addressing metals, the LID BMPs in high traffic roadways will also capture and treat bacteria-laden stormwater flows originating from residential, commercial, industrial, and recreational areas.

Table 7. Proposition 84 funded LID BMPs in the LSGR watershed

City	BMP Type	Location
Downey	Filterra Tree Box Filter	12923 Barlin Avenue, north of Cheyenne Street
		Westside of Bixler Avenue, north of Prichard Street and east of Downey Avenue
		Eastside of Faust Avenue, north of Foster Road
		Eastside of Pangborn Avenue, north of Firestone Boulevard
	Bioswale	Northside of Firestone between Woodruff Avenue and Lakewood Boulevard
Norwalk	Filterra Tree Box Filter	14335 Pioneer Boulevard
		Northside of Imperial Highway, west of Volunteer Avenue
Santa Fe Springs	Filterra Tree Box Filter	Eastside of Norwalk Boulevard, south of Hawkins Street
		Shoemaker Avenue, north of Sandoval Street
Whittier	Whittier Bioretention Tree Wells	7951 Comstock Avenue
		7939 Comstock Avenue
		7912 Comstock Avenue
		7907 Comstock Avenue
		7751 Comstock Avenue
		7913 Milton Avenue
		7751 Milton Avenue
		7740 Milton Avenue
		7921 Newlin Avenue
		7748 Newlin Avenue

⁷ Duong,Trang T.T., & Lee, Byeong-Kyu, Determining contamination level of heavy metals in road dust from busy traffic areas with different characteristics. Journal of Environmental Management: 92(3). March 2011

b) Regional Stormwater Treatment Corridor

The WMP's RAA prioritized Regional BMPs in the WMG's approach to compliance. To determine the best locations for the Regional BMPs a feasibility study was completed in early 2016, and potential locations were ranked. As such, thirteen locations were identified in the 2016 Draft Corridor Plan developed for the LSGR WMG. The Draft Corridor Plan identifies a Regional Tier 1 Project Implementation Plan which is a large scale project to develop thirteen separate water treatment projects, located mostly in parks and open spaces along the LSGR, into a regional-scale stormwater treatment corridor. See Figure 3 and Table 8 for feasible locations, project status, and current funding strategy. Geotechnical investigations at future locations of the Regional BMPs is underway. Projects would improve water quality in the watershed through biofiltration, expansion of regional stormwater capture, groundwater storage in order to meet future water supply demands, and reduction of water usage through the implementation of water conservation landscape irrigation measures.

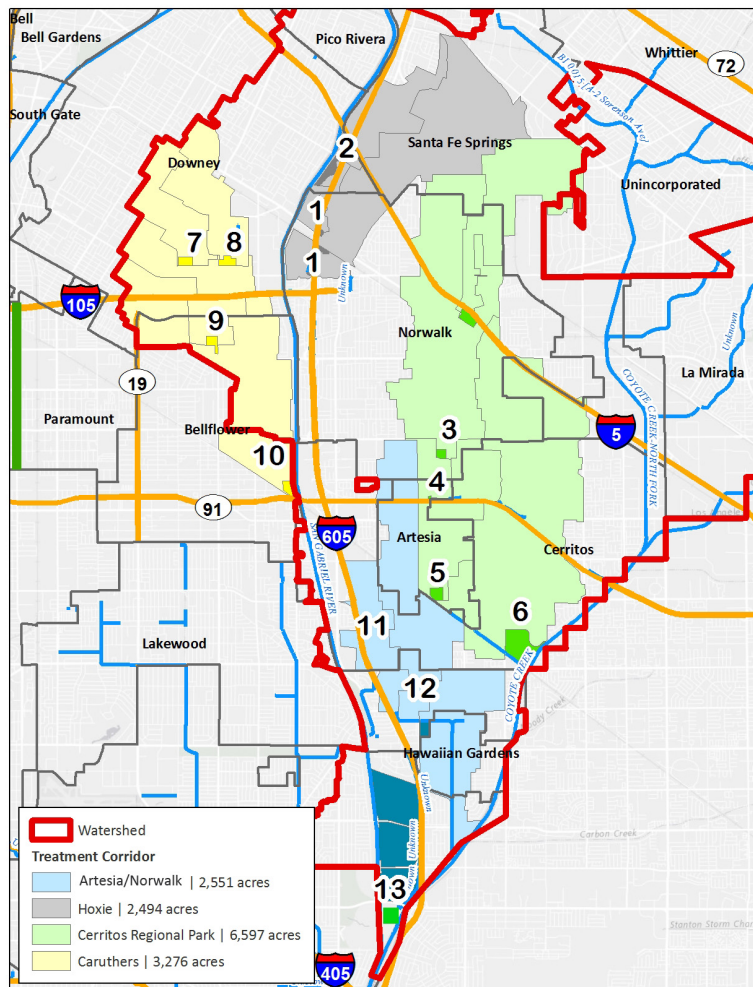


Figure 3. Regional Stormwater Treatment Corridor Project locations and tributary area.

Table 8. Regional Stormwater Treatment Corridor Tier 1 Projects

Jurisdiction	Project Map Number	Project Site	Potential Acre-foot Capture	Cost	Status
Artesia	4	A.J. Padelford Park	1.6	N/A	Soil unsuitable for infiltration
	5	Artesia City Park	16.5	\$4.5 M	Infiltration study pending
Bellflower	10	Caruthers Park	9.0	\$13 M	Awarded \$13 million from Caltrans. Design underway, construction anticipated to begin in 2018.
	9	Thompson Park	13.5	\$12 M	Soil suitable for infiltration
Cerritos	6	Cerritos Regional Park	32.2	\$16 M	Infiltration study pending
Downey	7	Discovery Park	12 (in addition to existing BMP)	\$9.2 M	Soil suitable for infiltration
	8	Independence Park	7.73	\$15 M	Soil suitable for infiltration
	2	Wilderness Park	24.7	\$10.2 M	Awarded \$1.6 million from RMC, awarded \$0.2 M from CA Parks & Rec.
Lakewood	12	Bloomfield Park	16.5	N/A	Further investigation needed (Native American artifacts discovered)
	11	Lakewood Pocket Park	4.9	\$8 M	Infiltration study pending
Long Beach	13	Artesia-Norwalk Drain	25.1	\$14 M	Infiltration study pending
Norwalk	3	Hermosillo Park	8.0	\$13 M	Soil suitable for infiltration
	1	Hoxie Avenue	4.1	\$6.5 M	Soil suitable for infiltration

2. Non-Structural Targeted Control Measures

Non-structural TCMs are source control and institutional BMPs that address different pollutants with varying degrees of effectiveness. At the time of the development of the WMP, WMG members (with the exception of the LACFCD) selected TCMs to plan or potentially implement. Table 9 demonstrates the updated planned and potential TCMs of each WMG member at the time of development of Adaptive Management report. The responses for each WMG member are defined as follows:

- C** Completed TCM: The TCM is currently implemented.
- X** Planned TCM: Under the presumption that 1) the TCM will likely not require approval of the governing body and 2) the governing body approves adequate staff/budget (if necessary), the TCM will be implemented.
- P** Potential TCM: The TCM is under consideration by the agency, however implementation is contingent upon yet to be determined factors. These factors include approval by the governing body, additional time needed to inform the governing body and/or relevant staff and approval of service contracts. As such implementation cannot be assured at this time.
- P_{AM}** Adaptive Management Potential TCM: At the time of Adaptive Management the TCM is *newly* under consideration by the agency, however implementation is contingent upon yet to be determined factors. These factors include approval by the governing body, additional time needed to inform the governing body and/or relevant staff and approval of service contracts. As such implementation cannot be assured at this time.
- AM** Adaptively Managed Out TCM: The TCM potentially implemented by the agency at the time of the development of the WMP and is now being adaptively managed out of the WMP. See WMP Modifications for further information.

Table 9. Nonstructural Targeted Control Measures

#	WCM Category/ ID	WCM	BMP effectiveness with respect to WQPs					Agency													
			Category I	Category II	Category III	Sediment reduction	Volume or flow reduction	Artesia	Bellflower	Cerritos	Diamond Bar	Downey	Hawaiian Gardens	Lakewood	La Mirada	Long Beach	Norwalk	Pico Rivera	Santa Fe Springs	Whittier	
Planning and Land Development																					
1	TCM-PLD-1	Train staff/councils to facilitate LID and Green Streets implementation	◆	◆	◆	◆	◆	X	C	X	C	C	C	C	C	C	C	C	C	C	
2	TCM-PLD-2	Ordinance requiring LID BMPs for projects below MS4 Permit thresholds	◆	◆	◆	◆	◆									C				P	
Existing Development																					
3	TCM-ICF-1 (MCM-ICF-3)	Prioritize facilities/inspections based on water quality priorities	◆	◆	◆	◆	◆	C	X	C	C	C	C	C	C	C	C	X	C	C	
4	TCM-TSS-1	Exposed soil ordinance	◆	◆	◆	◆	◇		P							C			P	P	
5	TCM-TSS-2	Erosion repair and slope stabilization on private property	◆	◆	◆	◆	◇		P										P	P	
6	TCM-TSS-3	Private parking lot sweeping ordinance	◆	◆	◆	◆	◇									C			P	C	
7	TCM-TSS-4	Sweeping of private roads and parking lots	◆	◆	◆	◆	◇									X			P	P	
8	TCM-TSS-5	Negotiations with regulated utilities for erosion control within R.O.W.	◆	◆	◆	◆	◇														
														Watershed Group							

#	WCM Category/ ID	WCM	BMP effectiveness with respect to WQPs					Agency															
			Category I	Category II	Category III	Sediment reduction	Volume or flow reduction	Artesia	Bellflower	Cerritos	Diamond Bar	Downey	Hawaiian Gardens	Lakewood	La Mirada	Long Beach	Norwalk	Pico Rivera	Santa Fe Springs	Whittier			
9	TCM-RET-1	Encourage retrofitting of downspouts (downspout disconnect)	◆	◆	◆	◆	◆						C					C		C		P	
Dry weather runoff reduction																							
10	TCM-NSWD-1	Incentives for irrigation reduction practices	◆	◆	◆	◆	◆	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
Public Information and Participation																							
11	TCM-PIP-1	Refocused outreach to target audiences and water quality priorities	◆	◆	◆	◆	◆								Watershed Group								
Public Agency Activities																							
12	TCM-PAA-1	Upgraded sweeping equipment (e.g. regenerative)	◆	◆	◆	◆	◇	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
13	TCM-PAA-2	Adopt Sewer System Management Plan (SSMP)	◇	◆	◇	◇	◇	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
14	TCM-PAA-3	Adopt (nonstructural) statewide trash amendments	◆	◆	◆	◇	◇	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
15	TCM-PAA-4	Increased street sweeping frequency or routes	◆	◆	◆	◆	◇		P			P						AM				P	
16	TCM-TSS-6	Erosion repair and slope stabilization on public property and right of way	◆	◆	◆	◆	◇						C				C		P			X	
Reporting/Adaptive Management																							
17	TCM-MRP-1	Enhanced tracking through use of online GIS MS4 Permit database	◆	◆	◆	◆	◆		C	X	P	C	X	C		C	X	P	C		X		

#	WCM Category/ ID	WCM	BMP effectiveness with respect to WQPs					Agency												
			Category I	Category II	Category III	Sediment reduction	Volume or flow reduction	Artesia	Bellflower	Cerritos	Diamond Bar	Downey	Hawaiian Gardens	Lakewood	La Mirada	Long Beach	Norwalk	Pico Rivera	Santa Fe Springs	Whittier
Jurisdictional SW Management																				
18	TCM-SWM-1	Prepare guidance documents to aid in implementation of MS4 Permit MCMs	◆	◆	◆	◆	◆	C	C	C	C	C	C	C	C	C	C	C	C	C
Initiatives																				
19	TCM-INI-1	Copper reduction through implementation of SB 346	◆	◆	◇	◇	◇													
20	TCM-INI-2	Lead reduction through implementation of SB 757	◆	◆	◇	◇	◇													
21	TCM-INI-3	Support zinc reduction in tires through safer consumer product regulations	◆	◆	◇	◇	◇													
22	TCM-INI-4	Apply for grant funding for stormwater quality/capture projects	◆	◆	◆	◆	◆				C	C				C	C	C	C	C

Watershed
Group

◆ Primary pollutant reduction ◆ Secondary pollutant reduction ◇ Pollutant not addressed
C – Completed/Implemented TCM **X** – Planned TCM **P** – Potential TCM **P_{AM}** – Adaptive Management Potential TCM **AM** – Adaptively Managed Out TCM.

IV. WMP Modifications

The WMG will not make significant modifications to the 2015 LSGR WMP at this time. This decision is based on the following:

- One year of CIMP data is insufficient to make the predictions needed to justify significant modifications.
- The CIMP results did not indicate new water quality concerns.
- In some respects the 2015-2016 CIMP results indicated a level of achievement higher than that predicted in the 2015 WMP. In particular numeric targets were met for copper, lead, and zinc, in wet and dry weather, which are designated as the highest WQPs in the LSGR WMP. Additionally all toxicity tests passed. It is also worth noting that the Table E2 constituents that exceeded were limited to five PAHs (PAHs are existing WQPs in the LSGR WMP) and two chlorinated pesticides.
- The control measures listed in the 2015 WMP already address the WQPs that did exceed in 2015-2016 (E. coli, PAHs, and organochlorides).

The following describes minor modifications to the nonstructural TCMs by individual WMG members.

A. Changes to Control Measures

This section addresses minor changes and rational of non-structural control measures by individual jurisdictions. Pending approval by the Regional Board, the WMG will modify the WMP to incorporate these changes.

1. City of Norwalk Increased Street Sweeping Routes / Frequency (TCM-PAA-3)

At the time of the development of the WMP the City of Norwalk decided to potentially⁸ implement increased street sweeping and/or frequency. As a part of the Adaptive Management process the City of Norwalk is deciding to no longer pursue increasing street sweeping routes and/or frequency.

The MS4 permit requires high trash generating areas, to be swept twice per month. The City currently sweeps commercial, residential, industrial, public/educational facilities and open/recreation, streets once a week. The current sweeping schedule for these areas employed by the City exceeds the MS4 Permit requirements by 200%. The City sweeps high use areas – Norwalk Arts and Sports Complex, Norwalk Park and Aquatic Pavilion, and Holifield Park – twice per week. The current sweeping schedule for these high use areas employed by the City exceeds the MS4 Permit requirements by 400%. The current schedule is sufficient to address the need for street cleaning of all areas within the City.

Additionally the City implements other control measures which are expected to reduce pollutant loading. The City uses regenerative sweepers which are more efficient at cleaning debris from the street than traditional street sweepers, and are more environmentally friendly. To ensure street sweeping is most

⁸ A potential control measure at the time of the WMP was described as “This is under consideration by the agency, however implementation is contingent upon yet to be determined factors. These factors include approval by the governing body, additional time needed to inform the governing body and/or relevant staff and approval of service contracts. As such implementation cannot be assured at this time. If the Potential TCM is not adopted by the agency within the first two years of the implementation of the WMP, it will be reconsidered through the adaptive management process.”

efficient cars are not allowed to be parked in the path of the street sweeper. This ensures as much debris as possible is cleaned from the street.

The City has also employed additional efforts to combat trash discharge to the MS4. To comply with the State Trash Amendments, the City is planning on retrofitting existing catch basins with trash capture devices. The City will retrofit 100% of catch basins in high priority land use areas including: commercial areas, mixed use commercial and industrial, wholesaling and warehousing, and multi-family residential. To ensure compliance is met, the City plans to install approximately 10% of the retrofits each year until 2026. The installation of retrofits is expected to reduce the amount of trash entering the MS4.

The measures described above are expected to significantly reduce pollutant loading. At this time the City has determined it is infeasible to further increase the routes and/or frequency of street sweeping because the street sweeping measures taken by the City are already above the MS4 Permit requirement. Since this is the case the City has elected to adaptively manage this control measures out of the WMP. The current measures employed by the City are more than sufficient to address the needs of street sweeping in all areas of the City.

2. Project Status Updates

Pending approval by the Regional Board, the WMG will incorporate minor modifications to the WMP to reflect status updates on applicable projects, such as the completion of the Gateway Prop 84 project.

B. Changes to Compliance Deadlines and Interim Milestones

The WMG does not request changes to compliance deadlines and interim milestones at this time.

C. Re-Evaluation of Watershed Water Quality Priorities

Bacteria was listed as Category 2 in the WMP. With the adoption of the Bacteria TMDL, bacteria should be listed as Category 1. Pending approval by the Regional Board, the WMG will modify the WMP to list bacteria as Category 1. There is insufficient monitoring data at this point to justify other changes to the existing Water Quality Priorities described in Section 2 of the WMP.

D. Watershed Specific Adaptive Management Conditions

The LSGR WMP was approved with conditions from the Regional Board:

“If it is determined through the adaptive management process that required bacteria load reductions may not be met by controlling for zinc, then the WMP will be modified to incorporate bacteria milestones with measurable criteria or indicators consistent with any future bacteria TMDL for the San Gabriel River and with, at the latest, a final deadline of 2040.” – Letter of Approval

Currently the WMP RAA predicts that control measures listed in the WMP to achieve metals TMDL limits will address bacteria limits as well. However the 2015-2016 CIMP results for metals may be an indication that more progress has been made toward achieving Metals TMDL limits than assumed in the RAA. If trends continue, planned control measures in the WMP to achieve metals TMDL limits may be reconsidered to focus on Bacteria TMDL limits. At this point in time long term trends are not possible, and as such there is not sufficient justification for modifications to the WMP in this regard.

E. Availability of New Information

The WMG is aware of the proposed updates to the 303(d) list. Once approved by the regulating authorities, the WMG will update the list of watershed WQPs accordingly, if applicable. If necessary, the watershed control measures will also be modified to address the modified WQPs. These changes would be formalized in the 2019 Adaptive Management Plan.

F. Recommendations from Regional Water Board and Public

During the public draft period of the WMP, prior to final approval, the WMG received comments on the WMP from the Regional Water Board and the public. Recommendations stemming from those comments were considered by the WMG, and either incorporated or otherwise addressed in the 2015 approved WMP. Since this period the WMG has not received additional comments or recommendations that are not already addressed.