CITY OF STOCKTON

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November 12th, 2021

Ms. Elizabeth Lee, Unit Chief
Municipal Storm Water Permitting Unit
Central Valley Regional Water Quality Control Board
11020 Sun Center Drive, Suite 200
Rancho Cordova, CA 95670-6114

CITY OF STOCKTON AND COUNTY OF SAN JOAQUIN STORM WATER MANAGEMENT PROGRAMS 2016-2021 END-TERM REPORT (ORDER NO. R5-2016-0040, NPDES PERMIT NO. CAS0085324)

Dear Ms. Lee:

For your review and consideration, the City of Stockton (City) and County of San Joaquin (County) are jointly submitting this 2016-2021 End-Term Report, in accordance with the National Pollutant Discharge Elimination System Permit (NPDES) and Waste Discharge Requirements (WDR) General Permit for Discharges from Municipal Separate Storm Sewer Systems (MS4) (General Permit), Part V.F.5. The report reflects all programmatic and storm water monitoring activities conducted during Fiscal Years 2016-2017 through 2020-2021.

A copy has been submitted to centralvalleysacramento@waterboards.ca.gov.

If you have any questions, please contact Dagmara Saini of City of Stockton at (209) 937-8155 or dagmara.saini@stocktonca.gov or Roy Valadez of San Joaquin County at (209) 468-3605 or rvaladez@sjgov.org.

Sincerely,

CITY OF STOCKTON
JEFF MARASOVICH
DEPUTY DIRECTOR, COLLECTIONS & STORMWATER

COUNTY OF SAN JOAQUIN
MATT ZIDAR
WATER RESOURCES DIRECTOR

Attachment: 2016-2021 End-Term Report

Cc: Karen Ashby, Larry Walker Associates
Rachel Warren, Larry Walker Associates

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NOVEMBER 2021

CITY OF STOCKTON AND COUNTY OF SAN JOAQUIN

National Pollutant Discharge Elimination System (Order Nos. R5-2016-0040-002 and R5-2016-0040-003) Municipal Stormwater Program 2016-2021 End-Term Report

PREPARED BY

LARRY WALKER ASSOCIATES
science | policy | solutions

CITY OF STOCKTON

SAN JOAQUIN COUNTY
Greatness grows here.

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CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted.

Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of a fine and imprisonment for knowing violations. [40 CFR 122.22(d)]

Executed on the __12th_ day of November 2021, at the City of Stockton.

Jeff Marasovich
City of Stockton
Deputy Director, Collections & Stormwater

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CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted.

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Executed on the ___ day of November 2021, at the County of San Joaquin.

Matthew Zidar
County of San Joaquin
Water Resources Manager

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1. Introduction

The most recent National Pollutant Discharge Elimination System (NPDES) and Waste Discharge Requirements (WDR) General Permit for Discharges from Municipal Separate Storm Sewer Systems (MS4) (Region-wide Permit) was adopted June 23, 2016.[1] The City of Stockton (City) and County of San Joaquin (County) submitted a Notice of Intent (NOI) application package on November 1, 2016 and received the Notice of Applicability (NOA) from the Central Valley Regional Water Quality Control Board (Regional Water Board) on November 30, 2016.[2] Among other things, the NOI package included a Work Plan (NOI Work Plan) outlining how the current Stormwater Management Plan (SWMP) and any previously proposed modifications will be implemented until a revised SWMP is submitted to and approved by the Regional Water Board (anticipated in 2022).

The City and County submitted the final *Assessment and Prioritization of Water Quality Constituents in the Stockton Urbanized Area* (Assessment and Prioritization) in October 2018.[3] This document identified the priority water quality constituents (PWQCs)—indicator bacteria, methylmercury, dissolved oxygen, and trash—that will be the focus of the stormwater program and the revised SWMP.

In July 2019, the City and County submitted a *Reasonable Assurance Analysis* (RAA) that identified strategies, activities, and milestones to address the PWQCs. The RAA results will assist in guiding the revision of the SWMP and identifying prioritized strategies that can be implemented based on available capital and operations and maintenance resources. The revised SWMP will be structured to address the identified PWQCs and include milestones, strategies, and activities that will, over time (as identified through the RAA), ensure that the City's and the County's discharges will not cause or contribute to exceedances of applicable water quality objectives (WQOs) within the relevant receiving waters.

A SWMP has been and continues to be implemented within the jurisdictional limits of the City and the urbanized areas of the County regulated under the Region-wide Permit (i.e., the Stockton Urbanized Area or SUA).[4] The SWMP represents the strategy for controlling the discharge of pollutants from the MS4 to the Maximum Extent Practicable (MEP) and includes a wide range of Best Management Practices (BMPs). This Annual Report focuses on the control measures and BMPs included in the currently approved SWMP, with the modifications as noted in previous annual reports and the NOI Work Plan.

The Region-wide Permit requires Annual Reports, Mid-Term Reports, and End-Term Reports. The Mid-Term and End-Term Reports serve as the Annual Report for the years submitted and

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[1] https://www.waterboards.ca.gov/centralvalley/board_decisions/adopted_orders/general_orders/r5-2016-0040_ms4.pdf

[2] City of Stockton under Order No. R5-2016-0040-002; County of San Joaquin under Order No. R5-2016-0040-003.

[3] The draft Assessment and Prioritization was submitted May 30, 2017 and a revised, final version submitted on October 2, 2018.

[4] The current SWMP was approved by the Central Valley Regional Water Quality Control Board on October 9, 2009 (Resolution R5-2009-0105).

include the applicable effectiveness assessment(s). A summary of the annual reporting schedule is provided in **Table 1-1**.

Table 1-1. Annual Reporting Schedule

Permit/Fiscal Year[a]	Report Type & Reporting Period	Status
Year 1 (2016-2017)	Annual Report (2016-2017)	*Complete*
Year 2 (2017-2018)	Annual Report (2017-2018)	*Complete*
Year 3 (2018-2019)	Mid-Term Report (2016-2019)	*Complete*
Year 4 (2019-2020)	Annual Report (2019-2020)	*Complete*
Year 5 (2020-2021)	**End-Term Report (2016-2021)**	*Current Submittal*

[a] **Bold, blue text** indicates the current report type.

This 2016-2021 End-Term Report is being submitted in accordance with Region-wide Permit and includes the items summarized in **Table 1-2** and fully described in **Appendix A**, *End-Term Report Requirements*.

Table 1-2. Summary of Annual Report Requirements

Report Requirement	Location
Provision V.E.5	
(b) Long-Term Effectiveness Assessments of Receiving Water and MS4 Discharge	Section 5
(c) Effectiveness Assessment Reporting	Section 5, 7, 8
Provision V.F.4	
(a.i) Certification that the Storm Water Management Plan and Work Plan were implemented as approved	Section 2
(a.ii) A summary of activities and tasks scheduled to be implemented in the upcoming year	Section 2
(a.iii) Proposed minor modifications to the Storm Water Management Program; or any proposed Work Plan Modification	Section 9
(a.iv) Certification statement	Certification Statements
(c) Water quality data (annual)	Appendix C
(d) Additional requirements	*See Attachment H*
Provision V.F.5	
(a) Cumulative summary of Storm Water Management Activities conducted	Section 6
(b) SWMP milestones attainment progress	Sections 2
(c) Cumulative summary of monitoring data	Section 5
(d-e) A long-term Storm Water Management Program effectiveness assessment and monitoring assessment	Section 5, 7, 8
(f) The progress in implementing the Work Plan submitted with the SWMP	[a]
(g) Fiscal analysis	Section 3
(h) Completed certification statement	Certification Statements
Attachment H Section A.15	
(a) Implementation status of the Storm Water Management Program	Section 6
(b) Proposed changes to the Storm Water Management Program	Section 9
(c) Revisions to the assessment of controls and the fiscal analysis	N/A
(d) A summary of data accumulated throughout the reporting year	Section 4
(e) Annual expenditures and budget for future year	Section 3
(f) Summary of enforcement actions, inspections, and public education programs	Section 6
(g) Identification of water quality improvements or degradation	Section 5

[a] Not Applicable (N/A) because the End-Term Report was developed during the period when the revised SWMP and Work Plan are in progress (see **Section 2**)

2. Implementation Statement

During the 2016-2021 timeframe, the City and County have implemented the stormwater program within the SUA consistent with the intent of the approved 2009 SWMP (and modifications thereto) and as described by the NOI Work Plan submitted to, and approved by, the Regional Water Board (**Appendix B**). However, some of the Control Measures included in the NOI Work Plan are not individually reported on within **Section 6** and **Section 7** because there are no implementation data specifically collected for those activities (e.g., Program Coordination).

During 2021-2022, until a revised SWMP and Work Plan are approved, the City and County will continue to implement the stormwater program within the SUA as outlined by the NOI Work Plan.

2.1 Status of SWMP Milestones

The Region-wide Permit (Part V.F.5.b) requires that the status of SWMP milestones be documented in the End-Term Report:

> *b. Status of progress towards attainment of SWMP milestones and implementation of the strategies, and activities. If any SWMP milestones or final dates for attainment were not met, the Permittee shall provide detailed explanations.*

The End-Term Report has been developed during the period when the RAA (submitted July 1, 2019) is still under review by the Regional Water Board and the revised SWMP has therefore not yet been submitted. As such, SWMP milestones have not yet been developed, and this End-Term Report instead focuses on the implementation of the current SWMP and its associated Control Measures and Performance Standards.

3. Fiscal Analysis

The City and County annually assess the current NPDES expenditures, as well as the projected expenditures for the next fiscal year. The City's and County's fiscal analyses for this year, the previous four years, and the projected expenditures for the next fiscal year are provided in **Table 3-1** and **Table 3-2**, respectively.

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Table 3-1. 2016-2021 Fiscal Analysis, City of Stockton

Program Element	Expenditures During Fiscal Year					Estimated Budget for Fiscal Year 2021-2022
	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021	
Program Management: Staff salaries, utility billing, phone charges, computer software/rentals, memberships, permit fees, indirect cost allocations, training, consultant contracts	$1,680,188	$1,478,952	$2,122,578	$1,689,694	$2,245,389	$1,745,522
Public Outreach: Staff salaries, industrial, commercial, and residential programs, including media and community events	$69,315	$4,008	$9,167	$2,231	$8,378	$34,300
Municipal Operations: Staff salaries, CIPs, and Storm Drain System Cleaning and Maintenance (includes Illicit Discharges, illegal connections mitigation, and clean-up)[a]	$3,010,371	$2,948,593	$4,221,379[b]	$3,726,539[b]	$4,707,453[b]	$4,534,574
Industrial and Commercial: Staff salaries, inspections, and follow-up inspections[c]	$61,170[d]	$3,281	$40,404	$43,211	$176,844	$185,436
Construction: Staff salaries, outreach	$61,170[d][e]	$3,281[f]	$3,493	$6,300	$105,017	$110,600
Planning and Land Development: Staff salaries	$ 93,875	$73,639	$56,196	$43,142	$106,468	$144,381
Water Quality Monitoring: Includes monitoring at six water bodies on an annually rotating basis	$288,730	$257,441	$568,213	$497,633	$538,383	$261,839
Water Quality Based Programs: Includes pollutant-specific work efforts (e.g., Trash Implementation Plans, Pyrethroid Control Program)	$63,299	$54,998	[g]	[g]	[g]	[g]
TOTAL	**$5,328,118**	**$4,824,191**	**$7,021,430**	**$6,008,750**	**$7,887,971**	**$7,016,652**

[a] Facility Pollution Prevention Plans (FPPPs) are paid for out of Public Works budget and are not a Stormwater Expense.
[b] As the City enhanced the consistency of its operations, CIP costs were incorporated into the Municipal Operations budget.
[c] The Industrial and Commercial Inspection Program is conducted in-house by Stormwater and Environmental Control Staff.
[d] The cost to develop a Websoft Inspection Tracking Database in 2016-2017 is divided evenly between the Industrial/Commercial and Construction program elements.
[e] Business and Construction outreach expenditures in 2016-2017 are included in the Public Outreach budget.
[f] During the 2017-2018 reporting year, the City reorganized staffing positions to better align with permit objectives. During this process, the staff position for construction site inspector was vacant; therefore, there was no salary expenditure.
[g] Effective in fiscal year 2018-2019, actual expenditures associated with Water Quality Based Programs are reflected and reported in the Water Quality Monitoring Program expenditures.

Table 3-2. 2016-2021 Fiscal Analysis, County of San Joaquin

Program Element	Expenditures During Fiscal Year					Estimated Budget for Fiscal Year 2021-2022
	2016-2017	2017-2018[a]	2018-2019[b]	2019-2020[c]	2020-2021	
Program Management	$ 121,995	$ 87,437	$ 386,954	$ 641,748[d]	$762,413[d]	$800,000
Illicit Discharges	$ 14,528	$ 10,670	$ 1,506	$ 2,362	$900	$20,000
Public Outreach	$ 26,210	$ 11,076	$ 32,896	$ 33,866	$29,346	$50,000
Municipal Operations	$ 32,718	$ 53,184[e]	$ 19,459	$ 3,000[d]	$3,674[d]	$7,000
Industrial and Commercial	$ 28,344	$ 34,213	$ 25,729	$ 2,427[d]	$0[d]	$3,000
Construction[f]	$ 20,668	$ 7,676	$ 15,480	$ 25,468	$44,818	$40,000
Planning and Land Development	$ 10,610	$ 12,344	$ 5,589	$ 9,100	$31,386	$30,000
Water Quality Monitoring Programs	$ 64,215	$ 22,847	$ 102,099	$ 150,000	$22,922	$30,000
Water Quality Based Programs	$ 5,441	$ 1,987	[g]	[g]	[g]	[g]
Program Implementation, Assessment, and Reporting	$ 137,375	$ 149,549	[h]	[h]	[h]	[h]
TOTAL	**$ 462,105**	**$ 390,983**	**$ 589,712**	**$ 867,969**	**$ 895,459**	**$ 980,000**

[a] Actual expenditures for fiscal year 2017-2018 do not reflect the County's shared costs of co-permittee expenditures with the City of Stockton; therefore, County expenditures in several program elements are understated.

[b] Actual expenditures for fiscal year 2018-2019 do not reflect the County's shared costs of co-permittee expenditures with the City of Stockton; however, they do include the County's 2015-2016 shared costs of the co-permittee expenditures with the City of Stockton.

[c] Actual expenditures for fiscal year 2019-2020 do not reflect the County's 2019-2020 shared costs of co-permittee expenditures with the City of Stockton; however, the expenditures do include back billings from the County's shared costs of co-permittee expenditures with the City of Stockton for 2016-2017 and 2017-2018.

[d] Due to state-mandated COVID-19 restrictions and related logistical and personnel challenges, municipal operations and industrial and commercial expenditures decreased. Program management expenditures increased as new systems were devised to handle the COVID-19 paradigm.

[e] 2017-2018 expenditures for use of a second, new VacCon Truck for storm drain cleaning, a Stormwater expense, have been included in 2017-2018 reporting and are paid from the Road Maintenance budget.

[f] Responsibility for reviewing and implementing Stormwater Pollution Prevention Plan (SWPPP) Inspections for the San Joaquin County Road Projects were transferred to the Field Engineering division, which is responsible for construction activities for the department. Expenditures for reviewing and implementing SWPPPs were absorbed by the Field Engineering Division budget and were not available to report along with Stormwater expenses.

[g] Effective in fiscal year 2018-2019, actual expenditures associated with Water Quality Based Programs are reflected and reported in the Water Quality Monitoring Program expenditures.

[h] Effective in fiscal year 2018-2019, actual expenditures associated with Program Implementation, Assessment, and Reporting are reflected and reported in the Program Management expenditures.

The City's stormwater program is funded primarily by a storm drain maintenance or user fee of $2.10/month per Equivalent Residential Unit. During 2020-2021, this program generated $5,423,458 in revenue. The City predicts a total revenue of $4,827,992 for 2021-2022.

The County's funding sources are summarized in **Table 3-3**. The County's stormwater program is funded primarily by a storm drain maintenance or user fee assessed at $35/year per Equivalent Residential Unit. During 2020-2021, these programs generated $759,550 in revenue. The County predicts a total revenue of $761,000 for 2021-2022.

Table 3-3. 2016-2021 Funding Sources, County of San Joaquin

Source	Funding for Fiscal Year, by Percentage					Estimated Funding for Fiscal Year 2021-2022, by Percentage
	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021	
Assessment Fee/Special District Fund (Fee $35/parcel)	78.63%	76.41%	78.35%	82.29%	80.14%	80.03%
Inspection/plan check fees	9.63%	10.34%	13.21%	9.40%	18.07%	18.13%
Miscellaneous Revenue – Interest Income	2.04%	3.68%	5.87%	5.59%	1.80%	1.84%
Operating Transfers	9.70%	9.56%	2.58%	2.72%	0.00%	0.00%

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4. Water Quality Monitoring Annual Assessment (2020-2021)

Provision V.E of the Region-wide Permit requires monitoring of urban runoff and receiving waters. In accordance with the previous permit, the City and County received approval from the Regional Water Board in 2015 for conducting an Alternative Monitoring Program (AMP).[1] The AMP is consistent with the proposed monitoring program from the Report of Waste Discharge (June 2012 ROWD),[2] meets the objectives of the Region-wide Permit, directs resources to the most critical water quality issues, and collects data to support management decisions to address those critical issues.

The primary objective of the AMP is to focus on Pollutants of Concern (POCs), as identified within the June 2012 ROWD, and implement an intensive monitoring approach to determine the source(s) of pollutants in urban discharges. In addition to the AMP, the City and County were approved to participate in the Delta Regional Monitoring Program (Delta RMP) in lieu of conducting some of the local water quality monitoring.[3]

As a result, the revised monitoring program was initiated during the 2015-2016 reporting period and has been implemented since that time. The AMP will form the basis of the monitoring program that will be submitted as a part of the revised SWMP and will shift the monitoring program focus from the POCs to the PWQCs identified in the Assessment and Prioritization.

The monitoring program is a focused effort conducted within six (6) key water bodies on a rotating basis. The schedule for the staggered waterbody monitoring is shown in **Table 4-1**.

Table 4-1. AMP Staggered Waterbody Monitoring Schedule

Waterbody[a]	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021
Mosher Slough[b]	■					
Calaveras River[b]		■				
Duck Creek[b]			■			
Smith Canal[b]				■		
Mormon Slough					■	
Five-Mile Slough						■

[a] Blue text indicates the most recent year's monitoring location.
[b] Historical monitoring locations.

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[1] City of Stockton and County of San Joaquin. Submittal of Alternative Stormwater Monitoring Program (Order No. R5-2015-0024). June 10, 2015; Central Valley Regional Water Quality Control Board. Approval of City of Stockton and County of San Joaquin's 27 October Alternative Monitoring Program. 4 November 2015.

[2] National Pollutant Discharge Elimination System Municipal Stormwater Program – *Report of Waste Discharge & Proposed Stormwater Management Plan*, June 2012 (Section 2.7; Tables 2-42, 2-43, 2-44, 2-45, 2-46, and 2-47).

[3] Central Valley Regional Water Quality Control Board. Approval to Allow the City of Stockton and County of San Joaquin to Reduce Local Water Quality Monitoring and Participate in the Delta Regional Monitoring Program. 4 November 2015.

Monitoring results for each previous fiscal year have been summarized in the corresponding Annual Report. Constituents monitored for each waterbody are summarized in **Table 4-2**. A comprehensive summary of all waterbody monitoring is included in this End-Term Report in **Section 5**.

Table 4-2. Summary of Constituents Monitored by Waterbody from 2015-2021

Constituents Monitored	Monitoring Type	Waterbody					
		Mosher Slough	Calaveras River	Duck Creek	Smith Canal	Mormon Slough	Five-Mile Slough
Full suite of constituents (**Table 4-8**)	Water quality	✓	✓	✓	✓		
Dissolved Oxygen	Water quality	✓	✓	✓	✓	✓	✓
Methylmercury and mercury	Water quality	✓	✓	✓	✓		
E. coli & fecal coliform	Water quality	✓	✓	✓	✓	✓	✓
Chlorpyrifos and pyrethroids	Water quality	✓	✓	✓	✓		✓
Sediment toxicity & sediment chemistry	Sediment	✓	✓	✓	✓		
Water column toxicity	Water column	✓	✓	✓	✓		

4.1 WATERBODY AND DRAINAGESHED MONITORING

Five-Mile Slough's watershed primarily comprises residential land uses with some commercial land use. The waterbody meanders westward through residential areas, including the City's Swenson Park Golf Course and unincorporated areas, to Fourteen-Mile Slough, where a weir controls tidal inflow from Fourteen-Mile Slough. During the summer, flow is reduced by a diversion of irrigation water from Five-Mile Slough to the park and golf course. Five-Mile Slough receives inputs from groundwater, tidal exchange, and urban runoff. West of I-5, the slough is estimated to be approximately ten feet deep; however, east of I-5, the slough is very shallow, and water depth generally does not exceed four feet in the deepest portion of the waterbody. During the dry season, about one quarter of the easternmost channel is dry.

Sites monitored at Five-Mile Slough are shown in **Figure 4-1** and listed in **Table 4-3**. Monitoring at Five-Mile Slough focused on the POCs within the drainageshed, which include:

- Indicator bacteria (*E. coli* and fecal coliform)
- Pesticides (chlorpyrifos and pyrethroids)
- Dissolved oxygen (DO)

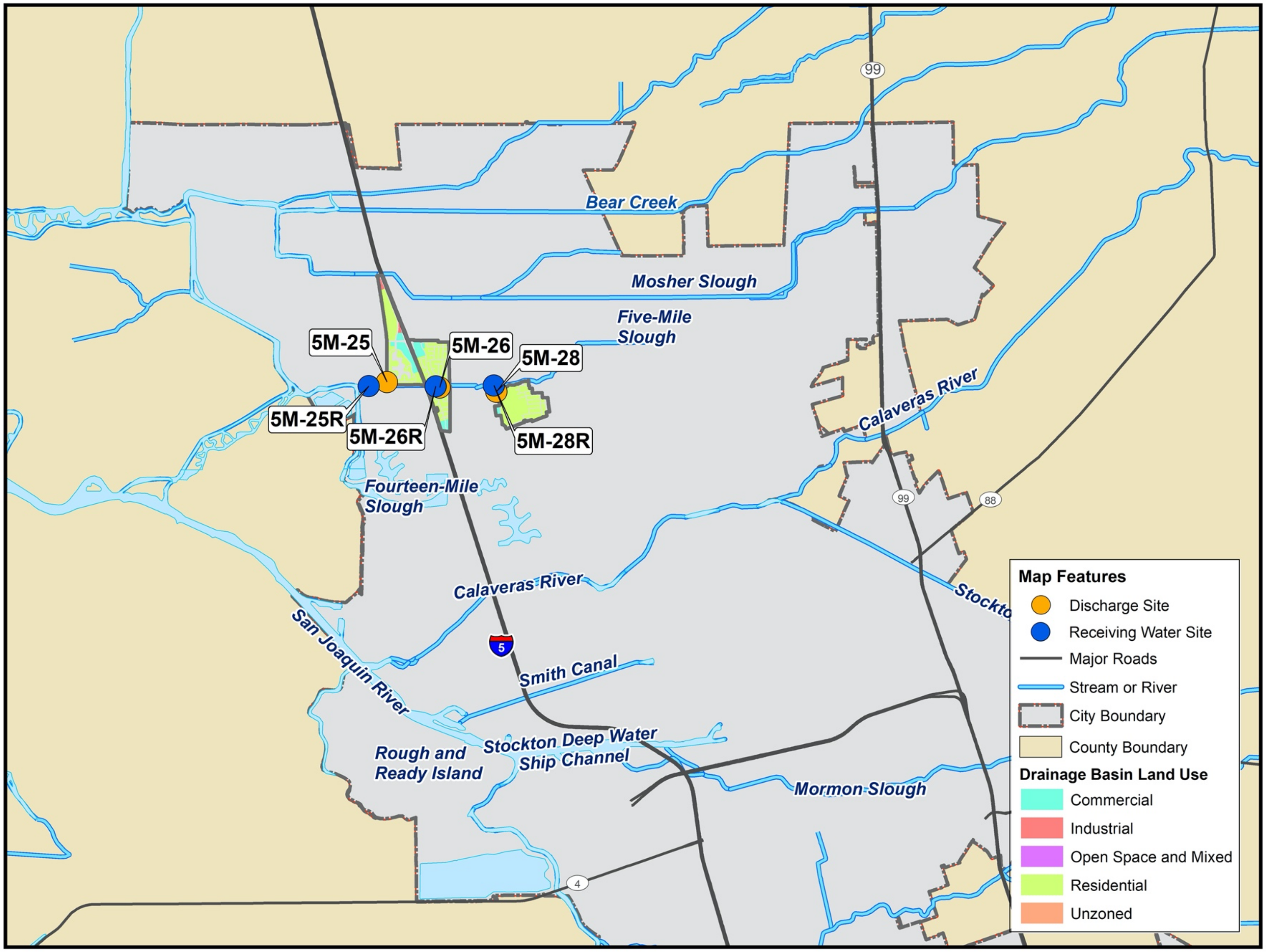

Figure 4-1. Five-Mile Slough Monitoring Sites and Drainagesheds

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Table 4-3. Five-Mile Slough Monitoring Sites and Constituents Monitored

Constituents Monitored	Monitoring Type	Sites Monitored					
		5M-25	5M-25R	5M-26	5M-26R	5M-28	5M-28R
Field parameters	Water quality	G	G	G	G	G	G
Dissolved oxygen	Water quality	G	G	G	G	G	G
Indicator bacteria (*E. coli* & fecal coliform)	Water quality	G	G	G	G	G	G
Pesticides (Chlorpyrifos and pyrethroids)	Water quality	G	G	G	G	G	G

G: Grab

Monitoring activities completed during 2020-2021 are summarized in **Table 4-4** with the results presented in the following sections.

Table 4-4. 2020-2021 Monitoring Program Activities

Monitoring Program Activity	Status
Outfall and Receiving Water Monitoring (**Section 4.1.2**)	• 3 wet weather events[a] monitored at 3 urban discharge and 3 receiving water sites • 4 dry weather events monitored at 3 urban discharge and 3 receiving water sites
Rainwater/Atmospheric Deposition Monitoring (**Section 4.1.3**)	• Rainwater was monitored at 3 locations during 3 wet weather events

[a] A "make up" event SE76 was completed for rainwater samples only, as rainwater was not collected in sufficient quantity during SE75. As such, three wet weather events were completed for urban discharge and receiving water: SE74, SE75 and SE77; and three wet weather events were completed for rainwater/atmospheric deposition monitoring: SE74, SE76 and SE77.

4.1.1 Storm Tracking and Selection

Monitoring of stormwater runoff is a key component of the monitoring program[4] and requires a high level of coordination of equipment and field crews. Incoming storms are tracked and assessed against storm selection criteria (e.g., amount of precipitation, days since last rain event, duration of event) and the forecasted reliability that the storm will occur in the SUA. Wet weather monitoring is particularly challenging in the SUA, as rainfall forecasts are often unreliable due to the convective nature of incoming storms. In addition, because storms normally

[4] The Regional Permit defines the "monitoring year" as October 1 through September 30. Monitoring events are reported for the fiscal year, due to the time needed for data reporting and processing.

intersect Stockton traveling from the west to the east, it is not unusual for northern Stockton to receive substantial rainfall, while southern Stockton remains dry, or vice versa.

Wet weather events are timed to attempt to capture urban runoff impacts with the highest possible representation of the targeted storm event (i.e., high percent capture) using flow-based composite samplers at urban discharge stations when possible. Grab sampling techniques, when feasible, are conducted near the peak of storm event hydrographs, and are used at all receiving water stations. Due to standard method requirements, grab sampling is used for the following constituents, when monitored at the applicable waterbody:

- Oil and grease
- Indicator bacteria
- Mercury/methylmercury
- Pesticides

The daily total rainfall at the Stockton Metropolitan Airport[5] during the 2020-2021 monitoring year is shown in **Figure 4-2**. The total cumulative total seasonal rainfall (relative to the historical average[6]) and monitoring event timing are also shown. Historical average annual rainfall at the Stockton Metropolitan Airport is 14 inches. The 2020-2021 monitoring year had below-average precipitation with 6.28 inches of rain, which is 45% of historical annual rainfall. The 2021 water year classification is not expected to be determined until May 2022. However, the California Department of Water Resources classified the previous wet season for the 2021 water year (ending September 30, 2021) as "dry" for the San Joaquin Valley.[7]

[5] https://cdec.water.ca.gov/cgi-progs/queryCSV?station_id=SOC&sensor_num=45&dur_code=D&start_date=7%2F1%2F2016&end_date=6%2F30%2F2017&data_wish=View+CSV+Data

[6] Based on 1981-2010 data. http://www.cnrfc.noaa.gov/awipsProducts/RNOWRKCLI.php

[7] http://cdec.water.ca.gov/cgi-progs/iodir/WSIHIST

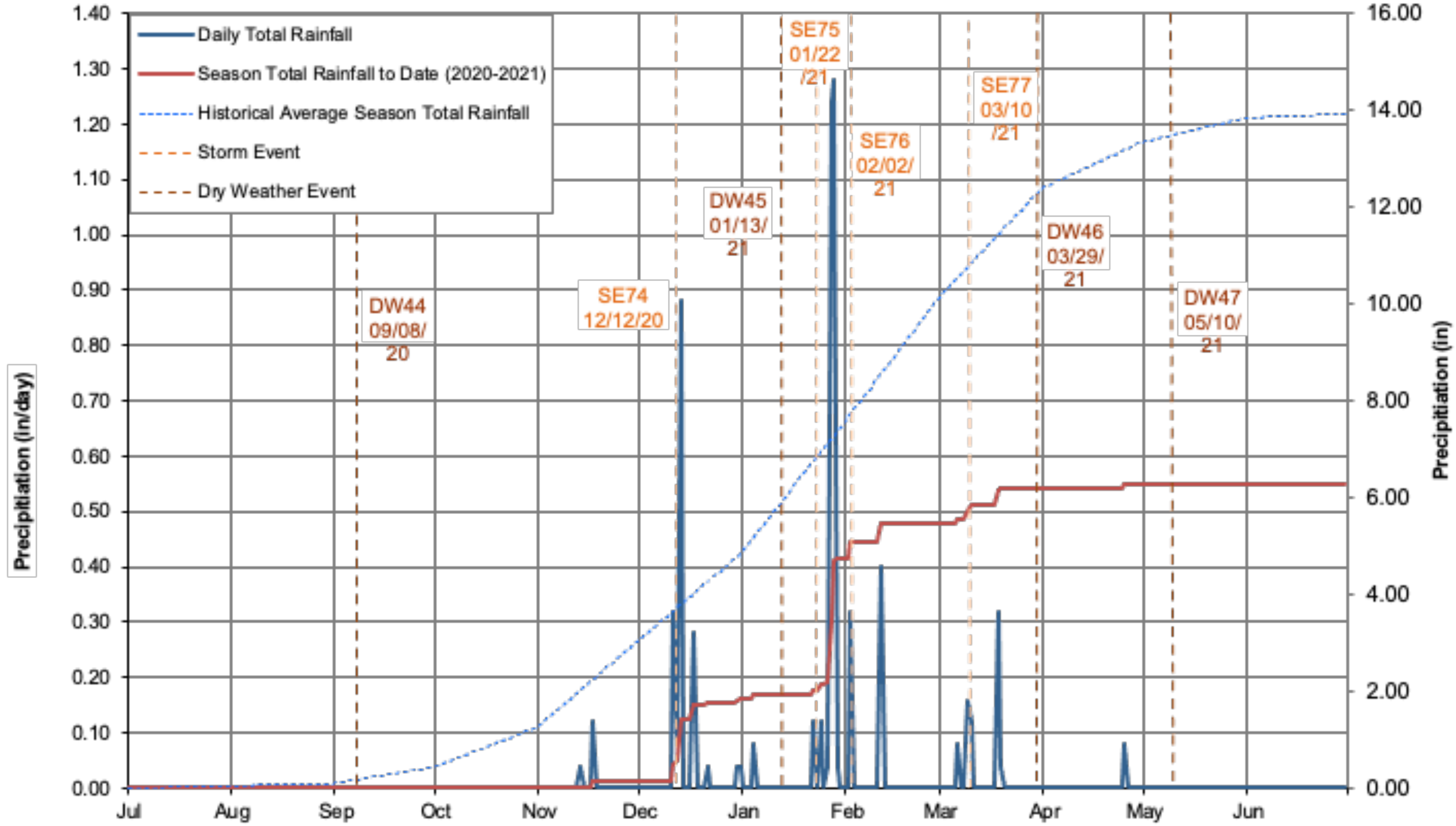

Figure 4-2. 2020-2021 Precipitation at Stockton Metropolitan Airport and Captured Monitoring Events (SE = Storm Event; DW = Dry Weather Event)

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4.1.1.1 Details of 2020-2021 Wet Weather Monitoring Events

Each monitoring event is unique in terms of the antecedent weather conditions, flow in the receiving waterbody, field conditions, etc. Runoff quality is particularly influenced by the amount and intensity of rainfall and time of sampling with respect to the rainfall hydrograph. The conditions for wet weather events conducted during 2020-2021 are summarized in **Table 4-5**.

Table 4-5. Details of 2020-2021 Wet Weather Monitoring Events

Storm Events[a][b]	SE74 12/12/2020	SE75 1/22/2021	SE76 2/2/2021	SE77 3/10/2021
Time of first rain	12/11/2020 20:00	01/22/2021 12:00	02/02/2021 04:00	03/09/2021 16:00
Time of last rain	12/12/2020 09:00	01/22/2021 16:00	02/02/2021 11:00	03/10/2021 16:00
Total rain (in)	0.40	0.12	0.32	0.28
Antecedent Conditions				
Date of last precipitation	11/17/2020	01/04/2021	01/29/2021	03/06/2021
Date of last storm > 0.1 in	11/17/2020	12/17/2020	01/28/2021	02/11/2021
Days since last storm	25 Days	36 Days	5 Days	27 Days
Date of last storm > 0.25 in	04/06/2020	12/17/2020	01/28/2021	02/11/2021
Days since last storm	250 Days	36 Days	5 Days	27 Days
Cumulative rainfall to date (in)	0.56	2.04	5.08	5.84

[a] Precipitation data are collected at the Stockton Metropolitan Airport, available at: https://mesowest.utah.edu/cgi-bin/droman/download_api2.cgi?stn=KSCK&year1=2014&day1=19&month1=6&hour1=&timetype=LOCAL&unit=0

[b] Per the AMP approved by the Regional Water Board, rainfall events of 0.15''- 0.25'' are targeted for the monitoring program.

4.1.2 Outfall and Receiving Water Monitoring

The monitoring program includes urban discharge outfall and receiving water monitoring. Urban discharge outfall monitoring characterizes the quality of urban runoff discharged from three storm drain outfalls along Five-Mile Slough. In addition, receiving water monitoring characterizes the quality of the receiving waters within the SUA. Three receiving water sites were sampled downstream of the urban discharge sites. The co-located sites are used to help determine if the urban discharge is potentially causing or contributing to contemporaneous in-stream exceedances of applicable water quality objectives.

Monitoring sites sampled in 2020-2021 are shown in **Table 4-3**.

- Urban discharge sites are labeled with a station and number code (e.g., 5M-25).
- Receiving water sites are labeled with an "R" for receiving water (e.g., 5M-25R).

The outfall and receiving water monitoring sites and predominant land uses are summarized in **Table 4-6**.

Table 4-6. 2020-2021 Outfall and Receiving Water Monitoring Sites on Five-Mile Slough

Site Type	Station ID	Monitoring Site Description	Predominant Land Use	Drainage Area (acres)
Urban Outfall	5M-25	Pump station located on north side of Five-Mile Slough west of Interstate I-5	Mixed Residential with minor Commercial	170
	5M-26	Pump station located on south side of Five-Mile Slough east of Interstate I-5	Mixed Residential with minor Commercial	181
	5M-28	Pump station located on northeast corner of the Swenson Golf Course on south side of Five-Mile Slough	Residential and Open Space/Parks	150
Receiving Water	5M-25R	Receiving water samples are collected from the south levee at the western extent of Five-Mile Slough downstream of the 5M-25 outfall	NA	NA
	5M-26R	Receiving water samples are collected from the north levee downstream of the 5M-26 outfall	NA	NA
	5M-28R	Receiving water samples are collected from the south bank downstream of the 5M-28 outfall	NA	NA

NA : Not Applicable

Monitoring is generally conducted during three (3) wet weather events and four (4) dry weather events each year. During 2020-2021, monitoring was completed at each urban discharge and receiving water site three (3) times during the wet season and four (4) times during the dry season.[8] Rainwater samples were not captured during wet weather event (SE75) but were collected during the next storm (SE76). The timeline of the events is shown in **Figure 4-2**. The sites sampled during each event are listed in **Table 4-7**. Wet weather events (labeled "SE" for storm event) and dry weather events (labeled "DW" for dry weather) are numbered sequentially

[8] A "make up" event SE76 was completed for rainwater samples only, as rainwater was not collected in sufficient quantity during SE75. As such, three wet weather events were completed for urban discharge and receiving water: SE74, SE75 and SE77; and three wet weather events were completed for rainwater/atmospheric deposition monitoring: SE74, SE76 and SE77.

from the time when wet weather and dry weather monitoring events were initiated within the SUA (in 1992 and 2004, respectively).

Table 4-7. Sites Sampled and Type of Sample Collected in 2020-2021

Event Code	Sample Date	Site Type and Station ID					
		Urban Outfall			Receiving Water		
		5M-25	5M-26	5M-28	5M-25R	5M-26R	5M-28R
DW44	9/8/2020	G	G	G	G	G	G
SE74	12/12/2020	G	G	G	G	G	G
DW45	1/13/2021	G	G	G	G	G	G
SE75	1/22/2021	G	G	G	G	G	G
SE76[a]	2/2/2021	NS	NS	NS	NS	NS	NS
SE77	3/10/2021	G	G	G	G	G	G
DW46	3/29/2021	G	G	G	G	G	G
DW47	5/10/2021	G	G	G	G	G	G

G : Grab
NS : Not Sampled
[a] Only rainwater sites were monitored during wet weather event SE76. A "make up" event SE76 was completed for rainwater samples only, as rainwater was not collected in sufficient quantity during SE75. As such, three wet weather events were completed for urban discharge and receiving water: SE74, SE75 and SE77; and three wet weather events were completed for rainwater/atmospheric deposition monitoring: SE74, SE76 and SE77.

4.1.2.1 Monitored Constituents and Analytical Methods

The constituents and corresponding analytical methods for urban discharge and receiving water monitoring comply with the Method Detection Limits (MDLs) specified in the monitoring program.[9] The MDLs for the constituents sampled during the 2020-2021 monitoring events are shown in **Table 4-8.**

[9] Some questions exist as to the applicability of these water quality objectives and criteria to stormwater discharges because an appropriate Water Code section 13241 analysis was not performed on the state water quality objectives used herein and an implementation plan relative to stormwater discharges was not prepared under Water Code section 13242. In addition, the State Water Resources Control Board (SWRCB) has determined that the federal water quality criteria, such as are contained in the CTR, do "not apply to regulation of storm water discharges." See SWRCB Policy for Implementation of Toxics Standards for the Inland Surface Waters, Enclosed Bays, and Estuaries of California at pg. 1, fn 1; see also CTR Preamble, 65 Fed. Reg. 31682 (5/18/00), which does not identify municipal stormwater as a potentially affected entity. Moreover, these objectives and criteria were never intended to be applied to stormwater discharges at the end of pipe without dilution and mixing being considered. Nevertheless, these objectives and criteria are utilized herein for the purposes of this report.

Table 4-8. Constituent Analysis for Outfall and Receiving Water Monitoring in 2020-2021

Constituents	Method Detection Limits (MDLs)	Water Quality Objectives (WQOs)	WQO Source
Conventional Pollutants / Field Measurements			
Date	mm/dd/yyyy	-	-
Sample Time	hr:min (regular time)	-	-
Weather	Degrees F	-	-
Water Temperature	Degrees C	-	-
pH	0 - 14	6.5 – 8.5	Basin Plan[a]
Dissolved Oxygen	Sensitivity to 5 mg/L	>5 or >6[b]	Basin Plan
Indicator Bacteria, MPN/100mL			
E. coli	<20	235[c]	Stockton Urban Waterbodies Pathogen TMDL (Basin Plan)
Fecal Coliform	<20	400	
General, mg/L			
Biochemical Oxygen Demand	2	-	-
Mercury, ng/L			
Mercury, Total	0.2	50	CTR
Methylmercury, Total	0.02	-	Basin Plan[d]
Pesticides, ng/L			
Chlorpyrifos	0.5	15	Basin Plan
Pyrethroids, ng/L			
Allethrin	0.1 - 2	-	-[e]
Bifenthrin	0.1 - 2		
Cyfluthrin	0.2 - 2		
Cypermethrin	0.2 - 2		
Deltamethrin:Tralomethrin	0.2 - 1		
Esfenvalerate:Fenvalerate	0.2 - 2		
Fenpropathrin	0.2 - 1		
Lambda-Cyhalothrin	0.2 - 2		
Permethrin	2 - 10		
Tau-Fluvalinate	0.2 - 1		
Tetramethrin	0.2 - 1		

[a] Water Quality Control Plan for the Sacramento River and San Joaquin River basins.

[b] The WQO is >6 mg/L from September 1 – November 30.

[c] This is not an objective, but the Stockton Urban Waterbodies Pathogen TMDL single sample maximum water quality target.

[d] The methylmercury objective is a tissue-based objective. For the Sacramento-San Joaquin Delta and Yolo Bypass waterways listed in Basin Plan Appendix 43 (including waterways in the Stockton Urbanized Area), the average methylmercury concentrations shall not exceed 0.08 and 0.24 mg methylmercury/kg, wet weight, in muscle tissue of trophic level 3 and 4 fish, respectively (150-500 mm total length). The average methylmercury concentrations shall not exceed 0.03 mg methylmercury/kg, wet weight, in whole fish less than 50 mm in length.

[e] The Central Valley Pyrethroid Pesticide Basin Plan Amendment (BPA) was approved by the USEPA Office of Administrative Law on February 19, 2019 and became effective during the 2018-2019 monitoring year. The BPA establishes pyrethroid concentration goals and pyrethroid triggers based on the sum of freely dissolved individual pyrethroid concentrations divided by their concentration goals. Pyrethroid concentrations in future monitoring years will be evaluated using the Basin Plan pyrethroid triggers.

The Region-wide Permit requires the submittal of water quality monitoring data to the Regional Water Board. As such, all annual water quality monitoring data are provided in **Appendix C**. The Region-wide Permit also requires that the water quality monitoring data be uploaded to the California Environmental Data Exchange Network (CEDEN) or the Storm Water Multi-Application Reporting and Tracking System (SMARTS) database, when available. Notably, SMARTS is not currently available to accept the formatted data. Thus, only the receiving water data from 2020-2021 has been uploaded to CEDEN.

The waterbody/drainageshed monitoring results include the following information:

- Sample location and Station type (urban discharge [UD] or receiving water [RW])
- Sampling method (composite or grab)
- Sample date and time
- Sample result
- MDLs and Reporting Limits (RLs)
- Data qualifiers
- Comparison to the lowest applicable water quality objective (WQO)
- Name of the analyzing laboratory

For analyses that were non-detect (ND), the value is reported as less than the MDL, where the MDL is provided by the lab; otherwise, the value is reported as less than the RL.

Monitoring results for the constituents identified as water quality POCs for Five-Mile Slough are presented graphically to provide an overview of the characterization of Five-Mile Slough:

- Dissolved oxygen (**Figure 4-3** and **Figure 4-4**)
- *E. coli* and fecal coliform (**Figure 4-5**)
- Pyrethroid pesticides[10] (**Figure 4-6**)

Data for the POCs are summarized in tables in **Appendix D**. A complete assessment of monitoring results from Five-Mile Slough within the context of all monitored waterbodies, including data from the historical monitoring locations and an assessment of trends, is included in **Section 5**. General observations about the 2020-2021 monitoring year are provided below:

- Dissolved oxygen (DO):
    - DO levels were below the minimum WQO of 6 mg/L during the first dry weather event [DW44 (9/8/2020)] at all locations, and at one site each during subsequent dry weather events and during one storm event (SE77 at 5M-25).
    - With the exception of SE77 at 5M-25, DO levels were above the minimum WQO at all locations during storm events.
    - Continuous sonde data confirmed that the grab sample DO levels were below the minimum WQO during DW44 and indicated that the DO levels fluctuated below the WQO during periods in September and early October 2020. Continuous data

[10] Chlorpyrifos was only detected during DW44 at 5M-28R; therefore, a graphical presentation was not included.

further show that DO levels remained above the minimum WQO from early October through mid-June.

- Indicator bacteria *(E. coli* and fecal coliform):
  - Levels of *E. coli* and fecal coliform were generally lower at receiving water sites than discharge sites.
  - Levels of *E. coli* and fecal coliform were generally lower at discharge site 5M-25 and the corresponding receiving water site 5M-25R than at other locations.
  - Frequent E. coli and fecal coliform exceedances occurred at discharge sites 5M-26 and 5M-28.
  - Exceedances were less frequent at receiving water sites 5M-26R and 5M-28R.
- Chlorpyrifos concentrations were below the WQO in all discharge and receiving water samples. Only a single result was detected (at 5M-28R during DW44). Accordingly, chlorpyrifos data were not presented graphically as it would not be informative to display a single data point on a map.
- Pyrethroids:
  - A higher number of individual pyrethroid compounds were detected in discharge samples than receiving water samples.
  - Bifenthrin was detected most frequently and at the highest concentrations.
  - Site 5M-26 showed the most frequent detections and highest concentrations. However, the only bifenthrin was detected at the furthest downstream receiving water site (5M-25R).
  - Allethrin, fenpropathrin, and tetramethrin were not detected at any location.

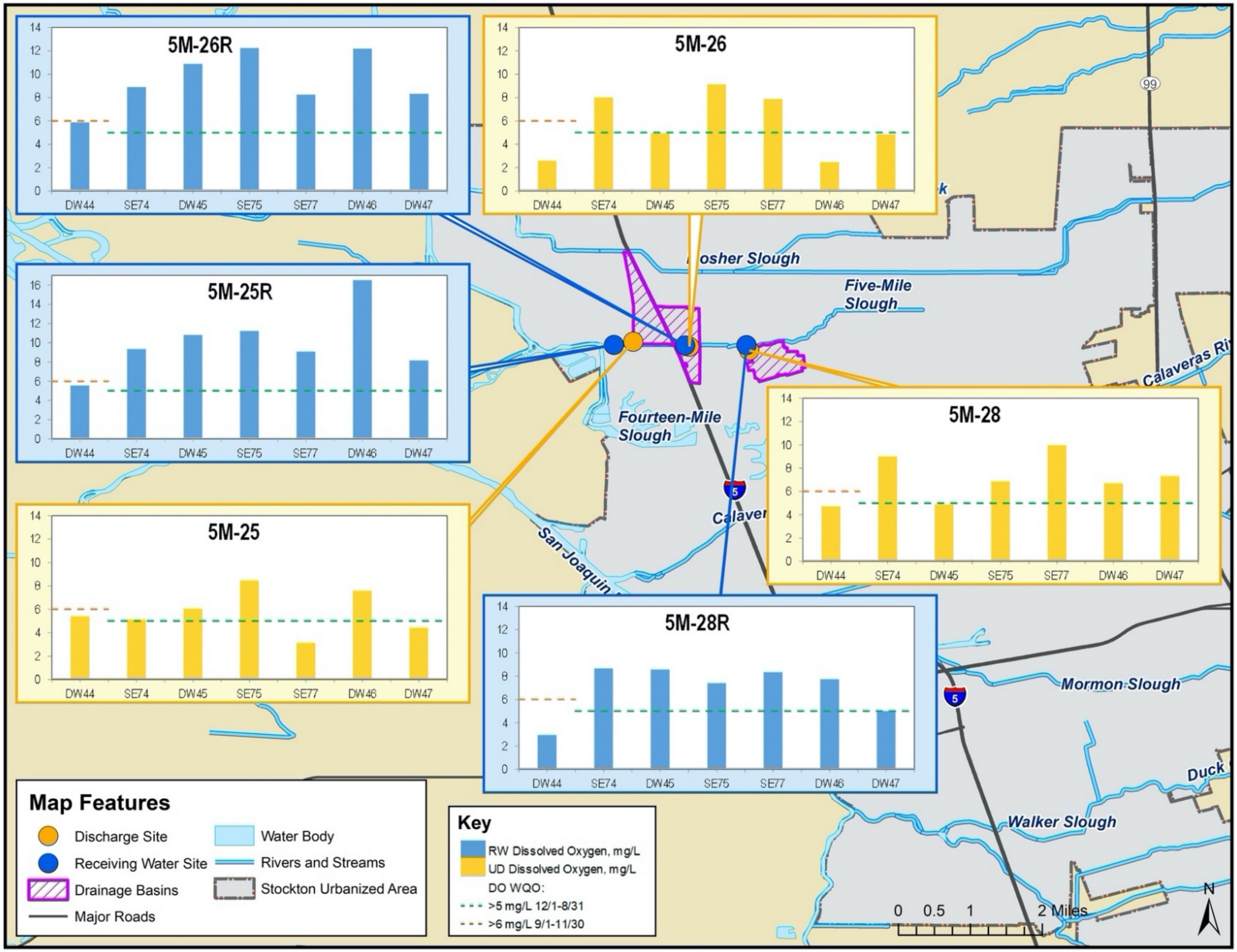

Figure 4-3. Five-Mile Slough 2020-2021 Dissolved Oxygen Concentrations (mg/L)

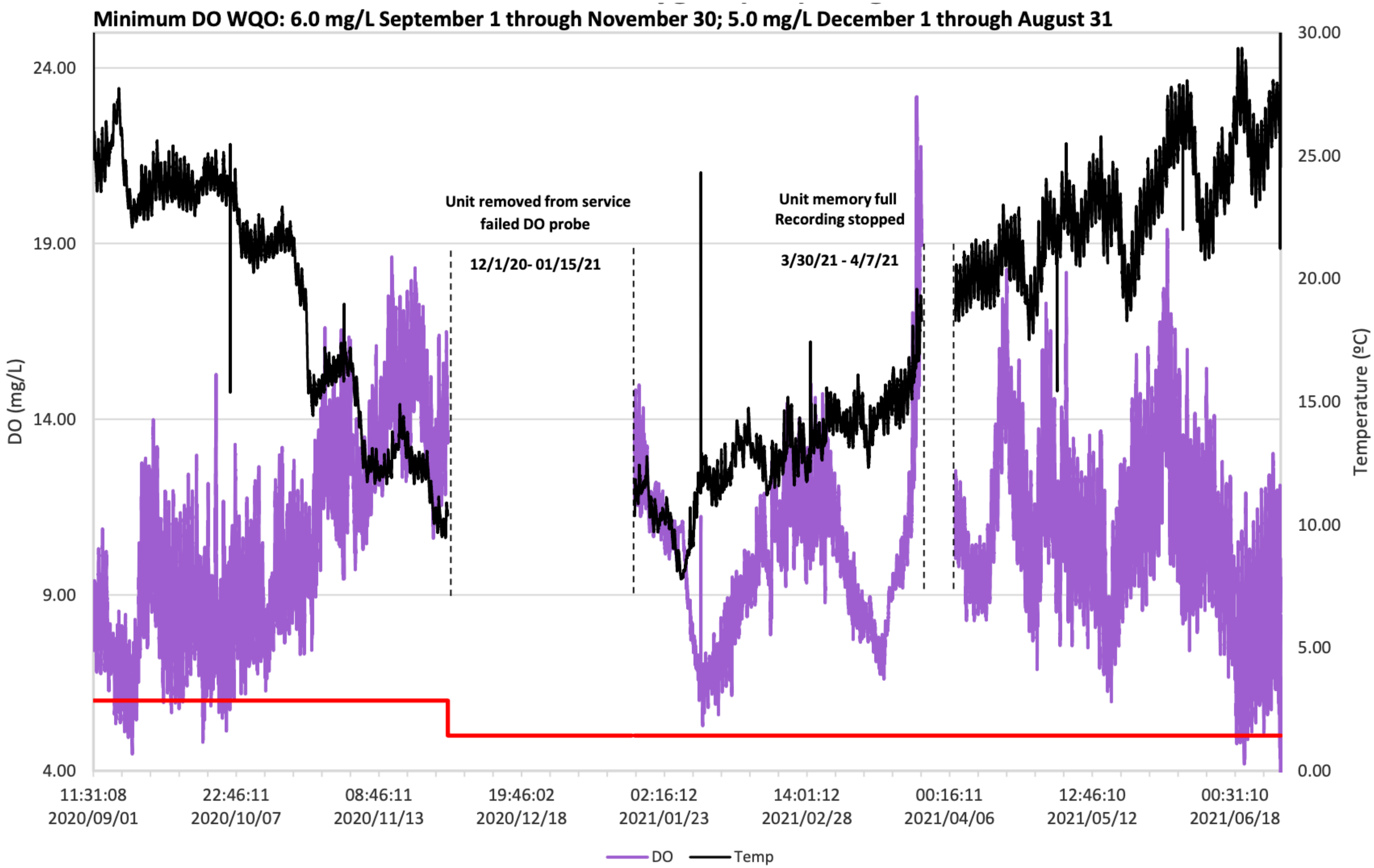

Figure 4-4. Five-Mile Slough 2020-2021 Sonde Continuous Dissolved Oxygen Concentrations (mg/L) and Temperature (degrees C)

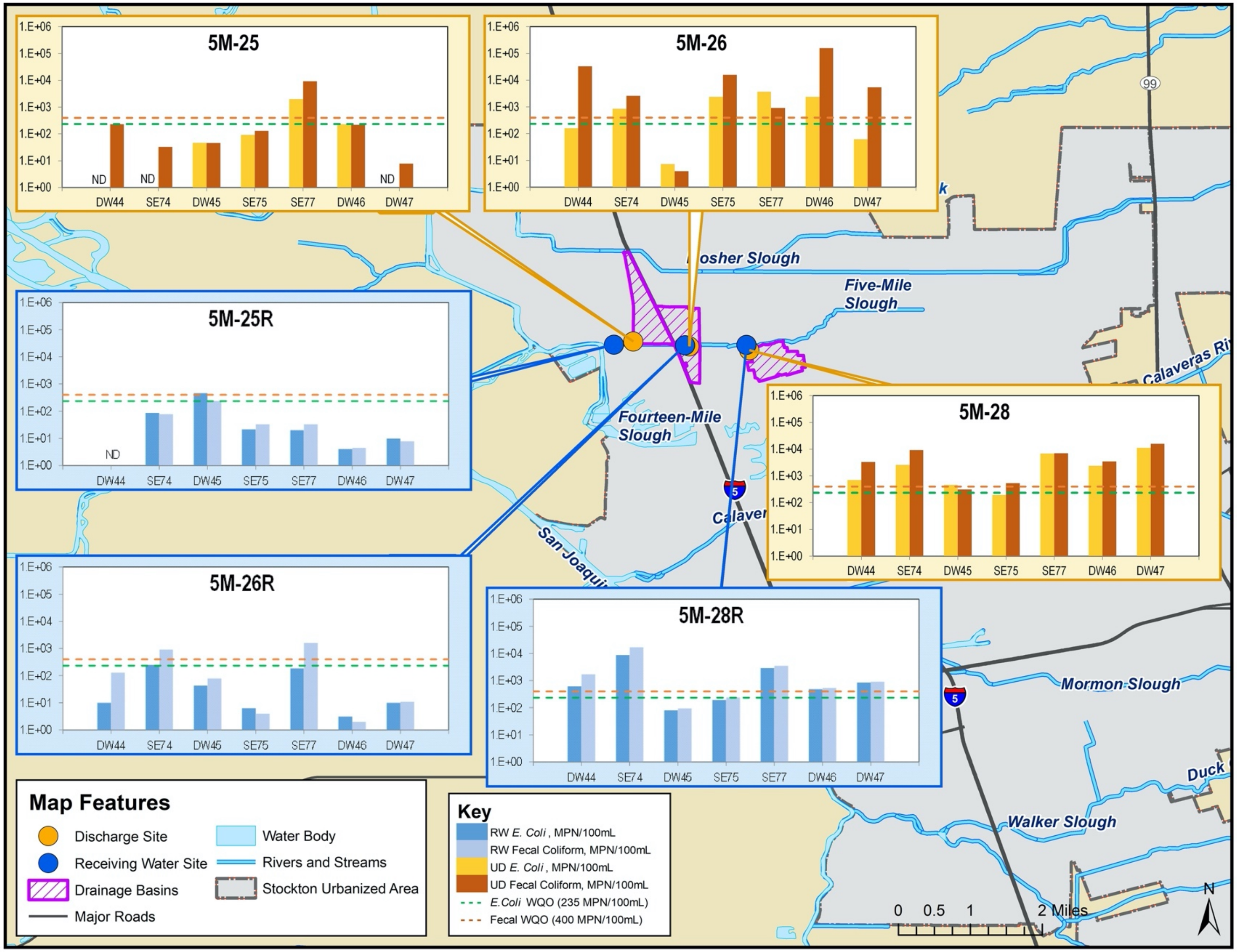

Figure 4-5. Five-Mile Slough 2020-2021 *E. Coli* and Fecal Coliform Concentrations (MPN/100mL)

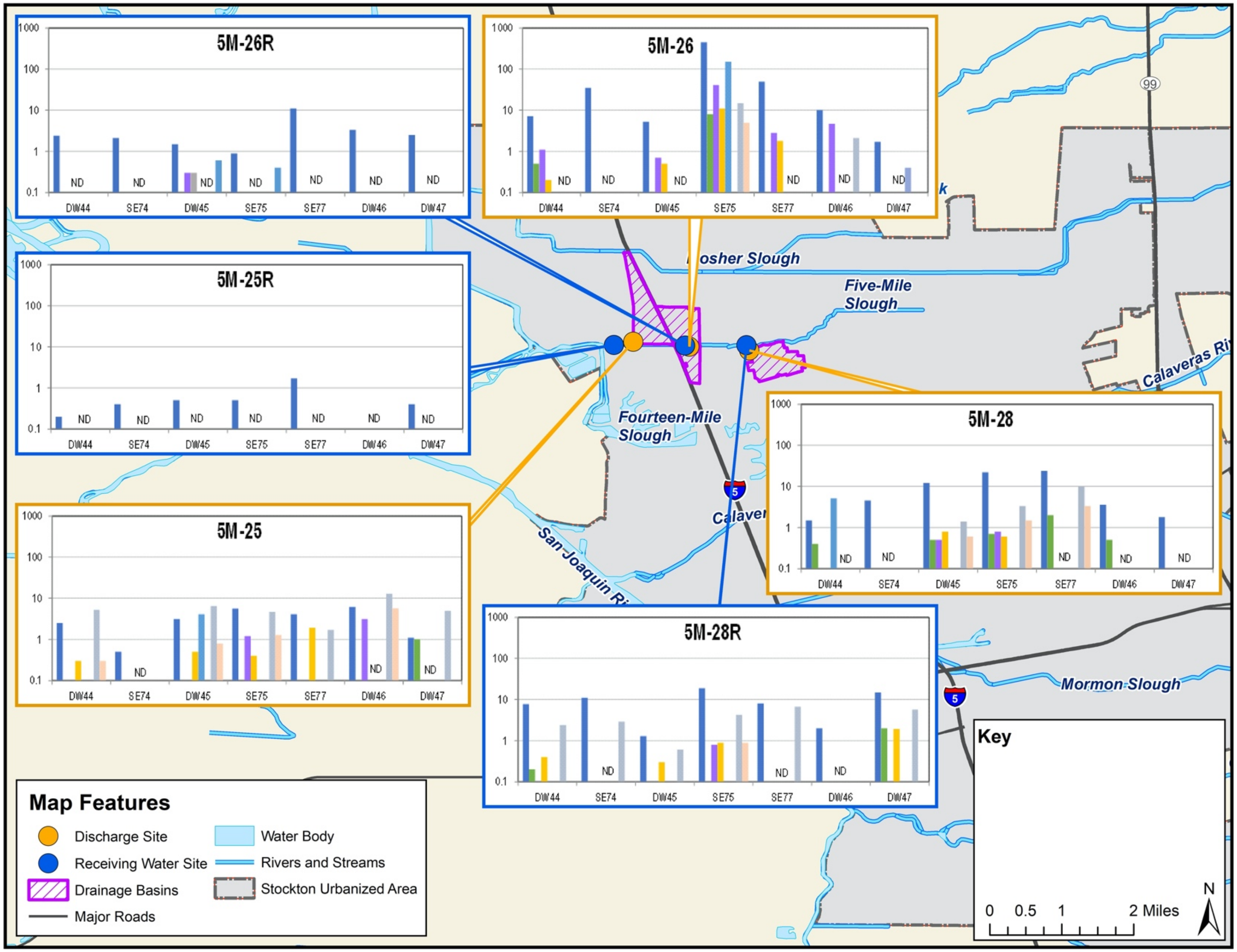

Figure 4-6. Five-Mile Slough 2020-2021 Pyrethroid Pesticides (ng/L)

4.1.3 Rainwater/Atmospheric Deposition Monitoring

During 2020-2021, rainwater/atmospheric deposition was monitored for methylmercury, total mercury, and pesticides (chlorpyrifos and pyrethroids) at three representative locations in the SUA. These three locations are shown in **Figure 4-7**.

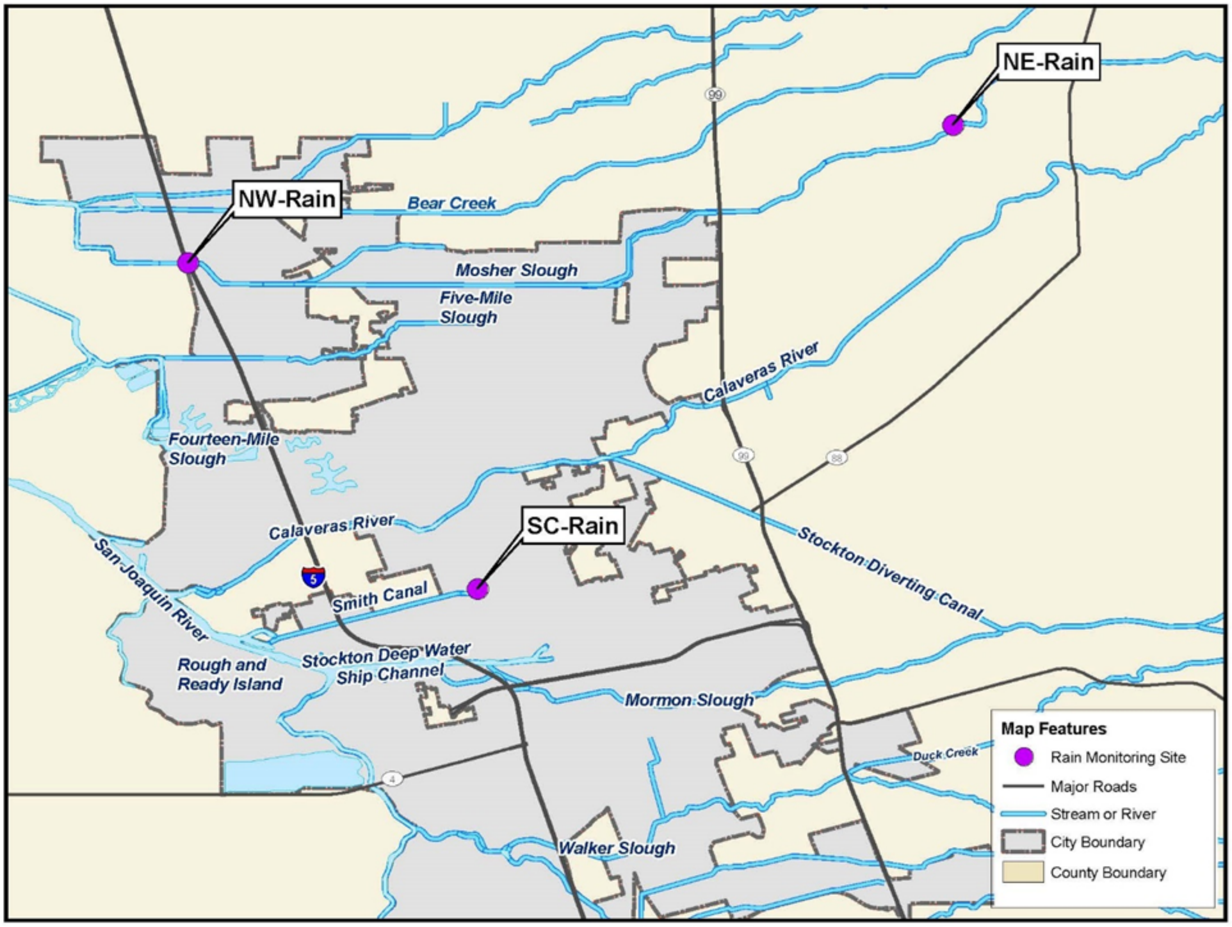

Figure 4-7. Rainwater/Atmospheric Deposition Monitoring Locations

The monitoring sites include the following:

- NW-Rain – Located along Mosher Slough in the northwest corner of the SUA. This site has been historically monitored for the Pesticide Plan and is representative of atmospheric deposition generated within and outside of the SUA.
- NE-Rain – Located along Mosher Slough outside of the SUA, to the northeast. This site has been historically monitored for the Pesticide Plan and is representative of atmospheric deposition generated outside of the SUA.
- SC-Rain – Located at the Legion Park Pump Station, in the center of the SUA. This site is representative of atmospheric deposition generated within the SUA.

Rainwater was monitored at all three sites during two of the storm events sampled for outfall and receiving water monitoring (SE74 and SE77) and during an additional storm event (SE76) that occurred on 2/2/2021. Rainwater monitoring results are shown in **Figure 4-8**. General observations are summarized below:

- Methylmercury and total mercury:
  - Methylmercury concentrations in rainwater were similar at all three locations.
  - Total mercury was detected in rainwater at concentrations below the WQO of 50 ng/L.
- Pesticides:
  - Chlorpyrifos was detected in rainwater in only one sample at one location (SE77 at NE-RAIN) and was not detected above the WQO.
  - Pyrethroids were detected rarely and at low concentrations at all rainfall sites during all events. Bifenthrin was the most frequently detected.
  - Allethrin, fenpropathrin, tetramethrin, and tau-fluvalinate were never detected in rainwater samples.

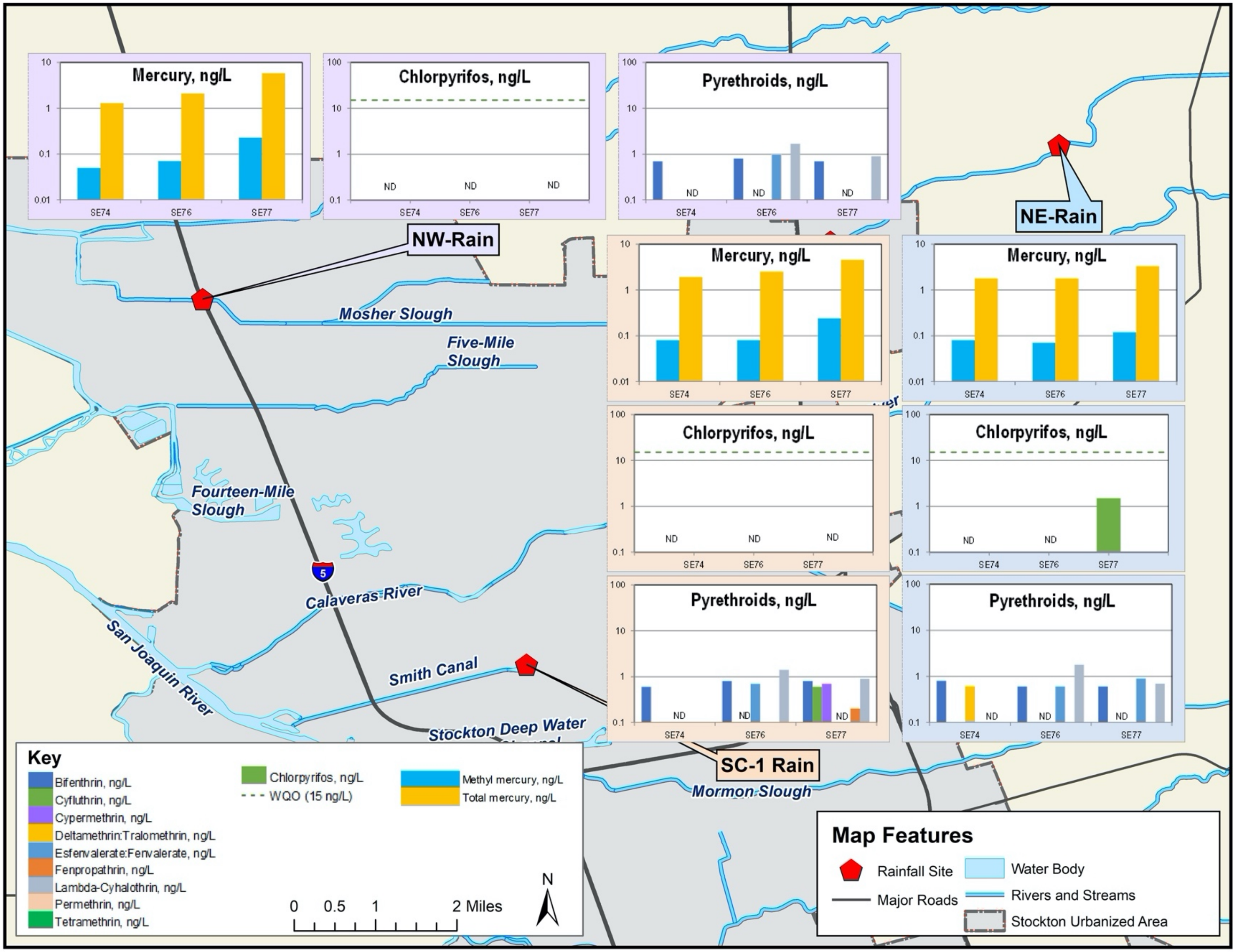

Figure 4-8. 2020-2021 Rainwater/Atmospheric Deposition Monitoring Results

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4.2 DATA QUALITY EVALUATION

Quality Assurance/Quality Control (QA/QC) refers to the process of reviewing lab and "field" initiated checks on the sampling and analytical process. These checks, which include field blanks, method blanks, field duplicates, lab duplicates, and matrix spike/matrix spike duplicates (MS/MSD), and data review are used to confirm that data are of high quality. Lab reports are initially screened by the field monitoring contractor for missing analytical data (both environmental and QA/QC), holding time exceedances, discrepancies in analytical methods or detection limits, and any apparent out-of-range environmental results. If the analytical work appears to be missing any requested analyses, the lab is asked to complete the missing analyses, if it is possible to do so within the specified holding time. Periodically, data analyses are requested even if samples exceed the specified hold time. Data qualifiers are appended to the environmental data points where appropriate by applying the data quality objectives provided by the laboratories. The QA/QC process allows for the identification of isolated incidents of out-of-range lab and sampling performance, but, more importantly, the process allows for the identification of potential long-term trends in lab and sampling performance. An important and ongoing component of the QA/QC program is to report and correct any identified problems.

Overall, no significant problems with data quality were identified during 2020-2021. Isolated instances of constituents detected in field blanks, field duplicates not meeting relative percent difference standards (RPD), and lab QA/QC issues occurred. However, when conducting such a large monitoring and reporting program, field, lab, and/or analytical issues occasionally arise. In general, the data collected and reported are considered high quality and suitable for data analysis with the qualifications noted in the **Appendix C** data report. The main qualifiers used are summarized in **Table 4-9**.

Table 4-9. Definitions of Commonly Used QA/QC Qualifiers and Instances of Application

Qualifier	Definition of Qualifier	Qualifier Description/ Applicability 2020-2021
FB	The concentration of a given constituent was detected in the field blank. The associated environmental sample taken at the same site is considered an estimate.	A field blank was taken at one site for all constituents during each monitoring event. If no constituents were detected in field blank samples, the FB qualifier was not used.
FD	The Relative Percent Difference (RPD) between the concentrations of a given constituent in the field duplicate and the associated environmental sample was outside the acceptable limit. This indicates that the duplicability and precision of the results for this constituent may be low.	A field duplicate was taken at one site for all constituents during each monitoring event. All RPDs were within acceptable limits, so the FD qualifier was not used.
J	The concentration of a given constituents is between the MDL and the RL and is, therefore, an estimated value. The J qualifier does not indicate poor data quality because all the RLs used met permit requirements.	The J-flag qualifier is common in all data in the monitoring program and was frequently applied.

Qualifier	Definition of Qualifier	Qualifier Description/ Applicability 2020-2021
ND	A given constituent was not detected and is recorded as < MDL. The ND qualifier does not indicate poor data quality, but rather indicates that a constituent was simply not detected.	The ND qualifier is common in all data in the monitoring program and was frequently applied.

4.3 DELTA REGIONAL MONITORING PROGRAM

The Delta RMP is a stakeholder-directed project formed to develop a regional water quality monitoring program designed to improve understanding of water quality issues in the Sacramento-San Joaquin Delta. The goal of the Delta RMP is to better coordinate and design current and future monitoring activities in and around the Delta to create a cost-effective approach for providing critically needed water quality information to better inform policy and regulatory decisions of the Regional Water Board and other federal, state and local agencies and organizations.[11] The Delta RMP focused the initial monitoring efforts on mercury, pesticides, nutrients, and pathogens. The City and County are contributing members of the Delta RMP, which commenced monitoring in 2015. Delta RMP monitoring and data evaluation efforts during 2020-2021 continued to focus on mercury, pesticides, and nutrients. As the data are collected and results reported, the City and County will reference this data within the annual reports and future Mid-Term and End-Term Reports, as needed.

4.4 TOTAL MAXIMUM DAILY LOADS

The Region-wide Permit requires the City and County to continue implementation of the stormwater monitoring program, including implementation actions and assessments related to applicable TMDLs. Efforts to fulfill TMDL monitoring requirements (included in Attachment G of the Region-wide Permit) are summarized in the following sections, along with other relevant water quality control programs.

4.4.1 Sacramento-San Joaquin Delta Diazinon and Chlorpyrifos TMDL (Resolution R5-2006-0061)

The Sacramento San Joaquin Delta Diazinon and Chlorpyrifos TMDL was adopted by the Regional Water Board on June 23, 2006 (Resolution R5-2006-0061) and became effective on October 10, 2007. The TMDL establishes wasteload allocations (WLAs) for the sum of diazinon and chlorpyrifos concentrations relative to their respective WQOs. Attachment G of the Region-wide Permit requires that, within one year of the receipt of the NOA under the Region-wide Permit, the City and County must submit an assessment to determine the diazinon and chlorpyrifos levels and attainment of WLAs in urban discharge and WQOs in the receiving water. The Permittees performed this assessment during 2016-2017 and submitted the information with the Assessment and Prioritization of Water Quality Constituents in the Stockton Urbanized Area.[12] The assessment indicated that, with the exception of Duck Creek, the targets

[11] http://www.waterboards.ca.gov/centralvalley/water_issues/delta_water_quality/delta_regional_monitoring/index.shtml

[12] City of Stockton and County of San Joaquin. Assessment and Prioritization of Water Quality Constituents in the Stockton Urbanized Area. Prepared by Larry Walker Associates. May 30, 2017.

and allocations for the TMDL are largely being met. In addition, Calaveras River, Mosher Slough, and Smith Canal all met the 303(d) delisting criteria. The Regional Water Board approved the assessment in 2020.[13] Calaveras River, Mosher Slough, and Smith Canal are proposed for de-listing in the 2020-2022 303(d) list.[14]

The City and County identified pyrethroids as a POC in the AMP and monitored for pyrethroids at Five-Mile Slough during 2020-2021, as described in **Section 4.1.2**. A long-term evaluation of pyrethroid levels and trends is presented in **Section 5**. Implementation of BMPs is documented in **Section 6**.

4.4.2 Central Valley Pyrethroid Pesticides Basin Plan Amendment and TMDL (Resolution R5-2017-0057)

The Central Valley Pyrethroid Pesticides Basin Plan Amendment (BPA) and TMDL were adopted by the Regional Water Board on June 8, 2017 (Resolution R5-2017-0057). The BPA became effective on February 19, 2019, and the TMDL for the nine urban creeks in Sacramento and Roseville became effective on April 22, 2019. The BPA establishes pyrethroid concentration goals and an implementation program to control pyrethroids in the Sacramento and San Joaquin River watersheds and establishes TMDLs for waterbodies that are 303(d) listed for pyrethroids.

Accordingly, the Basin Plan requires Baseline Monitoring to be conducted to evaluate pyrethroid concentrations in discharges relative to numeric triggers. The Regional Water Board provided guidance for Baseline Monitoring in their July 30, 2019 Letter to MS4 Dischargers[15] that was further clarified in their July 13, 2020 13267 Order.[16] The 13267 Order specified that the Baseline Monitoring Report be submitted by September 19, 2022 to the Regional Water Board and include:

- A summary of monitoring results for pyrethroids and toxicity (i.e., water and sediment toxicity to the test organism *Hyalella* Azteca); and
- An assessment of compliance with the conditional prohibition triggers in the Basin Plan.

If Baseline Monitoring results reveal an exceedance of any conditional prohibition trigger, the City and County will be required to develop and submit a Pyrethroid Monitoring Plan to the Regional Water Board within one year from the date that the exceedance is identified by either the City and County or Regional Water Board staff.

The City and County developed their Pyrethroid Baseline Monitoring Plan and Quality Assurance Project Plan (QAPP) during 2020-2021 and received Regional Water Board approval

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[13] Central Valley Regional Water Quality Control Board. Sacramento and San Joaquin Delta Diazinon and Chlorpyrifos Total Maximum Daily Load Attainment Assessment, Dated 30 May 2017. 17 April 2020.

[14]https://www.waterboards.ca.gov/water_issues/programs/water_quality_assessment/2020_2022_integrated_report.html

[15] Letter from Regional Water Board to All MS4 Dischargers in the Sacramento and San Joaquin River Basins, Pyrethroid Control Program Baseline Monitoring Requirements for Municipal Stormwater Dischargers in the Sacramento and San Joaquin River Basins, July 30, 2019.

[16] Letter from Regional Water Board to City of Stockton, Order to Submit Technical and Monitoring Reports Pursuant to California Water Code Sections 13267 and 13383, July 13, 2020.

on June 25, 2021.[17] The City and County are conducting Baseline Monitoring during 2021-2022 at the Calaveras River for the following constituents:

- Pyrethroids (bifenthrin, cyfluthrin, cypermethrin, esfenvalerate, lambda-cyhalothrin, permethrin)
- Total and dissolved organic carbon
- *Hyalella azteca* water column toxicity
- *Hyalella azteca* sediment toxicity

Separately from Baseline Monitoring, the City and County identified pyrethroids as a POC in the AMP and, during 2020-2021, monitored for pyrethroids at Five-Mile Slough, as described in **Section 4.1.2**. A long-term evaluation of pyrethroid levels and trends is presented in **Section 5**. Implementation of BMPs is documented in **Section 6**.

4.4.3 Stockton Urban Water Bodies Pathogen TMDL (Resolution No. R5-2009-0030)

Within the SUA, six urban waterbodies (Five-Mile Slough, Lower Calaveras River, Mormon Slough, Mosher Slough, Smith Canal and Walker Slough) are listed as impaired on the CWA Section 303(d) list for pathogens, which are assessed using fecal indicator bacteria. Due to the Section 303(d) listing, the Regional Water Board developed and adopted Resolution No. R5-2008-0030 to approve the *TMDL for Pathogens in Stockton Urban Waterbodies, San Joaquin County* (approved by USEPA on May 13, 2008).[4] The Pathogen TMDL establishes numeric water quality targets and waste load allocations for fecal coliform and *E. coli,* based on Basin Plan WQOs.

Attachment G of the Region-wide Permit requires the Permittees to continue monitoring and, in the End-Term Report, document the implementation of BMPs to control the discharge of pathogens (indicator bacteria) in their urban discharge and submit effectiveness assessments of implemented BMPs.

During 2020-2021, the Permittees monitored for indicator bacteria at Five-Mile Slough, as described in **Section 4.1.2**. A long-term evaluation of indicator bacteria levels and trends is presented in **Section 5**. Implementation of BMPs is documented in **Section 6**.

4.4.4 Delta Methylmercury TMDL (Resolution No. R5-2010-0043)

In April 2010, the Regional Water Board approved the Amendments to the Water Quality Control Plan for the Sacramento River and San Joaquin River Basins for the Control of Methylmercury and Total Mercury in the Sacramento-San Joaquin Delta Estuary (Resolution No. R5-2010-0043).[6] This TMDL for mercury and methylmercury consists of two phases:

- The first phase of the TMDL began October 20, 2011 and continued through October 20, 2020. The first phase focused on control studies and pilot projects to develop and evaluate management practices to control methylmercury. The Regional Water Board is currently conducting their review of the first phase and is evaluating the fish tissue

[17] Letter from Regional Water Board to the City of Stockton and County of San Joaquin. Approval of the Pyrethroid Baseline Monitoring Plan for the City of Stockton and County of San Joaquin. 25 June 2021.

objectives, the linkage analysis, and attainability of the allocations and adjusting the objectives, allocations, linkage analysis, and time schedule.

- The second phase will begin after review of Phase 1 and will end in 2030. During the second phase, Dischargers will implement methylmercury control programs and continue inorganic mercury reduction programs. Compliance monitoring will occur during Phase 2.

The final attainment date of WLAs in the Methylmercury TMDL, included in Attachment G, is December 31, 2030, unless the Regional Water Board modifies the implementation schedule and final attainment date as a result of the review of Phase 1. Since the final attainment date has not yet passed, the City and County may demonstrate compliance with the TMDL through "implementation of the BMPs consistent with an approved SWMP that outlines a schedule of BMPs to reduce discharges of methylmercury that are capable of achieving compliance with applicable WLAs by the Final Compliance Deadline."

As required by Phase 1 of the TMDL, the City and the County developed and conducted a Methylmercury Control Study, which evaluated mercury and methylmercury removal performance of a detention basin within the SUA, along with the potential for methylmercury formation within the basin and achievement of the WLAs. A *Methylmercury Control Study Final Report* was submitted to the Regional Water Board on October 19, 2018. The findings from the report included:

- Results from the Control Study, along with other Central Valley studies and previous work by the City and County, indicate that low impact development (LID) control measures, including existing detention basins within the SUA, effectively reduce methylmercury and total mercury discharges.
- Collectively, the results suggest that implementation of detention basins and LID-based controls in new development and redevelopment within the SUA can help to reduce mercury loads to receiving waters.
- The City and County expect to achieve the WLAs incrementally over time, as LID control measures are implemented during the new development and redevelopment cycle. However, the time frame may need to extend beyond 2030 due to climatic variability and rates of new development and redevelopment.

4.4.4.1 Delta Mercury Exposure Reduction Program Participation

The Delta Mercury Control Program requires the entities identified in the Basin Plan to develop and implement a Mercury Exposure Reduction Program (MERP). The Delta MERP participants include those entities and agencies that formally submitted a letter describing their intent to participate in the collective exposure reduction program. The Permittees submitted their letter during 2013-2014 and participated in the Delta MERP through its six-year duration that ended during 2019-2020.

The Delta MERP was designed to increase understanding of contaminants in fish and reduce exposure to mercury among people who eat fish from the Delta. The Delta MERP produced educational materials based on fish consumption guidelines, and also focuses on presenting a balanced message, including communicating the health risks associated with exposure to mercury in fish, ways to reduce exposure, and health benefits of eating fish generally, as well as identifying low-mercury fish species and areas. The Delta MERP also focused efforts on training opportunities for entities involved in the Delta MERP, including county agencies, tribal organizations, community-based organizations, and health care providers. Although the Delta MERP ended in 2019-2020, the Regional Water Board continues to make limited materials available to past contributors and community groups by request.

4.4.5 Lower San Joaquin River, Stockton Deep Water Ship Channel Organic Enrichment and Low Dissolved Oxygen TMDL (Resolution No. R5-2005-0005)

Within the SUA, six waterways are on the CWA Section 303(d) list for DO impairment (Calaveras River, Delta Waterways, Five-Mile Slough, Mormon Slough, Mosher Slough, and Smith Canal). Due to the 303(d) listing, the Regional Water Board adopted the San Joaquin River DO TMDL (Resolution No. R5-2005-0005) on January 27, 2005.[7] The purpose of the TMDL was to establish a control program for factors contributing to DO impairment in the Stockton Deep Water Ship Channel. The final attainment date of WLAs in the Low DO TMDL, included in Attachment G, was December 31, 2011.

Since the adoption of the TMDL, the City and County have undertaken numerous efforts to address the impairment including the development and implementation of the *Smith Canal Drainage Area Analysis - Dissolved Oxygen Work Plan* (August 2003), the *Smith Canal Drainage Area Analysis and Dissolved Oxygen Work Plan Final Report* (October 2006), the *Low Dissolved Oxygen Monitoring and Assessment Work Plan* (April 2009), and the *Low Dissolved Oxygen Plan Final Report* (January 2013). The DO Control program required an evaluation of the allocations and implementation provisions once studies in the San Joaquin River watershed were complete. Regional Water Board staff reviewed the results from completed efforts and developed Resolution R5-2015-008 and the *San Joaquin River Dissolved Oxygen Control Program Implementation Staff Report*, dated January 2015. The Resolution and Staff Report noted that improvements to DO levels in the DWSC have been notable since adoption of the Control Program and recommended that the allocations not be revised and that the existing Control Program be continued.

The Region-wide Permit includes the DO TMDL requirements in Attachment G. Attachment G specifies BMP-based compliance for the DO TMDL, noting that "*In lieu of numeric effluent limitations, this Order requires the implementation of BMPs identified in the Permittees' SWMP to control and abate the discharge of pollutants in storm water discharges.*" As such, the City and County may demonstrate compliance with the TMDL after the Final Compliance Deadline through implementation of the BMPs identified in **Section 6** that control and abate DO. The Regional Water Board deemed the City and County to be in attainment with the DO TMDL in 2021.[18] The City and County are required to continue appropriate BMP implementation and reporting on these activities within future Mid-Term, End-Term, and Annual Reports.

The City and County have implemented the Dissolved Oxygen Plan since 2003 to address dissolved oxygen issues in the SUA and comply with the DO TMDL. A summary of the effort through December 2011 is included within the 2012 ROWD. Dissolved oxygen was identified as

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[18] Central Valley Regional Water Quality Control Board. Lower San Joaquin River, San Joaquin River, Stockton Deep Water Ship Channel Organic Enrichment and Low Dissolved Oxygen Total Maximum Daily Load. Letter dated 6 October 2021.

a POC in the current monitoring program and continues to be a focus of monitoring and BMP implementation.

During 2020-2021, the Permittees monitored for dissolved oxygen at Five-Mile Slough using grab samples and continuous sonde measurements, as described in **Section 4.1.2**. A long-term evaluation of dissolved oxygen levels and trends is presented in **Section 5**. Implementation of BMPs is documented in **Section 6**.

4.4.6 Trash Implementation

The Statewide Trash Amendments[19] were adopted by the State Water Resources Control Board on April 7, 2015 (Resolution 2015-0019) and became effective on December 2, 2015. The Trash Amendments require MS4 permittees to comply with the prohibition of trash discharge through Track 1 or Track 2.

The Regional Water Board issued a Water Code section 13383 Order on June 1, 2017 requiring the City to submit a letter identifying the selected compliance option (Track 1 or Track 2) by September 1, 2017. The City selected the Track 2 compliance method (full capture system equivalency).

The County's jurisdiction includes both Phase I and Phase II areas. As such, the County is subject to two separate stormwater permits: the Region-wide Permit and the Phase II Small Municipal Separate Storm Sewer System (MS4) General Permit[20] (Phase II Permit) issued by the State Water Board. The County received the Water Code section 13383 Order issued by the Regional Board (June 1, 2017), as well as a Water Code section 13383 Order issued by the State Water Board (June 1, 2017). The County responded to both orders by selecting the Track 2 approach to compliance and submitted the preliminary jurisdictional maps required for Phase II areas.

The City and County each submitted Trash Implementation Plans[21,22] to the Regional Water Board on December 1, 2018 that included the following:

a) A description of the combination of controls selected and the rationale for the selection;

b) The rationale for how the combination of controls is designed to achieve Full Capture System Equivalency (FCSE); and

c) The rationale for how FCSE will be demonstrated.

The City and County are in the process of implementing the program within their jurisdictions and will report information in future annual reports and as required by the Region-wide permit when it is renewed.

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[19] Proposed Final Part 1 Trash Provisions of the Water Quality Control Plan for Inland Surface Waters, Enclosed Bays, and Estuaries of California (ISWEBE Plan).

[20] Order No. 2013-001-DWQ, effective July 1, 2013.

[21] City of Stockton, 2018. Statewide Trash Amendments: Track 2 Implementation Plan. December.

[22] County of San Joaquin, 2018. Statewide Trash Amendments: Track 2 Implementation Plan. December.

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5. Water Quality Monitoring Long-Term Assessment (2007-2021)

For the purpose of the End-Term Report and to ensure sufficient data to support a meaningful assessment of water quality trends over time, a long-term assessment of receiving water and outfall (analogous to MS4 discharge) water quality was conducted for the period from 2007-2008 to 2020-2021. This period of record allows for a comparison of "historical" data collected pursuant to the previous permit[1] between 2007-2008 and 2014-2015 (as reported in the 2012 ROWD and 2018 Assessment and Prioritization) with "current" data collected pursuant to the Region-wide Permit between 2015-2016 and 2020-2021.

The assessments were conducted to evaluate water quality trends (i.e., changes between historical and current data) for dry and wet weather conditions in receiving water and outfalls for the POCs identified in the 2012 ROWD for each waterbody (shown in **Table 5-1**) and for the SUA as a whole. The POCs were identified based on applicable TMDLs and water quality control programs for each waterbody (see **Section 4.4**). In addition to the POCs, historical water quality constituents and water column and sediment toxicity have been monitored long-term and were evaluated during the Assessment and Prioritization process. The data summarized in **Table 5-2** were evaluated for the assessments included herein. Waterbodies and historical monitoring stations within the SUA are shown in **Figure 5-1**.

Table 5-1. Pollutants of Concern (POCs) by Waterbody

Waterbody	POC[a]			
	Indicator Bacteria (*E. coli* and Fecal Coliform)	Mercury and Methylmercury	Dissolved Oxygen	Pesticides (Chlorpyrifos, Pyrethroids)
Mosher Slough	✓	✓	✓	✓
Calaveras River	✓	✓	✓	✓
Duck Creek	✓	✓	✓	✓
Smith Canal	✓	✓ [b]	✓ [b]	✓
Mormon Slough	✓		✓	
Five-Mile Slough	✓		✓	✓ [c]

[a] Shading indicates waterbodies where the POC was identified in the 2012 ROWD. Checkmarks indicate where monitoring data are available.
[b] Data exist for this waterbody, although the 2012 ROWD did not include monitoring for these POCs at this waterbody.
[c] Pyrethroid data exist for this waterbody, although the 2012 ROWD only listed chlorpyrifos.

[1] Order No. R5-2007-0173 and Order No. R5-2015-0024.

Table 5-2. Summary of Data Evaluated for the Long-Term Assessment

Assessment Component	Historical	Current
Data Source	Monitoring program pursuant to Order No. R5-2007-0173 and Order No. R5-205-0024	Monitoring program pursuant to the Region-wide permit (Order No. R5-2016-0040)[a]
Timeframe	2007-2008 through 2014-2015	2015-2016 through 2020-2021
Season	Dry and wet weather conditions are evaluated separately	
Waterbodies	For all years: • Mosher Slough • Calaveras River • Duck Creek • Smith Canal • Mormon Slough[b] • Five-Mile Slough[b]	• Mosher Slough (2015-2016) • Calaveras River (2016-2017) • Duck Creek (2017-2018) • Smith Canal (2018-2019) • Mormon Slough (2019-2020) • Five-Mile Slough (2020-2021)
Stations	As described in the 2012 ROWD and 2018 Assessment and Prioritization	As described in the AMP
POCs	Indicator bacteria (*E. coli* and fecal coliform), mercury and methylmercury, dissolved oxygen, pesticides (chlorpyrifos, pyrethroids)	

[a] The monitoring program was last approved under the interim permit, Order R5-2015-0024.
[b] Data were not available from both historical and current data periods to assess differences for all POCs.

This long-term assessment is organized by POC to summarize receiving water and outfall water quality. The 2016-2021 End-Term Report has been developed during the period when the RAA (submitted July 1, 2019) is still under review by the Regional Water Board and, therefore, the revised SWMP has not yet been submitted. As such, SWMP milestones have not yet been developed, and this End-Term Report instead focuses on the implementation of the current SWMP and associated monitoring programs. However, the following management question identified in the 2012 ROWD is evaluated to provide a high-level evaluation of water quality trends within the SUA:

- Are conditions in receiving waters and the outfall discharges getting better or worse?

In future long-term assessments, the City and County will evaluate the management questions and metrics identified in the revised SWMP to measure program effectiveness and verify whether the program is meeting the milestones established in the revised SWMP.

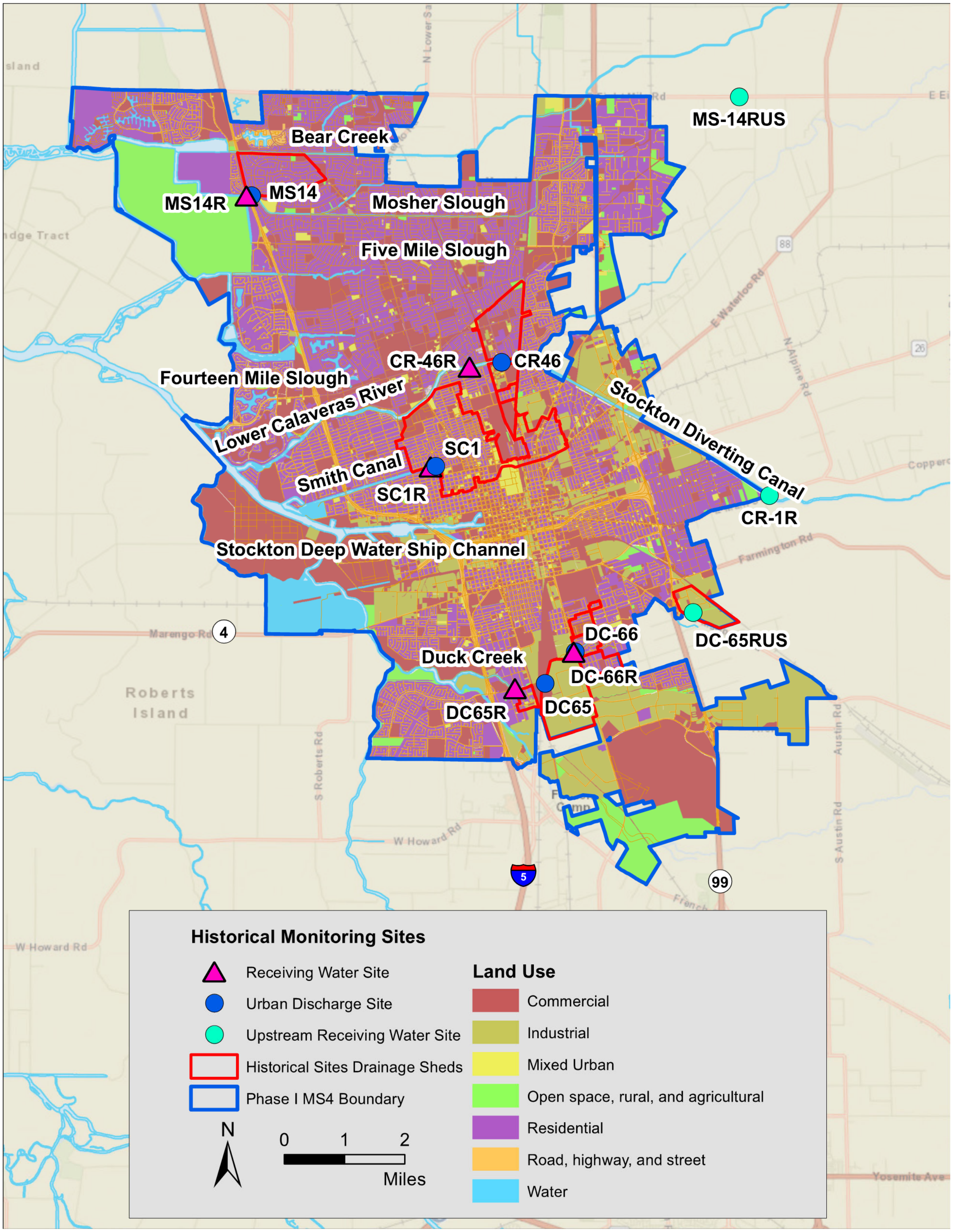


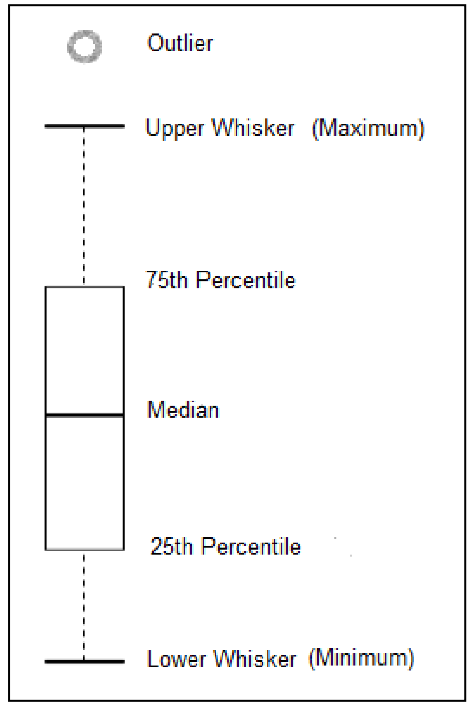
Figure 5-1. Waterbodies within the Stockton Urbanized Area and Historical Monitoring Locations

5.1 LONG-TERM ASSESSMENT DATA EVALUATION APPROACH

The assessments were conducted using both visual presentations (box plots overlayed on maps of the SUA) and evaluations to determine if there were statistically significant differences between the historical and current data. The approach for these evaluations is described below.

5.1.1 Visual Presentation

Results were presented visually using box plots of outfall and receiving water data for the POCs to compare dry and wet weather concentrations from historical and current monitoring by waterbody. A visual representation of the definition of a box plot is shown to the right. Considerations for interpreting box plots include the following:



- The box plots display statistical information about a given dataset along the y-axis.
- The 25th percentile and 75th percentile of the dataset are represented by the upper and lower edges of the box, and the median is represented by a thick horizontal line within the box. The 25th to 75th percentile is referred to as the range in this analysis. If dataset rectangles do not overlap, there is a likely difference between datasets. If the rectangles overlap but the median line of one falls outside the other box, there is a likely difference between datasets. If neither of the above are noted, the datasets may be similar.
- The "whiskers" of the box extend to the minimum and maximum values of the dataset, or to approximately 1.6 times the difference between the 75th percentile and 25th percentile, called the interquartile range (IQR), divided by the square root of the number of data points in the set. In the latter case, values beyond the extent of the whiskers are presented as circles to designate their status as outliers. The whiskers show the variability of the dataset, with shorter ranges demonstrating more consistency around a center value and a wider range indicating a more variable scatter in the data.

For the purposes of creating the box plots, non-detected results were set equal to the method detection limit (MDL) or reporting limit (RL), as available.

5.1.2 Statistical Evaluation

The Wilcoxon Rank-Sum (WRS) test[2] was used to evaluate statistically significant differences between each historical and current dataset. The WRS test is a nonparametric, hypothesis-testing procedure that is used to evaluate differences in the central value between two independent data sets. The test requires no assumptions about the distribution of the data, such as normality.

The test statistic is computed first by arranging the values for both data sets in ascending order and assigning ranks starting with the lowest value. The test statistic is the sum of the ranks of the smaller-sized sample. If the test is applied manually, the null hypothesis would be evaluated by comparing the test statistic with a table of test statistics calculated for the significance level desired.[3]

A significance level (α) of 0.05 is standard practice and was used for this evaluation. The significance level represents the probability, or risk, that the null hypothesis will be rejected when it is true. The level of certainty, or confidence, is calculated as $1-\alpha$. For this evaluation, the confidence level is:

$$1 - \alpha = 1 - 0.05 = 0.95 = 95 \text{ percent}$$

The null hypothesis for the WRS test may be stated as follows:

> *"The median concentration of the current dataset <u>does not differ</u> from the median concentration in the historical dataset at a 95 percent confidence level".*

The alternative hypothesis is:

> *"The median concentration of the current dataset <u>is greater than or less than</u> the median concentration in the historical dataset at a 95 percent confidence level."*

In comparing summary statistics between historical and current datasets, the use of the median is preferred as a measure of central tendency over the use of the statistical mean, or average. The median is a "resistant" statistic in that it depends only on the rank order of the data values and not on their magnitude. For that reason, it is much less sensitive to large outlying data points than is the mean. The median is most commonly used with datasets that do not conform to standard distribution models, or that have asymmetrical distributions, as was often the case with the receiving water and outfall datasets for each POC.[4]

When preparing the data for analysis, non-detected results were set equal to the MDL or RL, as available.

5.1.3 Receiving Water Assessment

The specific requirements for long-term assessments (Region-wide Permit Provision V.E.5.b) include the following for the receiving water assessment:

The Permittee shall assess the status and trends of receiving water quality conditions within the Jurisdictional Runoff Area under dry weather and wet weather conditions.

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[2] The Wilcoxon Rank-Sum test was performed using a readily available Microsoft Excel add-in (XLStat).

[3] Helsel, D.R. and R.M. Hirsch. 1992. "Statistical Methods in Water Resources". New York, Elsevier.

[4] Sokal R.R. and F.J. Rohlf. 1982. "*Biometry*". New York. W.H. Freeman.

For each POC identified in the 2012 ROWD, an evaluation of receiving water quality is provided by waterbody and the SUA as a whole (**Section 5.2** through **Section 5.5**). This evaluation includes identification of the status and trends under both dry and wet weather conditions for the historical and current monitoring periods.

5.1.4 Outfall Assessment

The specific requirements for long-term assessments (Region-wide Permit Provision V.E.5.b) include the following for the outfall assessment:

The Permittee shall assess the status and trends of MS4 discharge conditions within the Jurisdictional Runoff Area under dry weather and wet weather conditions. This may include, as applicable, a calculation or estimation of the storm water volumes, pollutant concentrations, and/or pollutant loads discharged from the MS4.

For each POC identified in the 2012 ROWD, an evaluation of outfall water quality is provided by waterbody and the SUA as a whole (**Section 5.2** through **Section 5.5**). This evaluation includes identification of the status and trends under both dry and wet weather conditions for the historical and current monitoring periods.

5.2 INDICATOR BACTERIA (*E. COLI* AND FECAL COLIFORM)

Indicator bacteria are POCs for the following currently monitored waterbodies subject to the Stockton Urban Waterbodies Pathogen TMDL (described in **Section 4.4.3**):

- Mosher Slough
- Duck Creek
- Mormon Slough
- Calaveras River
- Smith Canal
- Five-Mile Slough

While both indicators apply to the SUA due to the Pathogen TMDL, *E. coli* was selected as the most representative indicator of bacteria concentrations for analyses of long-term trends.[5] Dry and wet weather *E. coli* concentrations for each waterbody and for the SUA as a whole are presented in the following subsections to assess whether receiving waters and outfall discharges are getting better or worse over time.

5.2.1 Receiving Water Assessment

An evaluation of receiving water quality was performed under both dry and wet weather conditions using the historical and current monitoring period data. The results for *E. coli* are presented as box plots overlaying a map of the SUA in **Figure 5-2**. The applicable single sample maximum WQO[6] of 235 MPN/100mL is shown within the box plots.

The statistical evaluation of historical and current data for each waterbody and the SUA as a whole for dry and wet weather conditions is shown in **Table 5-3**.

[5] The State Water Board recognized in the Water Quality Control Plan for the Inland Surface Waters, Enclosed Bays, and Estuaries of California that *E. coli* are more representative of human health risks and replaced fecal coliform with *E. coli* as the representative indicator of fecal contamination. https://www.waterboards.ca.gov/bacterialobjectives/docs/bacteria.pdf

[6] There are not sufficient samples collected over a 30-day period to evaluate results relative to the geometric mean WQO, which requires at least 5 samples over a 30-day period.

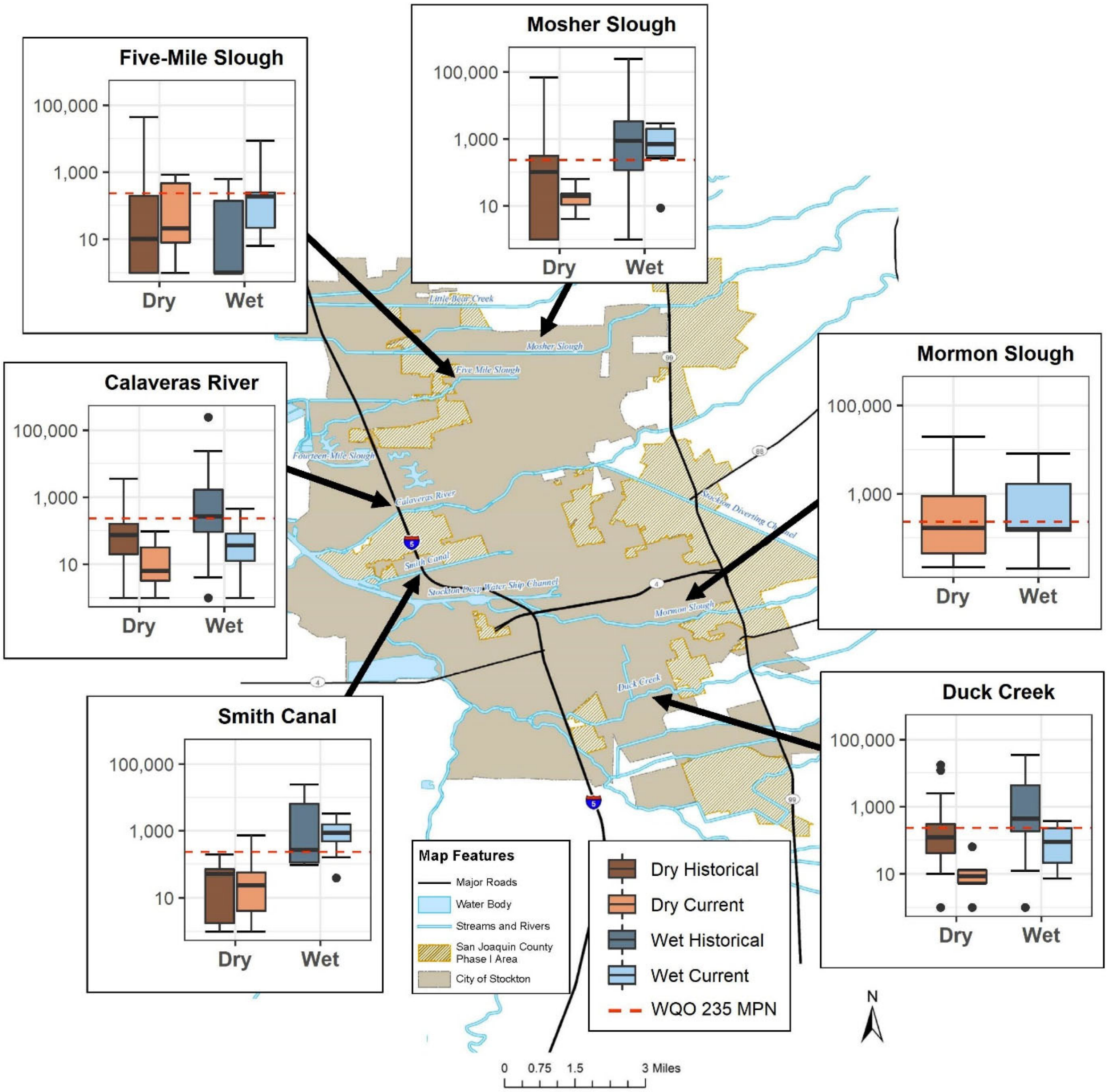

Figure 5-2. *E. coli* Concentrations (MPN/100mL) in SUA Receiving Water, Dry and Wet Weather, Historical (2007-2008 through 2014-2015) and Current (2015-2016 through 2020-2021)

Table 5-3. Receiving Water Statistical Evaluation – *E. coli* (MPN/100mL)

Waterbody	Season	Dataset	Count	Mean	Median	Significant Difference?	Difference: Historical Median vs. Current
Mosher Slough	Dry	Historical	169	987	120	Yes	Lower ↓
		Current	10	23	17		
	Wet	Historical	45	22,836	884	No	-
		Current	9	1143	512		
Calaveras River	Dry	Historical	108	203	60	Yes	Lower ↓
		Current	14	24	8		
	Wet	Historical	41	8,235	340	Yes	Lower ↓
		Current	15	76	31		
Duck Creek	Dry	Historical	94	579	140	Yes	Lower ↓
		Current	6	17	8.2		
	Wet	Historical	37	5,209	752	Yes	Lower ↓
		Current	6	146	66		
Smith Canal	Dry	Historical	14	85	50	Yes	Lower ↓
		Current	12	85	19		
	Wet	Historical	10	5,112	721	No	-
		Current	9	1,161	643		
Mormon Slough	Dry	Historical	0	-	-	NA[a]	-
		Current	9	2,699	167		
	Wet	Historical	0	-	-		
		Current	5	2,037	158		
Five-Mile Slough	Dry	Historical	72	838	62	Yes	Lower ↓
		Current	12	213	34		
	Wet	Historical	15	177	56	No	-
		Current	9	1,370	155		
SUA	**Dry**	Historical	457	667	94	**Yes**	**Lower ↓**
		Current	54	79	15		
	Wet	Historical	148	10,890	471	**Yes**	**Lower ↓**
		Current	48	731	137		

NA : Not Applicable

[c] There were no historical data collected during 2007-2008 and 2004-2015 for *E. coli* at Mormon Slough. Data from Mormon Slough for *E. coli* evaluated previously were collected prior to 2007.

5.2.2 Outfall Assessment

An evaluation of outfall water quality was performed under both dry and wet weather conditions using the historical and current monitoring period data. The results for *E. coli* are presented as box plots overlaying a map of the SUA in **Figure 5-3**. The applicable single sample maximum WQO[7] of 235 MPN/100mL is shown within the box plots.

The statistical evaluation of historical and current data for each waterbody and the SUA as a whole for dry and wet weather conditions is shown in **Table 5-4**.

[7] There are not sufficient samples collected over a 30-day period to evaluate results relative to the geometric mean WQO, which requires at least 5 samples over a 30-day period.

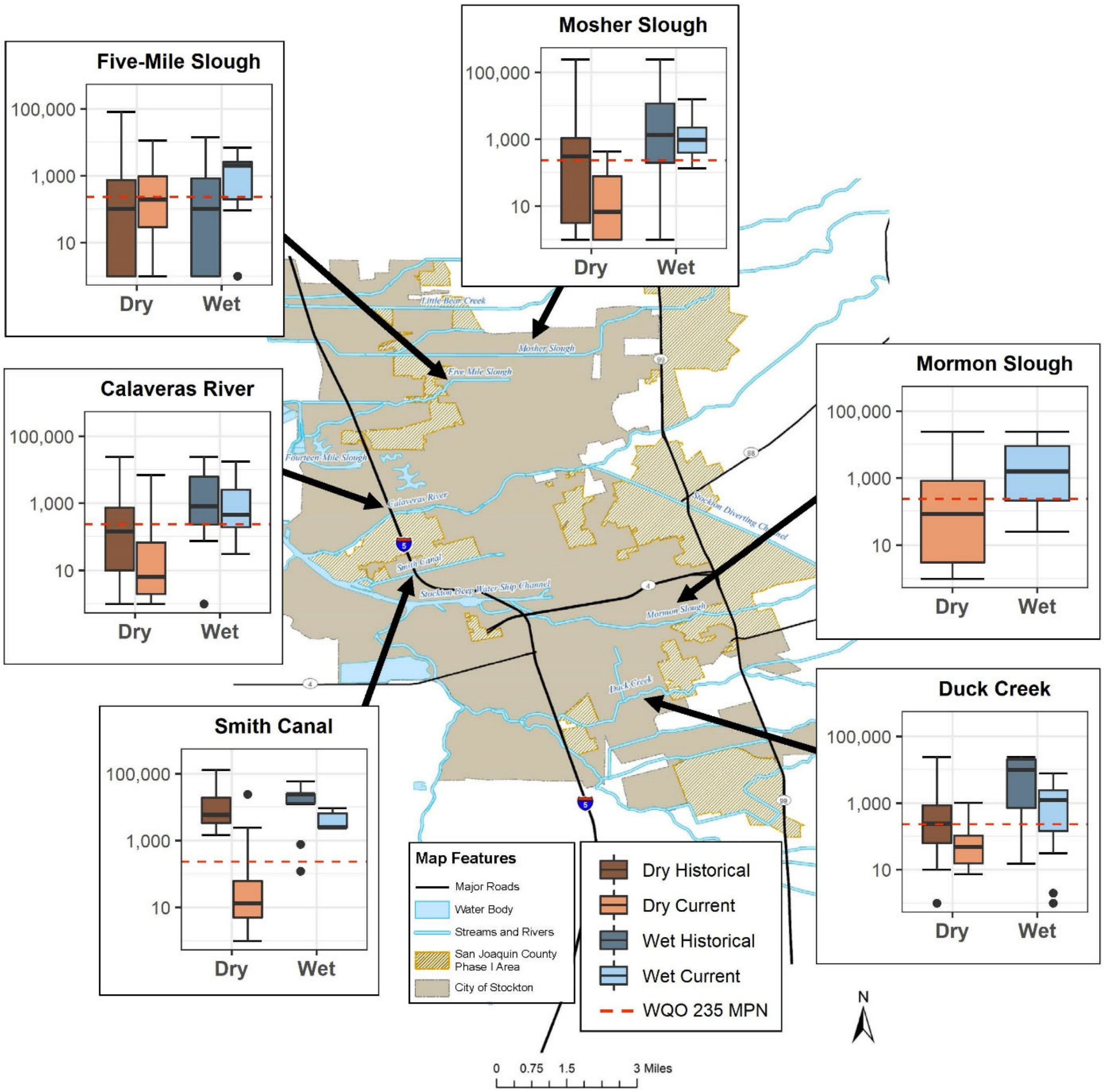

Figure 5-3. ***E. coli*** **Concentrations (MPN/100mL) in SUA Outfall, Dry and Wet Weather, Historical (2007-2008 through 2014-2015) and Current (2015-2016 through 2020-2021)**

Table 5-4. Outfall Statistical Evaluation – *E. coli* (MPN/100mL)

Waterbody	Season	Dataset	Count	Mean	Median	Significant Difference?	Difference: Historical Median vs. Current
Mosher Slough	Dry	Historical	134	5,257	258	Yes	Lower ↓
		Current	16	57	7.8		
	Wet	Historical	38	21,149	1,517	No	-
		Current	16	2,114	954		
Calaveras River	Dry	Historical	78	2,135	142	Yes	Lower ↓
		Current	16	603	12		
	Wet	Historical	33	5,450	1,243	No	-
		Current	28	2,245	615		
Duck Creek	Dry	Historical	49	3,112	282	Yes	Lower ↓
		Current	12	185	54		
	Wet	Historical	25	11,235	3,561	Yes	Lower ↓
		Current	18	1,840	481		
Smith Canal	Dry	Historical	14	17,768	7,572	Yes	Lower ↓
		Current	12	2,238	20		
	Wet	Historical	11	20,832	10,538	Yes	Lower ↓
		Current	9	4,264	3,585		
Mormon Slough	Dry	Historical	0	-	-	NA[a]	-
		Current	9	2,966	83.6		
	Wet	Historical	0	-	-		
		Current	6	6,983	1,710		
Five-Mile Slough	Dry	Historical	71	4,300	74	No	-
		Current	12	1,477	153		
	Wet	Historical	15	1,466	111	No	-
		Current	9	2,086	862		
SUA	Dry	Historical	346	4,560	224	**Yes**	**Lower ↓**
		Current	68	843	23		
	Wet	Historical	122	12,422	1,607	**Yes**	**Lower ↓**
		Current	80	2,337	804		

NA: Not Applicable

[a] There were no historical data collected during 2007-2008 and 2004-2015 for *E. coli* at Mormon Slough. Data from Mormon Slough for *E. coli* evaluated previously were collected prior to 2007.

5.2.3 Overall Assessment

Trends were evaluated for each waterbody and for the SUA as a whole, to assess whether conditions in receiving waters and the outfall discharges are getting better or worse. A summary of the evaluation of receiving water and outfall discharge trends is shown in **Table 5-5**.

- Receiving water quality in each waterbody and the SUA as a whole appears to be getting better under dry weather conditions. Receiving water quality in the SUA as a whole also appears to be getting better under wet weather conditions, but without significant differences in the concentrations within Mosher Slough, Smith Canal, or Five-Mile Slough.
- Outfall discharge quality in most waterbodies, with the exception of Five-Mile Slough, and the SUA as a whole show improvement during dry weather conditions in the current dataset. During wet weather conditions, outfall water quality appears to be getting better within the SUA as a whole, but without significant differences in historical and current *E. coli* concentrations in most waterbodies, with the exception of Calaveras River receiving water, outfalls to Smith Canal, and both receiving water and outfalls at Duck Creek.
- ***Overall, both receiving water and outfall discharge*** **E. coli** ***concentrations appear to be getting better within the SUA as a whole during dry and wet conditions.***

Table 5-5. Overall Assessment for *E. coli*

Waterbody	Are Conditions in Receiving Waters and the Outfall Discharges Getting Better or Worse?			
	Receiving Water		Outfall Discharges	
	Dry	Wet	Dry	Wet
Mosher Slough	Better	No significant difference	Better	No significant difference
Calaveras River	Better	Better	Better	No significant difference
Duck Creek	Better	Better	Better	Better
Smith Canal	Better	No significant difference	Better	Better
Mormon Slough[a]	NA	NA	NA	NA
Five-Mile Slough	Better	No significant difference	No significant difference	No significant difference
SUA	**Better**	**Better**	**Better**	**Better**

NA: Not Applicable

[a] There were no historical data collected during 2007-2008 and 2004-2015 for *E. coli* at Mormon Slough. Data from Mormon Slough for *E. coli* evaluated previously were collected prior to 2007.

5.3 MERCURY AND METHYLMERCURY

Mercury and methylmercury are POCs for the following currently monitored waterbodies subject to the Delta Methylmercury TMDL (described in **Section 4.4.4**):

- Mosher Slough
- Duck Creek
- Calaveras River

While both mercury and methylmercury are POCs, methylmercury was selected for this long-term assessment as it is the focus of TMDL wasteload allocations. Dry and wet weather methylmercury concentrations for each waterbody and for the SUA as a whole are presented in the following subsections to assess whether receiving waters and outfall discharges are getting better or worse over time.

5.3.1 Receiving Water Assessment

An evaluation of receiving water quality was performed under both dry and wet weather conditions using the historical and current monitoring period data. The results for methylmercury are presented as box plots overlaying a map of the SUA in **Figure 5-4**. The statistical evaluation of historical and current data for each waterbody and the SUA as a whole for dry and wet weather conditions is shown in **Table 5-6.**

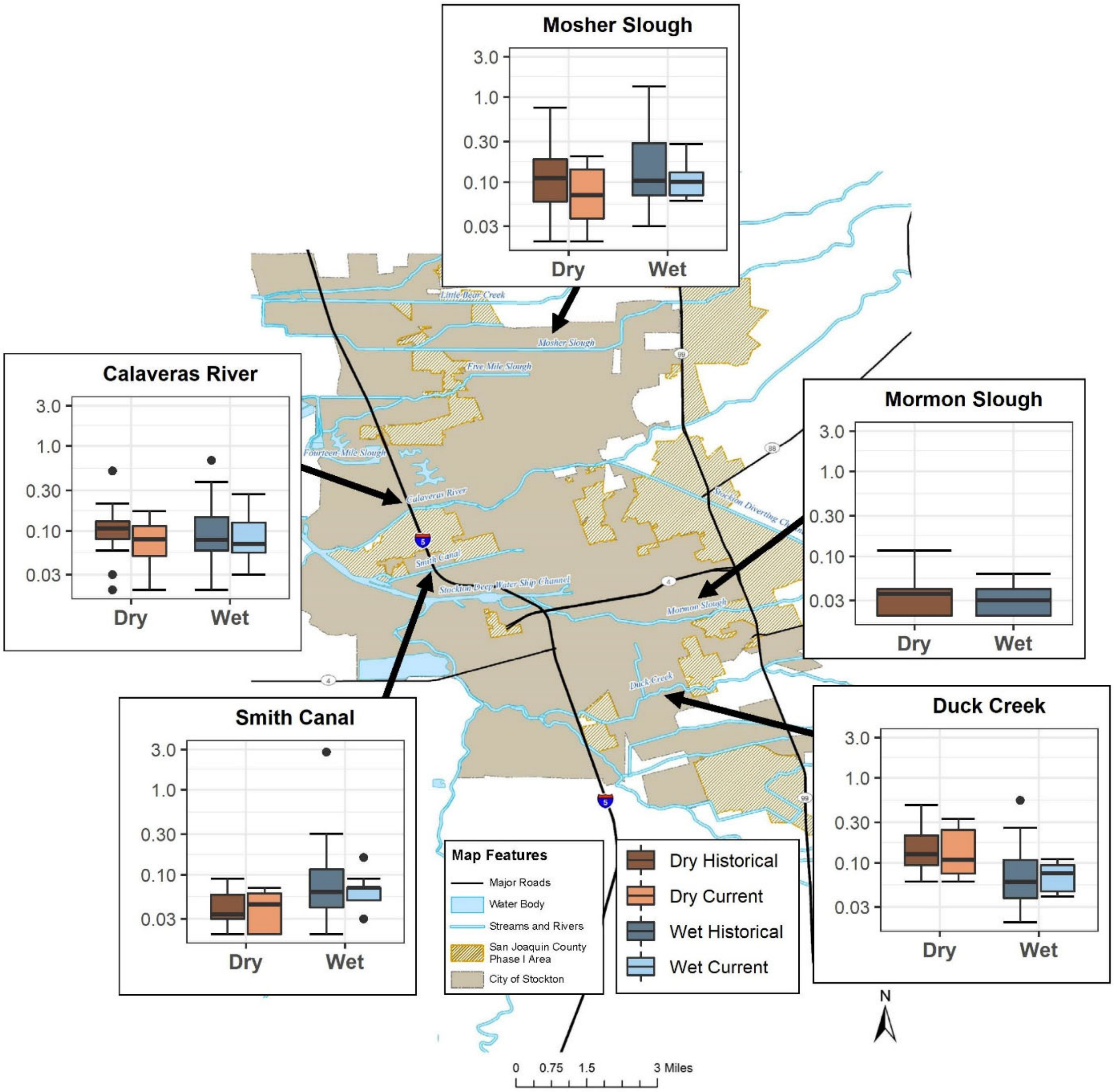

Figure 5-4. Methylmercury Concentrations (ng/L) in SUA Receiving Water, Dry and Wet Weather, Historical (2007-2008 through 2014-2015) and Current (2015-2016 through 2020-2021)

Table 5-6. Receiving Water Statistical Evaluation – Methylmercury (ng/L)

Waterbody	Season	Dataset	Count	Mean	Median	Significant Difference?	Difference: Historical Median vs. Current
Mosher Slough	Dry	Historical	25	0.176	0.116	No	-
		Current	10	0.091	0.069		
	Wet	Historical	22	0.235	0.130	No	-
		Current	9	0.126	0.109		
Calaveras River	Dry	Historical	26	0.120	0.101	No	-
		Current	14	0.084	0.071		
	Wet	Historical	26	0.403	0.110	No	-
		Current	11	0.109	0.086		
Duck Creek	Dry	Historical	22	0.171	0.143	No	-
		Current	6	0.163	0.130		
	Wet	Historical	16	0.136	0.073	No	-
		Current	6	0.073	0.068		
Smith Canal	Dry	Historical	17	0.049	0.042	No	-
		Current	12	0.043	0.045		
	Wet	Historical	19	0.366	0.078	No	-
		Current	9	0.072	0.066		
Mormon Slough	Dry	Historical	5	0.059	<0.050	NA[a][b]	-
		Current	0	-	-		
	Wet	Historical	9	0.046	<0.050		
		Current	0	-	-		
Five-Mile Slough	Dry	Historical	0	-	-	NA[a]	-
		Current	0	-	-		
	Wet	Historical	0	-	-		
		Current	0	-	-		
SUA	Dry	Historical	90	0.135	0.095	**Yes**	**Lower ↓**
		Current	42	0.085	0.063		
	Wet	Historical	83	0.299	0.099	**No**	**-**
		Current	35	0.098	0.082		

NA: Not Applicable
[a] The POC does not apply to this waterbody.
[b] Data were not available from both historical and current data periods to assess differences.

5.3.2 Outfall Assessment

An evaluation of outfall water quality was performed under both dry and wet weather conditions using the historical and current monitoring period data. The results for methylmercury are presented as box plots overlaying a map of the SUA in **Figure 5-5**. The statistical evaluation of historical and current data for each waterbody and the SUA as a whole for dry and wet weather conditions is shown in **Table 5-7**.

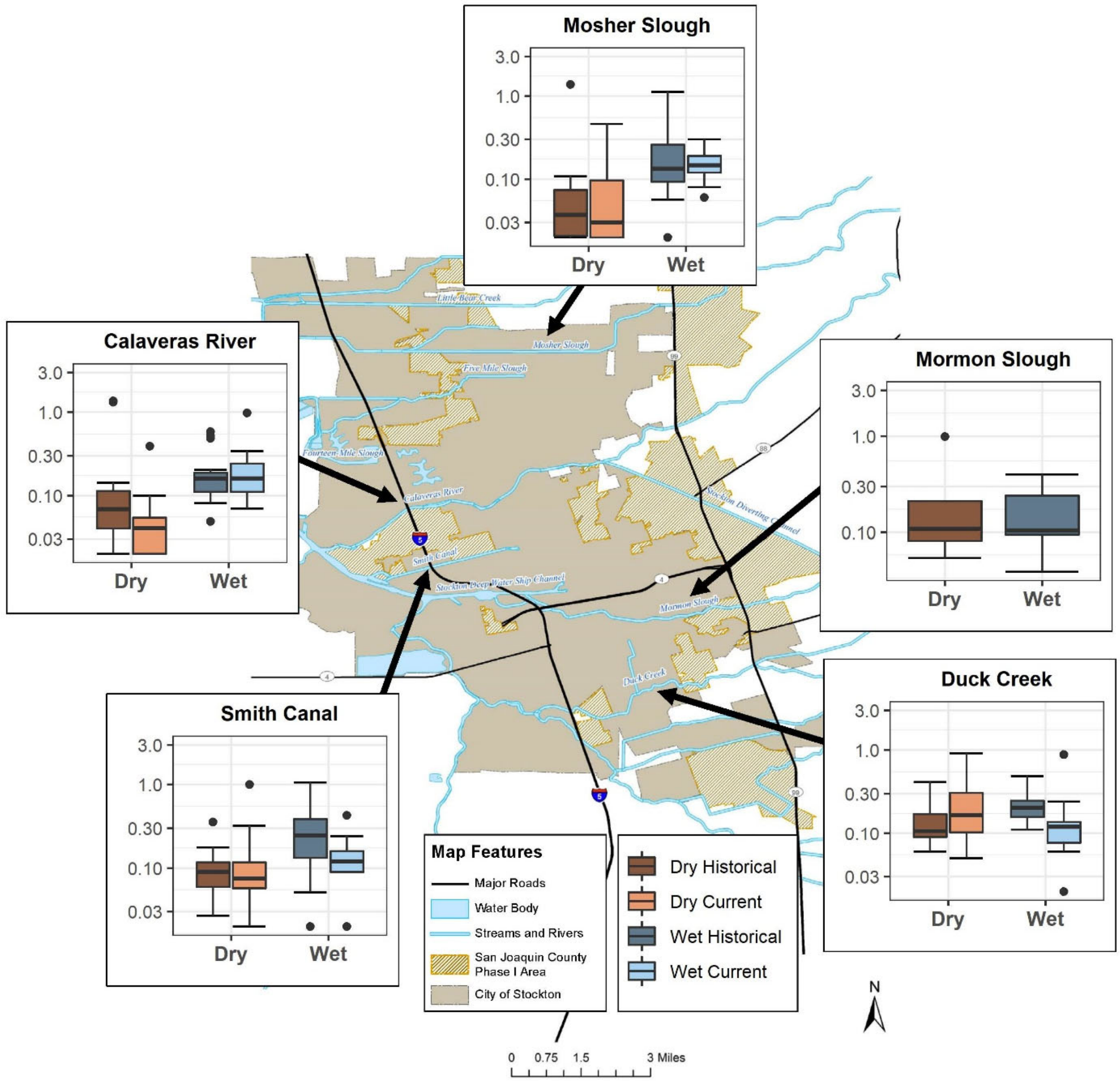

Figure 5-5. Methylmercury Concentrations (ng/L) in SUA Outfall, Dry and Wet Weather, Historical (2007-2008 through 2014-2015) and Current (2015-2016 through 2020-2021)

Table 5-7. Outfall Statistical Evaluation – Methylmercury (ng/L)

Waterbody	Season	Dataset	Count	Mean	Median	Significant Difference?	Difference: Historical Median vs. Current
Mosher Slough	Dry	Historical	17	0.125	0.041	No	-
		Current	16	0.092	0.030		
	Wet	Historical	19	0.264	0.160	No	-
		Current	16	0.159	0.147		
Calaveras River	Dry	Historical	22	0.186	0.070	Yes	Lower ↓
		Current	16	0.063	0.032		
	Wet	Historical	29	0.195	0.163	No	-
		Current	21	0.212	0.170		
Duck Creek	Dry	Historical	11	0.150	0.128	No	-
		Current	12	0.290	0.186		
	Wet	Historical	11	0.216	0.200	Yes	Lower ↓
		Current	18	0.158	0.117		
Smith Canal	Dry	Historical	18	0.115	0.098	No	-
		Current	12	0.170	0.085		
	Wet	Historical	20	0.291	0.229	Yes	Lower ↓
		Current	9	0.156	0.130		
Mormon Slough	Dry	Historical	5	0.897	0.126	NA[a][b]	-
		Current	0	-	-		
	Wet	Historical	9	0.174	0.104		
		Current	0	-	-		
Five-Mile Slough	Dry	Historical	0	-	-	NA[a]	-
		Current	0	-	-		
	Wet	Historical	0	-	-		
		Current	0	-	-		
SUA	Dry	Historical	68	0.146	0.076	**No**	**-**
		Current	56	0.143	0.059		
	Wet	Historical	79	0.239	0.182	**Yes**	**Lower ↓**
		Current	64	0.176	0.143		

NA: Not Applicable
[a] The POC does not apply to this waterbody.
[b] Data were not available from both historical and current data periods to assess differences.

5.3.3 Overall Assessment

Trends were evaluated for each waterbody and for the SUA as a whole, to assess whether conditions in receiving waters and the outfall discharges are getting better or worse. A summary of the evaluation of receiving water and outfall discharge trends is shown in **Table 5-8**.

- There are no significant differences in historical or current receiving water methylmercury concentrations in individual waterbodies under either dry or wet weather conditions; however, the SUA as a whole appears to be getting better under dry weather conditions.
- Outfall discharge quality under dry weather conditions appears to be getting better in the Calaveras River, but there are no significant differences between historical and current receiving water methylmercury concentrations in the other waterbodies or the SUA as a whole. During wet weather conditions, outfall water quality appears to be getting better within the SUA as a whole, as well as within Duck Creek and Smith Canal.
- ***Overall, methylmercury concentrations appear to be getting better in the SUA as a whole under dry conditions in receiving water and under wet conditions in outfall discharges.***

Table 5-8. Overall Assessment for Methylmercury

Waterbody	Are Conditions in Receiving Waters and the Outfall Discharges Getting Better or Worse?			
	Receiving Water		Outfall Discharges	
	Dry	Wet	Dry	Wet
Mosher Slough	No significant difference	No significant difference	No significant difference	No significant difference
Calaveras River	No significant difference	No significant difference	Better	No significant difference
Duck Creek	No significant difference	No significant difference	No significant difference	Better
Smith Canal	No significant difference	No significant difference	No significant difference	Better
Mormon Slough[a][b]	NA	NA	NA	NA
Five-Mile Slough[a]	NA	NA	NA	NA
SUA	**Better**	**No significant difference**	**No significant difference**	**Better**

NA: Not Applicable
[a] The POC does not apply to this waterbody.
[b] Data were not available from both historical and current data periods to assess differences.

5.4 DISSOLVED OXYGEN

Dissolved oxygen is a POC for the following currently monitored waterbodies subject to the San Joaquin River DO TMDL (described in **Section 4.4.5**):

- Mosher Slough
- Smith Canal
- Five-Mile Slough
- Calaveras River
- Mormon Slough

Dry and wet weather dissolved oxygen concentrations for each waterbody and for the SUA as a whole are presented in the following subsections to assess whether receiving waters and outfall discharges are getting better or worse over time.

5.4.1 Receiving Water Assessment

An evaluation of receiving water quality was performed under both dry and wet weather conditions using the historical and current monitoring period data. The results for dissolved oxygen are presented as box plots overlaying a map of the SUA in **Figure 5-6**. The applicable WQO of no less than 5 mg/L between December 1 and August 31, and no less than 6 mg/L between September 1 and November 30, is shown within the box plots. It should be noted that the WQO represents a minimum concentration.

The statistical evaluation of historical and current data for each waterbody and the SUA as a whole for dry and wet weather conditions is shown in **Table 5-9**.

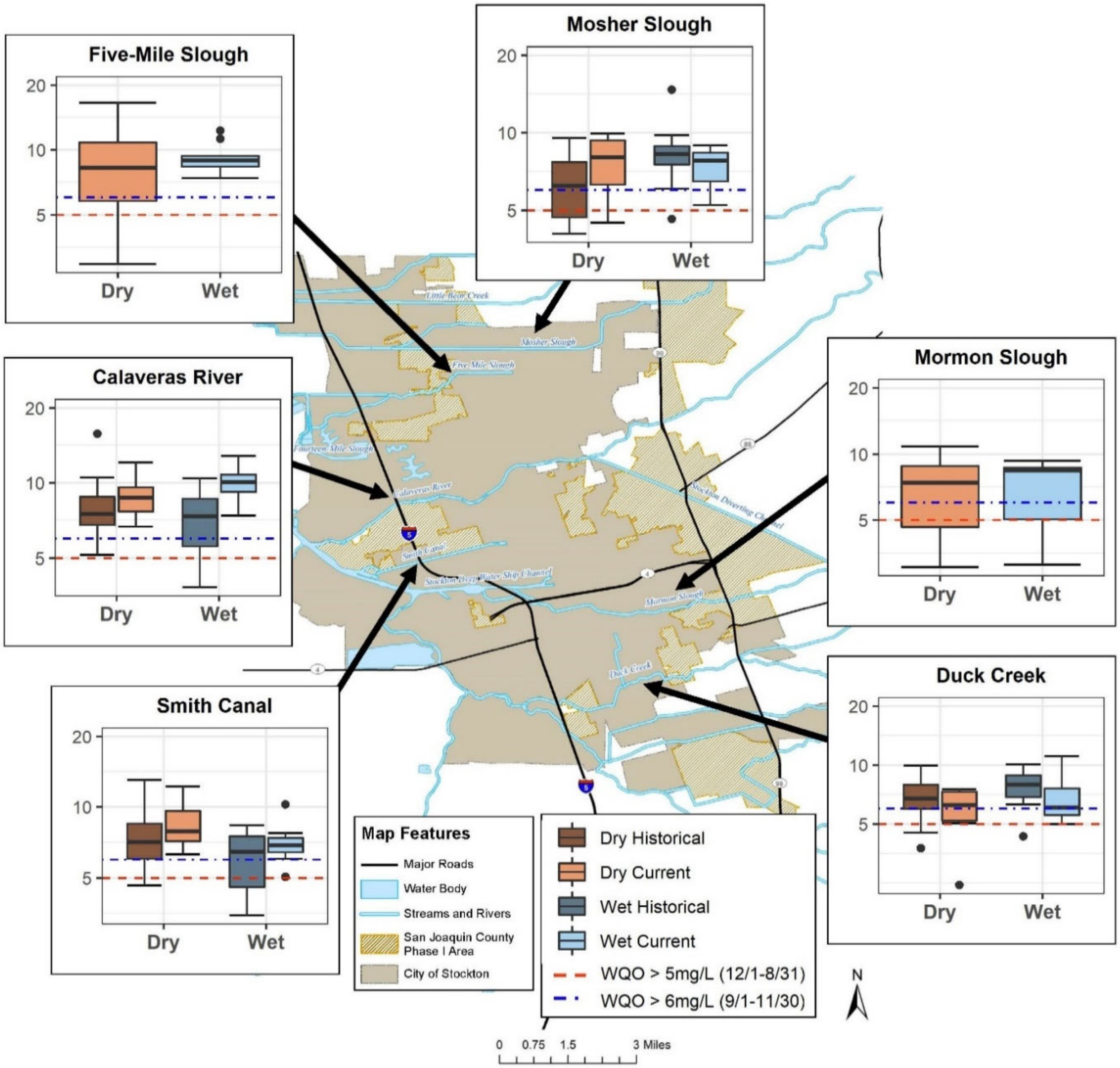

Figure 5-6. Dissolved Oxygen Concentrations (mg/L) in SUA Receiving Water, Dry and Wet Weather, Historical (2007-2008 through 2014-2015) and Current (2015-2016 through 2020-2021)

Table 5-9. Receiving Water Statistical Evaluation – Dissolved Oxygen (mg/L)

Waterbody	Season	Dataset	Count	Mean	Median	Significant Difference?	Difference: Historical Median vs. Current
Mosher Slough	Dry	Historical	21	6.3	6.09	Yes	Higher ↑
		Current	10	7.76	7.54		
	Wet	Historical	13	8.23	7.94	No	-
		Current	9	7.35	7.22		
Calaveras River	Dry	Historical	22	8.05	7.8	No	-
		Current	14	8.76	8.63		
	Wet	Historical	12	7.16	6.91	Yes	Higher ↑
		Current	15	9.91	9.81		
Duck Creek	Dry	Historical	23	6.88	6.69	No	-
		Current	6	5.85	5.48		
	Wet	Historical	11	7.86	7.67	No	-
		Current	6	6.98	6.71		
Smith Canal	Dry	Historical	13	7.57	7.22	No	-
		Current	12	8.39	8.23		
	Wet	Historical	8	6.08	5.83	No	-
		Current	9	7.05	6.93		
Mormon Slough	Dry	Historical	0	-	-	NA[a]	-
		Current	9	6.87	7.38		
	Wet	Historical	0	-	-		
		Current	5	6.92	8.41		
Five-Mile Slough	Dry	Historical	0	-	-	NA[a]	-
		Current	12	8.55	8.59		
	Wet	Historical	0	-	-		
		Current	9	9.28	8.90		
SUA	Dry	Historical	79	7.2	6.9	**Yes**	**Higher ↑**
		Current	42	8	7.73		
	Wet	Historical	44	7.5	7.16	**No**	**-**
		Current	39	8.2	7.96		

NA: Not Applicable
[a] Data were not available from both historical and current data periods to assess differences.

5.4.2 Outfall Assessment

An evaluation of outfall quality was performed under both dry and wet weather conditions using the historical and current monitoring period data. The results for dissolved oxygen are presented as box plots overlaying a map of the SUA The results for dissolved oxygen are presented as box plots overlaying a map of the SUA in **Figure 5-7**. The applicable WQO of >5 mg/L for December 1 through August 31 and >6 mg/L for September 1 through November 30 is shown within the box plots.

The statistical evaluation of historical and current data for each waterbody and the SUA as a whole for dry and wet weather conditions is shown in **Table 5-10**.

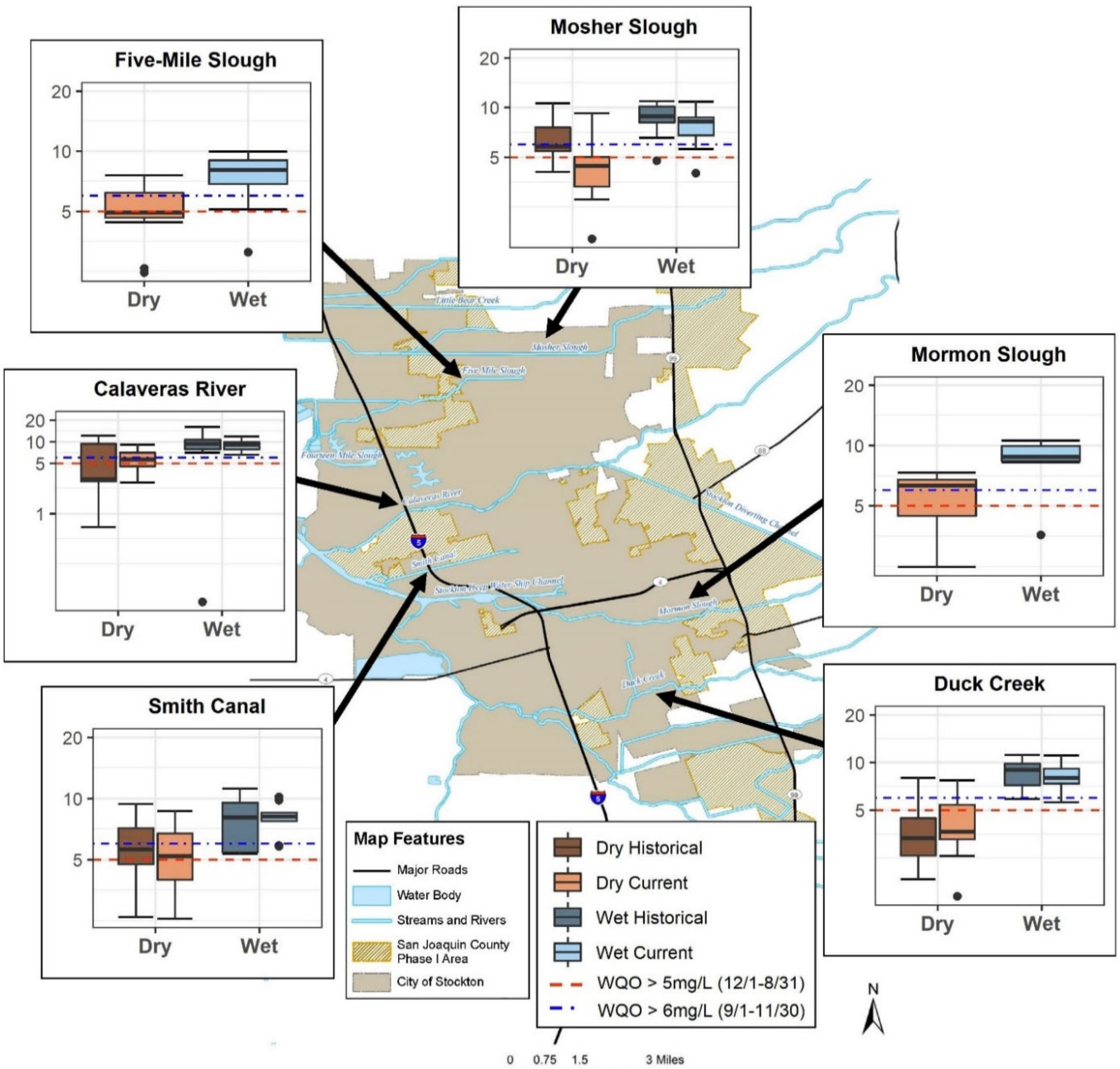

Figure 5-7. Dissolved Oxygen Concentrations (mg/L) in SUA Outfall, Dry and Wet Weather, Historical (2007-2008 through 2014-2015) and Current (2015-2016 through 2020-2021)

Table 5-10. Outfall Statistical Evaluation – Dissolved Oxygen (mg/L)

Waterbody	Season	Dataset	Count	Mean	Median	Significant Difference?	Difference: Historical Median vs. Current
Mosher Slough	Dry	Historical	13	6.51	6.27	Yes	Lower ↓
		Current	16	4.64	4.27		
	Wet	Historical	10	8.53	8.32	No	-
		Current	16	7.9	7.68		
Calaveras River	Dry	Historical	13	5.22	3.9	No	-
		Current	16	5.79	5.52		
	Wet	Historical	9	10.26	6.1	No	-
		Current	28	8.96	8.85		
Duck Creek	Dry	Historical	12	3.78	3.44	No	-
		Current	12	4.12	3.8		
	Wet	Historical	8	8.61	8.41	No	-
		Current	18	8.16	8.05		
Smith Canal	Dry	Historical	14	5.9	5.54	No	-
		Current	12	5.48	5.14		
	Wet	Historical	9	7.85	7.57	No	-
		Current	9	8.04	7.91		
Mormon Slough	Dry	Historical	5	5.52	6.29	NA[a]	-
		Current	0	-	-		
	Wet	Historical	9	8.39	8.77		
		Current	0	-	-		
Five-Mile Slough	Dry	Historical	0	-	-	NA[a]	-
		Current	12	5.16	4.92		
	Wet	Historical	0	-	-		
		Current	9	7.51	8.03		
SUA	Dry	Historical	52	5.39	4.69	**No**	**-**
		Current	56	5.04	4.67		
	Wet	Historical	36	8.81	7.54	**No**	**-**
		Current	71	8.4	8.25		

NA: Not Applicable
[a] Data were not available from both historical and current data periods to assess differences.

5.4.3 Overall Assessment

Trends were evaluated for each waterbody and for the SUA as a whole, to assess whether conditions in receiving waters and the outfall discharges are getting better or worse. A summary of the evaluation of receiving water and outfall discharge trends is shown in **Table 5-11**.

- Receiving water quality for the SUA as a whole and for Mosher Slough appears to be getting better under dry weather conditions and for Calaveras River under wet weather conditions.
- There are no significant differences in outfall discharge quality under either dry or wet weather conditions in most waterbodies or the SUA as a whole, with the exception of Mosher Slough, where dissolved oxygen concentrations for outfall discharges during dry weather appear to be getting worse.
- ***Overall, dissolved oxygen concentrations in the receiving waters appear to be getting better under dry weather conditions. There are no significant differences in outfall discharge concentrations between historical and current data periods within the SUA as a whole.***

Table 5-11. Overall Assessment for Dissolved Oxygen

Waterbody	Are Conditions in Receiving Waters and the Outfall Discharges Getting Better or Worse?			
	Receiving Water		Outfall Discharges	
	Dry	Wet	Dry	Wet
Mosher Slough	Better	No significant difference	Worse	No significant difference
Calaveras River	No significant difference	Better	No significant difference	No significant difference
Duck Creek	No significant difference	No significant difference	No significant difference	No significant difference
Smith Canal	No significant difference	No significant difference	No significant difference	No significant difference
Mormon Slough[a]	NA	NA	NA	NA
Five-Mile Slough[a]	NA	NA	NA	NA
SUA	**Better**	**No significant difference**	**No significant difference**	**No significant difference**

NA: Not Applicable

[a] Data were not available from both historical and current data periods to assess differences.

5.5 PESTICIDES

Pesticides (chlorpyrifos and pyrethroids) are POCs for the following currently monitored waterbodies subject to the Sacramento San Joaquin Delta Diazinon and Chlorpyrifos TMDL (described in **Section 4.1.1**):

- Mosher Slough
- Duck Creek
- Five-Mile Slough
- Calaveras River
- Smith Canal

As noted in **Section 4.4.1**, chlorpyrifos is proposed to be removed from the 303(d) list in the 2020-2022 California Integrated Report.[8] Therefore, chlorpyrifos was not evaluated for this long-term assessment. Long-term pesticide concentrations were evaluated based on pyrethroid concentrations, as pyrethroids are now the focus of the Central Valley Basin Plan Pyrethroid Control Program (described in **Section 4.4.2**).

Over the period of sampling, the pyrethroid bifenthrin was detected most frequently in all waterbodies for dry and wet weather, as shown in **Table 5-12**. Accordingly, bifenthrin was used as a surrogate to represent pyrethroid concentrations in the comparison of historical and current conditions. Tables of summary statistics for all pyrethroids are included in **Appendix E**.

Table 5-12. Pyrethroid Percent Detected in Receiving Water

Pyrethroid	Dry		Wet	
	Historical	Current	Historical	Current
Receiving Water				
Allethrin	0%	0%	3%	0%
Bifenthrin	**21%**	**57%**	**49%**	**93%**
Cyfluthrin	3%	8%	27%	27%
Cypermethrin	0%	8%	24%	50%
Deltamethrin:Tralomethrin	2%	12%	14%	32%
Esfenvalerate:Fenvalerate	6%	4%	16%	20%
Fenpropathrin	3%	2%	8%	5%
Fluvalinate	2%	0%	2%	0%
Lambda-Cyhalothrin	1%	8%	29%	27%
Permethrin	1%	0%	19%	14%
Tetramethrin	12%	2%	8%	0%
Outfall				
Allethrin	2%	0%	0%	1%
Bifenthrin	**61%**	**88%**	**91%**	**89%**
Cyfluthrin	30%	31%	70%	71%
Cypermethrin	35%	62%	70%	79%

[8] https://www.waterboards.ca.gov/water_issues/programs/water_quality_assessment/2020_2022_integrated_report.html

Pyrethroid	Dry		Wet	
	Historical	Current	Historical	Current
Deltamethrin:Tralomethrin	15%	20%	30%	62%
Esfenvalerate:Fenvalerate	15%	26%	63%	56%
Fenpropathrin	2%	6%	26%	10%
Fluvalinate	4%	0%	12%	4%
Lambda-Cyhalothrin	20%	35%	76%	71%
Permethrin	19%	20%	64%	47%
Tetramethrin	6%	0%	17%	1%

Dry and wet weather bifenthrin concentrations for each waterbody and for the SUA as a whole are presented in the following subsections to assess whether receiving waters and outfall discharges are getting better or worse over time.

5.5.1 Receiving Water Assessment

An evaluation of receiving water quality was performed under both dry and wet weather conditions using historical and current monitoring period data. The results for bifenthrin are presented as box plots overlaying a map of the SUA in **Figure 5-8**. The statistical evaluation of historical and current data for each waterbody and the SUA as a whole for dry and wet weather conditions is shown in **Table 5-13.**

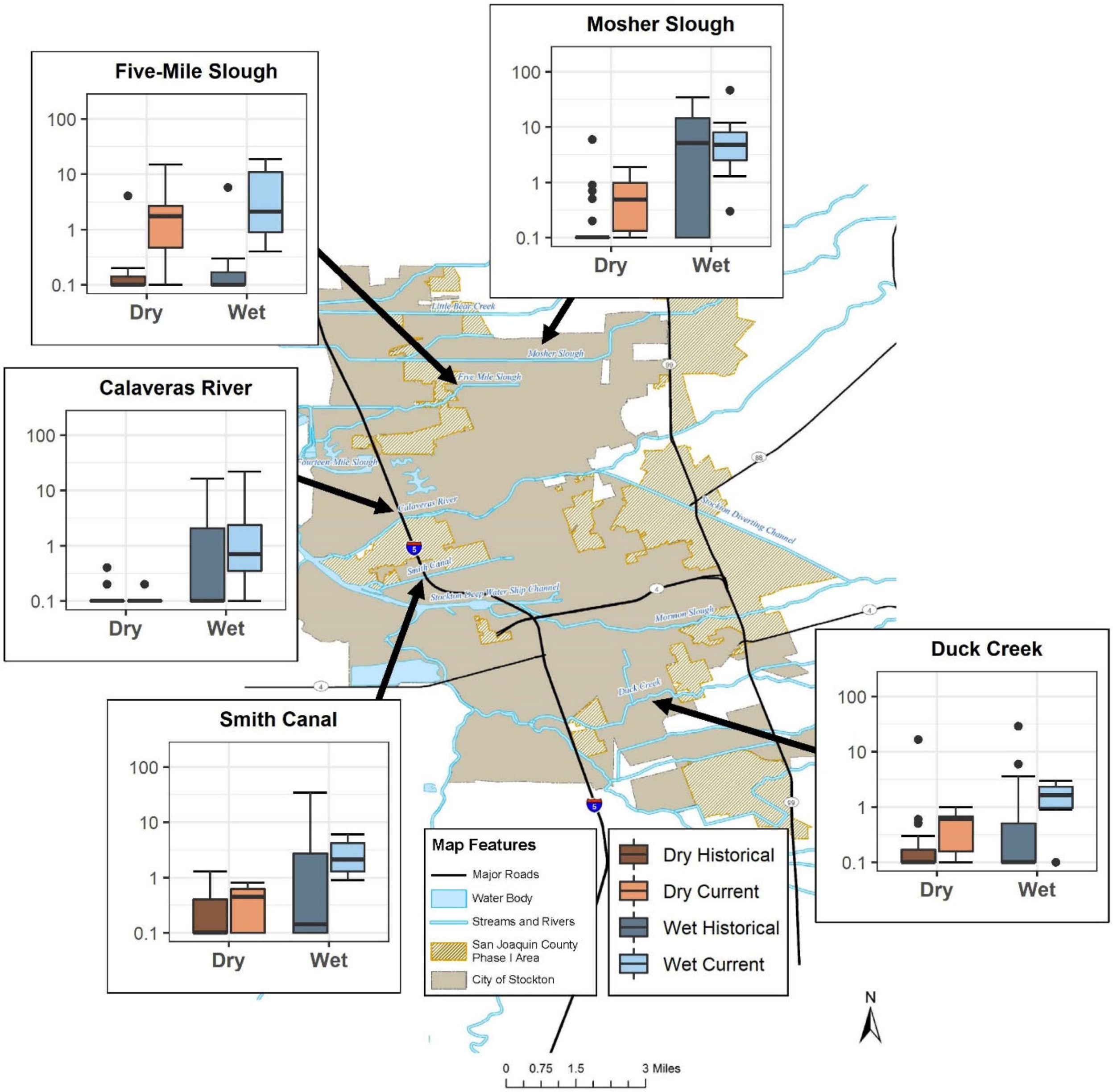

Figure 5-8. Pyrethroid Bifenthrin Concentrations (ng/L) in SUA Receiving Water, Dry and Wet Weather, Historical (2007-2008 through 2014-2015) and Current (2015-2016 through 2020-2021

Table 5-13. Receiving Water Statistical Evaluation – Pyrethroids (Bifenthrin, ng/L)

Waterbody	Season	Dataset	Count	Mean	Median	Significant Difference?	Difference: Historical Median vs. Current
Mosher Slough	Dry	Historical	34	1.28	0.07	No	-
		Current	10	0.64	0.45		
	Wet	Historical	33	10.37	4.61	No	-
		Current	9	9.58	4.24		
Calaveras River	Dry	Historical	28	ND[a]	<0.79	Insufficient detected data	-
		Current	14	<0.1	<0.1		
	Wet	Historical	25	3.33	0.53	No	-
		Current	11	3.74	0.84		
Duck Creek	Dry	Historical	22	1.85	0.21	No	-
		Current	6	0.52	0.57		
	Wet	Historical	16	4.76	0.22	No	-
		Current	6	1.63	1.46		
Smith Canal	Dry	Historical	19	1.14	0.34	No	-
		Current	12	0.43	0.35		
	Wet	Historical	21	33.25	1.1	No	-
		Current	9	2.9	2.33		
Mormon Slough	Dry	Historical	0	-	-	NA[b]	-
		Current	0	-	-		
	Wet	Historical	0	-	-		
		Current	0	-	-		
Five-Mile Slough	Dry	Historical	7	1.28	<0.5	No	-
		Current	12	3.23	1.55		
	Wet	Historical	11	1.76	0.33	No	-
		Current	9	6.07	2.83		
SUA	Dry	Historical	82	1.4	0.14	**No**	**-**
		Current	40	1.3	0.54		
	Wet	Historical	106	11.5	0.99	**No**	**-**
		Current	44	5	2.03		

NA: Not Applicable
[a] The method detection limit varied; thus, a specific median value is not available.
[b] The POC does not apply to this waterbody.

5.5.2 Outfall Assessment

An evaluation of outfall water quality was performed under both dry and wet weather conditions using the historical and current monitoring period data. The results for bifenthrin are presented as box plots overlaying a map of the SUA in **Figure 5-9**. The statistical evaluation of historical and current data for each waterbody and the SUA as a whole for dry and wet weather conditions is shown in **Table 5-14**.

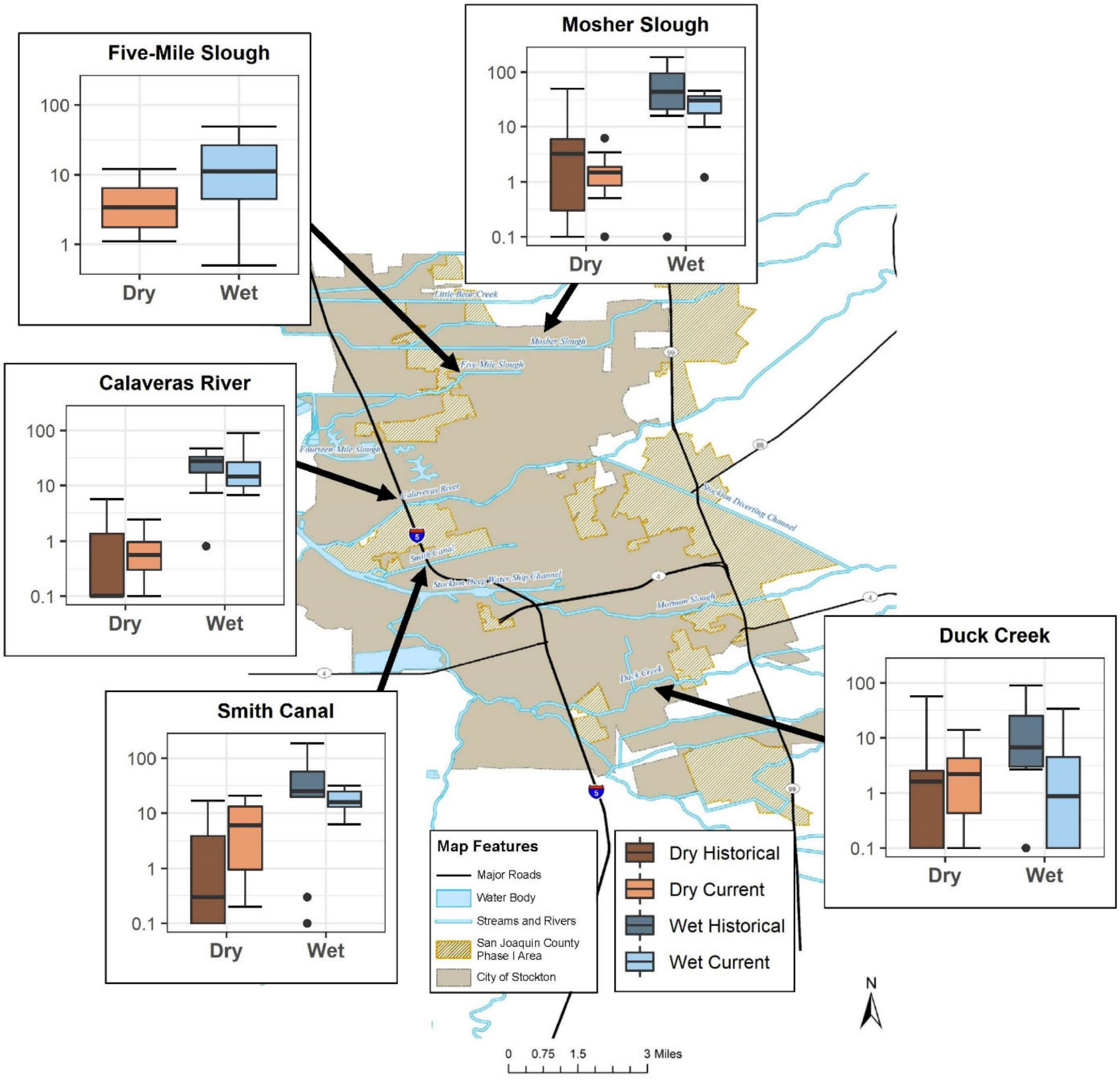

Figure 5-9. Pyrethroid Bifenthrin Concentrations (ng/L) in SUA Outfall, Dry and Wet Weather, Historical (2007-2008 through 2014-2015) and Current (2015-2016 through 2020-2021)

Table 5-14. Outfall Statistical Evaluation – Pyrethroids (Bifenthrin, ng/L)

Waterbody	Season	Dataset	Count	Mean	Median	Significant Difference?	Difference: Historical Median vs. Current
Mosher Slough	Dry	Historical	19	5.85	2.27	Yes	Lower ↓
		Current	16	1.66	1.29		
	Wet	Historical	23	155.1	48.5	Yes	Lower ↓
		Current	16	27.1	21.7		
Calaveras River	Dry	Historical	12	1.93	0.57	No	-
		Current	16	0.78	0.57		
	Wet	Historical	11	25.6	18.5	No	-
		Current	21	32.8	19.5		
Duck Creek	Dry	Historical	11	7.06	1.43	No	-
		Current	12	3.42	1.84		
	Wet	Historical	11	21.1	7.05	Yes	Lower ↓
		Current	18	5.29	1.05		
Smith Canal	Dry	Historical	12	3.81	1.17	No	-
		Current	12	7.81	3.53		
	Wet	Historical	11	135.5	29.3	No	-
		Current	9	18.92	16.9		
Mormon Slough	Dry	Historical	0	-	-	NA[a]	-
		Current	0	-	-		
	Wet	Historical	0	-	-		
		Current	0	-	-		
Five-Mile Slough	Dry	Historical	0	-	-	NA[b]	-
		Current	12	4.66	3.35		
	Wet	Historical	0	-	-		
		Current	9	66.1	22.0		
SUA	Dry	Historical	54	4.8	1.35	**No**	**-**
		Current	56	3.1	1.23		
	Wet	Historical	56	99.5	24.5	**Yes**	**Lower ↓**
		Current	64	21.7	11.6		

NA: Not Applicable
[a] The POC does not apply to this waterbody.
[b] Data were not available from both historical and current data periods to assess differences.

5.5.3 Overall Assessment

Trends were evaluated for each waterbody and for the SUA as a whole, to assess whether conditions in receiving waters and the outfall discharges are getting better or worse. A summary of the evaluation of receiving water and outfall discharge trends is shown in **Table 5-15**.

- Receiving water quality in each waterbody and the SUA as a whole showed no significant differences between the historical and current monitoring periods, under dry or wet weather conditions.
- Outfall discharge quality appears to be getting better within Mosher Slough under dry and wet weather conditions, and within Duck Creek and the SUA as a whole during wet weather conditions. There are no significant differences in pyrethroid concentrations in outfall discharges within the Calaveras River or Smith Canal.
- ***Overall, there are no significant differences in receiving water pyrethroid concentrations or outfall discharge concentrations during dry weather, while outfall discharge concentrations appear to be getting better under wet weather conditions.***

Table 5-15. Overall Assessment for Pyrethroids (Bifenthrin)

Waterbody	Are Conditions in Receiving Waters and the Outfall Discharges Getting Better or Worse?			
	Receiving Water		Outfall Discharges	
	Dry	Wet	Dry	Wet
Mosher Slough	No significant difference	No significant difference	Better	Better
Calaveras River	Insufficient detected data	No significant difference	No significant difference	No significant difference
Duck Creek	No significant difference	No significant difference	No significant difference	Better
Smith Canal	No significant difference	No significant difference	No significant difference	No significant difference
Mormon Slough	NA[a]	NA[a]	NA[a]	NA[a]
Five-Mile Slough	No significant difference	No significant difference	NA[b]	NA[b]
SUA	**No significant difference**	**No significant difference**	**No significant difference**	**Better**

NA: Not Applicable
[a] The POC does not apply to this waterbody.
[b] Data were not available from both historical and current data periods to assess differences.

6. Program Implementation (2016-2021)

This section provides a summary of the status of the implementation of the overall stormwater program during five years of the Region-wide Permit term (2016-2017 through 2020-2021).

As described in **Section 2**, the City and County submitted a NOI Work Plan as part of their NOI application package (**Appendix B**). During the period of 2016-2021[1], the City and County implemented the activities as outlined in the NOI Work Plan.

In addition, throughout the reporting period, the City and County tracked the data and information necessary to conduct short-term and long-term program effectiveness assessments. The short-term program effectiveness assessment was included in the *2016-2019 Mid-Term Report*. The long-term program effectiveness assessment (for program implementation) is included in **Section 7** of this End-Term Report.

The City and County are implementing Control Measures and accompanying Performance Standards specific to each Program Element. The programmatic activities and data for the specific tasks initiated and/or completed during the reporting period pursuant to each Program Element are summarized in **Section 6**. Some Control Measures within each Program Element are not reported on in **Section 6** because no specific data or information are collected regarding their implementation. This is indicated in the tables at the beginning of each Program Element sub-section within **Section 6**. A description of the programmatic activities and summary of data collected during 2016-2017 through 2020-2021 is presented by Program Element in the following subsections:

- Section 6.1 City Program Implementation
    - Section 6.1.1 Illicit Discharges (ID) (**Table 6-1**)
    - Section 6.1.2 Public Outreach (PO) (**Table 6-9**)
    - Section 6.1.3 Municipal Operations (MO) (**Table 6-13**)
    - Section 6.1.4 Industrial and Commercial (IC) (**Table 6-25**)
    - Section 6.1.5 Construction (CO) (**Table 6-32**)
    - Section 6.1.6 Planning and Land Development (LD) (**Table 6-38**)
- Section 6.2 County Program Implementation
    - Section 6.2.1 Illicit Discharges (ID) (**Table 6-44**)
    - Section 6.2.2 Public Outreach (PO) (**Table 6-51**)
    - Section 6.2.3 Municipal Operations (MO) (**Table 6-53**)
    - Section 6.2.4 Industrial and Commercial (IC) (**Table 6-64**)
    - Section 6.2.5 Construction (CO) (**Table 6-70**)
    - Section 6.2.6 Planning and Land Development (LD) (**Table 6-72**)

As a part of the revision to the SWMP (anticipated for 2022), the range of Control Measures and Performance Standards will be assessed to determine which of them are most effective for each of the PWQCs that were identified in the Assessment and Prioritization.

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[1] Throughout **Section 6,** the fiscal years 2016-2017, 2017-2018, 2018-2019, 2019-2020, and 2020-2021 (collectively July 1, 2016 through June 30, 2021) are represented by the time frame 2016-2021.

6.1 CITY PROGRAM IMPLEMENTATION

6.1.1 Illicit Discharges (ID)

The purpose of this Program Element is to ensure implementation of a comprehensive program for detecting, responding to, investigating, and eliminating illicit discharges and illegal connections in an efficient and effective manner. The City has developed and is implementing Control Measures and accompanying Performance Standards specific to this Program Element.[2] The Illicit Discharges Program Control Measures are summarized in **Table 6-1**.

Table 6-1. Illicit Discharge Program Control Measures (City)

ID	Control Measure	Section
ID1	Detection of Illicit Discharges and Illegal Connections	6.1.1.1
ID2	Illegal Connection Identification and Elimination	6.1.1.2
ID3	Investigation/Inspection and Follow Up	6.1.1.3
ID4	Enforcement	6.1.1.4
ID5	Training	6.1.1.5
	Effectiveness Assessment	7

6.1.1.1 Detection of Illicit Discharges and Illegal Connections (ID1)

The number of illicit discharges observed or water pollution complaints received and the number of illicit discharges verified are shown in **Table 6-2**.

Table 6-2. Detection of Illicit Discharges (City)

Source	Number				
	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021
Illicit Discharges Observed or Water Pollution Complaints Received					
Hotline	8	9	4	10	21
Ask Stockton	2	14	6	17	8
Field Staff	110	34	40	16	54
Unidentified	21	0	0	0	0
Total	**141**	**57**	**50**	**43**	**83**
Number of Illicit Discharges Verified[a]					
Hotline	7	9	2	3	18
Ask Stockton	1	14	2	7	5
Field Staff	98	31	37	11	39
Unidentified	12	0	0	4	17

[2] These Control Measures are based on the 2009 SWMP (and modifications thereto) and the NOI Work Plan submitted to and approved by the Regional Water Board as a part of the NOI application package and may change when the revised SWMP is developed.

Source	Number				
	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021
Total	**118**	**54**	**41**	**25**	**79**

[a] The number verified is the number with evidence of discharge that is not exempt or in compliance.

6.1.1.2 Illegal Connection Identification and Elimination (ID2)

Illegal connections identified through public reporting, plan reviews, and field crew inspections (including construction inspections) are shown in **Table 6-3**.

Table 6-3. Illegal Connections Identification (City)

Source	Number of Illegal Connections				
	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021
Hotline	0	2	1	0	1
Plan Review	0	0	0	0	0
Construction inspections	0	0	0	0	0

6.1.1.3 Investigation/Inspection and Follow Up (ID3)

The total number of illicit discharges and illegal connections reported, illicit discharges verified and cleaned, and illegal connections eliminated are shown in **Table 6-4**.

Table 6-4. Total Number of Illicit Discharges and Illegal Connections (City)

Metric	Total Number				
	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021
Illicit Discharges Reported	141	57	50	43	83
Illicit Discharges Verified	118	54	41	25	79
Illicit Discharges Requiring Clean-up[a]	105	31	28	25	79
Illegal Connections Reported	0	2	1	0	1
Illegal Connections Eliminated	0	2	1	0	1

[a] Including clean-up by a contractor, resident, commercial business or industry, or field crew.

The types of materials involved in the verified incidents were tracked, as shown in **Table 6-5**.

Table 6-5. Materials in Verified Incidents (City)

Material	Number of Incidents				
	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021
Pesticides	0	2	0	0	0
Sediment	12	0	2	1	0
Hydrocarbons	20	19	13	11	30

Material	Number of Incidents				
	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021
Wastewater	52	9	9	7	5
Trash and Debris	27	0	9	0	0
Paint	1	0	4	3	0
Miscellaneous	4	1	7	0	2
Unidentified	2	0	7	6	0
Total[a]	**118**	**31**	**51**	**28**	**37**

[a] Multiple types of materials were reported during some illicit discharge inspections, while the material type was not reported during others. Therefore, the number of incidents with materials reported does not equal the verified number of illicit discharges.

6.1.1.4 Enforcement (ID4)

The number and types of enforcement actions taken are summarized in **Table 6-6**.

Table 6-6. Illicit Discharge Program Enforcement Actions Taken (City)

Type of Enforcement Action	Number of Actions[a]				
	2016-2017[b]	2017-2018	2018-2019	2019-2020	2020-2021
Administrative					
Violation Warning Notice	22	1	4	4	12
Notice of Violation	52 Correction Orders[c] 64 Notice to Clean	2	20	7	26
Cease and Desist Order	1	1	3	3	1
Stop Work Order	3	0	0	0	0
Administrative Citation (Fine)	5	1	0	0	0
Criminal Enforcement[d]					
Misdemeanor	0	0	0	0	0
Infraction	0	0	0	0	0
Total	**147**	**5**	**27**	**14**	**39**

[a] The total number of enforcement actions taken may be smaller than the number of verified incidents due to enforcement actions issued to the owners of multiple properties.

[b] During 2016-2017, 96 verbal warnings were issued by the Stormwater and Environmental Control departments. Beginning in 2017-2018, verbal warnings were discontinued as enforcement actions by the Stormwater department. The Environmental Control department issued one in 2018-2019, but the City has agreed that verbal warnings should no longer be tracked or reported.

[c] In 2016-2017, the Notice of Violation form used by the City included the following enforcement options: Cease and Desist Order; Violation Warning Notice; Notice to Clean; Stop Work Order; Fine; and Correction Order.

[d] This category presumes that an action turned over to the District Attorney resulted in a criminal prosecution within the year of the incident. However, data for this category can only be updated in subsequent years (i.e., after criminal prosecution has been successful).

The number of repeat offenders identified and referrals made to other agencies are summarized in **Table 6-7**.

Table 6-7. Illicit Discharge Program Repeat Offenders (City)

Metric	Number of Incidents				
	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021
Repeat offenders	16	0	1	1	0
Referred to the Regional Water Board	0	0	2	0	1

6.1.1.5 Training (ID5)

The trainings associated with the Illicit Discharge Program Element attended by City staff are summarized in **Table 6-8**.

Table 6-8. Illicit Discharge Program Trainings Attended (City)

Date of Training	Title of Training Module	Number of Attendees	Staff Positions Trained	Trainee Departments or Divisions
7/13/2016	Universal Waste	29	NT	NT
9/21/2016	Hydro/vac Truck Safety	36	NT	NT
10/26/2016	Storm Patrol	32	NT	NT
11/30/2016	Smart Cover	36	NT	NT
1/10/2017	Storm Patrol	3	NT	NT
11/7/2018	IDDE – A Grate Concern	58	Various	PW/MUD
12/14/2018	IDDE – A Grate Concern	8	Inspectors	CDD
12/12/2019	Stormwater & IDDE Training	19	NT	PW-O&M
12/12/2019	Stormwater & IDDE Training	20	NT	PW-O&M
12/13/2019	IDDE: A Grate Concern	7	NT	Community Development
2/25/2021	IDDE: A Grate Concern	11	Building Inspectors	CDD
5/18/2021	IDDE: A Grate Concern	26	Streets, Parks, O&M, CBM	PW

NT: Not Tracked

6.1.2 Public Outreach (PO)

The purpose of the Public Outreach Program Element is to inform the public (increase knowledge) regarding the impacts of urban stormwater runoff and introduce steps the public can take (change behavior) to reduce pollutants from everyday activities. The City has developed and is implementing Control Measures and accompanying Performance Standards specific to this Program Element.[3] The Public Outreach Program Control Measures are summarized in **Table 6-9**.

Table 6-9. Public Outreach Program Control Measures (City)

PO	Control Measure	Section
PO1	Public Participation	6.1.2.1
PO2	Hotline	N/A
PO3	Public Outreach Implementation	6.1.2.2
PO4	Public School Education	6.1.2.2
	Effectiveness Assessment	7

N/A: Programmatic data are not collected for this control measure

6.1.2.1 Public Participation (PO1)

The number of volunteers involved in stream cleanup events organized by the California Coastal Cleanup Day in San Joaquin County and amount of trash/debris removed are shown in **Table 6-10**.

Table 6-10. Stream Cleanup Events (City and County)

Date of Cleanup	Event Name	Number of Volunteers	Number of Sites	Trash/Debris Removed (tons)
9/17/2016	Coastal Cleanup Day	953	12	15.85
9/24/2016	Buckley Cove	42	12	7.15
9/16/2017	Coastal Cleanup Day	898	15	11.1
9/15/2018	Coastal Cleanup Day	605	16	11.6
9/21/2019	Coastal Cleanup Day	804	15	38.34
2020 [a]	-	-	-	-

[a] The City and County did not participate in stream cleanup events during 2020 to encourage safety and comply with local and State mandated COVID-19 restrictions. During 2020-2021, two drive-up trash collection events were performed, during which the occupants of 236 vehicles were served.

The amount of used oil and number of used oil filters collected via the used oil and Household Hazardous Waste program and the pounds of mercury collected through local events or the permanent collection site are shown in **Table 6-11**.

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[3] These Control Measures are based on the 2009 SWMP (and modifications thereto) and the NOI Work Plan submitted to and approved by the Regional Water Board as a part of the NOI application package and may change when the revised SWMP is developed.

Table 6-11. Household Hazardous Waste (City and County)

Metric		Amount Collected				
		2016-2017	2017-2018	2018-2019	2019-2020	2020-2021
Used oil (gallons)		190,466	180,743	192,064	171,780	290,668
Oil filters (units)		42,815	53,525	62,525	76,585	34,348
Mercury (pounds)		175	501	531	27	27
Pesticide	(gallons)	16,588	34,827	32,717	35,560	36,650
	(pounds)	11,683	16,454	17,856	18,236	54,288

6.1.2.2 Public Outreach Implementation (PO3)

Estimates of the total number of impressions made with the general public are provided in **Table 6-12**.

Table 6-12. Public Outreach Program Implementation (City)

Type of Outreach	Estimated Number of Impressions				
	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021
Distribution of Educational Materials	3,829	4,329	6,300	3,150	NT[a]
Conduct Mixed Media Campaigns	5,000	682,257	220,000	124,047	75,069
Participate in Community-Wide Events	10,265	9,309	11,550	18,000	1,740[b]
Provide Community Relations	NT	41,250	NT	NT	NT
Provide Outreach to School-Age Children	12,787	12,013	11,000	13,580	6,124
Provide Business Outreach	24	454	584	400	NT
Total	**31,905**	**749,612**	**249,434**	**159,177**	**82,933[c]**

NT: Not Tracked

[a] Distribution of Educational Materials is not required by the Work Plan.

[b] Clean City Initiative (# cars serviced and volunteers participating).

[c] Fewer impressions could be made through public outreach due to restrictions on public gatherings from local and statewide public health orders during the COVID-19 pandemic.

In addition, to date, a total of 44 Pet Waste Signs promoting the proper disposal of pet waste have been installed within ten existing City parks with stormwater inlets that discharge directly to local waterways. Of these, 16 have been removed or stolen over time, leaving 28. The City plans to replace the 16 missing signs during 2021-2022.

6.1.3 Municipal Operations (MO)

The purpose of this program element is to ensure that these operations and maintenance activities are performed using processes and procedures to minimize the pollutants generated and to decrease the potential for pollutants to enter the storm drain system. The City has developed and is implementing Control Measures and accompanying Performance Standards specific to this Program Element.[4] The Municipal Operations Program Control Measures are summarized in **Table 6-13**.

Table 6-13. Municipal Operations Program Control Measures (City)

MO	Control Measure	Section
MO1	Sanitary Sewer Maintenance & Overflow and Spill Response	6.1.3.1
MO2	Construction Requirements for Municipal Capital Improvement Projects	N/A
MO3	Pollution Prevention at City Facilities	N/A
MO4	Landscape and Pest Management	6.1.3.2
MO5	Storm Drain System Maintenance	6.1.3.3
MO6	Street Cleaning and Maintenance	6.1.3.4
MO7	Training	6.1.3.5
	Effectiveness Assessment	7

N/A: Programmatic data are not collected for this control measure

6.1.3.1 Sanitary Sewer Maintenance & Overflow and Spill Response (MO1)

Summaries of the SSOs tracked through the Sanitary Sewer Overflow Emergency Response Plan for the City are shown in **Table 6-14**. As seen below, very few SSOs entered the receiving water, even if they initially entered the MS4.[5]

Table 6-14. Summary of SSOs (City)

Metric	Total Number				
	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021
SSOs	78	84	115	137	86
SSOs that entered the storm drain system	9	20	25	17	9

[4] These Control Measures are based on the 2009 SWMP (and modifications thereto) and the NOI Work Plan submitted to and approved by the Regional Water Board as a part of the NOI application package and may change when the revised SWMP is developed.

[5] The Region-wide Permit specifically authorizes the ability to utilize the MS4 in case of a non-stormwater discharge spill or release, such as an SSO (General Permit at Provision II.B.4., pg. 16: “Non-storm water discharges associated with emergency containment and/or cleanup of a pollutant spill or release may lawfully enter a MS4 provided that a) the non-storm water does not discharge from the MS4 to waters of the United States, b) the discharge is temporarily but fully contained in the MS4 to allow for characterization and disposal, c) the pollutants are subsequently removed from the MS4 system, and d) use of the MS4 system is necessary to address a threat to human health, the environment, and/or to avoid significant property damage”).

Metric	Total Number				
	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021
SSOs that entered a receiving water	3	5	3	1	0

6.1.3.2 Landscape and Pest Management (MO4)

A summary of the fertilizers applied to golf courses, parks, and landscaped medians is shown in **Table 6-15**.

Table 6-15. Summary of Fertilizers and Pesticides Applied (City)

Metric		Applied to Parks, Landscaped Medians, and Golf Courses				
		2016-2017	2017-2018	2018-2019	2019-2020	2020-2021
Acres treated with fertilizers		896	625	1,040	339	339
Pounds of fertilizer applied	Nitrogen	8,785	3,728	8,734	4,237	4,247
	Phosphorus	2,465	355	632	362	630
Acres treated with pesticides		723	277	777	891	1,091[b]
Pounds of pesticide active ingredient applied		NT[a]	NT[a]	2,406	1,757	2,062
Acres under the IPM Program		1,036	500	1,215	1,214	1,300

[a] The total amount of pesticide (not the active ingredient) was reported.

[b] Includes the area of landscaped medians as well as golf courses and parks. Previous years only included the area of golf courses and parks.

6.1.3.3 Storm Drain System Maintenance (MO5)

Summaries of prioritized catch basin, pump station, and detention basin inspections are shown in **Table 6-16** and **Table 6-17**.

Table 6-16. Catch Basins, Pump Stations, and Detention Basins (City)

Type	Total Number				
	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021
High Priority Catch Basins	3,132	3,132	3,275[a]	3,275	3,276
Low Priority Catch Basins	13,304	13,304	13,246[a]	13,270	13,178
Pump Stations	74	73	73	73	73
Flood Control Detention Basins[b]	5	5	5	5	5
Water Quality and Flood Control Detention Basins[b]	3	3	3	3	3

[a] The change in the documented number of catch basins is attributable to staffing changes, when recounts were made.

[b] Inspections and data tracking have been historically performed at these eight detention basins. As reported in the RAA (submitted July 1, 2019), 18 detention basins had been identified in the Phase I area. The remaining ten basins will be inspected in future years.

Table 6-17. Catch Basin, Pump Station, and Detention Basin Inspections (City)

Type	Number of Inspections				
	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021
High Priority Catch Basins	5,206	4,418	2,916	3,275	986
Low Priority Catch Basins	263	635	1,899	432	2,026
Pump Stations	888	876	876	876	876
Flood Control Detention Basins[a]	5[b]	10[c]	10[c]	20[c][d]	10[c]
Water Quality and Flood Control Detention Basins[a]	3[b]	6[c]	6[c]	12[c][d]	6[c]

[a] Inspections and data tracking have been historically performed at these eight detention basins. As reported in the RAA (submitted July 1, 2019), 18 detention basins had been identified in the Phase I area. The remaining ten basins will be inspected in future years.

[b] Inspections were conducted after significant storms.

[c] Regular inspections were conducted.

[d] In 2019-2020, 95 Flood Control Detention Basin inspections and 39 Water Quality and Flood Control Detention Basin Inspections were reported; however, information provided in 2021 showed quarterly inspections were performed on all basins.

Summaries of prioritized catch basin, storm drain, pump station, and detention basin cleaning and the amount of material/debris removed during storm drain maintenance activities (where tracked) are shown in **Table 6-18** and **Table 6-19**.

Table 6-18. Catch Basins, Pump Stations, and Detention Basins Cleaned (City)

Type	Number Cleaned				
	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021
High Priority Catch Basins	2,972	774	630	166	275
Low Priority Catch Basins	218	570	317	266	25
Storm Drain System[a]	12,086	30,380	35,967	18,615	145[b]
Pump Stations	37	35	37	48	26
Flood Control Detention Basins	0	5	5	0	5
Water Quality and Flood Control Detention Basins	0	3	3	0	3

[a] Length of channel/pipe cleaned in linear feet.

[b] The amount reported by the supervisor was lower than that for previous years due to personnel restrictions from the State mandated COVID-19 restrictions.

Table 6-19. Material Removed During Catch Basin, Pump Station, and Detention Basin Cleaning (City)

Type	Amount of Material/Debris Removed (tons)				
	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021
Storm Drain System	34.4	13	9.5	3.8	0.6
Pump Stations	55.24	55.5	102.1	33	8.71

Type	Amount of Material/Debris Removed (tons)				
	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021
Flood Control Detention Basins	[a]	0.58	0.70	0.23	0.53
Water Quality and Flood Control Detention Basins	[a]	73.15	103.65	15.29	0.55

[a] Maintenance of detention basins was scheduled for 2017-2018.

The City tracks the number of catch basins stenciled with the message "No Dumping – Flows to Delta." These stencils are intended to inform the public and prevent illegal dumping and discharges to the storm drain. The number of catch basins stenciled is shown in **Table 6-20**.

Table 6-20. Number of Catch Basins Stenciled (City)

Item	Total Number				
	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021
Catch Basins[a]	16,436	16,436	16,521	16,545	16,454[b]
Catch Basins Stenciled / Re-Stenciled by Volunteers and Businesses	23	0	842	733	2,841
Number of Catch Basins Inspected by Municipal or Contract Staff	1,264	3,194	2,120	3,707	3,012
Number of Catch Basins Permanently Imprinted with Storm Drain Message	1,033	3,194	3,194	3,335	3,335

[a] The total number of catch basins is the sum of the high priority and low priority catch basins identified in **Table 6-16**. All catch basins have been stenciled at least once.

[b] GIS analysis resulted in a smaller number of catch basins.

The number of special events required to obtain special use permits and comply with special use provisions to address trash and debris is shown in **Table 6-21**.

Table 6-21. Large Events Required to Comply (City)

Item	Total Number				
	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021
Special Use Permits	3	30	29	126	0
Special Use Provisions to Address Trash & Debris	3	5	4	1	0

Estimates of the amount of material collected during events are shown in **Table 6-22**.

Table 6-22. Trash/Material Collected During Special Events (City)

Date(s)	Event Name	Amount of Trash/Material (tons)	
		Total Removed	Amount Recycled
7/04/2016	4th of July and Movies at the Point	2,873.77	0.03
4/23/2017	Earth Day	1.13	0.04
5/05/2017	Cinco de Mayo Festival	6.83	0.95
	2016-2017 Total	**2,881.7**	**1.0**
7/4/2017	4th of July	NT	NT
7/29/2017	Bump Music Festival	NT	NT
11/18-19/2017	Congreso Carismatico Evangelization	NT	NT
4/23/2018	Earth Day	0.20	0.05
5/6/2018	Cinco de Mayo Festival	42.67	22.95
	2017-2018 Total	**42.9**	**23.0**
7/4/2018	4th of July	0.83	NT
11/18-19/2018	Congreso Carismatico Evangelization	NT	NT
12/1/2018	Tree Lighting Ceremony	NT	NT
5/5/2019	Cinco de Mayo Festival	1.44	0.30
	2018-2019 Total	**2.27**	**0.3**
7/4/2019	4th of July	0.25	0.0755
	2019-2020 Total	**0.25**	**0.0755**
	2020-2021 Total[a]	**0**	**0**
	Five Year Total	**2,927**	**24.4**

NT: Not Tracked

[a] Public gatherings were restricted by local and statewide public health orders during the COVID-19 pandemic.

6.1.3.4 Street Cleaning and Maintenance (MO6)

Summaries of street sweeping activities and the amount of material removed by street sweeping and green waste collection activities are shown in **Table 6-23**.

Table 6-23. Street Sweeping and Green Waste Collection Activities (City)

Item	Amount				
	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021
Total miles swept	48,731	49,289	49,903	48,253	59,233
Total amount of debris removed (tons)	8,040	7,485	7,262	7,410	8,459
Total amount of green waste collected (tons)	50,760	64,264	62,048	57,515	50,804

6.1.3.5 Training (MO7)

The trainings associated with the Municipal Operations Program attended by City staff are summarized in **Table 6-24**.

Table 6-24. Municipal Operations Program Trainings Attended (City)

Date of Training	Title of Training Module	Number of Attendees	Staff Positions Trained	Trainee Departments or Divisions
12/19/2016	HazWaste, FPPP, SPCC Training	7	NT	Community Enhancement
12/20/2016	HazWaste, FPPP, SPCC Training	12	NT	Facilities Maintenance
12/20/2016	HazWaste, FPPP, SPCC Training	20	NT	Fleet Maintenance
12/21/2016	HazWaste, FPPP, SPCC Training	14	NT	Street Maintenance
12/21/2016	HazWaste, FPPP, SPCC Training	9	NT	Signal Shop
12/22/2016	HazWaste, FPPP, SPCC Training	5	NT	Tree Crew
10/31/2018	Storm Patrol	37	Sr CSO & CSO	Collections
10/28/2019	Storm Event Response Procedures	20	Managers, Directors, Supervisors	Collections, Fire Department, Public Works
11/4/2020	Storm Event Response Procedures	12	Managers, Deputy Directors, Supervisors	Collections, Fire Department, Public Works

NT: Not Tracked

6.1.4 Industrial and Commercial (IC)

The purpose of the Industrial and Commercial Program Element is to effectively prohibit unauthorized non-stormwater discharges and reduce pollutants in stormwater runoff from industrial and commercial facilities to the MEP. The City has developed and is implementing Control Measures and accompanying Performance Standards specific to this Program Element.[6] The Industrial and Commercial Program Control Measures are summarized in **Table 6-25**.

Table 6-25. Industrial and Commercial Program Control Measures (City)

IC	Control Measure	Section
IC1	Facility Inventory	6.1.4.1
IC2	Prioritization and Inspection	6.1.4.1
IC3	BMP Implementation	6.1.4.2
IC4	Enforcement	6.1.4.3
IC5	Training	6.1.4.4
	Effectiveness Assessment	7

[6] These Control Measures are based on the 2009 SWMP (and modifications thereto) and the NOI Work Plan submitted to and approved by the Regional Water Board as a part of the NOI application package and may change when the revised SWMP is developed.

6.1.4.1 Facility Inventory and Prioritization and Inspection (IC1 and IC2)

The City prioritizes all industrial and commercial facilities that may be significant sources of pollutants, as high priority and inspects each facility twice during the five-year permit term. The inspection results for industrial facilities are shown in **Table 6-26**.

Table 6-26. Summary of Industrial Inspections (City)

Metric	Total Number				
	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021
Industrial facilities in current inventory	124	162	171	127[a]	176[a]
Facilities prioritized as high	124	162	171	127	176
Facilities inspected during the reporting period	[b]	64	61	2[c]	118
Facilities with SWPPPs on site[d]	[b]	60	42	2	74
Facilities in compliance with stormwater control requirements[e]	[b]	51	13	0	62
Facilities requiring follow-up inspections	[b]	13	17	2	12
Facilities in compliance after follow-up inspections	[b]	13	5	1	10

[a] The industrial facility inventory for each fiscal year was downloaded from SMARTS, and included facilities with status "Active," "NOI Required," and "Undetermined." Duplicate facilities and those not active during the fiscal year were not included.

[b] In 2016-2017, the City reorganized its efforts regarding industrial and commercial inspections and follow-up enforcement actions.

[c] During 2019-2020, the City updated its inventory, then inspected newly identified facilities that had not been inspected during the previous two fiscal years.

[d] The number of facilities with SWPPPs on site is tabulated as the total number of facilities minus the number with "SWPPP not on site" written in the inspector comments.

[e] In 2017-2018, City inspectors initiated the use of a defined checklist to determine whether an industrial facility passed its initial inspection. The number of facilities in compliance with stormwater control requirements is tabulated as the total number of facilities minus the number which failed the initial inspection.

The inspection results for commercial facilities are shown in **Table 6-27**.

Table 6-27. Summary of Commercial Inspections (City)

Metric	Total Number				
	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021
Commercial facilities in current inventory	[a]	359	938	1,292	1,516
Facilities prioritized as high and requiring inspection	[a]	359	938	1,292	1,516
Facilities inspected during the reporting period	[a]	359	636	338[b]	712
Facilities adequately implementing BMPs[c]	[a]	161	45	NT	320
Facilities in general compliance[d]	[a]	135	156	NT	516
Facilities requiring follow-up inspections[e]	[a]	25	45	4	3
Facilities in compliance after follow-up inspections	[a]	25	23	4	1

NT: Not Tracked

[a] In 2016-2017, the City reorganized its efforts regarding industrial and commercial inspections and follow-up enforcement actions.

[b] The City attempted to inspect an additional 27 commercial facilities; however, the facilities were closed due to State mandated COVID-19 restrictions, and a full inspection could not be performed.

[c] In 2017-2018, City inspectors initiated the use of a defined checklist to evaluate the results of commercial facility inspections. Five categories were scores between 0-5, where 0 represents lack of information, 1-3 are passing, and 4-5 represent serious deficiencies. The number of facilities adequately implementing BMPs is tabulated as the number of facilities with an inspection score no greater than 2 for the inspection categories "Facility Structure," "Waste Management," and "Fluid Management," and an inspection score no greater than 3 for the inspection category "Illicit Connections" (a score of 3 in this category indicates that the storm drain was unlabeled).

[d] In 2017-2018, City inspectors initiated the use of a defined checklist to determine whether a commercial facility passed its initial inspection. The number of facilities in general compliance is tabulated as the number of facilities which pass the inspection, those which have no issues, or those which have an inspection score no greater than 3 for the following four inspection categories: "Storm Drain," "Facility Structure," "Waste Management," and "Fluid Management."

[e] Commercial facilities with multiple or egregious BMP implementation failures are re-inspected. Commercial facilities with minor BMP implementation failures are issued a Notice of Warning and documentation is required to show compliance in lieu of a follow-up inspection. A single enforcement action may be sent to the owner of multiple properties.

6.1.4.2 BMP Implementation (IC3)

Summaries of the BMP Fact Sheets distributed during industrial and commercial inspections are shown in **Table 6-28**.

Table 6-28. BMP Fact Sheets Distributed During Industrial/Commercial Inspections (City)

Category	Total Number Distributed				
	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021
Industrial					
Industrial Facilities	82	64	19	2	118
Commercial					
Automotive-Related Facilities	115	89	163	90	107
Restaurants/Food Service Establishments	0	209	396	225	501
Total	**197**	**362**	**578**	**317**	**608**

6.1.4.3 Enforcement (IC4)

The number and types of enforcement actions taken are summarized in **Table 6-29**.

Table 6-29. Industrial/Commercial Program Enforcement Actions Taken (City)

Type of Enforcement Action	Number of Actions[a]				
	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021
Administrative					
Violation Warning Notice	[b]	37	9	0	233
Notice of Violation	[b]	33	65	2[c]	13
Cease and Desist Order	[b]	2	4	0	0
Stop Work Order	[b]	0	0	0	0
Administrative Citation (Fine)	[b]	2	1	0	0
Criminal Enforcement[d]					
Misdemeanor	[b]	0	0	0	0
Infraction	[b]	0	0	0	0
Total	[b]	**74**	**79**	**2**	**246**

[a] The total number of enforcement actions taken may be smaller than the number of facilities with inadequate BMPs due to enforcement actions that are issued to the owners of multiple properties.

[b] In 2016-2017, the City reorganized its efforts regarding industrial and commercial inspections and follow-up enforcement actions.

[c] The total number of enforcement actions taken is smaller than the number of follow-up inspections for identified issues (6) due to multiple inspections being conducted per NOV.

[d] This category presumes that an action turned over to the District Attorney resulted in a criminal prosecution within the year of the incident. However, data for this section can only be updated in subsequent years (i.e., after criminal prosecution has been successful).

The number of repeat offenders identified and referrals made to other agencies are summarized in **Table 6-30**.

Table 6-30. Industrial and Commercial Program Repeat Offenders (City)

Metric	Number of Incidents				
	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021
Repeat offenders	[a]	1	1	0	2
Referred to Regional Water Board	[a]	0	12	1	1

[a] In 2016-2017, the City reorganized its efforts regarding industrial and commercial inspections and follow-up enforcement actions.

6.1.4.4 Training (IC5)

City staff have attended the California Stormwater Quality Association (CASQA) trainings, which offer Continuing Education Units related to the Industrial and Commercial Program. The trainings associated with the Industrial and Commercial Program attended by City staff are summarized in **Table 6-31**.

Table 6-31. Industrial/Commercial Program Trainings Attended (City)

Date of Training	Title of Training Module	Number of Attendees	Staff Positions Trained	Trainee Departments or Divisions
9/11-14/2016	CASQA Annual Conference: Illicit Discharges Training Workshop Industrial Treatment Solutions QISP Forum	2	Deputy Director Program Manager	Stormwater
9/24-27/2017	CASQA Annual Conference: Industrial Training Workshop Public and Private Enforcement of the IGP	2	Deputy Director Program Manager	Stormwater
10/14-17/2018	CASQA Annual Conference: IGP Compliance Implementation and TMDLs Trainer of Record – IGP and QISP	2	Deputy Director Environmental Control Officer	Stormwater
10/6-7/2019	CASQA Annual Conference: Industrial General Permit Permit Compliance Methods	4	Deputy Director PM3 ECO	Stormwater
9/15-16/2020	CASQA Annual Conference: Structural BMP Implementation and Bypass IGP Case Studies	3	Deputy Director Program Manager 1 & III	Stormwater

NT: Not Tracked

6.1.5 Construction (CO)

The purpose of the Construction Program Element is to coordinate City programs and resources to effectively reduce pollutants in runoff from construction sites during all construction phases. The City has developed and is implementing Control Measures and accompanying Performance Standards specific to this Program Element.[7] The Construction Program Control Measures are summarized in **Table 6-32**.

Table 6-32. Construction Program Control Measures (City)

CO	Control Measure	Section
CO1	Municipal Code for Construction Sites	N/A
CO2	Plan Review and Approval Process	N/A
CO3	Construction Projects Inventory	N/A
CO4	Construction Outreach	6.1.5.1
CO5	Construction Site Inspections & BMP Implementation	6.1.5.2
CO6	Enforcement	6.1.5.3
CO7	Training	6.1.5.4
	Effectiveness Assessment	7

N/A: Programmatic data are not collected for this control measure

6.1.5.1 Construction Outreach (CO4)

A summary of the types and number of outreach materials (BMP fact sheets) distributed during construction site inspections is shown in **Table 6-33**.

Table 6-33. BMP Fact Sheets Distributed During Construction Inspections (City)

Year	Name of Outreach Material	Total Number Distributed
2016-2017	NT	0
2017-2018	BMP Inspection Criteria	71
2018-2019	BMP Inspection Criteria	376
2019-2020	Construction Inspection Form	563
2020-2021	Construction Inspection Form	605

NT: Not Tracked

[7] These Control Measures are based on the 2009 SWMP (and modifications thereto) and the NOI Work Plan submitted to and approved by the Regional Water Board as a part of the NOI application package and may change when the revised SWMP is developed.

6.1.5.2 Construction Site Inspections & BMP Implementation (CO5)

A summary of the active construction sites and inspections conducted is shown in **Table 6-34**.

Table 6-34. Summary of Construction Site Inspections (City)

Metric	Total Number				
	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021
Active construction sites ≥1 acre in size[a]	34	44	80	87	73
Regular inspections conducted at active construction sites	246	71	376	563	600
Follow-up inspections conducted due to violations	11	48	177	48[b]	47

[a] The number of active construction sites includes sites which were active at any time during the fiscal year.

[b] Follow-up inspections were performed at 27 construction sites during 2019-2020.

6.1.5.3 Enforcement (CO6)

The number and types of enforcement actions taken during construction site inspections are summarized in **Table 6-35**.

Table 6-35. Construction Program Enforcement Actions Taken (City)

Type of Enforcement Action	Number of Actions				
	2016-2017[a]	2017-2018	2018-2019	2019-2020	2020-2021
Administrative					
Violation Warning Notice	14	10	51	65	144
Notice of Violation	7 NOV[b] 87 Notice to Clean 55 Correction Orders	29	91	26	21
Cease and Desist Order	0	1	1	0	0
Stop Work Order	0	1	4	2	5
Administrative Citation (Fine)	0	3	7	1	0
Criminal Enforcement					
Misdemeanor	0	0	0	0	0
Infraction	0	0	0	0	0
Total	**163**	**44**	**154**	**94**	**170**

[a] During 2016-2017, 105 verbal warnings were issued. Beginning in 2017-2018, verbal warnings were discontinued as enforcement actions.

[b] In 2016-2017, the Notice of Violation (NOV) form used by the City includes the following enforcement options: Cease and Desist Order; Violation Warning Notice; Notice to Clean; Stop Work Order; Fine; and Correction Order.

The number of repeat offenders identified is summarized in **Table 6-36**.

Table 6-36. Construction Program Repeat Offenders (City)

Metric	Number of Incidents				
	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021
Repeat offenders[a]	7	17	57	12	38

[a] Unique construction sites.

6.1.5.4 Training (CO7)

The trainings associated with the Construction Program attended by City staff are summarized in **Table 6-37**.

Table 6-37. Construction Program Trainings Attended (City)

Date of Training	Title of Training Module	Number of Attendees	Staff Positions Trained	Trainee Departments or Divisions
10/7/2016	Construction/Erosion Control	19	NT	Community Development / Stormwater Engineering
4/4/2019	Construction Stormwater Inspections	4	Deputy Director, Program Manager	Stormwater Env. Control Office
9/11-14/2016	CASQA Annual Conference: CGP Compliance: Sustainable Soil Strategies QSP/QSD Forum	2	Deputy Director Program Manager	Stormwater
9/24-27/2017	CASQA Annual Conference: Trainer of Record Forum: CGP QSP/QSD Forum	2	Deputy Director Program Manager	Stormwater
10/14-17/2018	CASQA Annual Conference: SWPPP Specifications CSD/QSP Collaboration	2	Deputy Director Environmental Control Officer	Stormwater
10/6-7/2019	CASQA Annual Conference: BMPs Challenges and Considerations Construction General Permit	4	Deputy Director Program Manager III Environmental Control Officer	Stormwater

Date of Training	Title of Training Module	Number of Attendees	Staff Positions Trained	Trainee Departments or Divisions
9/15-16/2020	CASQA Annual Conference: Construction General Permit Challenges with Structural BMPs	3	Deputy Director Program Manager 1 & III	Stormwater

NT: Not Tracked

6.1.6 Planning and Land Development (LD)

The purpose of the Planning and Land Development Program Element is to ensure that the impacts on stormwater quality from new development and redevelopment are limited through implementation of Site Design Controls, Source Controls, Volume Reduction Measures, and Treatment Controls. The City has developed and is implementing Control Measures and accompanying Performance Standards specific to this Program Element.[8] The Planning and Land Development Program Control Measures are summarized in **Table 6-38**.

Table 6-38. Planning and Land Development Program Control Measures (City)

LD	Control Measure	Section
LD1	Incorporation of Water Quality Protection Principles into City Procedures and Policies	N/A
LD2	New Development Standards	N/A
LD3	Plan Review Sign-Off	6.1.6.1
LD4	Maintenance Agreement and Transfer	6.1.6.2
LD5	Training	6.1.6.3
	Effectiveness Assessment	7

N/A: Programmatic data are not collected for this control measure

6.1.6.1 Plan Review Sign-Off (LD3)

The project plans and priority projects reviewed are summarized in **Table 6-39**.

Table 6-39. Project Plans and Priority Projects Reviewed (City)

<table>
<tr><th rowspan="2">Metric</th><th colspan="5">Number Reviewed</th></tr>
<tr><th>2016-2017</th><th>2017-2018</th><th>2018-2019</th><th>2019-2020</th><th>2020-2021</th></tr>
<tr><td>Project Plans Reviewed</td><td>15</td><td>9</td><td>23</td><td>26</td><td>25</td></tr>
<tr><td>Acres Covered by Approved Priority Projects[a]</td><td>115.9</td><td>219.7</td><td>149.46</td><td>173.3</td><td>271.2</td></tr>
<tr><td colspan="6">Priority Project Category[b]</td></tr>
<tr><td>Significant Redevelopment</td><td>1</td><td>2</td><td>10</td><td>5</td><td>4</td></tr>
<tr><td>Commercial Developments (≥100,000 SF)</td><td>5</td><td>2</td><td>7</td><td>9</td><td rowspan="2">9[c]</td></tr>
<tr><td>Commercial Developments (≥5,000 SF)</td><td>3</td><td>2</td><td>2</td><td>3</td></tr>
<tr><td>Automotive Repair Shops</td><td>0</td><td>0</td><td>1</td><td>0</td><td>0</td></tr>
<tr><td>Retail Gasoline Outlets</td><td>0</td><td>2</td><td>0</td><td>3</td><td>4</td></tr>
<tr><td>Restaurants</td><td>0</td><td>1</td><td>1</td><td>2</td><td>1</td></tr>
</table>

8 These Control Measures are based on the 2009 SWMP (and modifications thereto) and the NOI Work Plan submitted to and approved by the Regional Water Board as a part of the NOI application package and may change when the revised SWMP is developed.

Metric	Number Reviewed				
	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021
Parking Lots (≥5,000 SF or 25 spaces)	5	0	2	2	3
Streets and Roads (>1 acre paved surface)	1	0	0	0	0
Home Subdivisions (≥10 units)	0	0	0	2	4
Total Projects	**15**	**9**	**23**	**26**	**25**

[a] As of June 30 of each fiscal year.

[b] The Development Standards apply to all Priority Projects or phases of Priority Projects at the date of adoption unless the projects already had approval by the City or County Engineer, a permit for development or construction or an approved tentative map prior to the Development Standards date of adoption.

[c] Commercial development projects were not tracked by size.

The type and number of post-construction BMPs (control measures) implemented as part of the approved priority projects are shown in **Table 6-40**.

Table 6-40. Post-Construction BMPs Implemented in Priority Projects (City)

Control Measure Type	Total Number Approved				
	2016-17	2017-18	2018-19	2019-20	2020-21
Site Design Controls					
G-1: Conserve Natural Areas	11	7	14	19	18
G-2: Protect Slopes and Channels	9	4	13	14	13
G-3: Minimize Soil Compaction	12	9	19	21	20
G-4: Minimize Impervious Area	13	7	21	24	23
Total Site Design Controls	**45**	**27**	**67**	**78**	**74**
Source Controls					
S-1: Storm Drain Message and Signage	12	8	23	25	25
S-2: Outdoor Materials Storage Area Design	0	1	1	1	0
S-3: Outdoor Trash Storage and Waste Handling Area Design	4	7	15	19	13
S-4: Outdoor Loading/Unloading Dock Area Design	3	1	3	6	7
S-5: Outdoor Repair/Maintenance Bay Design	0	0	0	1	0
S-6: Outdoor Vehicle/Equipment/ Accessory Wash Area Design	0	2	2	3	0
S-7: Fuel Area and Maintenance Design	0	2	0	4	5
Total Source Controls	**19**	**21**	**44**	**59**	**50**
Volume Reduction Measures					
V-1: Rain Garden	5	2	0	2	2
V-2: Rain Barrel/ Cistern	0	0	0	0	0
V-3: Interception Trees	4	2	3	5	7

Control Measure Type	Total Number Approved				
	2016-17	2017-18	2018-19	2019-20	2020-21
V-4: Grassy Channel	1	1	2	2	0
V-5: Vegetated Buffer Strip	0	1	1	0	1
Total Volume Reduction Measures	**10**	**6**	**6**	**9**	**10**
Treatment Control Measures					
L-1: Bioretention	2	0	16	13	10
L-2: Stormwater Planter	2	0	1	1	1
L-3: Tree-well Filter	0	0	0	0	0
L-4: Infiltration Basin	0	0	0	1	3
L-5: Infiltration Trench	0	5	0	1	3
L-6: Porous Pavement Filter	0	0	0	0	1
L-7: Vegetated (Dry) Swale	1	0	1	0	1
L-8: Grassy Swale	3	0	2	5	6
L-9: Grassy Filter Strip	1	0	0	0	1
C-1: Constructed Wetland	0	0	0	0	0
C-2: Extended Detention Basin	0	0	0	1	1
C-3: Wet Pond	0	0	0	0	0
C-4: Proprietary Treatment Controls (see **Table 6-41** for details)	2	3	10	6	8
C-5: Trash Capture Devices	-	-	-	-	0[a]
Total Treatment Control Measures	**11**	**8**	**30**	**28**	**35**

[a] This control measure was added to the Stormwater Quality Control Criteria Plan (SWQCCP) updated in August 2020.

The specific proprietary treatment control measures (C-4) approved are shown in **Table 6-41**.

Table 6-41. Proprietary Treatment Control Measures in Projects (City)

Facility-Associated Treatment Unit(s)
2016-2017
Contech CDS
Contech Stormfilter
2017-2018
MWS-L-4-8-UG-V
MWS-L-4-8 & MWS-L-4-6
Contech Stormfilter
2018-2019
Contech Stormfilter
Kristar Enterprise Flogard
Contech Stormfilter
Contech Stormfilter
Contech Stormfilter
Flogard Catch Basin Insert Filter
Contech Stormfilter
Triton Drop Inlet
Jensen Precast
Contech Stormfilter
2019-2020
Modular Wetland System
Contech Storm Filter
BioClean Fiberglass MWS Linear
Contech Storm Filter
Contech Storm Filter
Contech Storm Filter
2020-2021
Floguard downspout filter
Contech Peak Diversion Stormfilter Devices
Contech Roof Drain, catch basin
Contech SFMH72 Stormfilter and vegetative buffer strips
Filterra Biofiltration
Contech Catch Basin
Contech using ZPG Media
Perk Filter Oldcastle 7x12 Concrete Vault

6.1.6.2 Maintenance Agreement and Transfer (LD4)

The number of completed priority projects with post-construction BMPs is shown in **Table 6-42**. During 2021-2022, the City will mail letters to all site owners and perform Access and Maintenance Agreement Inspections of the post-construction BMPs. After completing the initial inspections, the City will require site owners to submit annual documentation of training, maintenance, and subsequent inspections. Any site failing to submit annual documentation will be inspected by the City.

Table 6-42. Post-Construction BMPs (City)

Metric	Number Reviewed				
	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021
Completed priority projects with post-construction BMPs	6	9	23	26	25

6.1.6.3 Training (LD5)

The trainings associated with the Planning and Land Development Program attended by City staff are summarized in **Table 6-43**.

Table 6-43. Planning and Land Development Program Trainings Attended (City)

Date of Training	Title of Training Module	Number of Attendees	Staff Positions Trained	Trainee Departments or Divisions
9/11-14/2016	CASQA Annual Conference: Watershed Management Plans and Green Infrastructure Plan Implementation BMP Implementation of LID Standards Guidance on Green Infrastructure: Making LID in the Right-of-Way Standard Practice	2	Deputy Director Program Manager	Stormwater
9/24-27/2017	CASQA Annual Conference: International LID Implementing LID and Green Infrastructure Green Infrastructure Construction and Inspection	2	Deputy Director Program Manager	Stormwater
10/14-17/2018	CASQA Annual Conference: International LID LID BMPs in a Semi-Arid Environment	2	Deputy Director Environmental Control Officer	Stormwater
10/6-7/2019	CASQA Annual Conference: Stormwater Infrastructure and Natural Waterways	4	Deputy Director PM3 ECO	Stormwater

Date of Training	Title of Training Module	Number of Attendees	Staff Positions Trained	Trainee Departments or Divisions
9/15-16/2020	CASQA Annual Conference: Municipal Program Implementation, Stormwater Infrastructure	3	Deputy Director Program Manager 1 & III	Stormwater
6/7-10/2020	CWEA Virtual Conference: Stormwater Treatment Research at the Los Angeles County Sanitation Districts	1	Water Resources Coordinator	Stormwater

6.2 COUNTY PROGRAM IMPLEMENTATION

6.2.1 Illicit Discharges (ID)

The purpose of this Program Element is to ensure implementation of a comprehensive program for detecting, responding to, investigating, and eliminating illicit discharges and illegal connections in an efficient and effective manner. The County has developed and is implementing Control Measures and accompanying Performance Standards specific to this Program Element.[9] The Illicit Discharges Program Control Measures are summarized in **Table 6-44**.

Table 6-44. Illicit Discharge Program Control Measures (County)

ID	Control Measure	Section
ID1	Detection of Illicit Discharges and Illegal Connections	6.2.1.1
ID2	Illegal Connection Identification and Elimination	6.2.1.2
ID3	Investigation/Inspection and Follow Up	6.2.1.3
ID4	Enforcement	6.2.1.4
ID5	Training	6.2.1.5
	Effectiveness Assessment	7

6.2.1.1 Detection of Illicit Discharges and Illegal Connections (ID1)

The number of illicit discharges observed or water pollution complaints received and the number of illicit discharges verified are shown in **Table 6-45**.

Table 6-45. Detection of Illicit Discharges (County)

Source	Number				
	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021
Illicit Discharges Observed or Water Pollution Complaints Received					
Hotline	1	4	0	3	3
Field Staff	0	8	2	0	0
Total	**1**	**12**	**2**	**3**	**3**
Number of Illicit Discharges Verified[a]					
Hotline	1	4	0	1	2
Field Staff	0	6	2	0	0
Total	**1**	**10**	**2**	**1**	**2**

[a] The number verified is the number with evidence of discharge that is not exempt or in compliance.

[9] These Control Measures are based on the 2009 SWMP (and modifications thereto) and the NOI Work Plan submitted to and approved by the Regional Water Board as a part of the NOI application package and may change when the revised SWMP is developed.

6.2.1.2 Illegal Connection Identification and Elimination (ID2)

No illegal connections were identified by the County between 2016 and 2021.

6.2.1.3 Investigation/Inspection and Follow Up (ID3)

The total number of illicit discharges and illegal connections reported, illicit discharges verified and cleaned, and illegal connections eliminated are shown in **Table 6-46**.

Table 6-46. Total Number of Illicit Discharges and Illegal Connections (County)

Metric	Total Number				
	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021
Illicit Discharges Reported	1	12	2	3	3
Illicit Discharges Verified	1	10	2	1[b]	2[c]
Illicit Discharges Requiring Clean-up[a]	1	7	2	2	2
Illegal Connections Reported	0	0	0	0	0
Illegal Connections Eliminated	-	-	-	-	0

[a] Including clean-up by a contractor, resident, commercial business or industry, or field crew.
[b] One illicit discharge was cleaned up prior to verification by County staff.
[c] One illicit discharger was verified by Water Resources Staff, and one was verified and cleaned up by Environmental Health Department Staff.

The types of materials involved in the County's verified incidents were tracked, as shown in **Table 6-47**.

Table 6-47. Materials in Verified Incidents (County)

Material	Number of Incidents				
	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021
Pesticides	NT	0	0	0	0
Sediment	NT	0	0	0	0
Hydrocarbons	NT	2	1	0	0
Wastewater	NT	7	1	1	1
Trash and Debris	NT	1	0	0	0
Paint	NT	0	0	NT	0
Miscellaneous	NT	0	0	0	0
Unidentified	NT	0	0	0	1[a]
Total	**-**	**10**	**2**	**1**	**2[a]**

NT: Not Tracked
[a] One illicit discharge was cleaned up by the Environmental Health Department Staff, and the material was not verified by Water Resources Staff prior to cleanup.

6.2.1.4 Enforcement (ID4)

The number and types of enforcement actions taken are summarized in **Table 6-48**.

Table 6-48. Illicit Discharge Program Enforcement Actions Taken (County)

Type of Enforcement Action	Number of Actions				
	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021
Verbal Warning	0	5	0	0	0
Administrative					
Correction Order	1	0	1	0	0
Notice of Violation	0	0	0	0	0
Notice to Clean	0	0	0	1	1
Administrative Citation (Fine)	0	0	0	0	0
Criminal Enforcement[a]					
Misdemeanor	0	0	0	0	0
Infraction	0	0	0	0	0
Total	**1**	**5**	**1**	**1**	**1**

[a] This category presumes that an action turned over to the District Attorney resulted in a criminal prosecution within the year of the incident. However, data for this category can only be updated in subsequent years (i.e., after criminal prosecution has been successful).

The number of repeat offenders identified, and referrals made to other agencies are summarized in **Table 6-49**.

Table 6-49. Illicit Discharge Program Repeat Offenders (County)

Metric	Number of Incidents				
	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021
Repeat offenders	0	0	0	0	0
Referred to Environmental Health Department	1	3	0	0	0
Referred to the Regional Water Board	0	0	0	0	0
Referred to the City	0	2	0	0	0

6.2.1.5 Training (ID5)

The trainings associated with the Illicit Discharge Program Element attended by County staff are summarized in **Table 6-50**.

Table 6-50. Illicit Discharge Program Trainings Attended (County)

Date of Training	Title of Training Module	Number of Attendees	Staff Positions Trained	Trainee Departments or Divisions
5/18/2017	Stormwater Regional Training	2	Engineer IV Management Analyst II	Water Resources
6/28/2018	Module 1: Illicit Discharge and Illegal Connections	51	NT	Road & Traffic Maintenance
5/16/2019	San Joaquin Valley Stormwater Quality Partnership 2019 Regional Training	2	Engineering Assistant Management Analyst II	Water Resources
6/2/2020	Illicit Discharge Detection Elimination	13	Superintendent Manager EA I MA II Engineer III	Road Maintenance, Channel, Utilities, Water Resources, Fleet Services

NT: Not Tracked

6.2.2 Public Outreach (PO)

The purpose of the Public Outreach Program Element is to inform the public (increase knowledge) regarding the impacts of urban stormwater runoff and introduce steps the public can take (change behavior) to reduce pollutants from everyday activities. The County has developed and is implementing Control Measures and accompanying Performance Standards specific to this Program Element.[10] The Public Outreach Program Control Measures are summarized in **Table 6-51**.

Table 6-51. Public Outreach Program Control Measures (County)

PO	Control Measure	Section
PO1	Public Participation	6.2.2.1
PO2	Hotline	N/A
PO3	Public Outreach Implementation	6.2.2.2
PO4	Public School Education	6.2.2.2
	Effectiveness Assessment	7

N/A: Programmatic data are not collected for this control measure

6.2.2.1 Public Participation (PO1)

The number of volunteers involved in stream cleanup events organized by the California Coastal Cleanup Day in San Joaquin County is shown in **Table 6-10**, with the amount of trash/debris removed.

The amount of used oil and number of used oil filters collected via the used oil and Household Hazardous Waste program and the pounds of mercury collected through local events or the permanent collection site is shown in **Table 6-11**.

6.2.2.2 Public Outreach Implementation (PO3)

Estimates of the total number of impressions made with the general public are provided in **Table 6-52**.

Table 6-52. Public Outreach Program Implementation (County)

Type of Outreach	Estimated Number of Impressions				
	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021[a]
Distribution of Educational Materials	NT	NT	1,177	280	NT
Conduct Mixed Media Campaigns	903,887	NT	NT	581,009	770,771
Participate in Community-Wide Events	9,240	8,409	308	65	0

[10] These Control Measures are based on the 2009 SWMP (and modifications thereto) and the NOI Work Plan submitted to and approved by the Regional Water Board as a part of the NOI application package and may change when the revised SWMP is developed.

Type of Outreach	Estimated Number of Impressions				
	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021[a]
Provide Community Relations	NT	NT	24,500	NT	0
Provide Outreach to School-Age Children	NT	NT	13,370	16,115	182
Provide Business Outreach	NT	NT	29	0	NT
Total	**913,127**	**8,409**	**39,355**	**597,509**	**770,953**

NT: Not Tracked

[a] Fewer impressions could be made through public outreach due to restrictions on public gatherings from local and statewide public health orders during the COVID-19 pandemic.

6.2.3 Municipal Operations (MO)

The purpose of the Municipal Operations Program Element is to ensure that the operations and maintenance activities are performed using processes and procedures to minimize the pollutants generated and to decrease the potential for pollutants to enter the storm drain system. The County has developed and is implementing Control Measures and accompanying Performance Standards specific to this Program Element.[11] The Municipal Operations Program Control Measures are summarized in **Table 6-53**.

Table 6-53. Municipal Operations Program Control Measures (County)

MO	Control Measure	Section
MO1	Sanitary Sewer Maintenance & Overflow and Spill Response	6.2.3.1
MO2	Construction Requirements for Municipal Capital Improvement Projects	N/A
MO3	Pollution Prevention at City Facilities	N/A
MO4	Landscape and Pest Management	6.2.3.2
MO5	Storm Drain System Maintenance	6.2.3.3
MO6	Street Cleaning and Maintenance	6.2.3.4
MO7	Training	6.2.3.5
	Effectiveness Assessment	7

N/A: Programmatic data are not collected for this control measure

6.2.3.1 Sanitary Sewer Maintenance & Overflow and Spill Response (MO1)

Summaries of the SSOs tracked through the Sanitary Sewer Overflow Emergency Response Plan for the County are shown in **Table 6-54**. As seen below, no SSOs entered the receiving water, even if they initially entered the MS4.[12]

Table 6-54. Summary of SSOs (County)

Metric	Total Number				
	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021
SSOs	6	3	3	5	9
SSOs that entered the storm drain system	2	1	0	0	0

[11] These Control Measures are based on the 2009 SWMP (and modifications thereto) and the NOI Work Plan submitted to and approved by the Regional Water Board as a part of the NOI application package and may change when the revised SWMP is developed.

[12] The Region-wide Permit specifically authorizes the ability to utilize the MS4 in case of a non-stormwater discharge spill or release, such as an SSO (General Permit at Provision II.B.4., pg. 16 ("Non-storm water discharges associated with emergency containment and/or cleanup of a pollutant spill or release may lawfully enter a MS4 provided that a) the non-storm water does not discharge from the MS4 to waters of the United States, b) the discharge is temporarily but fully contained in the MS4 to allow for characterization and disposal, c) the pollutants are subsequently removed from the MS4 system, and d) use of the MS4 system is necessary to address a threat to human health, the environment, and/or to avoid significant property damage.")).

Metric	Total Number				
	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021
SSOs that entered a receiving water	0	0	0	0	0

6.2.3.2 Landscape and Pest Management (MO4)

A summary of the fertilizers applied by the County to golf courses, parks, and landscaped medians is shown in **Table 6-55**.

Table 6-55. Summary of Fertilizers and Pesticides Applied (County)

Metric		Applied to Parks, Landscaped Medians, and Golf Courses				
		2016-2017	2017-2018	2018-2019	2019-2020	2020-2021
Acres treated with fertilizers		0	0	0	10	8
Pounds of fertilizer applied	Nitrogen	0	0	0	650	520
	Phosphorus	0	0	0	200	130
Acres treated with pesticides		1,346	1,345	1,345	833	833
Pounds of pesticide active ingredient applied		[a]	1,859	2,356	1,524[b]	1,763
Acres under the IPM Program		3,451	3,451	3,451	3,451	3,451

[a] A total of 3,561 pounds was reported; however, this may be total pesticide applied, not total active ingredient.

[b] A total of 3,391 pounds was reported in the 2019-2020 Annual Report; however, two pesticides were erroneously reported in pounds instead of ounces. The total has been corrected.

6.2.3.3 Storm Drain System Maintenance (MO5)

Summaries of prioritized catch basin, pump station, and detention basin inspections are shown in **Table 6-56** and **Table 6-57**.

Table 6-56. Catch Basins, Pump Stations, and Detention Basins (County)

Type	Total Number				
	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021
High Priority Catch Basins	407	407[a]	407	407	407
Low Priority Catch Basins	1,067	1,067[a]	1,289	1,289	1,289
Pump Stations	14	14	20	20	20
Dry Detention Basins	5	10[b]	10	10	10

[a] The total number of catch basins changed from 1,474 in 2016-2017 to 1,696 in 2017-2018. Prioritization of the remaining 222 catch basins was not complete before June 30, 2018.

[b] In 2016-2017, the total number of dry detention basins was based on data only from Utilities Maintenance. The number of dry detention basins reported in 2017-2018 is greater because data from Utilities Maintenance, Road Maintenance, and Channel Maintenance were used, accounting for all such basins within the County's Phase I area. As reported in the RAA (submitted July 1, 2019), nine (9) detention basins had been identified in the Phase I area; however, a tenth basin was identified subsequent to RAA submittal.

Table 6-57. Catch Basin, Pump Station, and Detention Basin Inspections (County)

Type	Number of Inspections				
	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021
High Priority Catch Basins	240	314	336	132	94
Low Priority Catch Basins	400	608	1,046	566	165
Pump Stations	14	14	20	20	20
Dry Detention Basins	5	10	10[a]	10[a]	18[b]

[a] 80 regular inspections and 20 inspections after significant storms were performed at the 10 detention basins.

[b] 12 regular inspections and 6 inspections after significant storms were performed at the 10 detention basins.

Summaries of prioritized catch basin, storm drain, pump station, and detention basin cleaning and the amount of material/debris removed during storm drain maintenance activities (where tracked) are shown in **Table 6-58** and **Table 6-59**.

Table 6-58. Catch Basins, Pump Stations, and Detention Basins Cleaned (County)

Type	Number Cleaned				
	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021
High Priority Catch Basins	200	311	336	132	94
Low Priority Catch Basins	255	603	1,046	566	165
Storm Drain System[a]	6,500	62,182	113,372	71,841	35,352
Pump Stations	8	12	14	0	NT

NT: Not Tracked

[a] Length of channel/pipe cleaned in linear feet.

Table 6-59. Material Removed During Catch Basin, Pump Station, and Detention Basin Cleaning (County)

Type	Amount of Material/Debris Removed (tons)				
	2016-2017	2017-2018[a]	2018-2019	2019-2020	2020-2021
Catch Basins	3.5[b]	98.2[b]	59.3	28.0	1.2
Storm Drain System	291	101	[c]	51	10.49

[a] The amount removed increased between years 2016-2017 and 2017-2018 due to the use of a vactor truck, which had not previously been used due to budget constraints.

[b] Two quantities were reported, in tons (from the Road Maintenance Division) and in cubic feet (from the Utility Maintenance Division). The quantity in cubic feet was converted to tons using 27 cubic feet/cubic yard, 202 gallons/cubic yards, 2.5 pounds/gallon, and 2,000 lbs/ton.

[c] The amount of material removed from the storm drain system is included in the amount removed from catch basins.

[d] This amount was originally reported in cubic feet and was converted as described in footnote [b].

The number of catch basins stenciled for the County is shown in **Table 6-60**.

Table 6-60. Number of Catch Basins Stenciled (County)

Item	Total Number				
	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021
Catch Basins	1,471	1,696	1,696	1,696	1,696
Catch Basins Stenciled to Date	1,455	1,696[a]	1,696	1,696	1,696
Catch Basins Stenciled / Re-Stenciled by Volunteers	2,034	0	0	0	0
Catch Basins Stenciled / Re-Stenciled by Municipal/Contract Staff	0	0	0	0	0

[a] The total number of catch basins in the inventory was updated in 2017-2018. The number of catch basins stenciled to date was initially reported as 1,455 in the 2017-2018 Annual Report; however, as reported in the City of Stockton and County of San Joaquin Settlement Agreement Fiscal Year 2017-2018 Annual Report (October 31, 2018), as of June 30, 2018, the County labeled 1,696 catch basins within the County's portions of the SUA with a storm drain message.

The number of special events required to obtain special use permits and comply with special use provisions to address trash and debris is shown in **Table 6-61**.

Table 6-61. Large Events Required to Comply (County)

Item	Total Number				
	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021
Special Use Permits and Provisions[a]	NT	1,507	1,726	1,172	2,129

NT: Not Tracked

[a] These include parks special events held within the County, which require special use permits.

6.2.3.4 Street Cleaning and Maintenance (MO6)

Summaries of street sweeping activities and the amount of material removed by street sweeping and green waste collection activities are shown in **Table 6-62**.

Table 6-62. Street Sweeping and Green Waste Collection Activities (County)

Item	Amount				
	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021
Total miles swept	9,775	9,775	9,150	13,020	17,858
Total amount of debris removed (tons)	1,692	1,584	1,520	1,584	2,028
Total amount of green waste collected (tons)	1,800	1,750	1,389	366	434

6.2.3.5 Training (MO7)

The trainings associated with the Municipal Operations Program attended by County staff are summarized in **Table 6-63**.

Table 6-63. Municipal Operations Program Trainings Attended (County)

Date of Training	Title of Training Module	Number of Attendees	Staff Positions Trained	Trainee Departments or Divisions
5/18/2017	Stormwater Regional Training	2	Engineer IV Management Analyst II	Water Resources
6/28/2018	Module 2: Municipal Operations	51	NT	Road & Traffic Maintenance
5/16/2019	San Joaquin Valley Stormwater Quality Partnership 2019 Regional Training	2	Engineering Assistant Management Analyst II	Water Resources
6/2/2020	Good Housekeeping	16	Superintendent Manager EA I MA II Engineer III	Road Maintenance, Channel, Utilities, Water Resources, Fleet Services

NT: Not Tracked

6.2.4 Industrial and Commercial (IC)

The purpose of the Industrial and Commercial Program Element is to effectively prohibit unauthorized non-stormwater discharges and reduce pollutants in stormwater runoff from industrial and commercial facilities to the MEP. The County has developed and is implementing Control Measures and accompanying Performance Standards specific to this Program Element.[13] The Industrial and Commercial Program Control Measures are summarized in **Table 6-64**.

Table 6-64. Industrial and Commercial Program Control Measures (County)

IC	Control Measure	Section
IC1	Facility Inventory	6.2.4.1
IC2	Prioritization and Inspection	6.2.4.1
IC3	BMP Implementation	6.2.4.2
IC4	Enforcement	6.2.4.3
IC5	Training	6.2.4.4
	Effectiveness Assessment	7

6.2.4.1 Facility Inventory and Prioritization and Inspection (IC1 and IC2)

The County prioritizes all industrial facilities, and commercial facilities that may be significant sources of pollutants, as high priority and inspects each facility twice during the five-year permit term. The inspection results for industrial facilities between 2016 and 2021 for the County are shown in **Table 6-65**.

Table 6-65. Summary of Industrial Inspections (County)

Metric	Total Number				
	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021
Industrial facilities in current inventory	17	14[a]	14	14	16
Facilities prioritized as high	17	14	14	14	16
Facilities inspected during the reporting period[b]	5	7	8	0[c]	3
Facilities with SWPPPs on site	5	7	8	N/A	3
Facilities in compliance with stormwater control requirements	5	7	8	N/A	3

[13] These Control Measures are based on the 2009 SWMP (and modifications thereto) and the NOI Work Plan submitted to and approved by the Regional Water Board as a part of the NOI application package and may change when the revised SWMP is developed.

Metric	Total Number				
	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021
Facilities requiring follow-up inspections	0	0	0	N/A	0

[a] One facility submitted a Notice of Termination in 2016-2017 due to lack of exposure to stormwater and was removed from the inventory in 2017-2018. Two facilities were determined to discharge to the City's MS4 and are now part of the City's industrial inventory.

[b] The County maintains an annual presence in the field by inspecting a percentage of industrial facilities annually, resulting in all facilities being inspected at least twice during a five-year permit term.

[c] Typically, the County maintains an annual presence in the field by inspecting a percentage of industrial facilities annually, resulting in all facilities being inspected at least twice during a five-year permit term. The County's inspection efforts in Spring 2020 were interrupted by COVID-19 and resumed in 2020-2021 with a new prioritization schedule.

The inspection results for commercial facilities are shown in **Table 6-66**.

Table 6-66. Summary of Commercial Inspections (County)

Metric	Total Number				
	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021
Commercial facilities in current inventory	120	117	111	150	112
Facilities prioritized as high and requiring inspection[a]	60	62	58	150	112
Facilities inspected during the reporting period	5	41	48	150	90
Facilities requiring follow-up inspections	0	0	0	11	13
Facilities in compliance after follow-up inspections	-	-	-	11	13

NT: Not Tracked

[a] The total number of commercial facilities requiring inspection is estimated at about half of all inventoried facilities each year, to project an annual presence in the field. All facilities are inspected at least twice during a five-year permit term.

6.2.4.2 BMP Implementation (IC3)

Summaries of the BMP Fact Sheets distributed during industrial and commercial inspections are shown in **Table 6-67**.

Table 6-67. BMP Fact Sheets Distributed During Industrial/Commercial Inspections (County)

Category	Total Number Distributed				
	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021
Industrial					
Industrial Facilities	5	7	14	0	3
Commercial					
Automotive-Related Facilities	0	11	16	0	16[a]
Restaurants/Food Service Establishments	5	25	21	0	37[a]
Total	**10**	**46**	**51**	**0**	**53**

[a] BMP fact sheets were distributed to all inspected facilities. The number of commercial facility inspections in the automotive-related facilities and restaurants/food service establishments was obtained from the Environmental Health Department's inspection database.

6.2.4.3 Enforcement (IC4)

The number and types of enforcement actions taken are summarized in **Table 6-68**.

Table 6-68. Industrial/Commercial Program Enforcement Actions Taken (County)

Type of Enforcement Action	Number of Actions				
	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021
Verbal Warning	0	0	0	11	0
Administrative					
Warning or Notice to Clean	0	0	0	0	0
Notice of Violation	0	0	0	0	0
Criminal Enforcement					
Misdemeanor	0	0	0	0	0
Infraction	0	0	0	0	0
Total	**0**	**0**	**0**	**11**	**0**

6.2.4.4 Training (IC5)

The trainings associated with the Industrial and Commercial Program attended by County staff are summarized in **Table 6-69**.

Table 6-69. Industrial/Commercial Program Trainings Attended (County)

Date of Training	Title of Training Module	Number of Attendees	Staff Positions Trained	Trainee Departments or Divisions
5/18/2017	Stormwater Regional Training	2	Engineer IV Management Analyst II	Water Resources
5/16/2019	San Joaquin Valley Stormwater Quality Partnership 2019 Regional Training	2	Engineering Assistant Management Analyst II	Water Resources
6/2/2020	Pollution Prevention/ Good Housekeeping	16	Superintendent Manager EA I MA II Engineer III	Road Maintenance, Channel, Utilities, Water Resources, Fleet Services

6.2.5 Construction (CO)

The purpose of the Construction Program Element is to coordinate County programs and resources to effectively reduce pollutants in runoff from construction sites during all construction phases. The County has developed and is implementing Control Measures and accompanying Performance Standards specific to this Program Element.[14] The Construction Program Control Measures are summarized in **Table 6-70**.

Table 6-70. Construction Program Control Measures (County)

CO	Control Measure	Section
CO1	Municipal Code for Construction Sites	N/A
CO2	Plan Review and Approval Process	N/A
CO3	Construction Projects Inventory	N/A
CO4	Construction Outreach	6.2.5.1
CO5	Construction Site Inspections & BMP Implementation	6.2.5.2
CO6	Enforcement	6.2.5.3
CO7	Training	6.2.5.4
	Effectiveness Assessment	7

N/A: Programmatic data are not collected for this control measure

6.2.5.1 Construction Outreach (CO4)

The County had two active construction sites greater than or equal to one acre in size between 2016 and 2021. The County did not distribute outreach materials during construction site inspections.

6.2.5.2 Construction Site Inspections & BMP Implementation (CO5)

The County inspects all construction sites greater than or equal to one (1) acre during the wet and dry seasons. The County had three active construction sites within the Phase I area greater than or equal to one acre in size between 2016-2017 and 2020-2021.

6.2.5.3 Enforcement (CO6)

The County had two active construction sites during the period 2016-2021. No enforcement actions were taken between 2016-2017 and 2020-2021.

[14] These Control Measures are based on the 2009 SWMP (and modifications thereto) and the NOI Work Plan submitted to and approved by the Regional Water Board as a part of the NOI application package and may change when the revised SWMP is developed.

6.2.5.4 Training (CO7)

The trainings associated with the Construction Program attended by County staff are summarized in **Table 6-71**.

Table 6-71. Construction Program Trainings Attended (County)

Date of Training	Title of Training Module	Number of Attendees	Staff Positions Trained	Trainee Departments or Divisions
5/18/2017	Stormwater Regional Training	2	Engineer IV Management Analyst II	Water Resources
9/26/2018	The Future of the Phase II MS4 Permit	4	Engineer V, Engineer I, Management Analyst 2	Water Resources
9/26/2018	Reviewing Post Construction Standards & Plans	4	Engineer V, Engineer I, Management Analyst 2	Water Resources
5/16/2019	San Joaquin Valley Stormwater Quality Partnership 2019 Regional Training	2	Engineering Assistant Management Analyst II	Water Resources
6/28/2019	Module 3 Construction Erosion & Sediment Control Plan Review and Inspection	15	Engineer I, II, & III Engineering Aide Bridge Division Manager Administrative Assistant	Field, Bridge, Community Infrastructure, Water Resources
4/30/2020	Construction BMPs: Tips for Construction Site Stormwater Inspectors	18	EA Engineer I – V MA II	Bridge Engineering, Development Services, Field Engineering, Water Resources
1/27/2021	SWQCCP Update Workshop	47	EA, Eng I – V, MAII	Bridge Eng, Development Services, Field Eng, Water Resources
1/29/2021	SWQCCP Update Workshop	44	EA, Eng I – V, MAII	Bridge Eng, Development Services, Field Eng, Water Resources
2/3/2021	SWQCCP Update Workshop	47	EA, Eng I – V, MAII	Bridge Eng, Development Services, Field Eng, Water Resources

6.2.6 Planning and Land Development (LD)

The purpose of the Planning and Land Development Program Element is to ensure that the impacts on stormwater quality from new development and redevelopment are limited through implementation of Site Design Controls, Source Controls, Volume Reduction Measures, and Treatment Controls. The County has developed and is implementing Control Measures and accompanying Performance Standards specific to this Program Element.[15] The Planning and Land Development Program Control Measures are summarized in **Table 6-72**.

Table 6-72. Planning and Land Development Program Control Measures (County)

LD	Control Measure	Section
LD1	Incorporation of Water Quality Protection Principles into County Procedures and Policies	
LD2	New Development Standards	
LD3	Plan Review Sign-Off	6.2.6.1
LD4	Maintenance Agreement and Transfer	6.2.6.2
LD5	Training	6.2.6.3
	Effectiveness Assessment	7

6.2.6.1 Plan Review Sign-Off (LD3)

The project plans and priority projects reviewed by the County are summarized in **Table 6-73**.

Table 6-73. Project Plans and Priority Projects Reviewed (County)

Metric	Number Reviewed				
	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021
Project Plans Reviewed	2	2	1	2	4
Acres Covered by Approved Priority Projects[a]	1.2	3.88	2.88	16.55	71
Priority Project Category[b]					
Significant Redevelopment	0	0	0	0	0
Commercial Developments (≥100,000 SF)	0	0	0	1	1
Commercial Developments (≥5,000 SF)	2	0	0	1	2
Automotive Repair Shops	0	1	0	0	0
Retail Gasoline Outlets	0	1	1	0	0
Restaurants	0	0	0	0	0

[15] These Control Measures are based on the 2009 SWMP (and modifications thereto) and the NOI Work Plan submitted to and approved by the Regional Water Board as a part of the NOI application package and may change when the revised SWMP is developed.

Metric	Number Reviewed				
	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021
Parking Lots (≥5,000 SF or 25 spaces)	0	0	0	0	0
Streets and Roads (>1 acre paved surface)	0	0	0	0	0
Home Subdivisions (≥10 units)	0	0	0	0	1
Total Projects	**2**	**2**	**1**	**2**	**4**

[a] As of June 30 of each fiscal year.

[b] The Development Standards apply to all Priority Projects or phases of Priority Projects at the date of adoption unless the projects already had approval by the City or County Engineer, a permit for development or construction or an approved tentative map prior to the Development Standards date of adoption.

The type and number of post-construction BMPs (control measures) implemented as part of the priority projects that were approved by the County are shown in **Table 6-74**.

Table 6-74. Post-Construction BMPs Implemented in Priority Projects (County)

Control Measure Type	Total Number Approved				
	2016-17	2017-18	2018-19	2019-20	2020-21
Site Design Controls					
G-1: Conserve Natural Areas	1	0	0	1	3
G-2: Protect Slopes and Channels	0	0	0	2	2
G-3: Minimize Soil Compaction	0	0	0	2	2
G-4: Minimize Impervious Area	1	0	0	2	2
Total Site Design Controls	**2**	**0**	**0**	**7**	**9**
Source Controls					
S-1: Storm Drain Message and Signage	1	0	0	1	3
S-2: Outdoor Materials Storage Area Design	0	0	0	0	0
S-3: Outdoor Trash Storage and Waste Handling Area Design	0	1	0	2	2
S-4: Outdoor Loading/Unloading Dock Area Design	0	0	0	1	1
S-5: Outdoor Repair/Maintenance Bay Design	0	0	0	0	0
S-6: Outdoor Vehicle/Equipment/Accessory Wash Area Design	0	0	0	1	0
S-7: Fuel Area and Maintenance Design	0	1	0	1	0
Total Source Controls	**1**	**2**	**0**	**6**	**6**
Volume Reduction Measures					
V-1: Rain Garden	0	0	0	0	1
V-2: Rain Barrel/ Cistern	0	0	0	0	0

Control Measure Type	Total Number Approved				
	2016-17	2017-18	2018-19	2019-20	2020-21
V-3: Interception Trees	0	0	0	0	0
V-4: Grassy Channel	0	0	0	0	0
V-5: Vegetated Buffer Strip	0	0	0	0	0
Total Volume Reduction Measures	**0**	**0**	**0**	**0**	**0**
Treatment Control Measures					
L-1: Bioretention	0	9	1	1	3
L-2: Stormwater Planter	0	0	0	0	0
L-3: Tree-well Filter	0	0	0	0	0
L-4: Infiltration Basin	0	1	0	0	1
L-5: Infiltration Trench	0	0	0	0	0
L-6: Porous Pavement Filter	0	0	0	0	0
L-7: Vegetated (Dry) Swale	0	0	0	0	0
L-8: Grassy Swale	0	0	0	0	0
L-9: Grassy Filter Strip	0	0	0	0	0
C-1: Constructed Wetland	0	0	0	0	0
C-2: Extended Detention Basin	1	0	0	0	0
C-3: Wet Pond	0	0	0	0	0
C-4: Proprietary Treatment Controls	0	0	0	1	0
C-5: Trash Capture Devices	-	-	-	-	[a]
Total Treatment Control Measures	**1**	**10**	**1**	**2**	**4**

[a] This control measure was added to the Stormwater Quality Control Criteria Plan (SWQCCP) updated in August 2020.

6.2.6.2 Maintenance Agreement and Transfer (LD4)

The number of completed priority projects with post-construction BMPs is shown in **Table 6-75**. Inspections of the post-construction BMPs were performed in 2016-2017, 2017-2018, and 2020-2021 (one in each year). No enforcement actions were taken due to improper maintenance.

Table 6-75. Post-Construction BMPs (County)

Metric	Number Reviewed				
	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021
Completed priority projects with post-construction BMPs	4	1	0	0	3

6.2.6.3 Training (LD5)

The trainings associated with the Planning and Land Development Program attended by County staff are summarized in **Table 6-76**.

Table 6-76. Planning and Land Development Program Trainings Attended (County)

Date of Training	Title of Training Module	Number of Attendees	Staff Positions Trained	Trainee Departments or Divisions
5/27/2018	Phase II MS4 Regional Training: Landscape Design and Watershed Protection	7	Engineering Services Manager Management Analyst III Engineer IV Engineering Assistant III Management Analyst II Engineering Assistant I Administrative Assistant	Public Services, Community Infrastructure & Water Resources
1/27/2021	SWQCCP Update Workshop	47	Engineers, Engineering Aides, Management Analysts	Bridge Eng, Development Services, Field Eng, Water Resources
1/29/2021	SWQCCP Update Workshop	44	Engineers, Engineering Aides, Management Analysts	Bridge Eng, Development Services, Field Eng, Water Resources
2/3/2021	SWQCCP Update Workshop	47	Engineers, Engineering Aides, Management Analysts	Bridge Eng, Development Services, Field Eng, Water Resources

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7 Program Long-Term Effectiveness Assessment (2014-2021)

This long-term Effectiveness Assessment (EA) is based on seven years of data collected between 2014-2015 and 2020-2021.[1] This timeframe has been selected for the long-term EA because a five-year span of data (2014-2015 to 2018-2019) was used for the short-term EA (presented in the *2016-2019 Mid-Term Report)*, and the additional data will address the remaining two years of implementation and provide sufficient data to produce meaningful results.

This assessment addresses Region-wide Permit Provision V.E.5, which states:

> *When reporting on the effectiveness of its Storm Water Management Program, the Permittee shall:*
>
> *i. Identify the management questions and metrics that were used for the assessment;*
>
> *ii. Identify the direct and/or indirect measurements that were used to track the effectiveness of the Storm Water Management Program as well as the outcome levels at which the assessment is occurring; and,*
>
> *iii. Track the progress of the SWMP towards achieving the milestones, strategies, and activities aimed at improving water quality.*

The End-Term Report has been developed during the period when the RAA (submitted July 1, 2019) is still under review by the Regional Water Board and, therefore, the revised SWMP has not yet been submitted. As such, SWMP milestones have not yet been developed, and this End-Term Report instead focuses on the implementation of the current SWMP and its associated Control Measures and Performance Standards. The City and County have identified the Control Measures and Performance Standards that specifically address the POCs identified in the June 2012 ROWD, as described in **Section 4** and listed below:

- Indicator bacteria (*E. coli* and fecal coliform)
- Pesticides (chlorpyrifos and pyrethroids)
- Dissolved oxygen (DO)
- Mercury/methylmercury

Best professional judgment has been used to determine whether implementation of an activity has a direct impact on a POC. For example, promotion of the household hazardous waste collection program (PO1) encourages the proper disposal of pesticides, and implementation of the sanitary sewer overflow (SSO) response plans (MO1) prevents the discharge of indicator bacteria. Once the revised SWMP is approved, the assessment focus will shift from these POCs to the PWQCs identified in the Assessment and Prioritization.

An overview of the long-term EA approach, organized by Program Element and Control Measure and identifying the POCs specifically addressed by each Performance Standard, is shown in **Table 7-1**. A summary of the overall long-term assessment for 2007-2021 is provided in **Section 8**.

[1] This date range references the fiscal years 2014-2015 through 2020-2021, or July 1, 2014 to June 30, 2021.

Table 7-1. Long-Term Effectiveness Assessment Overview

Program Element & Control Measure	Performance Standard	Pollutants of Concern (POCs) Addressed[a]			
		Indicator Bacteria	Methylmercury	Dissolved Oxygen	Pesticides[b]
Public Outreach (PO)					
PO1 Public Participation	Promote Used Oil and Household Hazardous Waste Programs[a]				✓
PO3 Public Outreach Implementation	Participate in/Support the Delta Mercury Exposure Reduction Program[c]		✓		
Municipal Operations (MO)					
MO1 Sanitary Sewer Maintenance & Overflow and Spill Response	Implement the SSO Response Plans	✓			
MO2 Construction Requirements for Municipal Capital Improvement Projects	Develop Priority Projects in Conformance with the SWQCCP	✓	✓	✓	
MO4 Landscape and Pest Management	Implement Pesticide Application Protocol; Implement IPM Program; Maintain and Expand Internal Inventory on Pesticide Use[a]				✓
MO5 Storm Drain System Maintenance	Implement Detention Basin Maintenance Program		✓		
MO6 Street Cleaning and Maintenance	Implement Green Waste Collection Program			✓	
Industrial and Commercial (IC)					
IC1 Facility Inventory and IC2 Prioritization and Inspection	Inspect High Priority Facilities	✓			
Construction (CO)					
CO4 Construction Outreach	Distribute BMP Information during Inspections of Construction Sites ≥ 1 Acre		✓		
CO5 Construction Site Inspections & BMP Implementation	Inspect Construction Sites ≥ 1 Acre		✓		
Planning and Land Development (LD)					
LD3 Plan Review Sign-off	Track Projects with Stormwater Control Measures	✓	✓	✓	

[a] Trash is not included in this EA since it is not a current focus for the 2009 SWMP or the NOI Work Plan. A trash EA will be included in future annual reports in accordance with the revised SWMP.

[b] Pesticides are included in this report but are not identified as a PWQC in the RAA; thus, associated Control Measures and Performance Standards may not be assessed in the same manner in future reports.

[c] "Participate in/Support the Delta Mercury Exposure Reduction Program" is not in the NOI Work Plan. It is included in this EA as an implementation item specifically addressing methylmercury.

The EA was modeled after the methodology described within the CASQA document, *A Strategic Approach to Planning for and Assessing the Effectiveness of Stormwater Programs* (February 2015) and is focused on the impact of the stormwater program. This assessment approach is intended to improve the program's effectiveness at reducing discharges of the identified POCs (indicator bacteria, methylmercury, dissolved oxygen (i.e., oxygen-demanding substances), and pesticides), thereby protecting water quality.

The CASQA EA approach[2] utilizes a general model that aggregates three primary components from six outcome levels and associated, general outcome types. The three primary components are:

- <u>Sources and Impacts (Outcome Levels 4-6)</u> – This component addresses the generation, transport, and fate of urban runoff pollutants. It includes sources (e.g., sites, facilities, areas), stormwater conveyance systems, and the water bodies that ultimately receive the source discharges (receiving waters). This component is typically assessed on a long-term basis.
- <u>Target Audiences (Outcome Levels 2-3)</u> – This component focuses on understanding the behaviors of the people responsible for source contributions by exploring the factors that determine existing behavioral patterns and looking for ways to replace polluting behaviors with non-polluting behaviors. This component is typically assessed on a short- and/or long-term basis.
- <u>Stormwater Programs (Outcome Level 1)</u> – Stormwater programs are the road map for the improvements that managers wish to attain in receiving waters. Their immediate purpose is to describe programs that will facilitate changes in the behaviors of key target audiences. This component is typically assessed on a short-term basis.

The six categories of outcome levels establish a logical and consistent organizational scheme for assessing and relating individual outcomes. This EA will primarily focus on Outcome Levels 2 through 4 (OL2, OL3, OL4), since Outcome Level 1 has been addressed, in part, by reporting the implementation of programmatic activities (**Section 6**).

Preliminary management questions, as required by the Region-wide Permit, have been identified and are addressed within this long-term EA, as follows:

- Is the target audience aware of actions or BMPs that prevent POCs from reaching the storm drain system and receiving waters? **[OL2]**
- Is the target audience taking action or implementing BMPs that prevent POCs from reaching the storm drain system and receiving waters? **[OL3]**
- Are POC loads from urban sources being reduced, or are POCs being prevented from reaching the storm drain system and receiving waters? **[OL4]**

Consistent with the CASQA EA guidance, the direct and/or indirect measurements (i.e., data and information) that have been collected to evaluate the long-term effectiveness of the stormwater program can generally be described as follows:

[2] See 2015 CASQA Guidance Document, Section 2.0: Stormwater Management Approach.

- **Internal Tracking by Stormwater Program** of internal program data (e.g., inspection data, public outreach and education efforts);
- **Site Investigations/Inspections** conducted by the stormwater program to directly observe or assess a practice (e.g., inspections, site visits, complaint investigations); and
- **Surveying** by the stormwater program of stormwater program staff to discern knowledge, attitudes, awareness, behavior of a target audience (e.g., pre-/post-training surveys).

The data and information collected have generally been assessed and/or analyzed using methods such as:

- **Qualitative assessment** includes confirmation that an activity (e.g., construction site inspections) was conducted and/or that a specific task (e.g., participation in a regional group) was completed, along with a narrative assessment.
- **Descriptive statistics** are numbers that are used to summarize and describe data. Several descriptive statistics are often used at one time, to give a full picture of the data. Examples of descriptive statistics are counts (quantification and tabulation), averages, or variances. Other approaches include direct quantitative measurements of pollutant load removal, estimates of pollutant load removal for BMPs where direct measurement of pollutant removal is overly challenging, and direct quantitative measurement of behaviors that serve as proxies of pollutant removal or reduction.
- **Comparisons to established reference points** involve comparing collected data reference points (e.g., previous results, baseline values).
- **Temporal change** is change over time. This includes variability, trends, and changes due to program implementation (e.g., simple change [absolute or %] or statistical trends).

The long-term EA is presented by POC in the following subsections:

- Section 7.1 Indicator Bacteria Effectiveness Assessment
- Section 7.2 Methylmercury Effectiveness Assessment
- Section 7.3 Dissolved Oxygen Effectiveness Assessment
- Section 7.4 Pesticides Effectiveness Assessment

7.1 INDICATOR BACTERIA EFFECTIVENESS ASSESSMENT

The effectiveness of the City and County's programmatic activities that directly address indicator bacteria is assessed below. The assessment is organized by the applicable Program Elements and Control Measures.

7.1.1 Indicator Bacteria: Municipal Operations Program – Sanitary Sewer Maintenance & Overflow and Spill Response (MO1)

Implement the SSO Response Plans

City

The annual number and percentage of SSOs reaching a storm drain or receiving waters has remained low, indicating that implementation of the SSOERP has been effective. [**OL4**]

Since 2014-2015, 762 SSOs have occurred (along 1,500 total miles of pipe) and were responded to by the City, representing 51 SSOs (7 SSOs per year) per 100 miles of sanitary sewer pipeline. Of the 762 spills within the City, 135 (18%) reached the storm drain system, and no more than 20 (<3%) reached a receiving water (**Figure 7-1**).

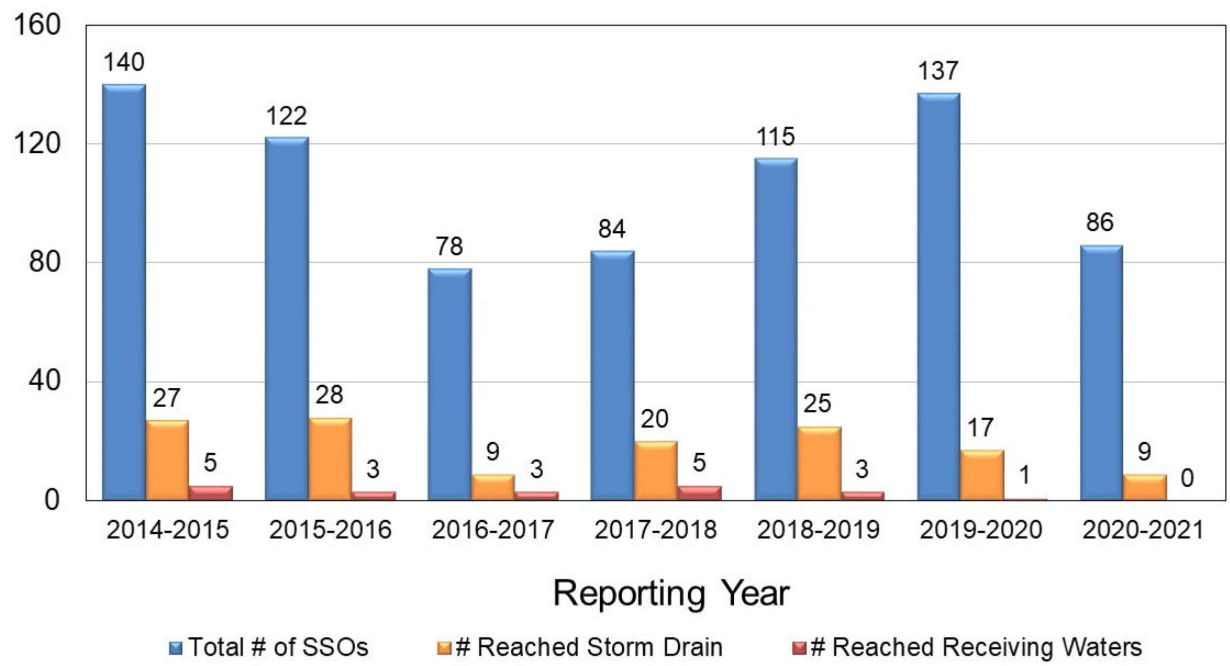

Figure 7-1. MO1 – Sanitary Sewer Overflows (City)

County

In general, a downward trend has been observed in the total annual number of SSOs and those reaching a storm drain or receiving waters, indicating that implementation of the SSOERP has been effective. [**OL4**]

Since 2014-2015, 39 SSOs have occurred and were responded to by the County. Of the 39 spills, three (3) (10%) reached the storm drain system, and none reached a receiving water (**Figure 7-2**).

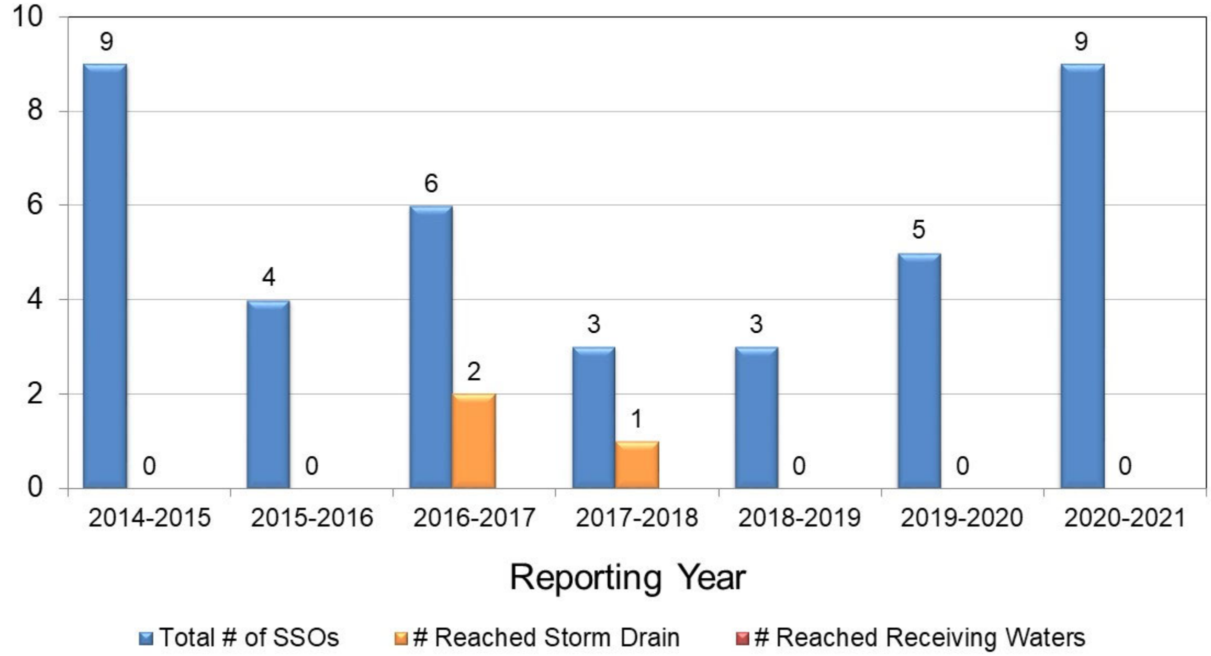

Figure 7-2. MO1 – Sanitary Sewer Overflows (County)

7.1.2 Indicator Bacteria: Municipal Operations Program – Construction Requirements for Municipal Capital Improvement Projects (MO2)

Develop Priority Projects in Conformance with the SWQCCP

City

All priority capital improvement projects developed by the City during the permit term have been in conformance with the 2019 SWQCCP. [**OL2**]

Since 2014-2015, the City has tracked a total of 11 priority CIPs. All were in compliance with the SWQCCP (**Figure 7-3**).

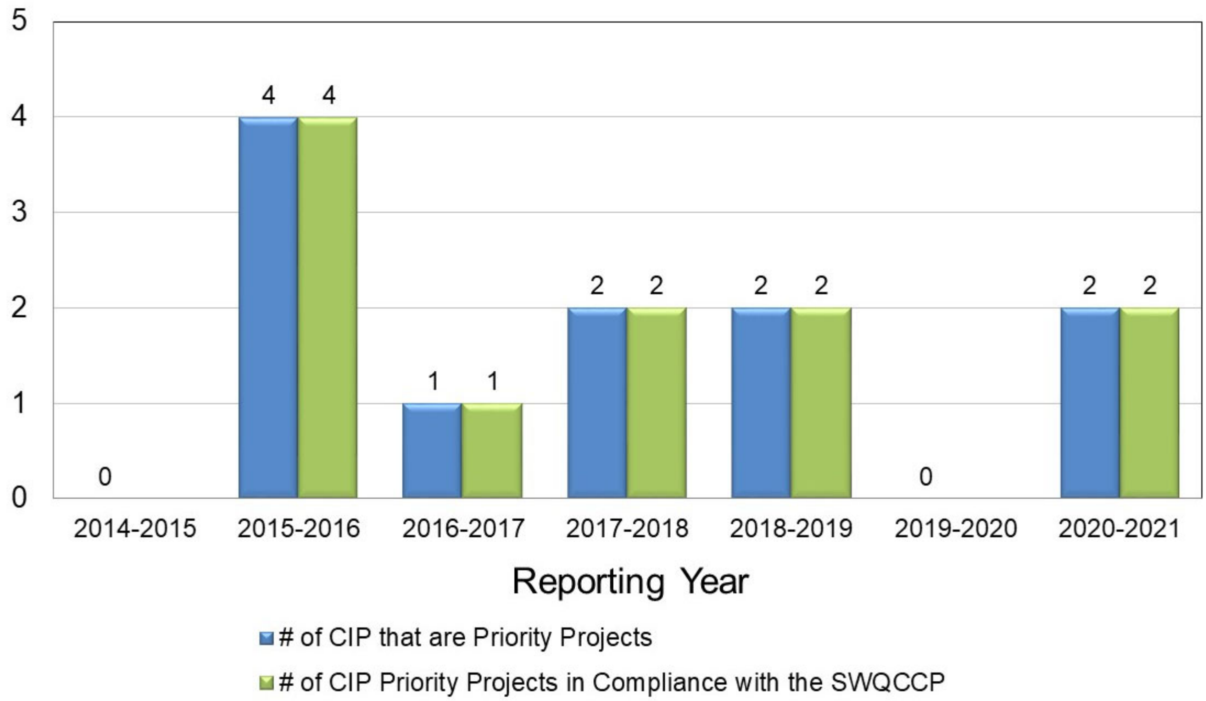

Figure 7-3. MO2 – CIP Priority Projects and Compliance with the SWQCCP (City)

County

The one priority CIP developed by the County during the permit term was in conformance with the 2019 SWQCCP. [**OL2**]

Since 2014-2015, the County has tracked one priority CIP (in 2019-2020), which was in compliance with the SWQCCP (**Figure 7-4**).

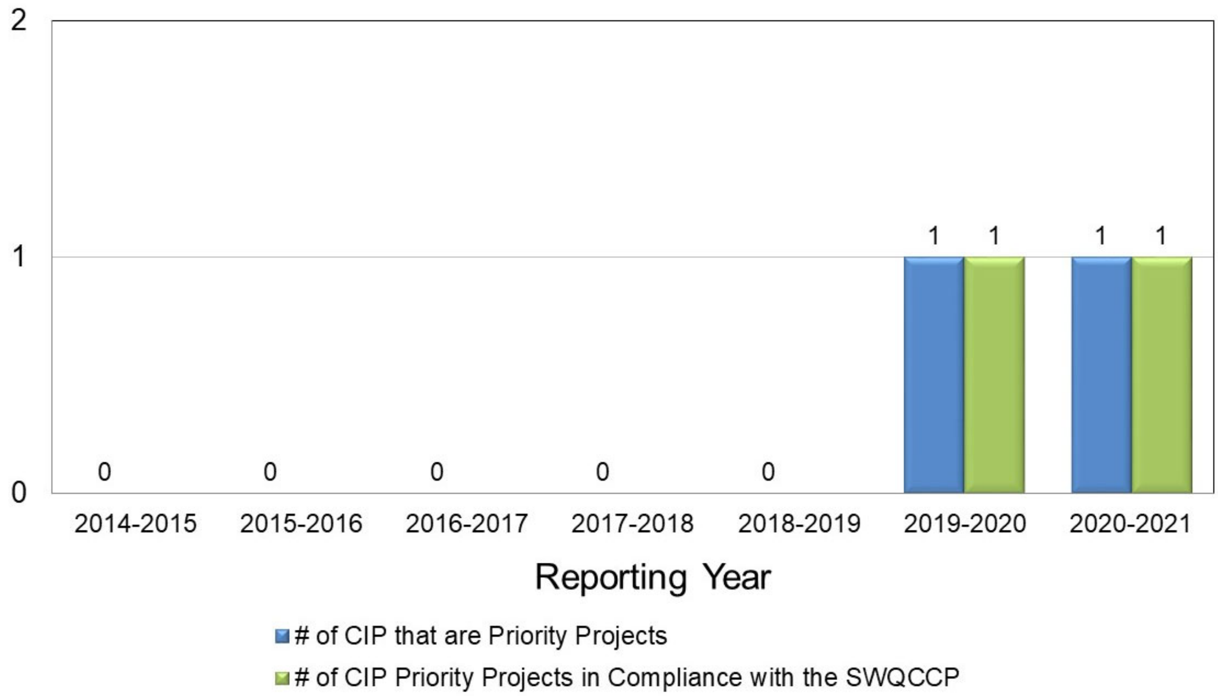

Figure 7-4. MO2 – CIP Priority Projects and Compliance with the SWQCCP (County)

7.1.3 Indicator Bacteria: Industrial and Commercial Program – Facility Inventory (IC1) and Prioritization and Inspection (IC2)

Inspect High Priority Facilities

City

The City is proactively inspecting industrial and commercial facilities, providing outreach to increase awareness of the BMPs that should be implemented to protect stormwater quality, and determining whether these facilities are adequately implementing BMPs. [**OL2, OL3**]

In 2016-2017, the City updated its industrial facility inventory and revised its inspection criteria and reporting methods. Therefore, only inspection data collected between 2017-2021 are comparable. While the inspection criteria were being updated in 2016-2017, the City did not track the results of industrial inspections performed.

In 2020-2021, the industrial facility inventory contained 176 facilities. The City conducted a total of 245 inspections between 2017 and 2021, inspecting an average of 61 high priority industrial facilities annually. Thus, all facilities were inspected at least once during the permit term. Approximately 20% (50) of the 245 inspections performed on industrial facilities have been follow-up inspections since 2017-2018 (**Figure 7-5**).

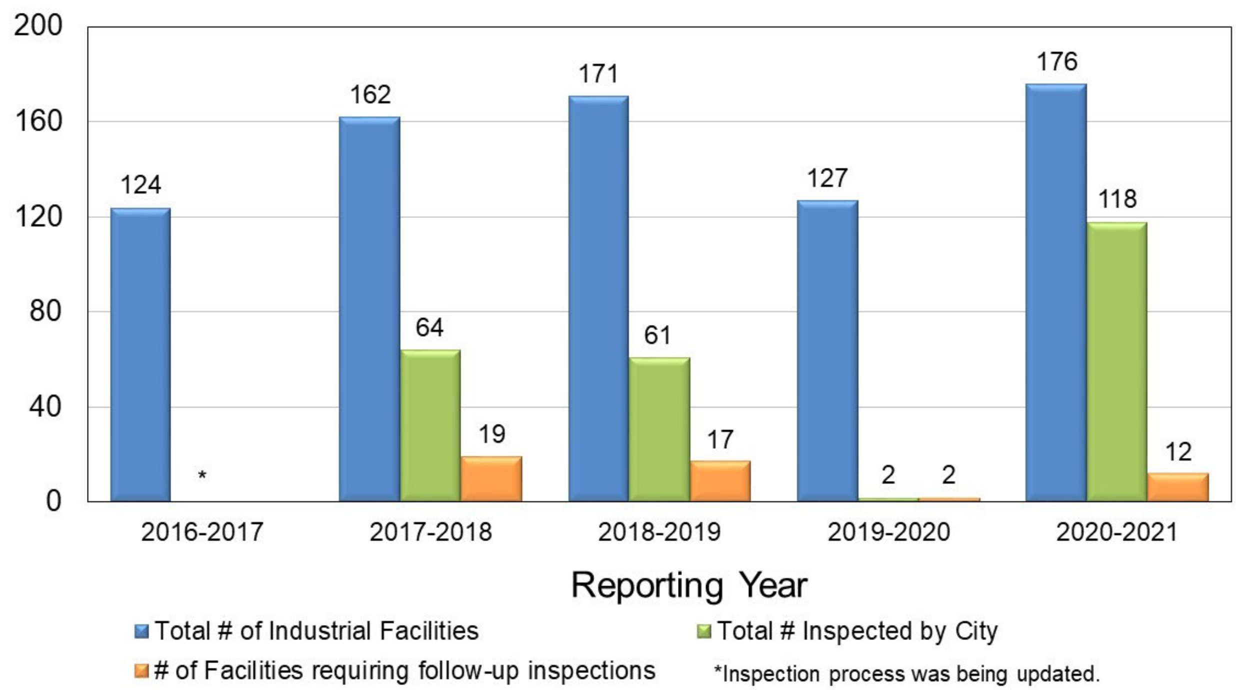

Figure 7-5. IC1 & IC2 – Industrial Facilities and Inspections (City)

Since the City inspected all industrial facilities within the permit term, the same facilities may not have been inspected from year to year. Therefore, the inspection results of one year are not comparable to the next, as the facilities inspected were different. Instead, the inspection results were assumed to be cumulative beginning when the new inspection criteria were implemented in 2017-2018. Between 2017-2018 and 2020-2021 (the reporting period "2017-2021" in **Figure 7-6**), 73% of industrial facilities have had SWPPPs onsite during inspections, 28% have had adequate BMPs at initial inspections, and 46% have been in general compliance with stormwater requirements (**Figure 7-6**).

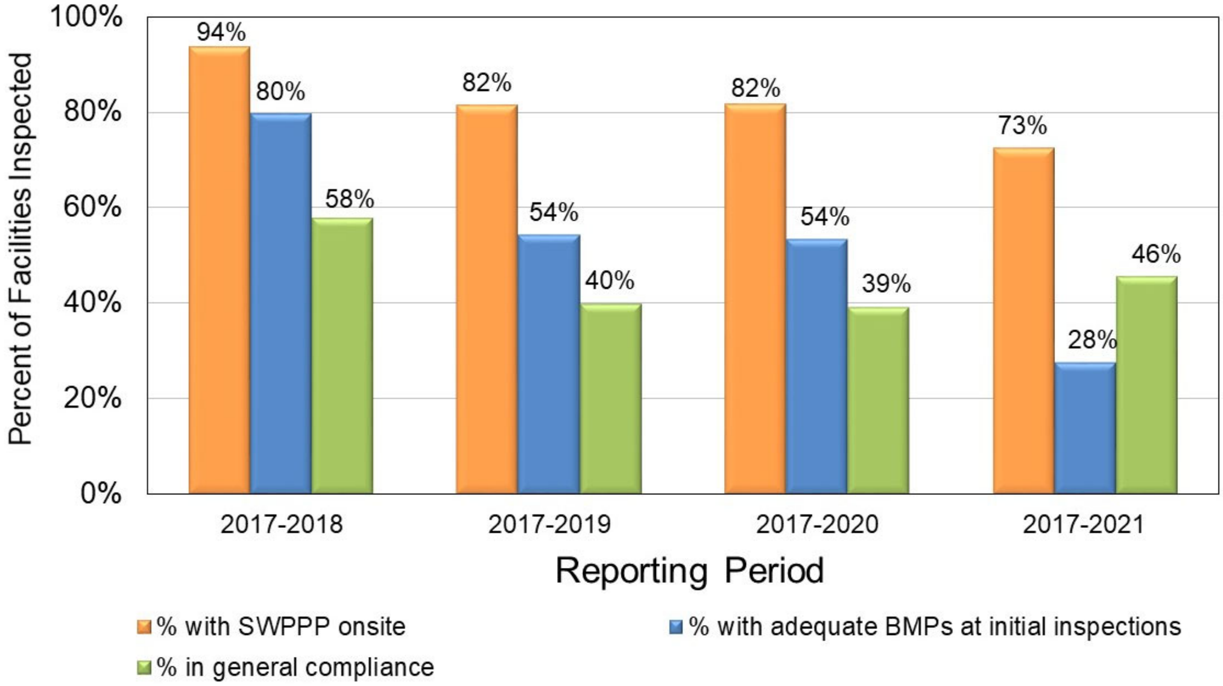

Figure 7-6. IC2 – Industrial Facility Inspection Results (City)

In 2016-2017, the City updated its commercial facility inventory and revised its inspection criteria and reporting methods. Between 2016-2017 and 2020-2021, the City was adding facilities to its inventory annually as they were verified and inspected; thus, the number of facilities reported each year represents only a portion of the total number of facilities actually within the City's jurisdiction. The City inspected an average of 420 commercial facilities annually between 2016-2017 and 2020-2021, in order to inspect each facility once every two years. Approximately 5% (108) of the 2,102 inspections performed on commercial facilities (2,102) have required follow-up inspections since 2017 (**Figure 7-7**).

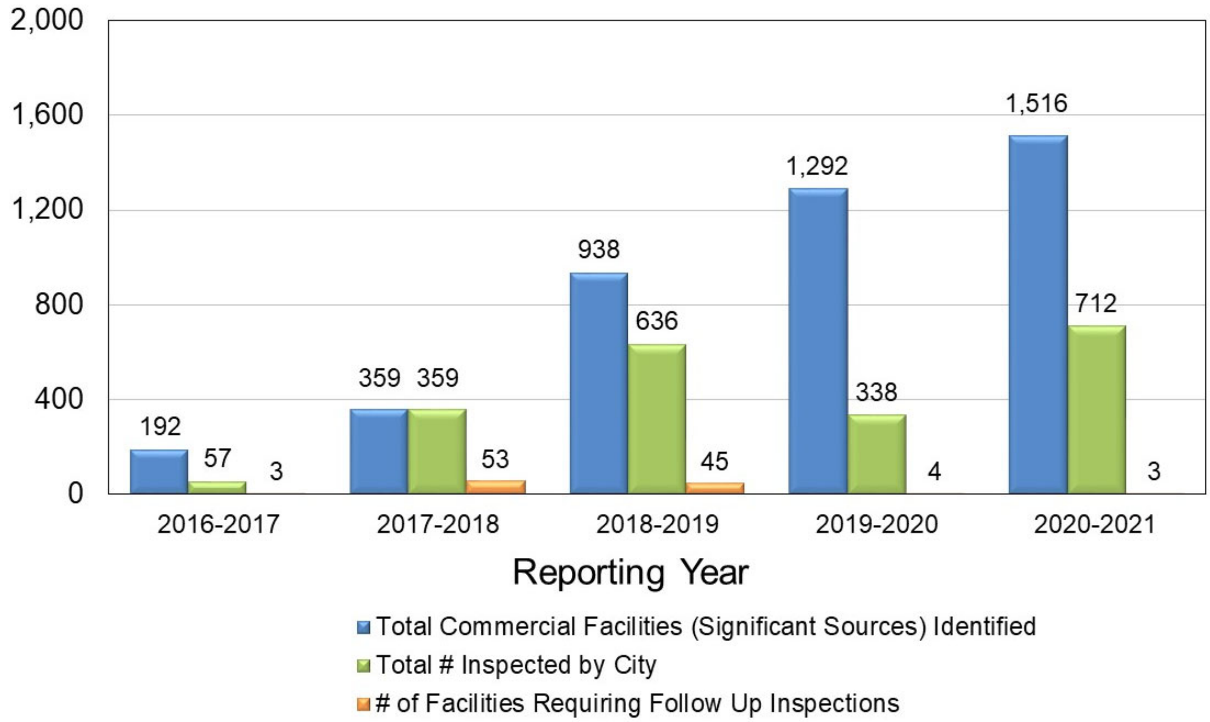

Figure 7-7. IC1 & IC2 – Commercial Facilities and Inspections (City)

The City inspects each commercial facility once every two years. Since the new inspection criteria were developed in 2016-2017, very few inspections were performed during that fiscal year, so it was assumed that the time period 2016-2017 through 2018-2019 represented two years' worth of commercial facility inspections (i.e., 2016-2019, as shown in **Figure 8**).

Of the 1,022 commercial facilities inspected during the first cycle of inspections (2016-2019), 25% had adequate BMPs. Of the 1,050 commercial facilities inspected during the second cycle (2019-2021), 31% had adequate BMPs. A total of 29% of commercial facilities were in general compliance during the first cycle of inspections, increasing to 54% during the second cycle (**Figure 7-8**). This shows that the number of facilities understanding and correctly implementing BMPs increased during the permit term.

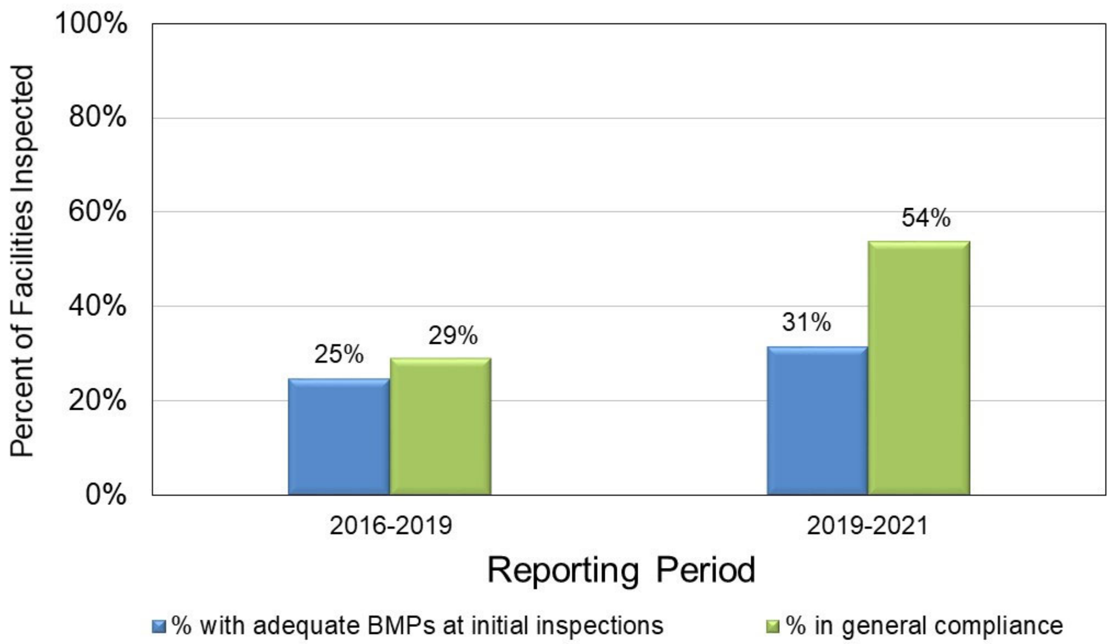

Figure 7-8. IC2 – Commercial Facility Inspection Results (City)

County

The County is proactively inspecting industrial and commercial facilities, providing outreach to increase awareness of the BMPs that should be implemented to protect stormwater quality, and determining whether these facilities are adequately implementing BMPs. The percent of industrial and commercial facilities adequately implementing BMPs has remained high over time. [**OL2, OL3**]

The County inspects its high priority industrial facilities once every two years. No industrial facilities required follow-up inspections during the permit term (**Figure 7-9**).

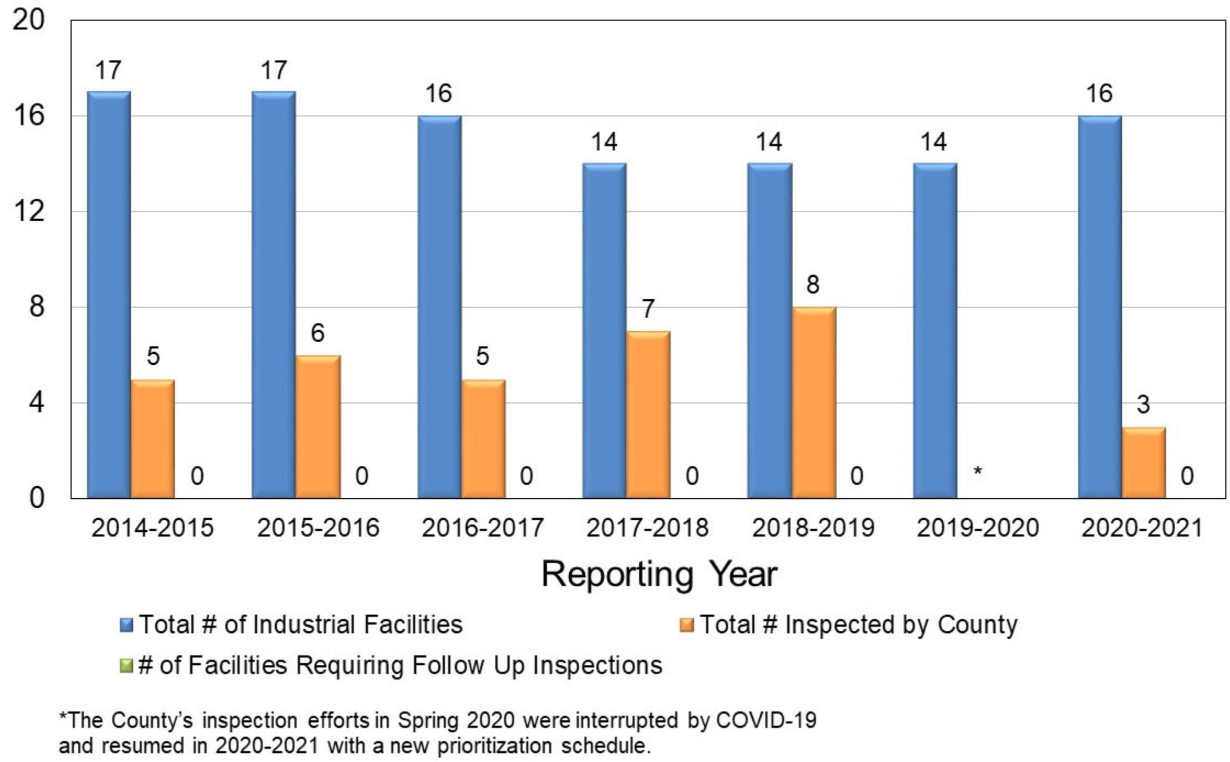

Figure 7-9. IC1 & IC2 – Industrial Facilities and Inspections (County)

All inspected industrial facilities were found to have SWPPPs onsite, to have adequate BMPs, and to be in general compliance (**Figure 7-10**).

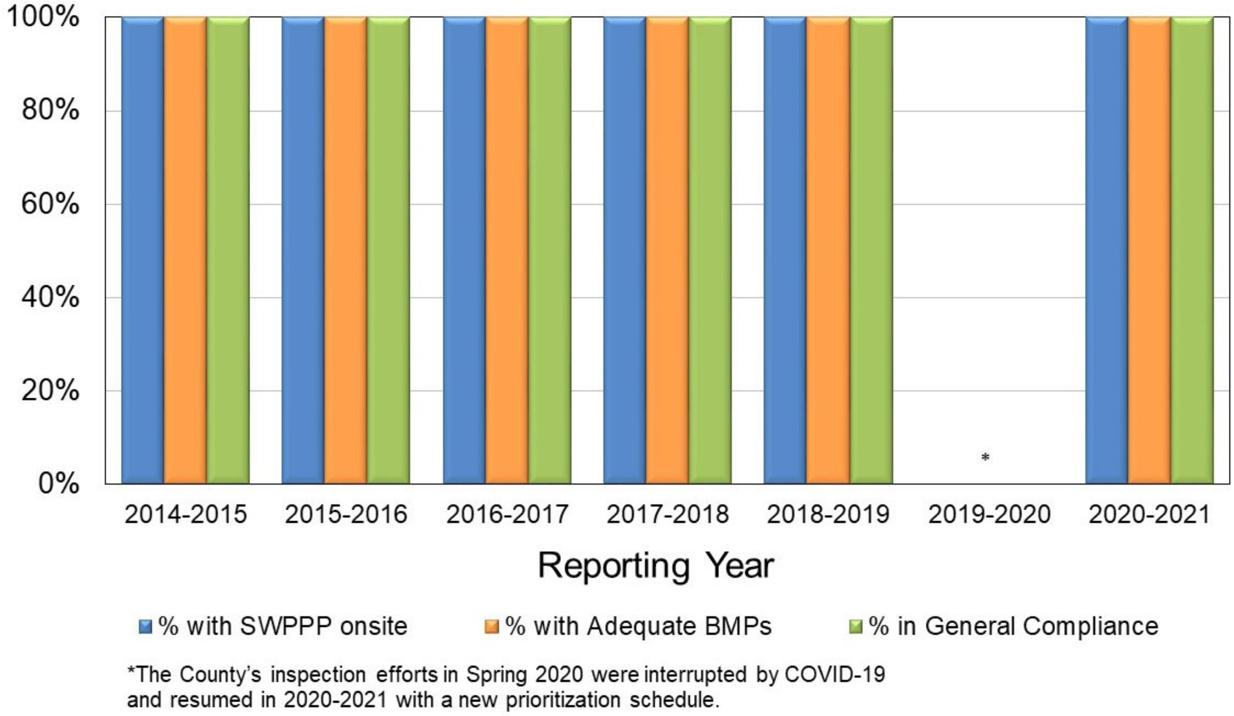

Figure 7-10. IC2 – Industrial Facility Inspection Results (County)

The County inspected an average of 67 high priority commercial facilities per year, in order to inspect all facilities once per permit term. An average of 7% of facilities inspected between 2016-2017 and 2020-2021 required follow-up inspections (**Figure 7-11**).

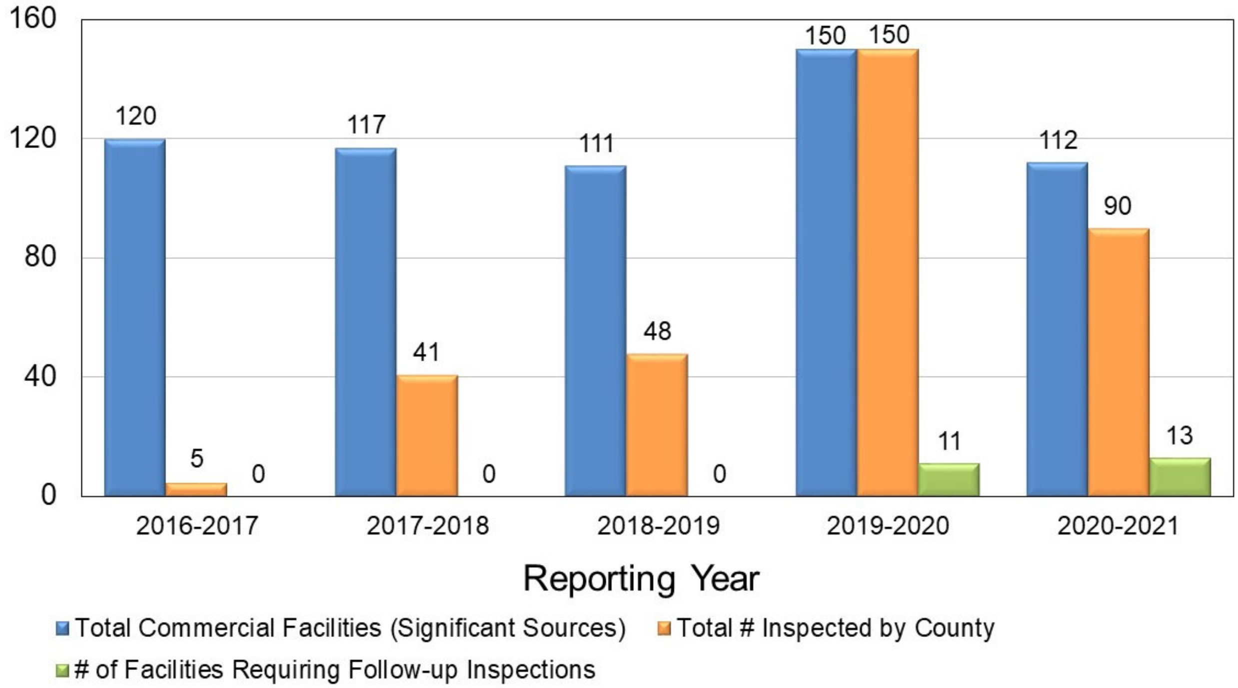

Figure 7-11. IC1 & IC2 – Commercial Facilities and Inspections (County)

7.1.4 Indicator Bacteria: Planning and Land Development Program – Plan Review Sign-off (LD3)

Track Projects with Stormwater Control Measures

City

An increasing number of approved priority plans and the increasing total acreage of priority projects shows that stormwater control measures are being constructed to prevent pollutants from reaching the storm drain system and receiving waters. [**OL4**]

In general, the number of priority plans reviewed and approved annually has increased since 2014-2015, with a total of 117 priority plans reviewed in the past seven years (**Figure 7-12**).

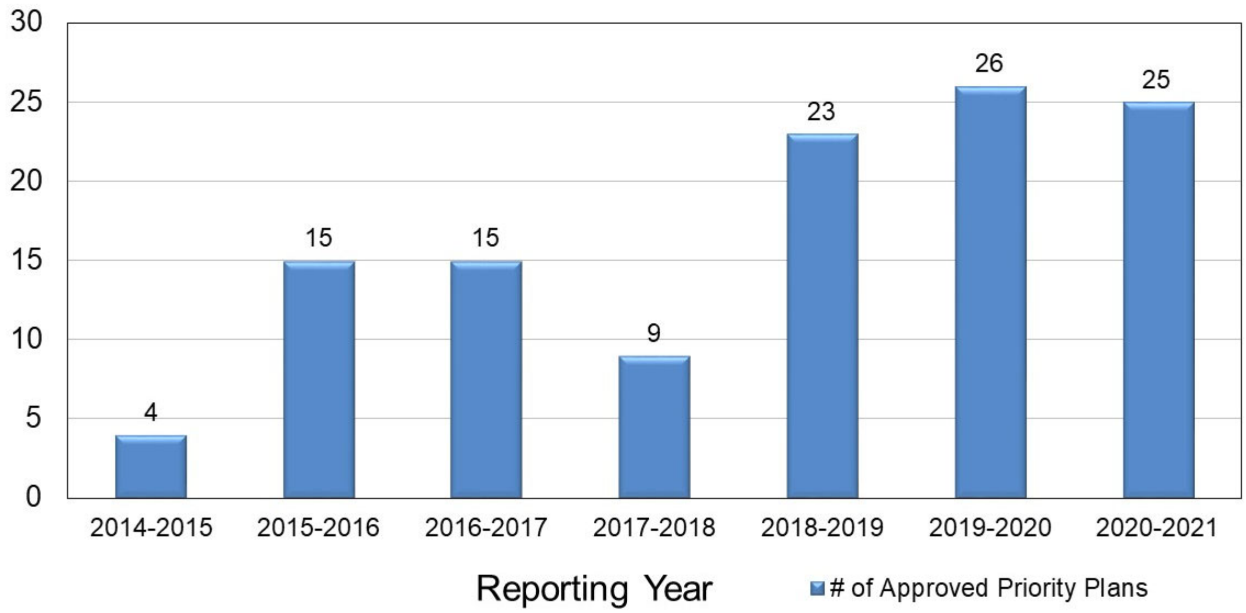

Figure 7-12. LD3 – Priority Plans Approved (City)

The total acreage covered by approved priority plans has increased steadily since tracking began in 2007-2008. As of 2020-2021, the cumulative acreage covered by approved priority plans (2,611 acres) represented 6.25% of the total City acreage (41,776 acres) (**Figure 7-13**).

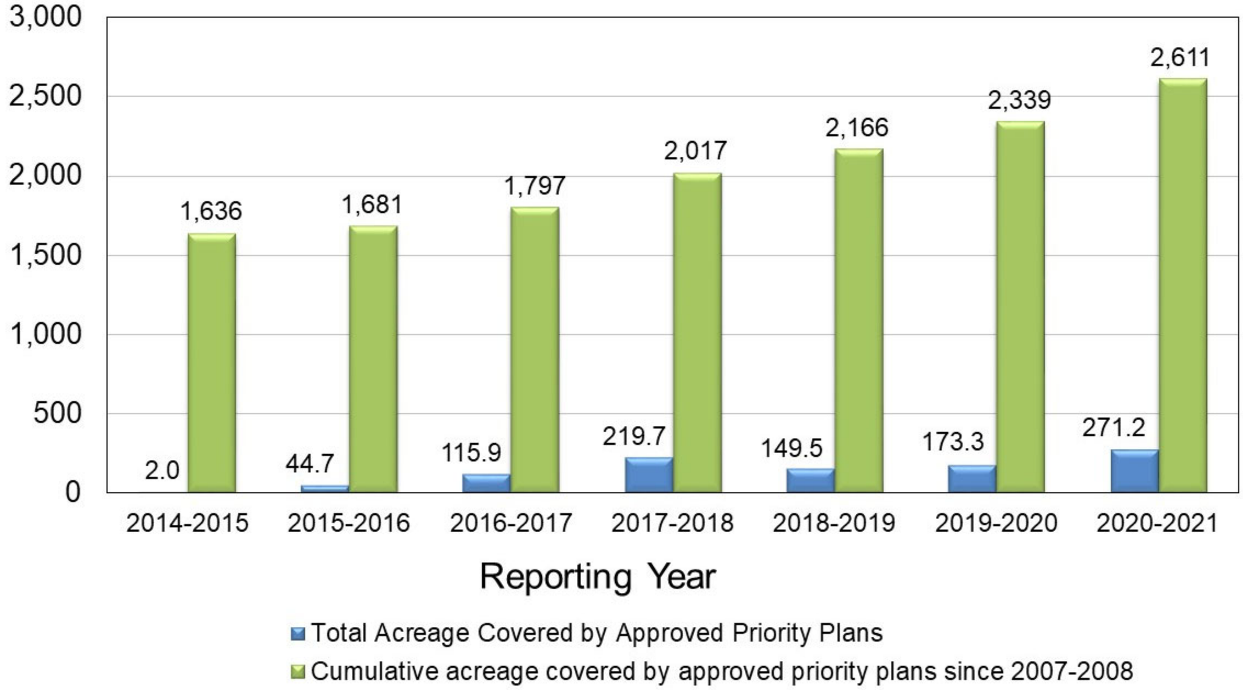

Figure 7-13. LD3 – Acreage Covered by Priority Plans (City)

County

The number of annually approved priority plans and increasing total acreage of priority projects shows that stormwater control measures are being constructed to prevent pollutants from reaching the storm drain system and receiving waters. [**OL4**]

The County has reviewed at least one priority plan annually since 2014-2015, with a total of 23 priority plans reviewed in the past seven years (**Figure 7-14**).

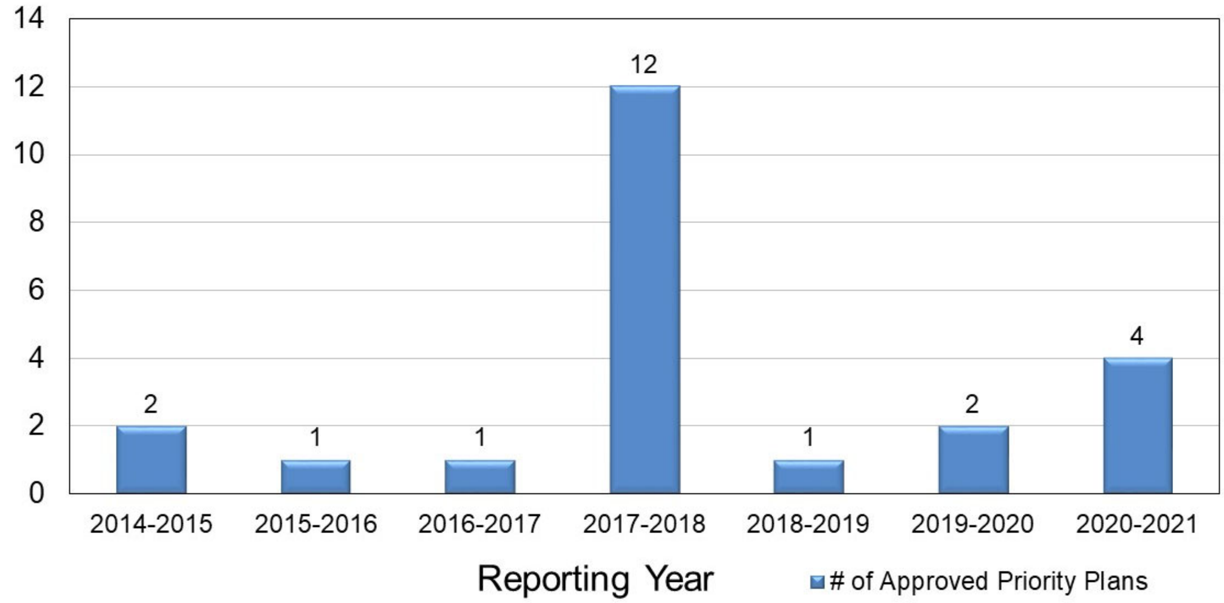

Figure 7-14. LD3 – Priority Plans Approved (County)

The total acreage covered by approved priority plans has increased steadily since tracking began in 2004-2005. As of 2020-2021, the cumulative acreage covered by approved priority plans (277 acres) represented 2.56% of the total County acreage (10,802 acres) (**Figure 7-15**).

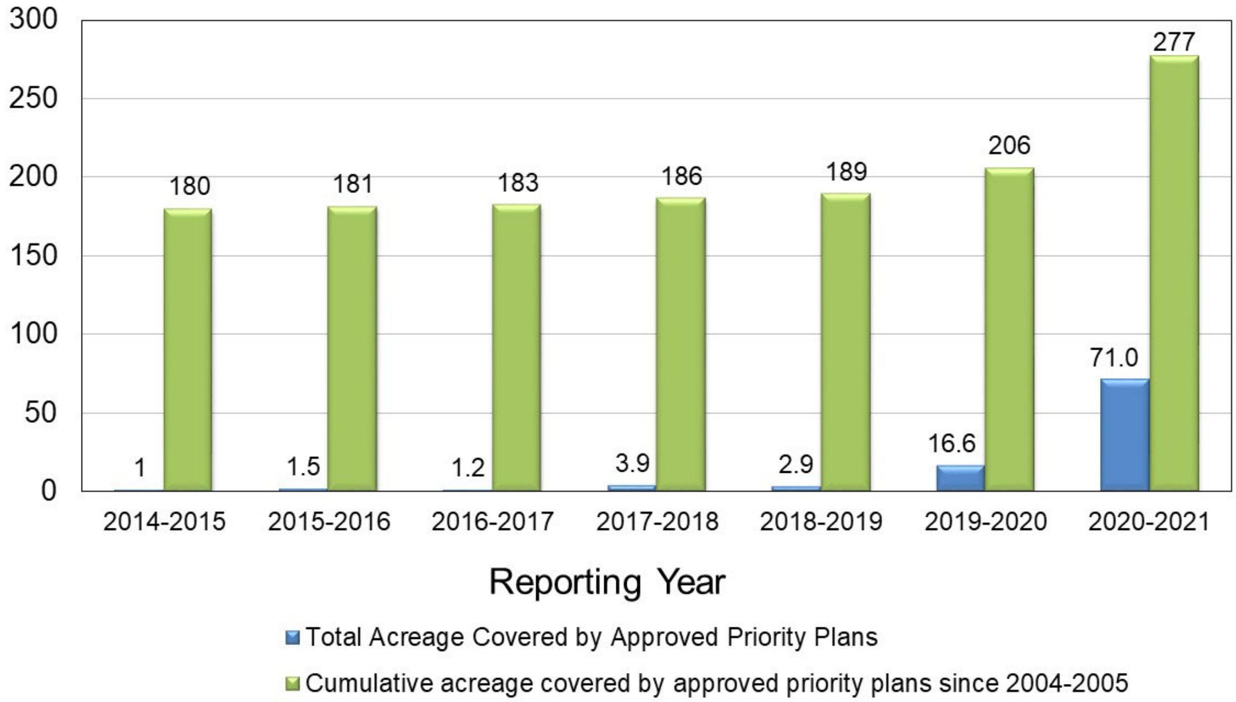

Figure 7-15. LD3 – Acreage Covered by Priority Plans (County)

7.2 METHYLMERCURY EFFECTIVENESS ASSESSMENT

7.2.1 Methylmercury: Public Outreach Program (PO3) – Participate in/Support the Delta Mercury Exposure Reduction Program

As described in Section 4 (Section 4.4.4.2), the City and County participated in the Delta Mercury Control Program. The Delta Mercury Control Program requires the entities identified in the Basin Plan to develop and implement a Mercury Exposure Reduction Program (MERP). The Delta MERP participants include those entities and agencies that formally submitted a letter describing their intent to participate in the collective exposure reduction program. The Permittees submitted their letter during 2013-2014 and participated in the Delta MERP through its six-year duration that ended during 2019-2020 [**OL2, OL3**].

The Delta MERP is designed to increase understanding of contaminants in fish and reduce exposure to mercury among people who eat fish from the Delta. The Delta MERP produces educational materials based on fish consumption guidelines and focuses on presenting a balanced message, including communicating the health risks associated with exposure to mercury in fish, ways to reduce exposure, and health benefits of eating fish generally, as well as identifying low-mercury fish species and areas. The Delta MERP also focuses efforts on training opportunities for entities involved in the Delta MERP, including county agencies, tribal organizations, community-based organizations, and health care providers. Although the Delta MERP ended in 2019-2020, the Regional Water Board continues to make limited materials available to past contributors and community groups by request.

7.2.2 Methylmercury: Municipal Operations Program – Construction Requirements for Municipal Capital Improvement Projects (MO2)

Develop Priority Projects in Conformance with the SWQCCP

An assessment of this performance standard is provided within the Indicator Bacteria Effectiveness Assessment, in **Section 7.1.2**.

7.2.3 Methylmercury: Municipal Operations Program – Storm Drain System Maintenance (MO5)

Implement Detention Basin Maintenance Program

City

Detention Basin Maintenance – The amount of material removed from detention basins shows that the City is diverting these pollutants from the storm drain system and receiving waters. [**OL4**]

The City began tracking detention basin inspections and maintenance in 2016-2017. Since 2016-2017, the City has inspected each of the five (5) flood control detention basins and three (3) water quality and flood control detention basins at least annually (**Figure 7-16**).

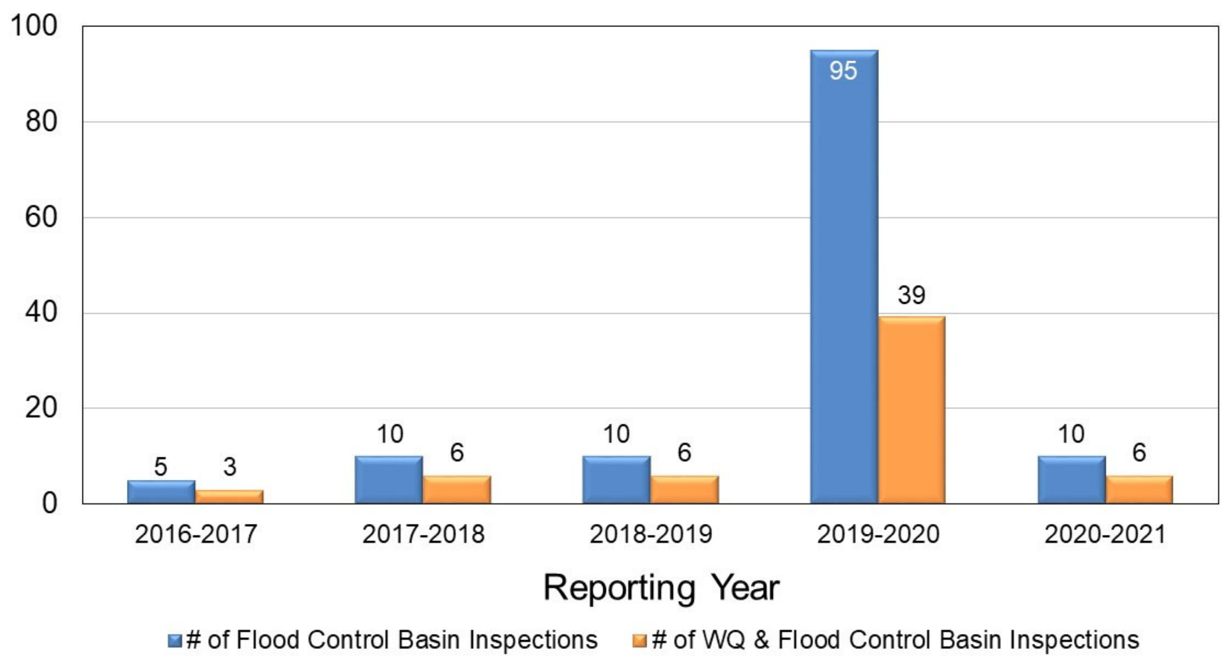

Figure 7-16. MO5 – Detention Basin Inspections (City)

Since 2016-2017, the City has removed 193 tons of material from detention basins during maintenance events (**Figure 7-17**).

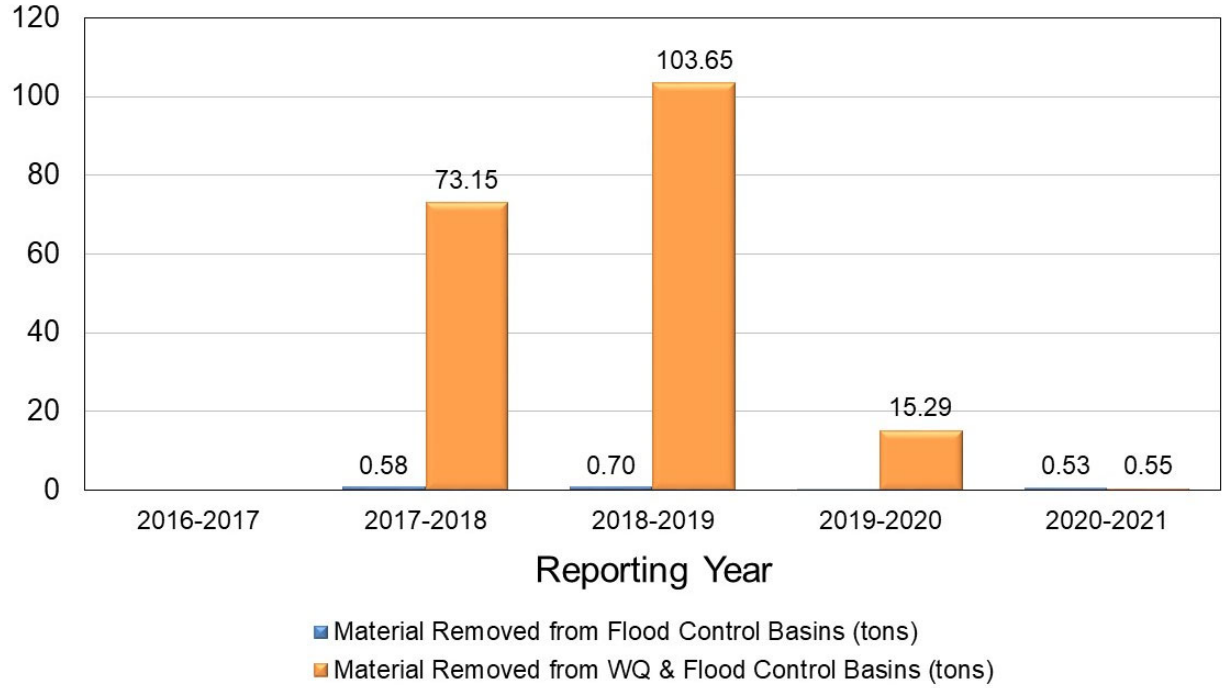

Figure 7-17. MO5 – Material Removed from Detention Basins (City)

County

Since 2014-2015, the County has inspected each detention basin at least annually (**Figure 7-18**). The County does not track the amount of material removed from detention basins.

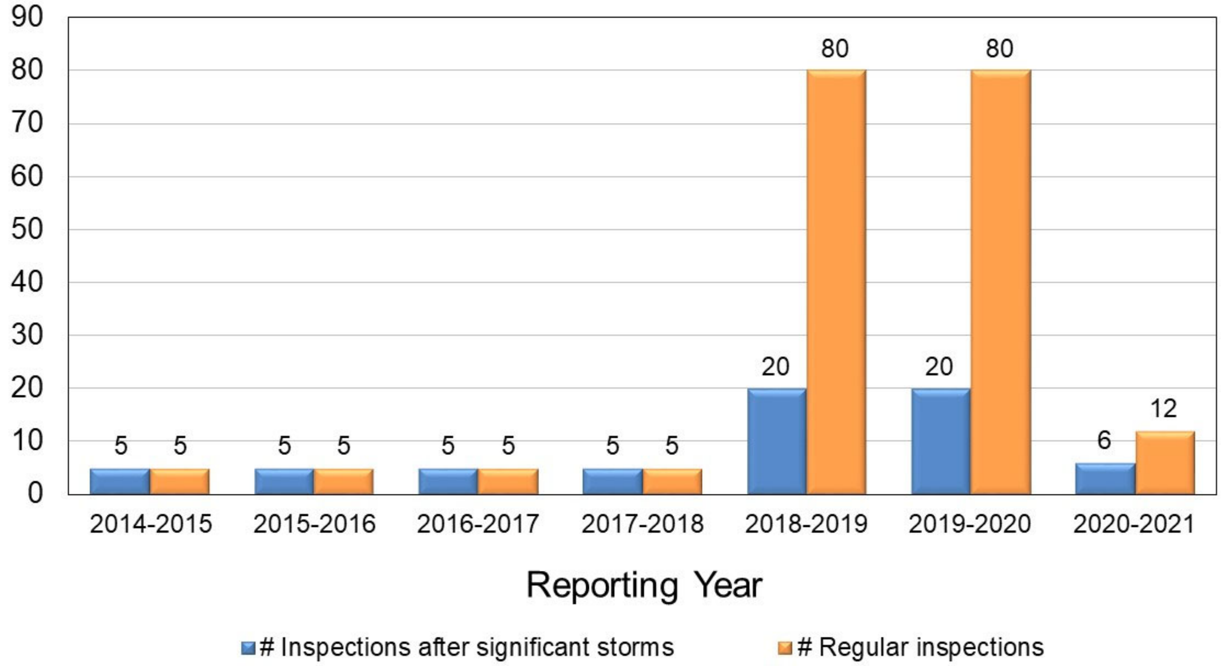

Figure 7-18. MO5 – Detention Basin Inspections (County)

7.2.4 Methylmercury: Construction Program – Outreach (CO4)

Distribute BMP Information during Inspections of Construction Sites ≥ 1 Acre

City

The City is distributing BMP fact sheets to construction site operators during inspections. [**OL1**]

The number of materials distributed to construction sites has increased annually over the permit term (**Figure 7-19**). In 2017-2018 and 2018-2019, the brochure that was distributed was titled "BMP Inspection Criteria." In 2019-2020 and 2020-2021, the brochure that was distributed was titled "Construction Inspection Form."

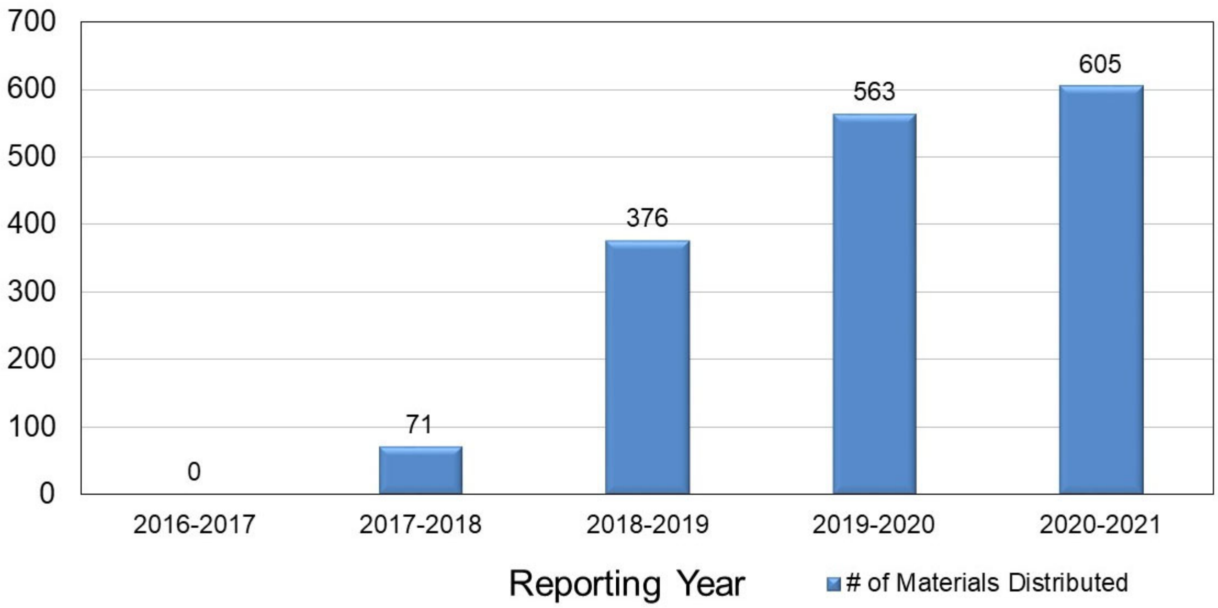

Figure 7-19. CO4 – Construction Outreach (City)

County

No materials were distributed by the County between 2016-2017 and 2020-2021, although 125 brochures were distributed between 2014-2015 and 2015-2016.

7.2.5 Methylmercury: Construction Program – Construction Site Inspections & BMP Implementation (CO5)

Inspect Construction Sites ≥ 1 Acre

City

The City continues to work to educate construction site owners and operators as needed so that they are aware of the BMPs that are required to be implemented and maintained. [**OL2, OL3**]

The number of construction site inspections performed has increased annually over the permit term (**Figure 7-20**). In addition, since 2018-2019, the number of follow-up inspections conducted due to violations has decreased, indicating increasing awareness and implementation of BMPs by construction site owners and operators.

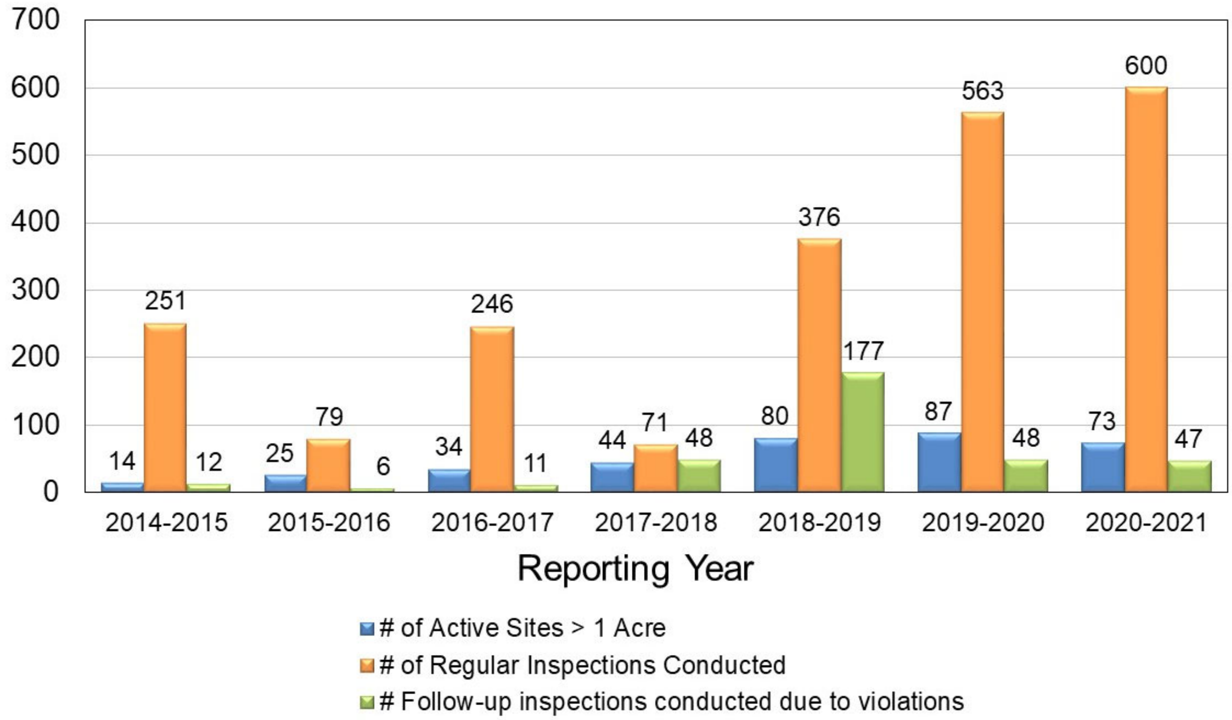

Figure 7-20. CO5 – Construction Inspections (City)

County

The County continues to work to educate construction site owners and operators as needed so that they are aware of the BMPs that are required to be implemented and maintained. [**OL2**]

During the permit term, the County had one construction site greater than one acre in 2019-2020 and two in 2020-2021. Inspections and follow-up inspections were conducted as necessary. There were no construction sites greater than one acre between 2016-2017 and 2018-2019 (**Figure 7-21**).

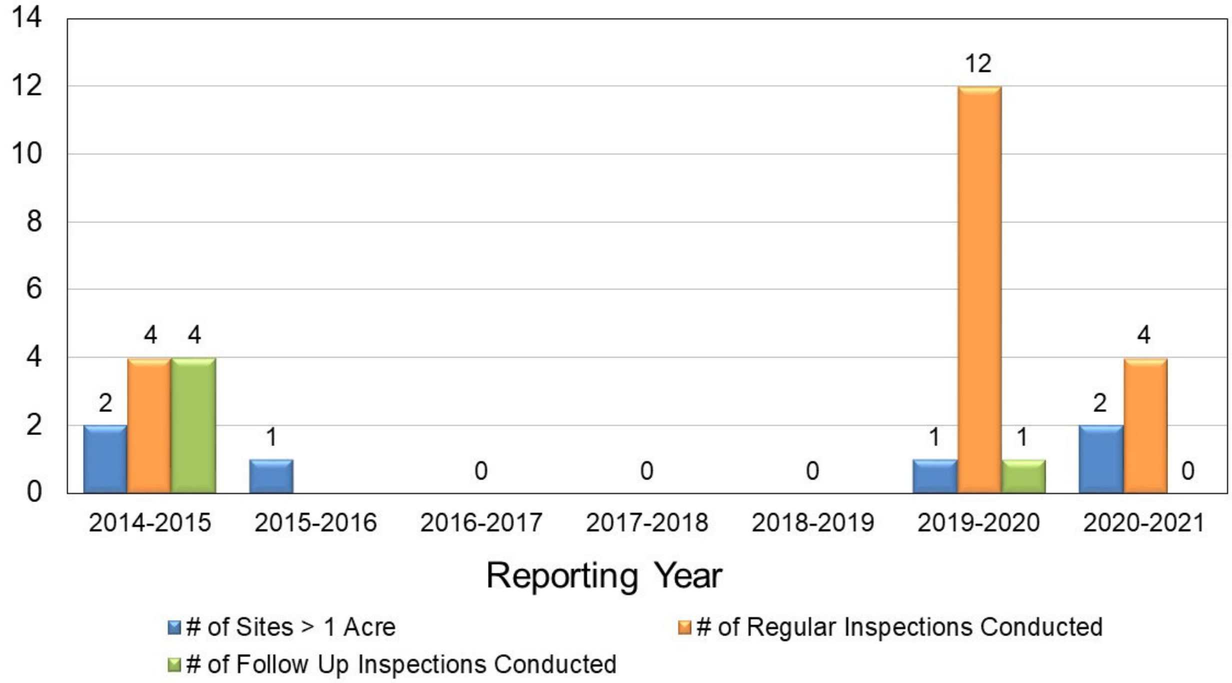

Figure 7-21. CO5 – Construction Inspections (County)

7.2.6 Methylmercury: Planning and Land Development Program – Plan Review Sign-off (LD3)

Track Projects with Stormwater Control Measures

An assessment of this performance standard is provided within the Indicator Bacteria Effectiveness Assessment, in **Section 7.1.4**.

7.3 DISSOLVED OXYGEN EFFECTIVENESS ASSESSMENT

The effectiveness of the City and County's programmatic activities that directly address dissolved oxygen is assessed below. The assessment is organized by the applicable Program Elements.

7.3.1 Dissolved Oxygen: Municipal Operations Program – Construction Requirements for Municipal Capital Improvement Projects (MO2)

Develop Priority Projects in Conformance with the SWQCCP

An assessment of this performance standard is provided within the Indicator Bacteria Effectiveness Assessment, in **Section 7.1.2**.

7.3.2 Dissolved Oxygen: Municipal Operations Program – Street Cleaning and Maintenance (MO6)

Implement Green Waste Collection Program

City

The amount of material removed through street sweeping activities shows that the City is diverting these pollutants from the storm drain system and receiving waters. [**OL4**]

The City has collected 402,425 tons of green waste between 2014-2015 and 2020-2021, with an annual average of 57,490 tons (**Figure 7-22**).

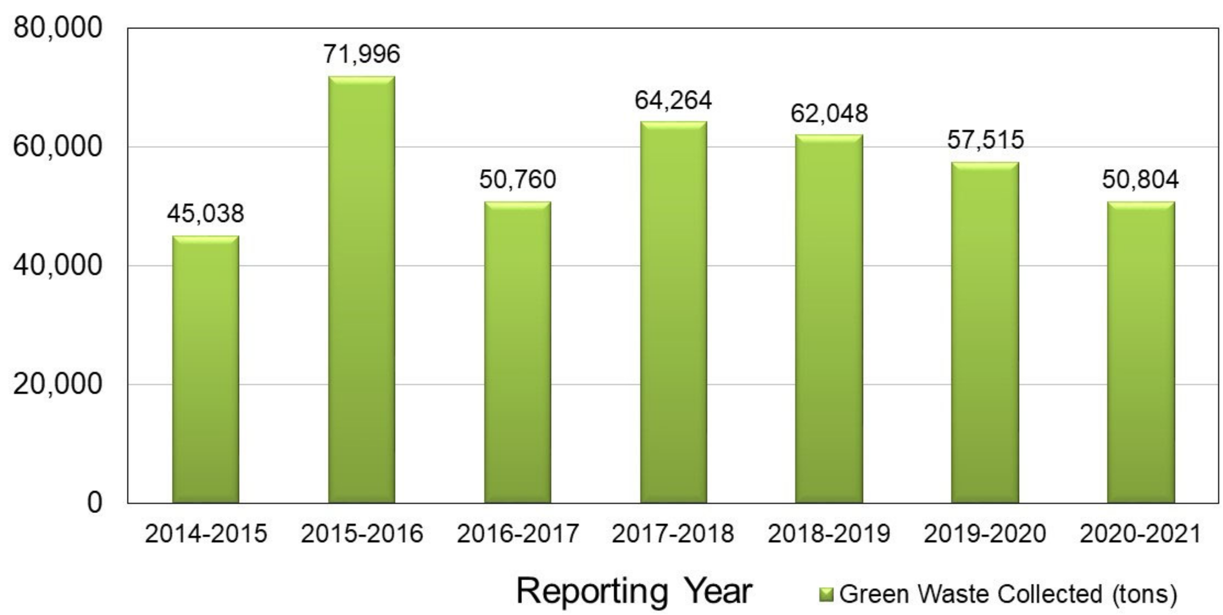

Figure 7-22. MO6 – Green Waste Collection (City)

County

The amount of material removed through street sweeping activities shows that the County is diverting these pollutants from the storm drain system and receiving waters. [**OL4**]

The County has collected 8,855 tons of green waste between 2014-2015 and 2020-2021 (**Figure 7-23**). The amount of green waste collected decreased between 2018-2019 and 2019-2020 due to increased use of collection bins provided by waste management and the restriction of green waste reporting to leaf collection only.

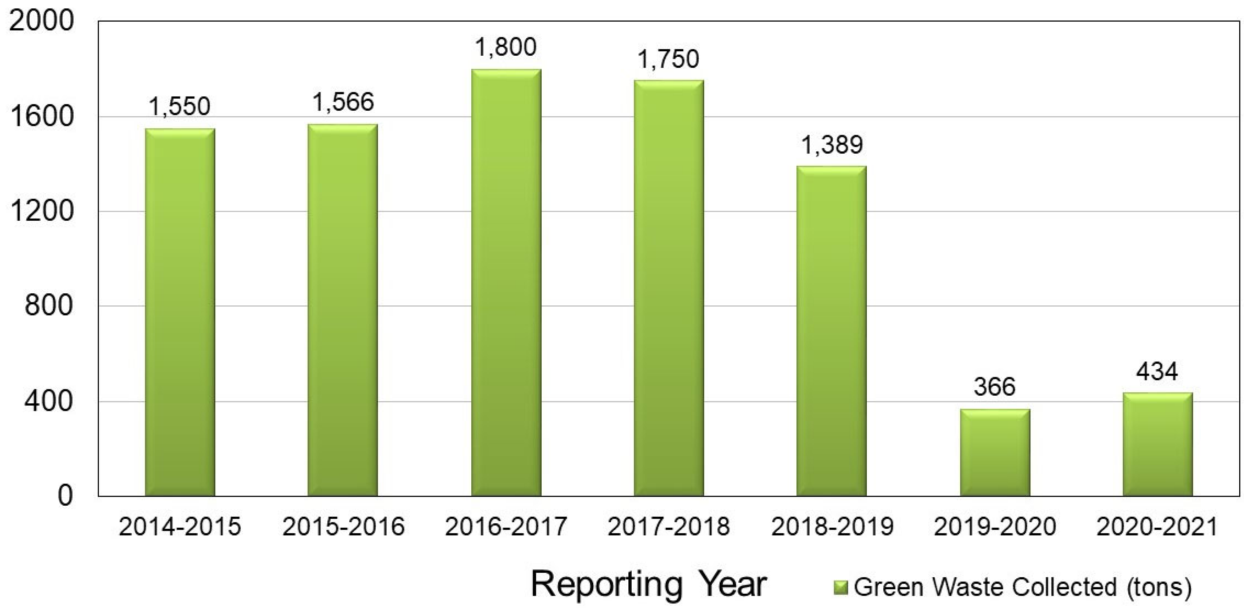

Figure 7-23. MO6 – Green Waste Collection (County)

7.3.3 Dissolved Oxygen: Planning and Land Development Program – Plan Review Sign-off (LD3)

Track Projects with Stormwater Control Measures

An assessment of this performance standard is provided within the Indicator Bacteria Effectiveness Assessment, in **Section 7.1.4**.

7.4 PESTICIDES EFFECTIVENESS ASSESSMENT

The effectiveness of the City and County's programmatic activities that directly address pesticides[3] is assessed below. The assessment is organized by the applicable Program Elements.

7.4.1 Pesticides: Public Outreach Program – Public Participation (PO1)

Promote Used Oil and Household Hazardous Waste Programs

The City and County have collected pesticide-related household hazardous waste (HHW) from their residents for proper disposal, increasing awareness and reducing the potential load of pollutants that could enter the storm drain system. Additionally, an increase in pesticide-related waste collected represents changing behaviors on the part of residents. [**OL2, OL3, OL4**]

Over the last seven years, residents have properly disposed of 151,901 pounds and 191,688 gallons of pesticides (**Figure 7-24**) through the HHW Program. On average, the amount of pesticide-related HHW properly disposed has increased by 32% (i.e., 25% pesticide liquids and 38% pesticide solids) between 2014-2015 and 2020-2021. This proper disposal of pesticide-related HHW ensures that potential impacts to the storm drain or receiving waters are prevented.

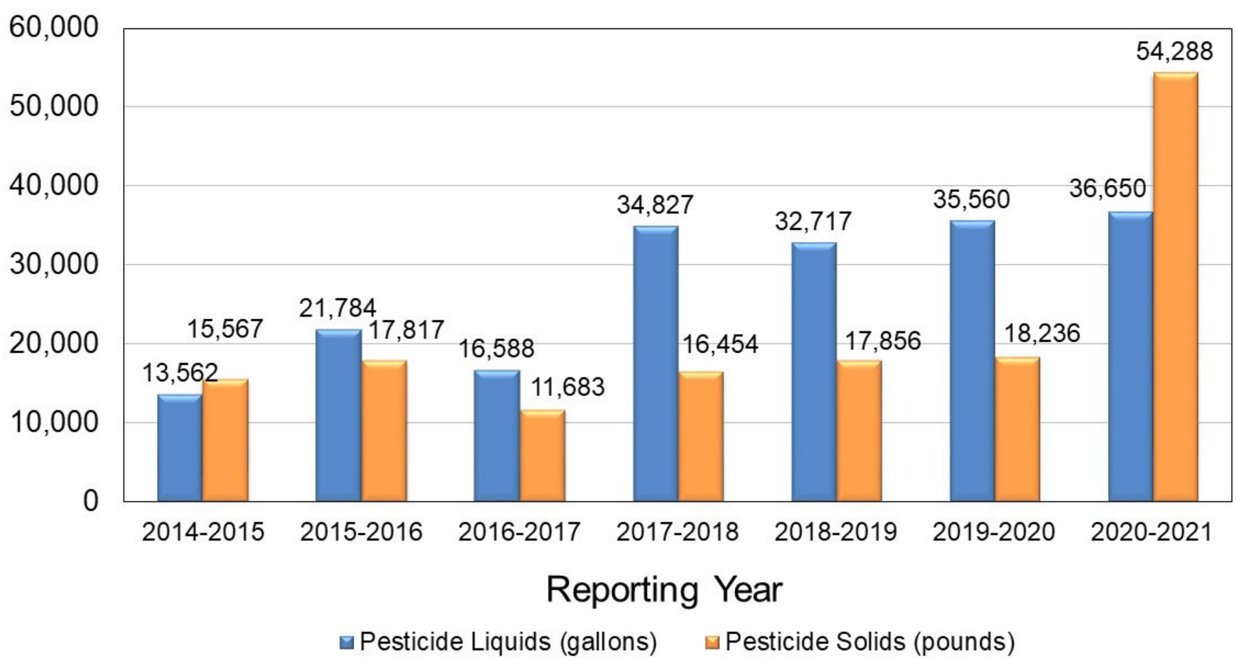

Figure 7-24. PO1 – Household Hazardous Waste Pesticides Collected (City & County)

[3] Pesticides are included in this report but are not a PWQC in the new SWMP; thus, associated control measures/performance standards (strategies/activities) will not be assessed in future reports.

7.4.2 Pesticides: Municipal Operations Program – Landscape and Pest Management (MO4)

Implement Pesticide Application Protocol; Implement IPM Program; Maintain and Expand Internal Inventory on Pesticide Use

City

The City has decreased the amount of pesticide applied per acre of City property, indicating that City staff are aware of the need to reduce pesticide applications and are doing so. [**OL2, OL3**]

Although the number of acres treated with pesticide has increased over the last seven years, the average amount of pesticide applied has not, resulting in a net decrease in the amount of pesticide applied per acre (**Figure 7-25** and **Figure 7-26**).

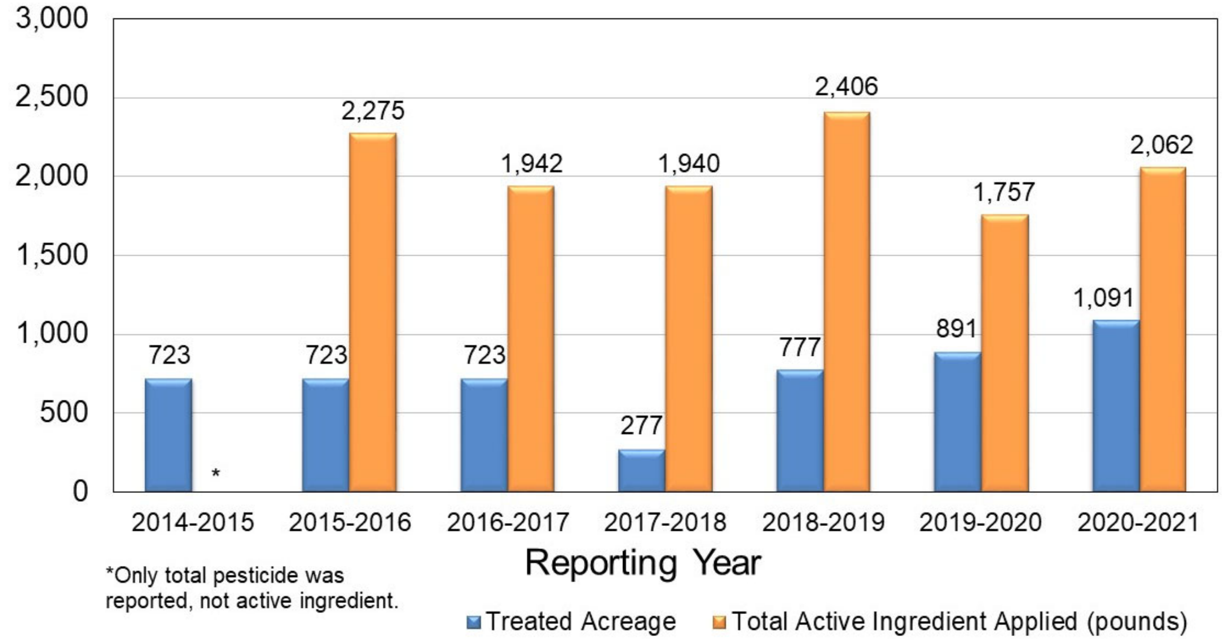

Figure 7-25. MO4 – Acres Treated and Pesticide Applied (City)

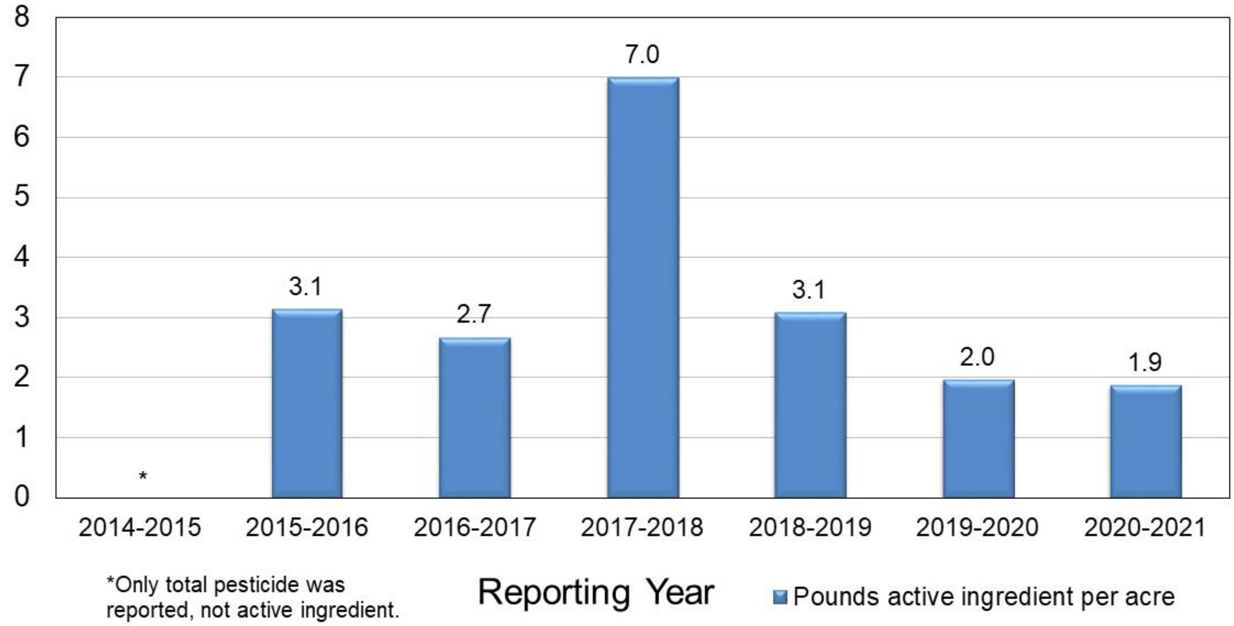

Figure 7-26. MO4 – Pesticide Applied per Acre (City)

The number of acres under the City's Integrated Pest Management Program has increased between 2014-2015 and 2020-2021 (**Figure 7-27**).

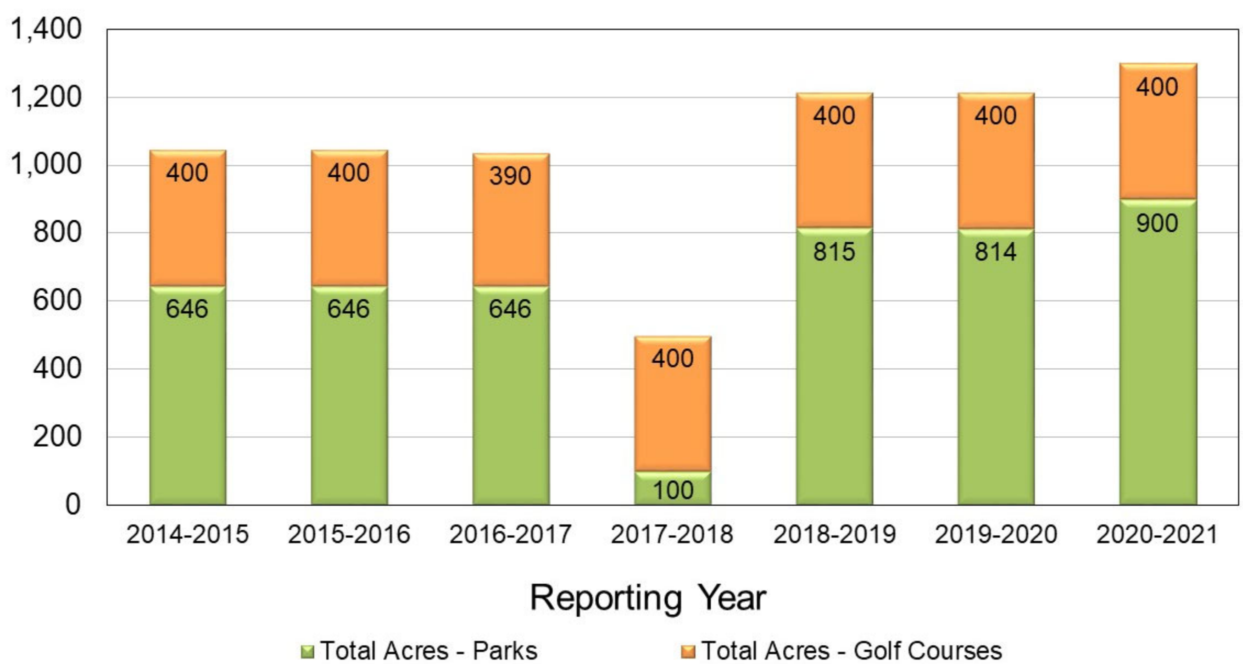

Figure 7-27. MO4 – IPM Program (City)

County

The County staff are aware of the need to track pesticide applications and are doing so. [**OL2**]

The amount of active ingredient applied has been tracked since 2017-2018. Prior to that time, the total amount applied was provided. The number of acres treated with pesticide decreased between 2018-2019 and 2019-2020. The amount of pesticide applied has fluctuated (**Figure 7-28** and **Figure 7-29**).

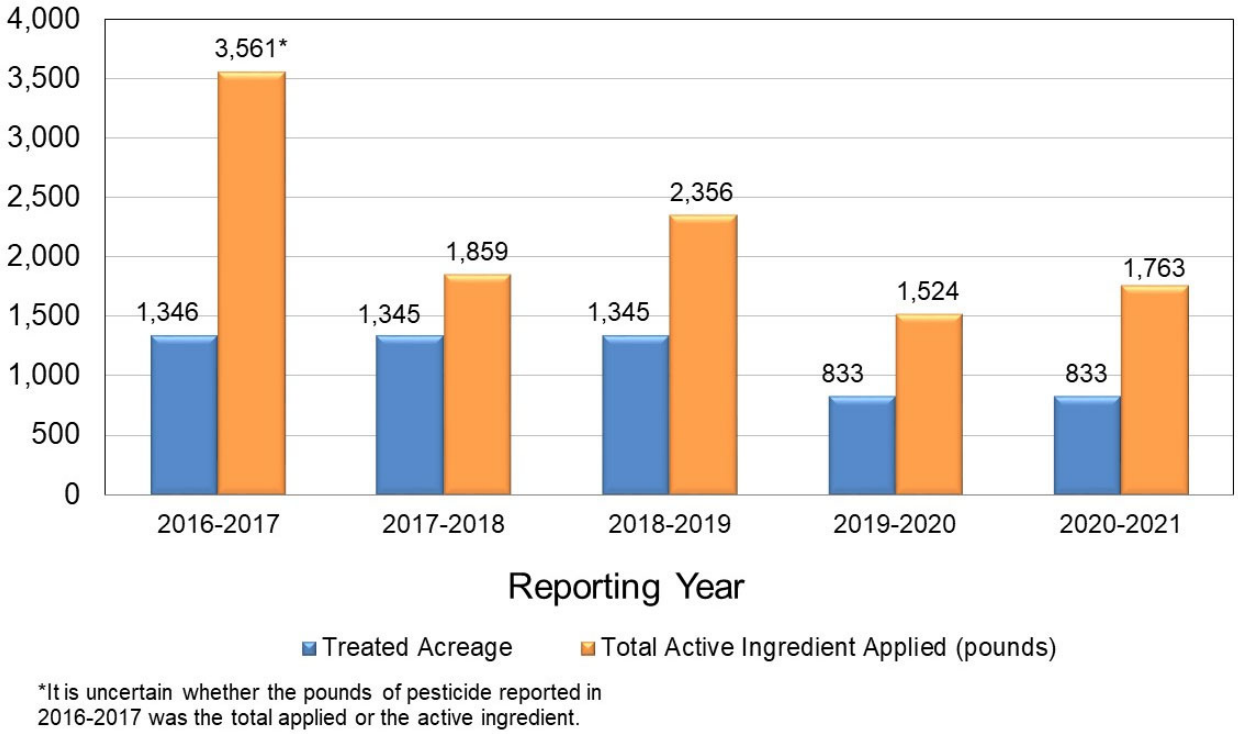

Figure 7-28. MO4 – Acreage Treated and Pesticide Applied (County)

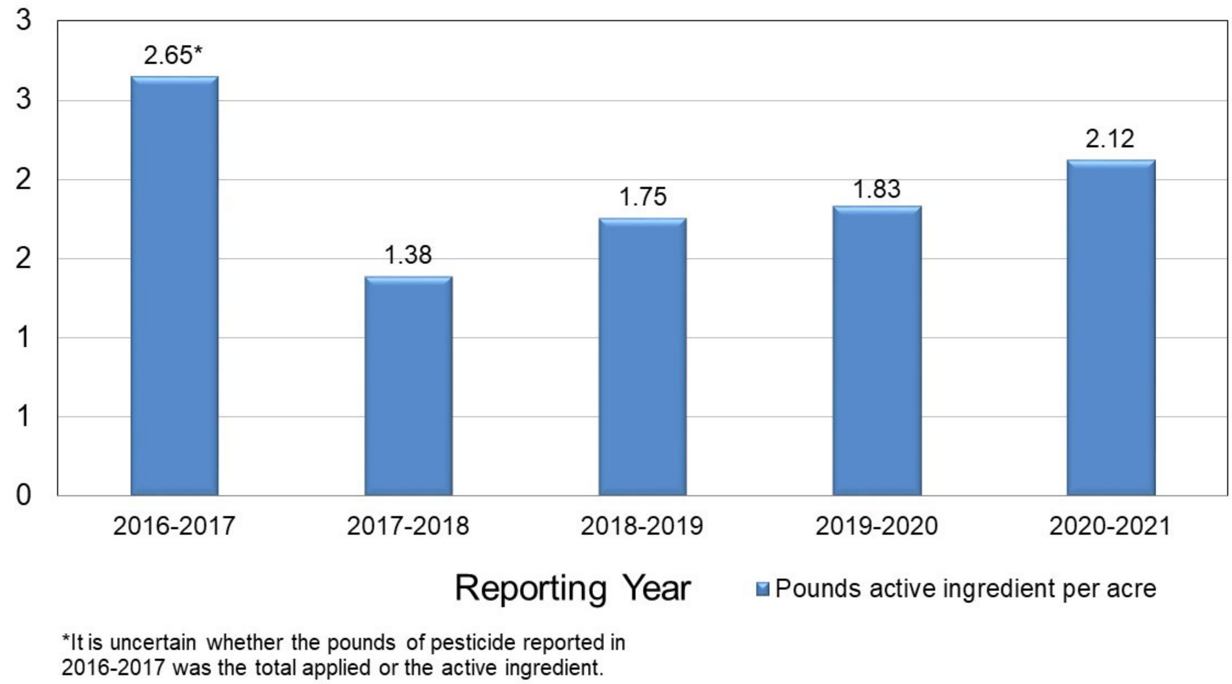

Figure 7-29. MO4 – Pesticide Applied per Acre (County)

The number of acres under the County's Integrated Pest Management Program (3,451) has remained the same between 2014-2015 and 2020-2021.

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8. Overall Long-Term Assessment (2007-2021)

A long-term assessment of water quality (**Section 5**) and a programmatic long-term effectiveness assessment (EA) (**Section 7**) were conducted for this End-Term Report. The long-term assessment of receiving water and outfall water quality was conducted for the period from 2007-2008 to 2020-2021,[1] and the long-term EA was based on seven years of data collected between 2014-2015 and 2020-2021.[2]

As described in **Section 7**, the City and County generally followed the CASQA EA approach[3] and assessed the program at five of the six outcome levels, Outcome Levels 2 through 6 (OL2 through OL6). Outcome Level 1 has been addressed, in part, by reporting the implementation of programmatic activities (**Section 6**).

The following preliminary management questions for the water quality trends and the stormwater program activities were assessed:

- Are conditions in receiving waters **[OL6]** and the outfall discharges **[OL5]** getting better or worse?
- Are POC loads from urban sources being reduced, or are POCs being prevented from reaching the storm drain system and receiving waters? **[OL4]**
- Is the target audience taking action or implementing BMPs that prevent POCs from reaching the storm drain system and receiving waters? **[OL3]**
- Is the target audience aware of actions or BMPs that prevent POCs from reaching the storm drain system and receiving waters? **[OL2]**

Even with a robust, long-term stormwater program that includes monitoring and implementation of focused BMPs, it is challenging to make direct connections between water quality conditions and stormwater program activities. However, it is important to recognize the successes the stormwater program has had in increasing awareness, changing behaviors, and reducing pollutant loads from urban sources. Based on the results of the long-term assessments, within this section, the City and County have identified overarching achievements of their stormwater programs during the timeframes noted above. The key results of the long-term assessments and the observed program achievements are presented by POC in **Table 8-1**. The associated outcome level or levels are also noted.

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[1] This period of record allows for a comparison of "historical" data collected pursuant to the previous permit between 2007-2008 and 2014-2015, with "current" data collected pursuant to the Region-wide Permit between 2015-2016 and 2020-2021.

[2] This date range references the fiscal years 2014-2015 through 2020-2021, or July 1, 2014 to June 30, 2021.

[3] See 2015 CASQA Guidance Document, Section 2.0: Stormwater Management Approach

Table 8-1. Water Quality Monitoring and Program Implementation Results and Observed Achievements, by Pollutant of Concern, 2007-2021

Program Element & Control Measure	Observed Achievement	Pollutants of Concern (POCs) Addressed[a]			
		Indicator Bacteria	Methylmercury	Dissolved Oxygen	Pesticides
Water Quality Monitoring					
Alternative Stormwater Monitoring Program	*E. coli* concentrations appear to be getting better within the SUA as a whole under both dry and wet weather conditions in receiving water and outfall discharges. **[OL6, OL5]**	✓			
	Methylmercury concentrations appear to be getting better within the SUA as a whole under dry weather conditions in receiving water and wet weather conditions in outfall discharges. **[OL6, OL5]**		✓		
	Dissolved oxygen concentrations appear to be getting better within the SUA as a whole under dry weather conditions in receiving water. **[OL6]**			✓	
	Pyrethroid concentrations appear to be getting better within the SUA as a whole under wet weather conditions in outfall discharges. **[OL5]**				✓
Public Outreach (PO)					
PO1 Public Participation	Many tons of pesticides have been collected through the household hazardous waste program (191,688 gallons liquid and 151,901 pounds solid since 2014-2015). **[OL2-OL4]**				✓
PO3 Public Outreach Implementation	The City and County participated in the Delta MERP through its six-year duration that ended in 2019-2020. **[OL2, OL3]**		✓		
Municipal Operations (MO)					
MO1 Sanitary Sewer Maintenance & Overflow and Spill Response	The annual number of City SSOs reaching the receiving water has remained low and declined from five (5) in 2014-2015 to zero (0) in 2020-2021. The County has never had any SSOs reach the receiving water. **[OL4]**	✓			
MO4 Landscape and Pest Management	Since 2015-2016, when active ingredient tracking began, the amount of pesticide active ingredient applied per City acre has decreased. **[OL2, OL3]**				✓

Program Element & Control Measure	Observed Achievement	Pollutants of Concern (POCs) Addressed[a]			
		Indicator Bacteria	Methylmercury	Dissolved Oxygen	Pesticides
MO5 Storm Drain System Maintenance	More than 250 tons of material, including sediment, have been removed from City detention basins, catch basins, and pump stations since 2014-2015. **[OL4]**		✓		
MO6 Street Cleaning and Maintenance	Approximately 411,000 tons of green waste have been removed through the City and County's green waste collection programs since 2014-2015. **[OL4]**			✓	
Industrial and Commercial (IC)					
IC1 Facility Inventory and IC2 Prioritization and Inspection	The results of industrial facility inspections show that the majority have had SWPPPs onsite, and the number of facilities requiring follow-up inspections (to ensure correct BMP implementation) remains low. The results of commercial facility inspections show that few facilities require follow-up inspections. **[OL2, OL3]**	✓			
Planning and Land Development (LD)					
LD3 Plan Review Sign-off	The SUA acreage covered by approved priority plans has steadily increased, from 1,816 acres in 2014-2015 to 2,888 acres in 2020-2021, or from 3.45% to 5.49% of the total SUA acreage, thus ensuring that sites are being developed to prevent discharge of pollutants to storm drains and receiving waters. **[OL4]**	✓	✓	✓	

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9. Proposed SWMP Modifications

The 2016-2021 End-Term Report has been developed during the period when the RAA is still under review by the Regional Water Board and the revised SWMP is in progress. As a part of the SWMP development process, the City and the County will qualitatively evaluate the effectiveness of the stormwater program over time, as well as the experience that staff has had in implementing the program, to identify potential modifications. No specific modifications are identified within the 2016-2021 End-Term Report.

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Appendix A
End-Term Report Requirements

END-TERM REPORT REQUIREMENTS

Report Requirement	Report Location
Provision V.E.5	
(b) Long-Term Effectiveness Assessments: (i) Receiving Water Assessment: assess the status and trends of receiving water quality conditions within the Jurisdictional Runoff Area under dry weather and wet weather conditions. (ii) MS4 Discharge Assessment: assess the status and trends of MS4 discharge conditions within the Jurisdictional Runoff Area under dry weather and wet weather conditions. This may include, as applicable, a calculation or estimation of the storm water volumes, pollutant concentrations, and/or pollutant loads discharged from the MS4.	Sections 5
(c) Effectiveness Assessment Reporting: (i) Identify the management questions and metrics that were used for the assessment. (ii) Identify the direct and/or indirect measurements that were used to track the effectiveness of the Storm Water Management Program as well as the outcome levels at which the assessment is occurring. (iii) Track the progress of the SWMP towards achieving the milestones, strategies, and activities aimed at improving water quality. (v) Provide a long-term effectiveness assessment in the End-Term Report.	Section 5 and 7
Provision V.F.4	
(a.i) A statement certifying that the Storm Water Management Plan and Work Plan were implemented as approved.	Section 2
(a.ii) A summary of activities and tasks scheduled to be implemented in the upcoming year. If the Work Plan is still being implemented as described from the previous year, the Permittee may refer to the Work Plan.	Section 2
(a.iii) Any proposed minor modifications to the Storm Water Management Program; or any proposed Work Plan Modification.	Section 8
(a.iv) A completed certification statement, in accordance with the signatory requirements in Attachment H (Standard Permit Provisions and General Provisions).	Certification Statements
(c) Provision of water quality data collected.	Appendix C
(d) Additional requirements described in 40 CFR §122.42(c) (Attachment H, Standard Permit Provisions and General Provisions).	*See Attachment H, below.*
Provision V.F.5	
(a) Cumulative summary of the Storm Water Management Activities conducted.	Section 6
(b) Status of progress towards attainment of SWMP milestones and implementation of activities.	Sections 2

Report Requirement	Report Location
(c) Cumulative summary of the monitoring data.	Section 5
(d) A long-term SWMP effectiveness assessment (Part V.E.5) and the results of the monitoring assessment (Part V.E.1).	Section 5
(e) A long-term Storm Water Management Program effectiveness assessment as described in Part V.E.5 for the End-Term report and results from the monitoring assessment required under Part V.E.1 of this Order.	Sections 5 and 7
(f) The progress in implementing the Work Plan submitted with the SWMP, including the following:	[a]
(1) Progress toward achieving the interim goals for the PWQCs for the Jurisdictional Runoff Area.	
(2) Water quality improvement strategies implemented and/or no longer implemented during the current and past reporting period, and those planned to be implemented in the next reporting period.	
(3) Proposed modifications to the water quality improvement strategies and their rationale.	
(4) Approved modifications or updates incorporated into the SWMP and implemented in the Jurisdictional Runoff Area.	
(5) Any other proposed modifications or updates to the SWMP.	
(g) Fiscal analysis identifying source of funds and expenditures.	Section 3
(h) A completed certification statement, in accordance with the signatory requirements in Attachment H (Standard Permit Provisions and General Provisions).	Certification Statements
Attachment H Section A.15	
(a) The status of implementing the components of the Storm Water Management Program that are established as permit conditions.	Section 6
(b) Proposed changes to the Storm Water Management Program that are established as permit conditions. Such proposed changes shall be consistent with 40 CFR 122.26(d)(2)(iii).	Section 8
(c) Revisions, if necessary, to the assessment of controls and the fiscal analysis reported in the permit application under 40 CFR 122.26(d)(2)(iv) and (v); [40 CFR 122.42(c)(3)].	N/A
(d) A summary of data, including monitoring data, that is accumulated throughout the reporting year.	Section 4
(e) Annual expenditures and budget for year following each annual report.	Section 3
(f) A summary describing the number and nature of enforcement actions, inspections, and public education programs.	Section 6
(g) Identification of water quality improvements or degradation.	Section 5

[a] Not Applicable (N/A) because the End-Term Report was developed during the period when the revised SWMP and Work Plan are in progress (**Section 2**).

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Appendix B
Work Plan as submitted November 1, 2016

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City of Stockton and County of San Joaquin SWMP Annual Work Plan

ID	Task Name	Q3	Q4	Q1	Q2
1	**Section 1 - Program Management**				
2	**Program Coordination**				
3	Review/revise SWMP as needed				
4	Co-permittees meet quarterly				
5	Participate in internal quarterly Stormwater Program Meetings				
6	Participate in statewide stormwater-related meetings, conferences, and stakeholder groups as needed				
7	Review/revise MOUs as necessary				
8	Establish, review, and revise cooperative agreements as needed				
9	**Fiscal Analysis**				
10	Review and revise the Fiscal Analysis reporting format as needed				
11	**Legal Authority**				
12	Review the legal authority as needed				

ID	Task Name	Q3	Q4	Q1	Q2
13	**Section 2 - Illicit Discharges Program Element (ID)**				
14	**ID1 - Detection of Illicit Discharges and Illegal Connections**				
15	Public Reporting				
16	Maintain and advertise Hotline				
17	Coordinate with other agencies and departments				
18	Field Crew Inspections				
19	Continue field observations for IDIC				
20	**ID2 - Illegal Connection Identification and Elimination**				
21	Investigate and eliminate illegal connections				
22	Coordinate with Planning and Land Development program				
23	Coordinate with Construction program				
24	**ID3 - Investigation/Inspection and Follow Up**				
25	Respond to illicit discharges				
26	Maintain contractual services for incident clean-up				
27	Maintain Illicit Discharges Database				
28	**ID4 - Enforcement**				
29	Implement progressive enforcement policy and procedures				
30	Track enforcement actions in Illicit Discharges Database				
31	**ID5 - Training**				
32	Conduct training				

ID	Task Name	Q3	Q4	Q1	Q2
33	**Section 3 - Public Outreach (PO)**				
34	**PO1 - Public Participation**				
35	Implement Storm Drain Marker Program				
36	Organize, support, and/or participate in stream cleanup events				
37	Promote Used Oil and Household Hazardous Waste Programs				
38	Coordinate with Household Hazardous Waste program for pesticide disposal				
39	**PO2 - Hotline**				
40	Maintain 24-hr hotline number				
41	Promote/publicize the 24-hr hotline				
42	**PO3 - Public Outreach Implementation**				
43	Update Website as needed				
44	Implement pet waste outreach program				
45	Track installation of pet waste bag dispensing stations				
46	Participate in community-wide events throughout the year				
47	Conduct mixed media campaigns				
48	Provide community relations				
49	Implement pesticide outreach efforts for staff, residents, retail stores, and PCOs				
50	**PO4 - Public School Education**				
51	Continue to identify opportunities to reach out to school age children				

ID	Task Name	Q3	Q4	Q1	Q2
52	Section 4 - Municipal Operations (MO)				
53	**MO1 - Sanitary Sewer Maintenance & Overflow and Spill Response**				
54	Implement the Sanitary Sewer Overflow Emergency Response Plan (SSOERP)				
55	Review the SSOERP and revise as changes occur				
56	**MO2 - Construction Requirements for Municipal Capital Improvement Projects**				
57	Review CIP designs to ensure specifications and notes are included				
58	Require submission of NOI for CIPs greater than or equal to one acre				
59	If a priority project, develop in conformance with the SWQCCP				
60	Improve interdepartamental communication to facilitate accurate recordkeeping and reporting of data				
61	**MO3 - Pollution Prevention at City Facilities**				
62	Assess facilities to determine if they require coverage under the General Industrial Permit				
63	Implement SWPPP/FPPP for Corporation Yard and other facilities as needed				
64	Review CIP projects for compliance with general stormwater requirements, including review for vehicle or equipment wash areas				
65	**MO4 - Landscape and Pest Management**				
66	Implement pesticide and fertilizer application protocol at park sites, landscaped medians, and golf courses				
67	Implement IPM program				
68	Maintain and expand internal inventory on pesticide use and track Parks Division reported pesticide use				
69	Implement Landscaping Standards				
70	**MO5 - Storm Drain System Maintenance**				
71	Implement storm drain system mapping				
72	Review/revise prioritization for catch basin cleaning as needed				
73	Maintain and annually update Catch Basin Database				
74	Implement catch basin maintenance program				
75	Implement pump station maintenance program				
76	Implement detention basin maintenance program				
77	Implement notification procedures for ID/IC and missing catch basin markers or illegible stencils				
78	Require large events and venues to address trash and debris removal, including containerization and street sweeping as appropriate				

ID	Task Name	Q3	Q4	Q1	Q2
79	**MO6 - Street Cleaning and Maintenance**				
80	Implement street sweeping program				
81	Review/revise prioritization of streets for street sweeping program as needed				
82	Implement green waste collection program				
83	Implement Maintenance Staff Guide -- Road Maintenance and Small Construction BMPs				
84	**MO7 - Training**				
85	Conduct training				
86	**Section 5 - Industrial and Commercial Program Element (IC)**				
87	**IC1 - Facility Inventory**				
88	Internal audit of database				
89	Maintain and annually update the inventory and database				
90	Map the industrial and commercial facilities on an annual basis				
91	Implement and track a self-certification program for carpet cleaners				
92	**IC2 - Prioritization and Inspection**				
93	Prioritization				
94	Prioritize facilities as necessary				
95	Inspections				
96	Review/revise industrial inspection checklists as needed				
97	Conduct inspections				
98	Conduct follow-up inspections as needed				
99	**IC3 - BMP Implementation**				
100	Review/revise BMP fact sheets for high priority facilities as needed				
101	Distribute BMP Fact Sheets				
102	Implement outreach efforts to carpet cleaners				
103	**IC4 - Enforcement**				
104	Implement progressive enforcement and referral policy and procedures				
105	Track enforcement actions in the industrial/commercial database				
106	Implement procedures for Regional Water Board based complaints				
107	Review and Revise Industrial General Permit referral policy as needed				
108	**IC5 - Training**				
109	Conduct training				

ID	Task Name	Q3	Q4	Q1	Q2
110	**Section 6 - Construction (CO)**				
111	**CO1 - Municipal Code for Construction Sites**				
112	**CO2 - Plan Review and Approval Process**				
113	Review grading and building permit applications for SWPPP requirements				
	Review erosion control plans				
114	Distribute the Plan & Permit Application Review Procedure handout				
115	**CO3 - Construction Projects Inventory**				
116	Maintain and update the Construction Project Database				
117	**CO4 - Construction Outreach**				
118	Distribute appropriate BMP fact sheets during inspections				
119	**CO5 - Construction Site Inspections & BMP Implementation**				
120	Inspect construction sites >=1 acre monthly				
121	**CO6 - Enforcement**				
122	Implement progressive enforcement policy				
123	Track enforcement actions using the construction database				
124	**CO7 - Training**				
125	Conduct training				

ID	Task Name	Q3	Q4	Q1	Q2
126	**Section 7 - Planning and Land Development (LD)**				
127	**LD1 - Incorporation of Water Quality Protection Principles into City Procedures and Policies**				
128	Revise General Plan as needed				
129	**LD2 - New Development Standards**				
130	Require priority projects to comply with the revised SWQCCP				
131	**LD3 - Plan Review Sign-off**				
132	Revise Post-Construction Plan Review Database as needed				
133	Use Post-Construction Plan Review Database				
134	Review project plans and grading plans for stormwater BMPs				
135	Track projects with post-construction treatment control BMPs				
136	Conduct inspections of completed priority projects to ensure that all approved control measures have been implemented and are being maintained				
137	**LD4 - Maintenance Agreement and Transfer**				
138	Require Stormwater Treatment Device Access and Maintenance Agreement				
139	Implement Post-Construction BMP Maintenance Oversight Protocols				
140	**LD5 - Training**				
141	Conduct training				
142	**Section 8 - Monitoring and Reporting Program**				
143	**Water Quality Monitoring (waterbody varies annually)**				
144	Water quality parameters as needed				
145	Sediment toxicity and sediment chemistry as needed				
146	Water column toxicity as needed				
147	**Delta Regional Monitoring Program**				
148	**Section 9 - Program Implementation, Evaluation, and Reporting**				
149	**Program Implementation**				
150	Update Work Plan as needed				
151	**Annual Report**				

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Appendix C
2020-2021 Monitoring Results

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Ambient Monitoring Program 2020-2021 Data

Event	Site Code	Date Sampled	Analyte	Analytical Method	Q	Result	MDL	RL/ML	Units	Flag	Lab Name	Prep Date	Analysis Date
DW44	5M-25	9/8/2020	E. Coli	SM 9223B	<	10		1	MPN/100ml		FGL Env.	9/8/20	9/9/20
SE74	5M-25	12/12/2020	E. Coli	SM 9223B	<	10	10	10	MPN/100ml		Caltest	12/12/20	12/13/20
DW45	5M-25	1/13/2021	E. Coli	SM 9223B	=	47.1	1	1	MPN/100ml		Caltest	1/13/21	1/14/21
SE75	5M-25	1/22/2021	E. Coli	SM 9223B	=	93.3	1	1	MPN/100ml		Caltest	1/22/21	1/23/21
SE77	5M-25	3/10/2021	E. Coli	SM 9223B	=	1989	10	10	MPN/100ml		Caltest	3/10/21	3/11/21
DW46	5M-25	3/29/2021	E. Coli	SM 9223B	=	228.2	1	1	MPN/100ml		Caltest	4/1/21	4/10/21
DW44	5M-25R	9/8/2020	E. Coli	SM 9223B	<	10		1	MPN/100ml		FGL Env.	9/8/20	9/9/20
SE74	5M-25R	12/12/2020	E. Coli	SM 9223B	=	86	10	10	MPN/100ml		Caltest	12/12/20	12/13/20
DW45	5M-25R	1/13/2021	E. Coli	SM 9223B	=	461.1	1	1	MPN/100ml		Caltest	1/13/21	1/14/21
SE75	5M-25R	1/22/2021	E. Coli	SM 9223B	=	21.6	1	1	MPN/100ml		Caltest	12/12/20	1/23/21
SE77	5M-25R	3/10/2021	E. Coli	SM 9223B	=	20	10	10	MPN/100ml		Caltest	3/10/21	3/11/21
DW46	5M-25R	3/29/2021	E. Coli	SM 9223B	=	4.1	1	1	MPN/100ml		Caltest	3/29/21	3/30/21
DW44	5M-26	9/8/2020	E. Coli	SM 9223B	=	161		1	MPN/100ml		FGL Env.	9/8/20	9/9/20
SE74	5M-26	12/12/2020	E. Coli	SM 9223B	=	857	10	10	MPN/100ml		Caltest	12/12/20	12/13/20
DW45	5M-26	1/13/2021	E. Coli	SM 9223B	=	7.4	1	1	MPN/100ml		Caltest	1/13/21	1/14/21
SE75	5M-26	1/22/2021	E. Coli	SM 9223B	>	2419.6	1	1	MPN/100ml		Caltest	1/22/21	1/23/21
SE77	5M-26	3/10/2021	E. Coli	SM 9223B	=	3733	10	10	MPN/100ml		Caltest	3/10/21	3/11/21
DW46	5M-26	3/29/2021	E. Coli	SM 9223B	>	2419.6	1	1	MPN/100ml		Caltest	3/29/21	3/30/21
DW44	5M-26R	9/8/2020	E. Coli	SM 9223B	=	10		1	MPN/100ml		FGL Env.	9/8/20	9/9/20
SE74	5M-26R	12/12/2020	E. Coli	SM 9223B	=	249	10	10	MPN/100ml		Caltest	12/12/20	12/13/20
DW45	5M-26R	1/13/2021	E. Coli	SM 9223B	=	42.8	1	1	MPN/100ml		Caltest	1/13/21	1/14/21
SE75	5M-26R	1/22/2021	E. Coli	SM 9223B	=	6.3	1	1	MPN/100ml		Caltest	1/22/21	1/23/21
SE77	5M-26R	3/10/2021	E. Coli	SM 9223B	=	185	10	10	MPN/100ml		Caltest	3/10/21	3/11/21
DW46	5M-26R	3/29/2021	E. Coli	SM 9223B	=	3.1	1	1	MPN/100ml		Caltest	3/29/21	3/30/21
DW44	5M-28	9/8/2020	E. Coli	SM 9223B	=	703		1	MPN/100ml		FGL Env.	9/8/20	9/9/20
SE74	5M-28	12/12/2020	E. Coli	SM 9223B	=	2613	10	10	MPN/100ml		Caltest	12/12/20	12/13/20
DW45	5M-28	1/13/2021	E. Coli	SM 9223B	=	461.1	1	1	MPN/100ml		Caltest	1/13/21	1/14/21
SE75	5M-28	1/22/2021	E. Coli	SM 9223B	=	195.6	1	1	MPN/100ml		Caltest	1/22/21	1/23/21
SE77	5M-28	3/10/2021	E. Coli	SM 9223B	=	6867	10	10	MPN/100ml		Caltest	3/10/21	3/11/21
DW46	5M-28	3/29/2021	E. Coli	SM 9223B	>	2419.6	1	1	MPN/100ml		Caltest	3/29/21	3/30/21
DW44	5M-28R	9/8/2020	E. Coli	SM 9223B	=	613		1	MPN/100ml		FGL Env.	9/8/20	9/9/20
SE74	5M-28R	12/12/2020	E. Coli	SM 9223B	=	8664	10	10	MPN/100ml		Caltest	12/12/20	12/13/20
DW45	5M-28R	1/13/2021	E. Coli	SM 9223B	=	79.8	1	1	MPN/100ml		Caltest	1/13/21	1/14/21
SE75	5M-28R	1/22/2021	E. Coli	SM 9223B	=	191.8	1	1	MPN/100ml		Caltest	1/22/21	1/23/21
SE77	5M-28R	3/10/2021	E. Coli	SM 9223B	=	2909	10	10	MPN/100ml		Caltest	3/10/21	3/11/21
DW46	5M-28R	3/29/2021	E. Coli	SM 9223B	=	488.4	1	1	MPN/100ml		Caltest	3/29/21	3/30/21
DW44	5M-25	9/8/2020	Fecal Coliform	SM 9221B	=	230		18	MPN/100ml		FGL Env.	9/8/20	9/11/20

Ambient Monitoring Program 2020-2021 Data

Event	Site Code	Date Sampled	Analyte	Analytical Method	Q	Result	MDL	RL/ML	Units	Flag	Lab Name	Prep Date	Analysis Date
SE74	5M-25	12/12/2020	Fecal Coliform	SM 9221B	=	33	1.8	1.8	MPN/100ml		Caltest	12/12/20	12/15/20
DW45	5M-25	1/13/2021	Fecal Coliform	SM 9221B	=	46	1.8	1.8	MPN/100ml		Caltest	1/13/21	1/16/21
SE75	5M-25	1/22/2021	Fecal Coliform	SM 9221B	=	130	1.8	1.8	MPN/100ml		Caltest	1/22/21	1/26/21
SE77	5M-25	3/10/2021	Fecal Coliform	SM 9221B	=	9200	1.8	1.8	MPN/100ml		Caltest	3/10/21	3/13/21
DW46	5M-25	3/29/2021	Fecal Coliform	SM 9221B	=	220	1.8	1.8	MPN/100ml		Caltest	4/1/21	4/10/21
DW44	5M-25R	9/8/2020	Fecal Coliform	SM 9221B	<	18		18	MPN/100ml		FGL Env.	9/8/20	9/11/20
SE74	5M-25R	12/12/2020	Fecal Coliform	SM 9221B	=	79	1.8	1.8	MPN/100ml		Caltest	12/12/20	12/15/20
DW45	5M-25R	1/13/2021	Fecal Coliform	SM 9221B	=	240	1.8	1.8	MPN/100ml		Caltest	1/13/21	1/16/21
SE75	5M-25R	1/22/2021	Fecal Coliform	SM 9221B	=	33	1.8	1.8	MPN/100ml		Caltest	1/22/21	1/26/21
SE77	5M-25R	3/10/2021	Fecal Coliform	SM 9221B	=	33	1.8	1.8	MPN/100ml		Caltest	3/10/21	3/14/21
DW46	5M-25R	3/29/2021	Fecal Coliform	SM 9221B	=	4.5	1.8	1.8	MPN/100ml		Caltest	3/29/21	4/1/21
DW44	5M-26	9/8/2020	Fecal Coliform	SM 9221B	=	33000		180	MPN/100ml		FGL Env.	9/8/20	9/11/20
SE74	5M-26	12/12/2020	Fecal Coliform	SM 9221B	=	2600	1.8	1.8	MPN/100ml		Caltest	12/12/20	12/14/20
DW45	5M-26	1/13/2021	Fecal Coliform	SM 9221B	=	4	1.8	1.8	MPN/100ml		Caltest	1/13/21	1/16/21
SE75	5M-26	1/22/2021	Fecal Coliform	SM 9221B	=	16000	1.8	1.8	MPN/100ml		Caltest	1/22/21	1/26/21
SE77	5M-26	3/10/2021	Fecal Coliform	SM 9221B	=	920	1.8	1.8	MPN/100ml		Caltest	3/10/21	3/13/21
DW46	5M-26	3/29/2021	Fecal Coliform	SM 9221B	=	160000	1.8	1.8	MPN/100ml		Caltest	3/29/21	3/31/21
DW44	5M-26R	9/8/2020	Fecal Coliform	SM 9221B	=	130		18	MPN/100ml		FGL Env.	9/8/20	9/11/20
SE74	5M-26R	12/12/2020	Fecal Coliform	SM 9221B	=	920	1.8	1.8	MPN/100ml		Caltest	12/12/20	12/15/20
DW45	5M-26R	1/13/2021	Fecal Coliform	SM 9221B	=	79	1.8	1.8	MPN/100ml		Caltest	1/13/21	1/16/21
SE75	5M-26R	1/22/2021	Fecal Coliform	SM 9221B	=	4	1.8	1.8	MPN/100ml		Caltest	1/22/21	1/26/21
SE77	5M-26R	3/10/2021	Fecal Coliform	SM 9221B	>	1600	1.8	1.8	MPN/100ml		Caltest	3/10/21	3/13/21
DW46	5M-26R	3/29/2021	Fecal Coliform	SM 9221B	=	2	1.8	1.8	MPN/100ml		Caltest	3/29/21	4/2/21
DW44	5M-28	9/8/2020	Fecal Coliform	SM 9221B	=	3300		1800	MPN/100ml		FGL Env.	9/8/20	9/11/20
SE74	5M-28	12/12/2020	Fecal Coliform	SM 9221B	=	9200	1.8	1.8	MPN/100ml		Caltest	12/12/20	12/15/20
DW45	5M-28	1/13/2021	Fecal Coliform	SM 9221B	=	310	1.8	1.8	MPN/100ml		Caltest	1/13/21	1/16/21
SE75	5M-28	1/22/2021	Fecal Coliform	SM 9221B	=	540	1.8	1.8	MPN/100ml		Caltest	1/22/21	1/24/21
SE77	5M-28	3/10/2021	Fecal Coliform	SM 9221B	=	7000	1.8	1.8	MPN/100ml		Caltest	3/10/21	3/14/21
DW46	5M-28	3/29/2021	Fecal Coliform	SM 9221B	=	3500	1.8	1.8	MPN/100ml		Caltest	3/29/21	4/1/21
DW44	5M-28R	9/8/2020	Fecal Coliform	SM 9221B	=	1700		18	MPN/100ml		FGL Env.	9/8/20	9/11/20
SE74	5M-28R	12/12/2020	Fecal Coliform	SM 9221B	=	17000	1.8	1.8	MPN/100ml		Caltest	12/12/20	12/14/20
DW45	5M-28R	1/13/2021	Fecal Coliform	SM 9221B	=	94	1.8	1.8	MPN/100ml		Caltest	1/13/21	1/16/21
SE75	5M-28R	1/22/2021	Fecal Coliform	SM 9221B	=	240	1.8	1.8	MPN/100ml		Caltest	1/22/21	1/26/21
SE77	5M-28R	3/10/2021	Fecal Coliform	SM 9221B	=	3500	1.8	1.8	MPN/100ml		Caltest	3/10/21	3/12/21
DW46	5M-28R	3/29/2021	Fecal Coliform	SM 9221B	=	540	1.8	1.8	MPN/100ml		Caltest	3/29/21	4/1/21
DW44	5M-25	9/8/2020	Total Coliform	SM 9223B	=	7270		1	MPN/100ml		FGL Env.	9/8/20	9/9/20
DW44	5M-25	9/9/2020	Total Coliform	SM 9221B	=	7900		1800	MPN/100ml		FGL Env.	9/8/20	9/11/20

Event	Site Code	Date Sampled	Analyte	Analytical Method	Q	Result	MDL	RL/ML	Units	Flag	Lab Name	Prep Date	Analysis Date
SE74	5M-25	12/12/2020	Total Coliform	SM 9221B	=	2100	1.8	1.8	MPN/100ml		Caltest	12/12/20	12/15/20
DW45	5M-25	1/13/2021	Total Coliform	SM 9221B	=	920	1.8	1.8	MPN/100ml		Caltest	1/13/21	1/16/21
SE77	5M-25	3/10/2021	Total Coliform	SM 9221B	=	35000	1.8	1.8	MPN/100ml		Caltest	3/10/21	3/13/21
DW46	5M-25	3/29/2021	Total Coliform	SM 9221B	=	5400	1.8	1.8	MPN/100ml		Caltest	4/1/21	4/10/21
DW44	5M-25R	9/8/2020	Total Coliform	SM 9221B	=	630		1800	MPN/100ml		FGL Env.	9/8/20	9/11/20
DW44	5M-25R	9/8/2020	Total Coliform	SM 9223B	=	3873		1	MPN/100ml		FGL Env.	9/8/20	9/9/20
SE74	5M-25R	12/12/2020	Total Coliform	SM 9221B	=	240	1.8	1.8	MPN/100ml		Caltest	12/12/20	12/15/20
DW45	5M-25R	1/13/2021	Total Coliform	SM 9221B	=	3100	1.8	1.8	MPN/100ml		Caltest	1/13/21	1/16/21
SE77	5M-25R	3/10/2021	Total Coliform	SM 9221B	=	2400	1.8	1.8	MPN/100ml		Caltest	3/10/21	3/14/21
DW46	5M-25R	3/29/2021	Total Coliform	SM 9221B	=	79	1.8	1.8	MPN/100ml		Caltest	3/29/21	4/1/21
DW44	5M-26	9/8/2020	Total Coliform	SM 9221B	=	79000		1800	MPN/100ml		FGL Env.	9/8/20	9/11/20
DW44	5M-26	9/8/2020	Total Coliform	SM 9223B	>	24196		1	MPN/100ml		FGL Env.	9/8/20	9/9/20
SE74	5M-26	12/12/2020	Total Coliform	SM 9221B	=	92000	1.8	1.8	MPN/100ml		Caltest	12/12/20	12/14/20
DW45	5M-26	1/13/2021	Total Coliform	SM 9221B	=	920	1.8	1.8	MPN/100ml		Caltest	1/13/21	1/16/21
SE77	5M-26	3/10/2021	Total Coliform	SM 9221B	>	160000	1.8	1.8	MPN/100ml		Caltest	3/10/21	3/13/21
DW46	5M-26	3/29/2021	Total Coliform	SM 9221B	>	160000	1.8	1.8	MPN/100ml		Caltest	3/29/21	3/31/21
DW44	5M-26R	9/8/2020	Total Coliform	SM 9221B	=	1100		18	MPN/100ml		FGL Env.	9/8/20	9/11/20
DW44	5M-26R	9/8/2020	Total Coliform	SM 9223B	=	5475		1	MPN/100ml		FGL Env.	9/8/20	9/9/20
SE74	5M-26R	12/12/2020	Total Coliform	SM 9221B	=	7000	1.8	1.8	MPN/100ml		Caltest	12/12/20	12/15/20
DW45	5M-26R	1/13/2021	Total Coliform	SM 9221B	=	540	1.8	1.8	MPN/100ml		Caltest	1/13/21	1/16/21
SE77	5M-26R	3/10/2021	Total Coliform	SM 9221B	=	92000	1.8	1.8	MPN/100ml		Caltest	3/10/21	3/13/21
DW46	5M-26R	3/29/2021	Total Coliform	SM 9221B	=	3500	1.8	1.8	MPN/100ml		Caltest	3/29/21	4/2/21
DW44	5M-28	9/8/2020	Total Coliform	SM 9221B	=	4900		1800	MPN/100ml		FGL Env.	9/8/20	9/11/20
DW44	5M-28	9/8/2020	Total Coliform	SM 9223B	>	24196		1	MPN/100ml		FGL Env.	9/8/20	9/9/20
SE74	5M-28	12/12/2020	Total Coliform	SM 9221B	>	160000	1.8	1.8	MPN/100ml		Caltest	12/12/20	12/15/20
DW45	5M-28	1/13/2021	Total Coliform	SM 9221B	=	2200	1.8	1.8	MPN/100ml		Caltest	1/13/21	1/16/21
SE77	5M-28	3/10/2021	Total Coliform	SM 9221B	>	160000	1.8	1.8	MPN/100ml		Caltest	3/10/21	3/14/21
DW46	5M-28	3/29/2021	Total Coliform	SM 9221B	=	54000	1.8	1.8	MPN/100ml		Caltest	3/29/21	4/1/21
DW44	5M-28R	9/8/2020	Total Coliform	SM 9221B	=	33000		18	MPN/100ml		FGL Env.	9/8/20	9/11/20
DW44	5M-28R	9/8/2020	Total Coliform	SM 9223B	>	24196		1	MPN/100ml		FGL Env.	9/8/20	9/9/20
SE74	5M-28R	12/12/2020	Total Coliform	SM 9221B	=	92000	1.8	1.8	MPN/100ml		Caltest	12/12/20	12/14/20
DW45	5M-28R	1/13/2021	Total Coliform	SM 9221B	=	1700	1.8	1.8	MPN/100ml		Caltest	1/13/21	1/16/21
SE77	5M-28R	3/10/2021	Total Coliform	SM 9221B	>	160000	1.8	1.8	MPN/100ml		Caltest	3/10/21	3/12/21
DW46	5M-28R	3/29/2021	Total Coliform	SM 9221B	=	3500	1.8	1.8	MPN/100ml		Caltest	3/29/21	4/1/21
DW44	5M-25	9/8/2020	DO - Field		=	5.39		0.01	mg/L		Field		
SE74	5M-25	12/12/2020	DO - Field		=	5.12		0.01	mg/L		Field		
DW45	5M-25	1/13/2021	DO - Field		=	6.05		0.01	mg/L		Field		

Event	Site Code	Date Sampled	Analyte	Analytical Method	Q	Result	MDL	RL/ML	Units	Flag	Lab Name	Prep Date	Analysis Date
SE75	5M-25	1/22/2021	DO - Field		=	8.46		0.01	mg/L		Field		
SE77	5M-25	3/10/2021	DO - Field		=	3.12		0.01	mg/L		Field		
DW46	5M-25	3/29/2021	DO - Field		=	7.56		0.01	mg/L		Field		
DW44	5M-25R	9/8/2020	DO - Field		=	5.55		0.01	mg/L		Field		
SE74	5M-25R	12/12/2020	DO - Field		=	9.35		0.01	mg/L		Field		
DW45	5M-25R	1/13/2021	DO - Field		=	10.8		0.01	mg/L		Field		
SE75	5M-25R	1/22/2021	DO - Field		=	11.24		0.01	mg/L		Field		
SE77	5M-25R	3/10/2021	DO - Field		=	9.08		0.01	mg/L		Field		
DW46	5M-25R	3/29/2021	DO - Field		=	16.51		0.01	mg/L		Field		
DW44	5M-26	9/8/2020	DO - Field		=	2.59		0.01	mg/L		Field		
SE74	5M-26	12/12/2020	DO - Field		=	8.03		0.01	mg/L		Field		
DW45	5M-26	1/13/2021	DO - Field		=	4.95		0.01	mg/L		Field		
SE75	5M-26	1/22/2021	DO - Field		=	9.13		0.01	mg/L		Field		
SE77	5M-26	3/10/2021	DO - Field		=	7.88		0.01	mg/L		Field		
DW46	5M-26	3/29/2021	DO - Field		=	2.47		0.01	mg/L		Field		
DW44	5M-26R	9/8/2020	DO - Field		=	5.87		0.01	mg/L		Field		
SE74	5M-26R	12/12/2020	DO - Field		=	8.9		0.01	mg/L		Field		
DW45	5M-26R	1/13/2021	DO - Field		=	10.89		0.01	mg/L		Field		
SE75	5M-26R	1/22/2021	DO - Field		=	12.25		0.01	mg/L		Field		
SE77	5M-26R	3/10/2021	DO - Field		=	8.25		0.01	mg/L		Field		
DW46	5M-26R	3/29/2021	DO - Field		=	12.18		0.01	mg/L		Field		
DW44	5M-28	9/8/2020	DO - Field		=	4.72		0.01	mg/L		Field		
SE74	5M-28	12/12/2020	DO - Field		=	9		0.01	mg/L		Field		
DW45	5M-28	1/13/2021	DO - Field		=	4.88		0.01	mg/L		Field		
SE75	5M-28	1/22/2021	DO - Field		=	6.86		0.01	mg/L		Field		
SE77	5M-28	3/10/2021	DO - Field		=	9.97		0.01	mg/L		Field		
DW46	5M-28	3/29/2021	DO - Field		=	6.7		0.01	mg/L		Field		
DW44	5M-28R	9/8/2020	DO - Field		=	2.96		0.01	mg/L		Field		
SE74	5M-28R	12/12/2020	DO - Field		=	8.67		0.01	mg/L		Field		
DW45	5M-28R	1/13/2021	DO - Field		=	8.59		0.01	mg/L		Field		
SE75	5M-28R	1/22/2021	DO - Field		=	7.4		0.01	mg/L		Field		
SE77	5M-28R	3/10/2021	DO - Field		=	8.35		0.01	mg/L		Field		
DW46	5M-28R	3/29/2021	DO - Field		=	7.75		0.01	mg/L		Field		
SE74	NE-RAIN	12/12/2020	DO - Field		=	11.5		0.01	mg/L		Field		
SE76	NE-RAIN	2/2/2021	DO - Field		=	7.98		0.01	mg/L		Field		
SE77	NE-RAIN	3/10/2021	DO - Field		=	10.33		0.01	mg/L		Field		
SE74	NW-RAIN	12/12/2020	DO - Field		=	9.73		0.01	mg/L		Field		

Event	Site Code	Date Sampled	Analyte	Analytical Method	Q	Result	MDL	RL/ML	Units	Flag	Lab Name	Prep Date	Analysis Date
SE76	NW-RAIN	2/2/2021	DO - Field		=	8.59		0.01	mg/L		Field		
SE77	NW-RAIN	3/10/2021	DO - Field		=	NA		0.01	mg/L		Field		
SE74	SC-RAIN	12/12/2020	DO - Field		=	10.75		0.01	mg/L		Field		
SE76	SC-RAIN	2/2/2021	DO - Field		=	8.27		0.01	mg/L		Field		
SE77	SC-RAIN	3/10/2021	DO - Field		=	9.52		0.01	mg/L		Field		
DW44	5M-25	9/8/2020	pH - Field		=	8.45		0-14	pH Units		Field		
SE74	5M-25	12/12/2020	pH - Field		=	7.87		0-14	pH Units		Field		
DW45	5M-25	1/13/2021	pH - Field		=	7.88		0-14	pH Units		Field		
SE75	5M-25	1/22/2021	pH - Field		=	8.16		0-14	pH Units		Field		
SE77	5M-25	3/10/2021	pH - Field		=	7.25		0-14	pH Units		Field		
DW46	5M-25	3/29/2021	pH - Field		=	7.93		0-14	pH Units		Field		
DW44	5M-25R	9/8/2020	pH - Field		=	8.07		0-14	pH Units		Field		
SE74	5M-25R	12/12/2020	pH - Field		=	8.35		0-14	pH Units		Field		
DW45	5M-25R	1/13/2021	pH - Field		=	8.09		0-14	pH Units		Field		
SE75	5M-25R	1/22/2021	pH - Field		=	8.29		0-14	pH Units		Field		
SE77	5M-25R	3/10/2021	pH - Field		=	8.15		0-14	pH Units		Field		
DW46	5M-25R	3/29/2021	pH - Field		=	9.3		0-14	pH Units		Field		
DW44	5M-26	9/8/2020	pH - Field		=	7.4		0-14	pH Units		Field		
SE74	5M-26	12/12/2020	pH - Field		=	7.39		0-14	pH Units		Field		
DW45	5M-26	1/13/2021	pH - Field		=	7.57		0-14	pH Units		Field		
SE75	5M-26	1/22/2021	pH - Field		=	7.61		0-14	pH Units		Field		
SE77	5M-26	3/10/2021	pH - Field		=	7.38		0-14	pH Units		Field		
DW46	5M-26	3/29/2021	pH - Field		=	7.36		0-14	pH Units		Field		
DW44	5M-26R	9/8/2020	pH - Field		=	8.15		0-14	pH Units		Field		
SE74	5M-26R	12/12/2020	pH - Field		=	7.7		0-14	pH Units		Field		
DW45	5M-26R	1/13/2021	pH - Field		=	8.18		0-14	pH Units		Field		
SE75	5M-26R	1/22/2021	pH - Field		=	8.27		0-14	pH Units		Field		
SE77	5M-26R	3/10/2021	pH - Field		=	7.86		0-14	pH Units		Field		
DW46	5M-26R	3/29/2021	pH - Field		=	9.17		0-14	pH Units		Field		
DW44	5M-28	9/8/2020	pH - Field		=	7.81		0-14	pH Units		Field		
SE74	5M-28	12/12/2020	pH - Field		=	7.25		0-14	pH Units		Field		
DW45	5M-28	1/13/2021	pH - Field		=	7.61		0-14	pH Units		Field		
SE75	5M-28	1/22/2021	pH - Field		=	7.43		0-14	pH Units		Field		
SE77	5M-28	3/10/2021	pH - Field		=	7.45		0-14	pH Units		Field		
DW46	5M-28	3/29/2021	pH - Field		=	7.64		0-14	pH Units		Field		
DW44	5M-28R	9/8/2020	pH - Field		=	7.15		0-14	pH Units		Field		
SE74	5M-28R	12/12/2020	pH - Field		=	7.37		0-14	pH Units		Field		

Ambient Monitoring Program 2020-2021 Data

Event	Site Code	Date Sampled	Analyte	Analytical Method	Q	Result	MDL	RL/ML	Units	Flag	Lab Name	Prep Date	Analysis Date
DW45	5M-28R	1/13/2021	pH - Field		=	7.69		0-14	pH Units		Field		
SE75	5M-28R	1/22/2021	pH - Field		=	7.38		0-14	pH Units		Field		
SE77	5M-28R	3/10/2021	pH - Field		=	7.46		0-14	pH Units		Field		
DW46	5M-28R	3/29/2021	pH - Field		=	7.74		0-14	pH Units		Field		
SE74	NE-RAIN	12/12/2020	pH - Field		=	8.25		0-14	pH Units		Field		
SE76	NE-RAIN	2/2/2021	pH - Field		=	6.29		0-14	pH Units		Field		
SE77	NE-RAIN	3/10/2021	pH - Field		=	6.14		0-14	pH Units		Field		
SE74	NW-RAIN	12/12/2020	pH - Field		=	7.7		0-14	pH Units		Field		
SE76	NW-RAIN	2/2/2021	pH - Field		=	6.74		0-14	pH Units		Field		
SE77	NW-RAIN	3/10/2021	pH - Field		=	NA		0-14	pH Units		Field		
SE74	SC-RAIN	12/12/2020	pH - Field		=	6.55		0-14	pH Units		Field		
SE76	SC-RAIN	2/2/2021	pH - Field		=	6.8		0-14	pH Units		Field		
SE77	SC-RAIN	3/10/2021	pH - Field		=	6.1		0-14	pH Units		Field		
DW44	5M-25	9/8/2020	Temperature - Field		=	23.4		0.01	°C		Field		
SE74	5M-25	12/12/2020	Temperature - Field		=	15.3		0.01	°C		Field		
DW45	5M-25	1/13/2021	Temperature - Field		=	12.6		0.01	°C		Field		
SE75	5M-25	1/22/2021	Temperature - Field		=	11.9		0.01	°C		Field		
SE77	5M-25	3/10/2021	Temperature - Field		=	11.4		0.01	°C		Field		
DW46	5M-25	3/29/2021	Temperature - Field		=	16.1		0.01	°C		Field		
DW44	5M-25R	9/8/2020	Temperature - Field		=	25.9		0.01	°C		Field		
SE74	5M-25R	12/12/2020	Temperature - Field		=	10		0.01	°C		Field		
DW45	5M-25R	1/13/2021	Temperature - Field		=	9.7		0.01	°C		Field		
SE75	5M-25R	1/22/2021	Temperature - Field		=	10.8		0.01	°C		Field		
SE77	5M-25R	3/10/2021	Temperature - Field		=	12.8		0.01	°C		Field		
DW46	5M-25R	3/29/2021	Temperature - Field		=	18.2		0.01	°C		Field		
DW44	5M-26	9/8/2020	Temperature - Field		=	24.3		0.01	°C		Field		
SE74	5M-26	12/12/2020	Temperature - Field		=	14.3		0.01	°C		Field		
DW45	5M-26	1/13/2021	Temperature - Field		=	14.7		0.01	°C		Field		
SE75	5M-26	1/22/2021	Temperature - Field		=	13.8		0.01	°C		Field		
SE77	5M-26	3/10/2021	Temperature - Field		=	14.5		0.01	°C		Field		
DW46	5M-26	3/29/2021	Temperature - Field		=	16.8		0.01	°C		Field		
DW44	5M-26R	9/8/2020	Temperature - Field		=	26.1		0.01	°C		Field		
SE74	5M-26R	12/12/2020	Temperature - Field		=	9.9		0.01	°C		Field		
DW45	5M-26R	1/13/2021	Temperature - Field		=	10.4		0.01	°C		Field		
SE75	5M-26R	1/22/2021	Temperature - Field		=	10.9		0.01	°C		Field		
SE77	5M-26R	3/10/2021	Temperature - Field		=	13.1		0.01	°C		Field		
DW46	5M-26R	3/29/2021	Temperature - Field		=	18.8		0.01	°C		Field		

Event	Site Code	Date Sampled	Analyte	Analytical Method	Q	Result	MDL	RL/ML	Units	Flag	Lab Name	Prep Date	Analysis Date
DW44	5M-28	9/8/2020	Temperature - Field		=	26.1		0.01	°C		Field		
SE74	5M-28	12/12/2020	Temperature - Field		=	13.3		0.01	°C		Field		
DW45	5M-28	1/13/2021	Temperature - Field		=	14.2		0.01	°C		Field		
SE75	5M-28	1/22/2021	Temperature - Field		=	15.2		0.01	°C		Field		
SE77	5M-28	3/10/2021	Temperature - Field		=	13.5		0.01	°C		Field		
DW46	5M-28	3/29/2021	Temperature - Field		=	16		0.01	°C		Field		
DW44	5M-28R	9/8/2020	Temperature - Field		=	25		0.01	°C		Field		
SE74	5M-28R	12/12/2020	Temperature - Field		=	11.5		0.01	°C		Field		
DW45	5M-28R	1/13/2021	Temperature - Field		=	9.4		0.01	°C		Field		
SE75	5M-28R	1/22/2021	Temperature - Field		=	10.4		0.01	°C		Field		
SE77	5M-28R	3/10/2021	Temperature - Field		=	13.1		0.01	°C		Field		
DW46	5M-28R	3/29/2021	Temperature - Field		=	15.6		0.01	°C		Field		
SE74	NE-RAIN	12/12/2020	Temperature - Field		=	10.7		0.01	°C		Field		
SE76	NE-RAIN	2/2/2021	Temperature - Field		=	18		0.01	°C		Field		
SE77	NE-RAIN	3/10/2021	Temperature - Field		=	16.1		0.01	°C		Field		
SE74	NW-RAIN	12/12/2020	Temperature - Field		=	10.8		0.01	°C		Field		
SE76	NW-RAIN	2/2/2021	Temperature - Field		=	17.6		0.01	°C		Field		
SE77	NW-RAIN	3/10/2021	Temperature - Field		=	NA		0.01	°C		Field		
SE74	SC-RAIN	12/12/2020	Temperature - Field		=	12		0.01	°C		Field		
SE76	SC-RAIN	2/2/2021	Temperature - Field		=	17.2		0.01	°C		Field		
SE77	SC-RAIN	3/10/2021	Temperature - Field		=	11.9		0.01	°C		Field		
DW44	5M-25	9/8/2020	BOD	5210B	=	2.4	0.19	2	mg/L	I	FGL Env.	9/9/20	9/14/20
SE74	5M-25	12/12/2020	BOD	5210B	<	5	5	5	mg/L		Caltest	12/12/20	12/17/20
DW45	5M-25	1/13/2021	BOD	5210B	<	5	5	5	mg/L		Caltest	1/14/21	1/19/21
SE75	5M-25	1/22/2021	BOD	5210B	=	9	5	5	mg/L		Caltest	1/23/21	1/28/21
SE77	5M-25	3/10/2021	BOD	5210B	=	125	5	5	mg/L		Caltest	3/10/21	3/15/21
DW46	5M-25	3/29/2021	BOD	5210B	=	27	5	5	mg/L	4	Caltest	4/1/21	4/10/21
DW44	5M-25R	9/8/2020	BOD	5210B	J	2.82	0.19	4.3	mg/L	I	FGL Env.	9/9/20	9/14/20
SE74	5M-25R	12/12/2020	BOD	5210B	=	5	5	5	mg/L		Caltest	12/12/20	12/17/20
DW45	5M-25R	1/13/2021	BOD	5210B	<	5	5	5	mg/L		Caltest	1/14/21	1/19/21
SE75	5M-25R	1/22/2021	BOD	5210B	<	5	5	5	mg/L		Caltest	1/23/21	1/28/21
SE77	5M-25R	3/10/2021	BOD	5210B	<	5	5	5	mg/L		Caltest	3/10/21	3/15/21
DW46	5M-25R	3/29/2021	BOD	5210B	=	6	5	5	mg/L	4	Caltest	3/30/21	4/4/21
DW44	5M-26	9/8/2020	BOD	5210B	=	4.8	0.19	2	mg/L	I	FGL Env.	9/9/20	9/14/20
SE74	5M-26	12/12/2020	BOD	5210B	=	54	5	5	mg/L		Caltest	12/12/20	12/17/20
DW45	5M-26	1/13/2021	BOD	5210B	<	5	5	5	mg/L		Caltest	1/14/21	1/19/21
SE75	5M-26	1/22/2021	BOD	5210B	=	47	5	5	mg/L		Caltest	1/23/21	1/28/21

Event	Site Code	Date Sampled	Analyte	Analytical Method	Q	Result	MDL	RL/ML	Units	Flag	Lab Name	Prep Date	Analysis Date
SE77	5M-26	3/10/2021	BOD	5210B	=	20	5	5	mg/L		Caltest	3/10/21	3/15/21
DW46	5M-26	3/29/2021	BOD	5210B	=	9	5	5	mg/L	4	Caltest	3/30/21	4/4/21
DW44	5M-26R	9/8/2020	BOD	5210B	=	2.2	0.19	2	mg/L	I	FGL Env.	9/9/20	9/14/20
SE74	5M-26R	12/12/2020	BOD	5210B	=	11	5	5	mg/L		Caltest	12/12/20	12/17/20
DW45	5M-26R	1/13/2021	BOD	5210B	<	5	5	5	mg/L		Caltest	1/14/21	1/19/21
SE75	5M-26R	1/22/2021	BOD	5210B	<	5	5	5	mg/L		Caltest	1/23/21	1/28/21
SE77	5M-26R	3/10/2021	BOD	5210B	=	8	5	5	mg/L		Caltest	3/10/21	3/15/21
DW46	5M-26R	3/29/2021	BOD	5210B	=	9	5	5	mg/L	4	Caltest	3/30/21	4/4/21
DW44	5M-28	9/8/2020	BOD	5210B	J	4.03	0.19	4.3	mg/L	I	FGL Env.	9/9/20	9/14/20
SE74	5M-28	12/12/2020	BOD	5210B	=	58	5	5	mg/L		Caltest	12/12/20	12/17/20
DW45	5M-28	1/13/2021	BOD	5210B	<	5	5	5	mg/L		Caltest	1/14/21	1/19/21
SE75	5M-28	1/22/2021	BOD	5210B	=	10	5	5	mg/L		Caltest	1/23/21	1/28/21
SE77	5M-28	3/10/2021	BOD	5210B	=	16	5	5	mg/L	3	Caltest	3/10/21	3/15/21
DW46	5M-28	3/29/2021	BOD	5210B	<	5	5	5	mg/L	4	Caltest	3/30/21	4/4/21
DW44	5M-28R	9/8/2020	BOD	5210B	=	6.74	0.19	4.3	mg/L	I	FGL Env.	9/9/20	9/14/20
SE74	5M-28R	12/12/2020	BOD	5210B	=	57	5	5	mg/L		Caltest	12/12/20	12/17/20
DW45	5M-28R	1/13/2021	BOD	5210B	<	5	5	5	mg/L		Caltest	1/14/21	1/19/21
SE75	5M-28R	1/22/2021	BOD	5210B	=	8	5	5	mg/L		Caltest	1/23/21	1/28/21
SE77	5M-28R	3/10/2021	BOD	5210B	=	7	5	5	mg/L		Caltest	3/10/21	3/15/21
DW46	5M-28R	3/29/2021	BOD	5210B	=	8	5	5	mg/L	4	Caltest	3/30/21	4/4/21
DW44	5M-25	9/8/2020	EC - Field		=	537		1	µS/cm		Field		
SE74	5M-25	12/12/2020	EC - Field		=	537.4		1	µS/cm		Field		
DW45	5M-25	1/13/2021	EC - Field		=	538.5		1	µS/cm		Field		
SE75	5M-25	1/22/2021	EC - Field		=	362.2		1	µS/cm		Field		
SE77	5M-25	3/10/2021	EC - Field		=	709		1	µS/cm		Field		
DW46	5M-25	3/29/2021	EC - Field		=	630		1	µS/cm		Field		
DW44	5M-25R	9/8/2020	EC - Field		=	367.8		1	µS/cm		Field		
SE74	5M-25R	12/12/2020	EC - Field		=	470.5		1	µS/cm		Field		
DW45	5M-25R	1/13/2021	EC - Field		=	708		1	µS/cm		Field		
SE75	5M-25R	1/22/2021	EC - Field		=	711		1	µS/cm		Field		
SE77	5M-25R	3/10/2021	EC - Field		=	728		1	µS/cm		Field		
DW46	5M-25R	3/29/2021	EC - Field		=	738		1	µS/cm		Field		
DW44	5M-26	9/8/2020	EC - Field		=	486.5		1	µS/cm		Field		
SE74	5M-26	12/12/2020	EC - Field		=	147.1		1	µS/cm		Field		
DW45	5M-26	1/13/2021	EC - Field		=	556.9		1	µS/cm		Field		
SE75	5M-26	1/22/2021	EC - Field		=	146.3		1	µS/cm		Field		
SE77	5M-26	3/10/2021	EC - Field		=	138.1		1	µS/cm		Field		

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Event	Site Code	Date Sampled	Analyte	Analytical Method	Q	Result	MDL	RL/ML	Units	Flag	Lab Name	Prep Date	Analysis Date
DW46	5M-26	3/29/2021	EC - Field		=	730		1	µS/cm		Field		
DW44	5M-26R	9/8/2020	EC - Field		=	376.8		1	µS/cm		Field		
SE74	5M-26R	12/12/2020	EC - Field		=	417.3		1	µS/cm		Field		
DW45	5M-26R	1/13/2021	EC - Field		=	583.2		1	µS/cm		Field		
SE75	5M-26R	1/22/2021	EC - Field		=	643.9		1	µS/cm		Field		
SE77	5M-26R	3/10/2021	EC - Field		=	567.9		1	µS/cm		Field		
DW46	5M-26R	3/29/2021	EC - Field		=	680		1	µS/cm		Field		
DW44	5M-28	9/8/2020	EC - Field		=	521		1	µS/cm		Field		
SE74	5M-28	12/12/2020	EC - Field		=	188		1	µS/cm		Field		
DW45	5M-28	1/13/2021	EC - Field		=	430.5		1	µS/cm		Field		
SE75	5M-28	1/22/2021	EC - Field		=	420.4		1	µS/cm		Field		
SE77	5M-28	3/10/2021	EC - Field		=	109.7		1	µS/cm		Field		
DW46	5M-28	3/29/2021	EC - Field		=	412.5		1	µS/cm		Field		
DW44	5M-28R	9/8/2020	EC - Field		=	458.4		1	µS/cm		Field		
SE74	5M-28R	12/12/2020	EC - Field		=	161.8		1	µS/cm		Field		
DW45	5M-28R	1/13/2021	EC - Field		=	290		1	µS/cm		Field		
SE75	5M-28R	1/22/2021	EC - Field		=	333.6		1	µS/cm		Field		
SE77	5M-28R	3/10/2021	EC - Field		=	372.5		1	µS/cm		Field		
DW46	5M-28R	3/29/2021	EC - Field		=	321.3		1	µS/cm		Field		
SE74	NE-RAIN	12/12/2020	EC - Field		=	17.7		1	µS/cm		Field		
SE76	NE-RAIN	2/2/2021	EC - Field		=	7.7		1	µS/cm		Field		
SE77	NE-RAIN	3/10/2021	EC - Field		=	15.4		1	µS/cm		Field		
SE74	NW-RAIN	12/12/2020	EC - Field		=	10.8		1	µS/cm		Field		
SE76	NW-RAIN	2/2/2021	EC - Field		=	11		1	µS/cm		Field		
SE77	NW-RAIN	3/10/2021	EC - Field		=	NA		1	µS/cm		Field		
SE74	SC-RAIN	12/12/2020	EC - Field		=	9.3		1	µS/cm		Field		
SE76	SC-RAIN	2/2/2021	EC - Field		=	18.6		1	µS/cm		Field		
SE77	SC-RAIN	3/10/2021	EC - Field		=	21.9		1	µS/cm		Field		
SE74	NE-RAIN	12/12/2020	Mercury, Total	EPA 1631E	=	1.8	0.2	0.5	ng/L		Caltest	12/23/20	12/24/20
SE76	NE-RAIN	2/2/2021	Mercury, Total	EPA 1631E	=	1.8	0.2	0.5	ng/L		Caltest	2/8/21	2/9/21
SE77	NE-RAIN	3/10/2021	Mercury, Total	EPA 1631E	=	3.3	0.2	0.5	ng/L		Caltest	3/18/21	3/19/21
SE74	NW-RAIN	12/12/2020	Mercury, Total	EPA 1631E	=	1.3	0.2	0.5	ng/L		Caltest	12/23/20	12/24/20
SE76	NW-RAIN	2/2/2021	Mercury, Total	EPA 1631E	=	2.1	0.2	0.5	ng/L		Caltest	2/8/21	2/9/21
SE77	NW-RAIN	3/10/2021	Mercury, Total	EPA 1631E	=	5.8	0.2	0.5	ng/L		Caltest	3/18/21	3/19/21
SE74	SC-RAIN	12/12/2020	Mercury, Total	EPA 1631E	=	1.9	0.2	0.5	ng/L		Caltest	12/21/20	12/22/20
SE76	SC-RAIN	2/2/2021	Mercury, Total	EPA 1631E	=	2.5	0.2	0.5	ng/L		Caltest	2/8/21	2/9/21
SE77	SC-RAIN	3/10/2021	Mercury, Total	EPA 1631E	=	4.5	0.2	0.5	ng/L		Caltest	3/18/21	3/19/21

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Event	Site Code	Date Sampled	Analyte	Analytical Method	Q	Result	MDL	RL/ML	Units	Flag	Lab Name	Prep Date	Analysis Date
SE74	NE-RAIN	12/12/2020	Methyl Mercury	EPA 1630	=	0.08	0.02	0.05	ng/L		Caltest	12/21/20	12/22/20
SE76	NE-RAIN	2/2/2021	Methyl Mercury	EPA 1630	=	0.07	0.02	0.05	ng/L		Caltest	2/18/21	2/19/21
SE77	NE-RAIN	3/10/2021	Methyl Mercury	EPA 1630	=	0.12	0.02	0.05	ng/L		Caltest	3/16/21	3/17/21
SE74	NW-RAIN	12/12/2020	Methyl Mercury	EPA 1630	=	0.05	0.02	0.05	ng/L		Caltest	12/21/20	12/22/20
SE76	NW-RAIN	2/2/2021	Methyl Mercury	EPA 1630	=	0.07	0.02	0.05	ng/L		Caltest	2/18/21	2/19/21
SE77	NW-RAIN	3/10/2021	Methyl Mercury	EPA 1630	=	0.23	0.02	0.05	ng/L		Caltest	3/16/21	3/17/21
SE74	SC-RAIN	12/12/2020	Methyl Mercury	EPA 1630	=	0.08	0.02	0.05	ng/L		Caltest	12/23/20	12/24/20
SE76	SC-RAIN	2/2/2021	Methyl Mercury	EPA 1630	=	0.08	0.02	0.05	ng/L		Caltest	2/18/21	2/19/21
SE77	SC-RAIN	3/10/2021	Methyl Mercury	EPA 1630	=	0.24	0.02	0.05	ng/L		Caltest	3/16/21	3/17/21
DW44	5M-25	9/8/2020	Chlorpyrifos	EPA 8270M_NCI	<	0.5	0.5	1	ng/L		Caltest	9/11/20	9/18/20
SE74	5M-25	12/12/2020	Chlorpyrifos	EPA 8270M_NCI	<	0.5	0.5	1	ng/L		Caltest	12/15/20	12/19/20
DW45	5M-25	1/13/2021	Chlorpyrifos	EPA 625.1	<	0.6	0.6	1.2	ng/L		Caltest	1/14/21	1/21/21
SE75	5M-25	1/22/2021	Chlorpyrifos	EPA 625.1M (NCI-SIM)	<	0.5	0.5	1	ng/L		Caltest	1/25/21	1/30/21
SE77	5M-25	3/10/2021	Chlorpyrifos	EPA 625.1	<	0.5	0.5	1	ng/L		Caltest	3/11/21	3/19/21
DW46	5M-25	3/29/2021	Chlorpyrifos	EPA 625.1	<	3	3	5.6	ng/L		Caltest	3/29/21	3/30/21
DW44	5M-25R	9/8/2020	Chlorpyrifos	EPA 8270M_NCI	<	0.5	0.5	1	ng/L		Caltest	9/11/20	9/18/20
SE74	5M-25R	12/12/2020	Chlorpyrifos	EPA 8270M_NCI	<	0.5	0.5	1	ng/L		Caltest	12/15/20	12/19/20
DW45	5M-25R	1/13/2021	Chlorpyrifos	EPA 625.1	<	0.5	0.5	1	ng/L		Caltest	1/14/21	1/21/21
SE75	5M-25R	1/22/2021	Chlorpyrifos	EPA 625.1M (NCI-SIM)	<	0.5	0.5	1	ng/L		Caltest	1/25/21	1/30/21
SE77	5M-25R	3/10/2021	Chlorpyrifos	EPA 625.1	<	0.5	0.5	1	ng/L		Caltest	3/11/21	3/19/21
DW46	5M-25R	3/29/2021	Chlorpyrifos	EPA 625.1	<	2	2	5	ng/L		Caltest	4/1/21	4/10/21
DW44	5M-26	9/8/2020	Chlorpyrifos	EPA 8270M_NCI	<	0.5	0.5	1	ng/L		Caltest	9/11/20	9/18/20
SE74	5M-26	12/12/2020	Chlorpyrifos	EPA 8270M_NCI	<	2	2	5	ng/L		Caltest	12/15/20	12/31/20
DW45	5M-26	1/13/2021	Chlorpyrifos	EPA 625.1	<	0.5	0.5	1	ng/L		Caltest	1/14/21	1/21/21
SE75	5M-26	1/22/2021	Chlorpyrifos	EPA 625.1M (NCI-SIM)	<	0.5	0.5	1	ng/L		Caltest	1/25/21	1/30/21
SE77	5M-26	3/10/2021	Chlorpyrifos	EPA 625.1	<	2	2	5	ng/L		Caltest	3/11/21	3/20/21
DW46	5M-26	3/29/2021	Chlorpyrifos	EPA 625.1	<	3	3	5.7	ng/L		Caltest	4/1/21	4/11/21
DW44	5M-26R	9/8/2020	Chlorpyrifos	EPA 8270M_NCI	<	0.5	0.5	1	ng/L		Caltest	9/11/20	9/18/20
SE74	5M-26R	12/12/2020	Chlorpyrifos	EPA 8270M_NCI	<	0.5	0.5	1	ng/L		Caltest	12/15/20	12/19/20
DW45	5M-26R	1/13/2021	Chlorpyrifos	EPA 625.1	<	0.5	0.5	1	ng/L		Caltest	1/14/21	1/21/21
SE75	5M-26R	1/22/2021	Chlorpyrifos	EPA 625.1M (NCI-SIM)	<	0.5	0.5	1	ng/L		Caltest	1/25/21	1/30/21
SE77	5M-26R	3/10/2021	Chlorpyrifos	EPA 625.1	<	2	2	5	ng/L		Caltest	3/11/21	3/20/21
DW46	5M-26R	3/29/2021	Chlorpyrifos	EPA 625.1	<	2	2	5	ng/L		Caltest	4/1/21	4/11/21
DW44	5M-28	9/8/2020	Chlorpyrifos	EPA 8270M_NCI	<	0.5	0.5	1	ng/L		Caltest	9/11/20	9/18/20
SE74	5M-28	12/12/2020	Chlorpyrifos	EPA 8270M_NCI	<	2	2	5	ng/L		Caltest	12/15/20	12/24/20
DW45	5M-28	1/13/2021	Chlorpyrifos	EPA 625.1	<	0.5	0.5	1	ng/L		Caltest	1/14/21	1/21/21
SE75	5M-28	1/22/2021	Chlorpyrifos	EPA 625.1M (NCI-SIM)	<	0.5	0.5	1	ng/L		Caltest	1/25/21	1/30/21

Ambient Monitoring Program 2020-2021 Data

Event	Site Code	Date Sampled	Analyte	Analytical Method	Q	Result	MDL	RL/ML	Units	Flag	Lab Name	Prep Date	Analysis Date
SE77	5M-28	3/10/2021	Chlorpyrifos	EPA 625.1	<	2	2	5	ng/L		Caltest	3/11/21	3/20/21
DW46	5M-28	3/29/2021	Chlorpyrifos	EPA 625.1	<	3	3	5.6	ng/L		Caltest	4/1/21	4/11/21
DW44	5M-28R	9/8/2020	Chlorpyrifos	EPA 8270M_NCI	J	0.6	0.5	1	ng/L		Caltest	9/11/20	9/18/20
SE74	5M-28R	12/12/2020	Chlorpyrifos	EPA 8270M_NCI	<	0.5	0.5	1	ng/L		Caltest	12/15/20	12/19/20
DW45	5M-28R	1/13/2021	Chlorpyrifos	EPA 625.1	<	0.5	0.5	1	ng/L		Caltest	1/14/21	1/22/21
SE75	5M-28R	1/22/2021	Chlorpyrifos	EPA 625.1M (NCI-SIM)	<	0.5	0.5	1	ng/L		Caltest	1/25/21	1/30/21
SE77	5M-28R	3/10/2021	Chlorpyrifos	EPA 625.1	<	2	2	5	ng/L		Caltest	3/11/21	3/20/21
DW46	5M-28R	3/29/2021	Chlorpyrifos	EPA 625.1	<	2	2	5	ng/L		Caltest	4/1/21	4/11/21
SE74	NE-RAIN	12/12/2020	Chlorpyrifos	EPA 625.1M (NCI-SIM)	<	0.5	0.5	1	ng/L		Caltest	12/15/20	12/19/20
SE76	NE-RAIN	2/2/2021	Chlorpyrifos	EPA 625.1M (NCI-SIM)	<	0.5	0.5	1	ng/L		Caltest	2/5/21	2/17/21
SE77	NE-RAIN	3/10/2021	Chlorpyrifos	EPA 625.1M (NCI-SIM)	=	1.5	0.6	1.1	ng/L		Caltest	3/12/21	3/18/21
SE74	NW-RAIN	12/12/2020	Chlorpyrifos	EPA 625.1M (NCI-SIM)	<	0.5	0.5	1	ng/L		Caltest	12/15/20	12/19/20
SE76	NW-RAIN	2/2/2021	Chlorpyrifos	EPA 625.1M (NCI-SIM)	<	0.5	0.5	1	ng/L		Caltest	2/5/21	2/17/21
SE77	NW-RAIN	3/10/2021	Chlorpyrifos	EPA 625.1M (NCI-SIM)	<	0.6	0.6	1.1	ng/L		Caltest	3/12/21	3/18/21
SE74	SC-RAIN	12/12/2020	Chlorpyrifos	EPA 625.1M (NCI-SIM)	<	0.5	0.5	1	ng/L		Caltest	12/15/20	12/19/20
SE76	SC-RAIN	2/2/2021	Chlorpyrifos	EPA 625.1M (NCI-SIM)	<	0.5	0.5	1	ng/L		Caltest	2/5/21	2/17/21
SE77	SC-RAIN	3/10/2021	Chlorpyrifos	EPA 625.1M (NCI-SIM)	<	0.5	0.5	1	ng/L		Caltest	3/12/21	3/18/21
SE77	5M-25	3/10/2021	Diazinon	EPA 625.1	<	0.1	0.1	0.5	ng/L		Caltest	3/11/21	3/27/21
SE77	5M-25R	3/10/2021	Diazinon	EPA 625.1	<	0.1	0.1	0.5	ng/L		Caltest	3/11/21	3/19/21
SE77	5M-26	3/10/2021	Diazinon	EPA 625.1	<	0.5	0.5	2.5	ng/L		Caltest	3/11/21	3/20/21
SE77	5M-26R	3/10/2021	Diazinon	EPA 625.1	<	0.5	0.5	2.5	ng/L		Caltest	3/11/21	3/20/21
SE77	5M-28	3/10/2021	Diazinon	EPA 625.1	<	0.5	0.5	2.5	ng/L		Caltest	3/11/21	3/20/21
SE77	5M-28R	3/10/2021	Diazinon	EPA 625.1	<	0.5	0.5	2.5	ng/L		Caltest	3/11/21	3/20/21
SE74	NW-RAIN	12/12/2020	Diazinon	EPA 625.1M (NCI-SIM)	<	0.1	0.1	0.5	ng/L		Caltest	12/15/20	12/19/20
SE76	NW-RAIN	2/2/2021	Diazinon	EPA 625.1M (NCI-SIM)	=	1.3	0.1	0.5	ng/L		Caltest	2/5/21	2/17/21
SE77	NW-RAIN	3/10/2021	Diazinon	EPA 625.1M (NCI-SIM)	=	2	0.1	0.6	ng/L		Caltest	3/12/21	3/18/21
DW44	5M-25	9/8/2020	Allethrin	EPA 8270M_NCI	<	0.1	0.1	0.5	ng/L		Caltest	9/11/20	9/18/20
SE74	5M-25	12/12/2020	Allethrin	EPA 8270M_NCI	<	0.3	0.3	0.5	ng/L		Caltest	12/15/20	12/19/20
DW45	5M-25	1/13/2021	Allethrin	EPA 625.1	<	0.3	0.3	0.6	ng/L	1	Caltest	1/14/21	1/21/21
SE75	5M-25	1/22/2021	Allethrin	EPA 625.1M (NCI-SIM)	<	0.3	0.3	0.5	ng/L		Caltest	1/25/21	1/30/21
SE77	5M-25	3/10/2021	Allethrin	EPA 625.1	<	0.3	0.3	0.5	ng/L		Caltest	3/11/21	3/19/21
DW46	5M-25	3/29/2021	Allethrin	EPA 625.1	<	0.3	0.3	0.6	ng/L	1	Caltest	3/29/21	4/1/21
DW44	5M-25R	9/8/2020	Allethrin	EPA 8270M_NCI	<	0.1	0.1	0.5	ng/L		Caltest	9/11/20	9/18/20
SE74	5M-25R	12/12/2020	Allethrin	EPA 8270M_NCI	<	0.3	0.3	0.5	ng/L		Caltest	12/15/20	12/19/20
DW45	5M-25R	1/13/2021	Allethrin	EPA 625.1	<	0.3	0.3	0.5	ng/L		Caltest	1/14/21	1/21/21
SE75	5M-25R	1/22/2021	Allethrin	EPA 625.1M (NCI-SIM)	<	0.3	0.3	0.5	ng/L		Caltest	1/25/21	1/30/21
SE77	5M-25R	3/10/2021	Allethrin	EPA 625.1	<	0.3	0.3	0.5	ng/L		Caltest	3/11/21	3/19/21

City of Stockton and County of San Joaquin
Ambient Monitoring Program 2020-2021 Data

Event	Site Code	Date Sampled	Analyte	Analytical Method	Q	Result	MDL	RL/ML	Units	Flag	Lab Name	Prep Date	Analysis Date
DW46	5M-25R	3/29/2021	Allethrin	EPA 625.1	<	0.3	0.3	0.5	ng/L		Caltest	4/1/21	4/10/21
DW44	5M-26	9/8/2020	Allethrin	EPA 8270M_NCI	<	0.1	0.1	0.5	ng/L		Caltest	9/11/20	9/18/20
SE74	5M-26	12/12/2020	Allethrin	EPA 8270M_NCI	<	0.3	0.3	0.5	ng/L		Caltest	12/15/20	12/19/20
DW45	5M-26	1/13/2021	Allethrin	EPA 625.1	<	0.3	0.3	0.5	ng/L		Caltest	1/14/21	1/21/21
SE75	5M-26	1/22/2021	Allethrin	EPA 625.1M (NCI-SIM)	<	0.3	0.3	0.5	ng/L		Caltest	1/25/21	1/30/21
SE77	5M-26	3/10/2021	Allethrin	EPA 625.1	<	2	2	2.5	ng/L	2	Caltest	3/11/21	3/20/21
DW46	5M-26	3/29/2021	Allethrin	EPA 625.1	<	0.3	0.3	0.6	ng/L	1	Caltest	4/1/21	4/10/21
DW44	5M-26R	9/8/2020	Allethrin	EPA 8270M_NCI	<	0.1	0.1	0.5	ng/L		Caltest	9/11/20	9/18/20
SE74	5M-26R	12/12/2020	Allethrin	EPA 8270M_NCI	<	0.3	0.3	0.5	ng/L		Caltest	12/15/20	12/19/20
DW45	5M-26R	1/13/2021	Allethrin	EPA 625.1	<	0.3	0.3	0.5	ng/L		Caltest	1/14/21	1/21/21
SE75	5M-26R	1/22/2021	Allethrin	EPA 625.1M (NCI-SIM)	<	0.3	0.3	0.5	ng/L		Caltest	1/25/21	1/30/21
SE77	5M-26R	3/10/2021	Allethrin	EPA 625.1	<	2	2	2.5	ng/L	2	Caltest	3/11/21	3/20/21
DW46	5M-26R	3/29/2021	Allethrin	EPA 625.1	<	0.3	0.3	0.5	ng/L		Caltest	4/1/21	4/10/21
DW44	5M-28	9/8/2020	Allethrin	EPA 8270M_NCI	<	0.1	0.1	0.5	ng/L		Caltest	9/11/20	9/18/20
SE74	5M-28	12/12/2020	Allethrin	EPA 8270M_NCI	<	0.3	0.3	0.5	ng/L		Caltest	12/15/20	12/19/20
DW45	5M-28	1/13/2021	Allethrin	EPA 625.1	<	0.3	0.3	0.5	ng/L		Caltest	1/14/21	1/21/21
SE75	5M-28	1/22/2021	Allethrin	EPA 625.1M (NCI-SIM)	<	0.3	0.3	0.5	ng/L		Caltest	1/25/21	1/30/21
SE77	5M-28	3/10/2021	Allethrin	EPA 625.1	<	2	2	2.5	ng/L	2	Caltest	3/11/21	3/20/21
DW46	5M-28	3/29/2021	Allethrin	EPA 625.1	<	0.3	0.3	0.6	ng/L	1	Caltest	4/1/21	4/10/21
DW44	5M-28R	9/8/2020	Allethrin	EPA 8270M_NCI	<	0.1	0.1	0.5	ng/L		Caltest	9/11/20	9/18/20
SE74	5M-28R	12/12/2020	Allethrin	EPA 8270M_NCI	<	0.3	0.3	0.5	ng/L		Caltest	12/15/20	12/19/20
DW45	5M-28R	1/13/2021	Allethrin	EPA 625.1	<	0.3	0.3	0.5	ng/L		Caltest	1/14/21	1/22/21
SE75	5M-28R	1/22/2021	Allethrin	EPA 625.1M (NCI-SIM)	<	0.3	0.3	0.5	ng/L		Caltest	1/25/21	1/30/21
SE77	5M-28R	3/10/2021	Allethrin	EPA 625.1	<	2	2	2.5	ng/L	2	Caltest	3/11/21	3/20/21
DW46	5M-28R	3/29/2021	Allethrin	EPA 625.1	<	0.3	0.3	0.5	ng/L		Caltest	4/1/21	4/10/21
SE74	NE-RAIN	12/12/2020	Allethrin	EPA 625.1M (NCI-SIM)	<	0.3	0.3	0.5	ng/L		Caltest	12/15/20	12/19/20
SE76	NE-RAIN	2/2/2021	Allethrin	EPA 625.1M (NCI-SIM)	<	0.3	0.3	0.5	ng/L		Caltest	2/5/21	2/17/21
SE77	NE-RAIN	3/10/2021	Allethrin	EPA 625.1M (NCI-SIM)	<	0.3	0.3	0.6	ng/L	2	Caltest	3/12/21	3/18/21
SE74	NW-RAIN	12/12/2020	Allethrin	EPA 625.1M (NCI-SIM)	<	0.3	0.3	0.5	ng/L		Caltest	12/15/20	12/19/20
SE76	NW-RAIN	2/2/2021	Allethrin	EPA 625.1M (NCI-SIM)	<	0.3	0.3	0.5	ng/L		Caltest	2/5/21	2/17/21
SE77	NW-RAIN	3/10/2021	Allethrin	EPA 625.1M (NCI-SIM)	<	0.3	0.3	0.6	ng/L	2	Caltest	3/12/21	3/18/21
SE74	SC-RAIN	12/12/2020	Allethrin	EPA 625.1M (NCI-SIM)	<	0.3	0.3	0.5	ng/L		Caltest	12/15/20	12/19/20
SE76	SC-RAIN	2/2/2021	Allethrin	EPA 625.1M (NCI-SIM)	<	0.3	0.3	0.5	ng/L		Caltest	2/5/21	2/17/21
SE77	SC-RAIN	3/10/2021	Allethrin	EPA 625.1M (NCI-SIM)	<	0.3	0.3	0.5	ng/L		Caltest	3/12/21	3/18/21
DW44	5M-25	9/8/2020	Bifenthrin	EPA 8270M_NCI	=	2.5	0.1	0.5	ng/L		Caltest	9/11/20	9/18/20
SE74	5M-25	12/12/2020	Bifenthrin	EPA 8270M_NCI	=	0.5	0.3	0.5	ng/L		Caltest	12/15/20	12/19/20
DW45	5M-25	1/13/2021	Bifenthrin	EPA 625.1	=	3.1	0.3	0.6	ng/L		Caltest	1/14/21	1/21/21

Ambient Monitoring Program 2020-2021 Data

Event	Site Code	Date Sampled	Analyte	Analytical Method	Q	Result	MDL	RL/ML	Units	Flag	Lab Name	Prep Date	Analysis Date
SE75	5M-25	1/22/2021	Bifenthrin	EPA 625.1M (NCI-SIM)	=	5.6	0.3	0.5	ng/L		Caltest	1/25/21	1/30/21
SE77	5M-25	3/10/2021	Bifenthrin	EPA 625.1	=	4.1	2	2.5	ng/L	2	Caltest	3/11/21	3/27/21
DW46	5M-25	3/29/2021	Bifenthrin	EPA 625.1	=	6.2	2	2.8	ng/L	2	Caltest	3/29/21	4/1/21
DW44	5M-25R	9/8/2020	Bifenthrin	EPA 8270M_NCI	J	0.2	0.1	0.5	ng/L		Caltest	9/11/20	9/18/20
SE74	5M-25R	12/12/2020	Bifenthrin	EPA 8270M_NCI	J	0.4	0.3	0.5	ng/L		Caltest	12/15/20	12/19/20
DW45	5M-25R	1/13/2021	Bifenthrin	EPA 625.1	=	0.5	0.3	0.5	ng/L		Caltest	1/14/21	1/21/21
SE75	5M-25R	1/22/2021	Bifenthrin	EPA 625.1M (NCI-SIM)	=	0.5	0.3	0.5	ng/L		Caltest	1/25/21	1/30/21
SE77	5M-25R	3/10/2021	Bifenthrin	EPA 625.1	=	1.7	0.3	0.5	ng/L		Caltest	3/11/21	3/19/21
DW46	5M-25R	3/29/2021	Bifenthrin	EPA 625.1	<	2	2	2.5	ng/L	2	Caltest	4/1/21	4/10/21
DW44	5M-26	9/8/2020	Bifenthrin	EPA 8270M_NCI	=	7.1	0.1	0.5	ng/L		Caltest	9/11/20	9/18/20
SE74	5M-26	12/12/2020	Bifenthrin	EPA 8270M_NCI	=	35	2	2.5	ng/L		Caltest	12/15/20	12/31/20
DW45	5M-26	1/13/2021	Bifenthrin	EPA 625.1	=	5.3	0.3	0.5	ng/L		Caltest	1/14/21	1/21/21
SE75	5M-26	1/22/2021	Bifenthrin	EPA 625.1M (NCI-SIM)	1	450	2	2.5	ng/L		Caltest	1/25/21	1/29/21
SE77	5M-26	3/10/2021	Bifenthrin	EPA 625.1	=	49	2	2.5	ng/L		Caltest	3/11/21	3/20/21
DW46	5M-26	3/29/2021	Bifenthrin	EPA 625.1	=	10	2	2.9	ng/L	2	Caltest	4/1/21	4/11/21
DW44	5M-26R	9/8/2020	Bifenthrin	EPA 8270M_NCI	=	2.4	0.1	0.5	ng/L		Caltest	9/11/20	9/18/20
SE74	5M-26R	12/12/2020	Bifenthrin	EPA 8270M_NCI	=	2.1	0.3	0.5	ng/L		Caltest	12/15/20	12/19/20
DW45	5M-26R	1/13/2021	Bifenthrin	EPA 625.1	=	1.5	0.3	0.5	ng/L		Caltest	1/14/21	1/21/21
SE75	5M-26R	1/22/2021	Bifenthrin	EPA 625.1M (NCI-SIM)	=	0.9	0.3	0.5	ng/L		Caltest	1/25/21	1/30/21
SE77	5M-26R	3/10/2021	Bifenthrin	EPA 625.1	=	11	2	2.5	ng/L		Caltest	3/11/21	3/20/21
DW46	5M-26R	3/29/2021	Bifenthrin	EPA 625.1	=	3.3	2	2.5	ng/L	2	Caltest	4/1/21	4/11/21
DW44	5M-28	9/8/2020	Bifenthrin	EPA 8270M_NCI	=	1.5	0.1	0.5	ng/L		Caltest	9/11/20	9/18/20
SE74	5M-28	12/12/2020	Bifenthrin	EPA 8270M_NCI	=	4.6	0.3	0.5	ng/L	E	Caltest	12/15/20	12/19/20
DW45	5M-28	1/13/2021	Bifenthrin	EPA 625.1	=	12	0.3	0.5	ng/L		Caltest	1/14/21	1/21/21
SE75	5M-28	1/22/2021	Bifenthrin	EPA 625.1M (NCI-SIM)	=	22	0.3	0.5	ng/L		Caltest	1/25/21	2/6/21
SE77	5M-28	3/10/2021	Bifenthrin	EPA 625.1	=	24	2	2.5	ng/L		Caltest	3/11/21	3/20/21
DW46	5M-28	3/29/2021	Bifenthrin	EPA 625.1	=	3.6	2	2.8	ng/L	2	Caltest	4/1/21	4/11/21
DW44	5M-28R	9/8/2020	Bifenthrin	EPA 8270M_NCI	=	7.7	0.1	0.5	ng/L		Caltest	9/11/20	9/18/20
SE74	5M-28R	12/12/2020	Bifenthrin	EPA 8270M_NCI	=	11	2	2.5	ng/L		Caltest	12/15/20	12/19/20
DW45	5M-28R	1/13/2021	Bifenthrin	EPA 625.1	=	1.3	0.3	0.5	ng/L		Caltest	1/14/21	1/22/21
SE75	5M-28R	1/22/2021	Bifenthrin	EPA 625.1M (NCI-SIM)	=	19	0.3	0.5	ng/L		Caltest	1/25/21	1/30/21
SE77	5M-28R	3/10/2021	Bifenthrin	EPA 625.1	=	8	2	2.5	ng/L		Caltest	3/11/21	3/20/21
DW46	5M-28R	3/29/2021	Bifenthrin	EPA 625.1	J	2	2	2.5	ng/L	2	Caltest	4/1/21	4/11/21
SE74	NE-RAIN	12/12/2020	Bifenthrin	EPA 625.1M (NCI-SIM)	=	0.8	0.3	0.5	ng/L		Caltest	12/15/20	12/19/20
SE76	NE-RAIN	2/2/2021	Bifenthrin	EPA 625.1M (NCI-SIM)	=	0.6	0.3	0.5	ng/L		Caltest	2/5/21	2/17/21
SE77	NE-RAIN	3/10/2021	Bifenthrin	EPA 625.1M (NCI-SIM)	=	0.6	0.3	0.6	ng/L		Caltest	3/12/21	3/18/21
SE74	NW-RAIN	12/12/2020	Bifenthrin	EPA 625.1M (NCI-SIM)	=	0.7	0.3	0.5	ng/L		Caltest	12/15/20	12/19/20

Ambient Monitoring Program 2020-2021 Data

Event	Site Code	Date Sampled	Analyte	Analytical Method	Q	Result	MDL	RL/ML	Units	Flag	Lab Name	Prep Date	Analysis Date
SE76	NW-RAIN	2/2/2021	Bifenthrin	EPA 625.1M (NCI-SIM)	=	0.8	0.3	0.5	ng/L		Caltest	2/5/21	2/17/21
SE77	NW-RAIN	3/10/2021	Bifenthrin	EPA 625.1M (NCI-SIM)	=	0.7	0.3	0.6	ng/L		Caltest	3/12/21	3/18/21
SE74	SC-RAIN	12/12/2020	Bifenthrin	EPA 625.1M (NCI-SIM)	=	0.6	0.3	0.5	ng/L		Caltest	12/15/20	12/19/20
SE76	SC-RAIN	2/2/2021	Bifenthrin	EPA 625.1M (NCI-SIM)	=	0.8	0.3	0.5	ng/L		Caltest	2/5/21	2/17/21
SE77	SC-RAIN	3/10/2021	Bifenthrin	EPA 625.1M (NCI-SIM)	=	0.8	0.3	0.5	ng/L		Caltest	3/12/21	3/18/21
DW44	5M-25	9/8/2020	Cyfluthrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L		Caltest	9/11/20	9/18/20
SE74	5M-25	12/12/2020	Cyfluthrin	EPA 8270M_NCI	<	0.4	0.4	0.5	ng/L		Caltest	12/15/20	12/19/20
DW45	5M-25	1/13/2021	Cyfluthrin	EPA 625.1	<	0.5	0.5	0.6	ng/L		Caltest	1/14/21	1/21/21
SE75	5M-25	1/22/2021	Cyfluthrin	EPA 625.1M (NCI-SIM)	<	0.4	0.4	0.5	ng/L		Caltest	1/25/21	1/30/21
SE77	5M-25	3/10/2021	Cyfluthrin	EPA 625.1	<	0.4	0.4	0.5	ng/L		Caltest	3/11/21	3/19/21
DW46	5M-25	3/29/2021	Cyfluthrin	EPA 625.1	<	2	2	2.8	ng/L		Caltest	3/30/21	4/4/21
DW44	5M-25R	9/8/2020	Cyfluthrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L		Caltest	9/11/20	9/18/20
SE74	5M-25R	12/12/2020	Cyfluthrin	EPA 8270M_NCI	<	0.4	0.4	0.5	ng/L		Caltest	12/15/20	12/19/20
DW45	5M-25R	1/13/2021	Cyfluthrin	EPA 625.1	<	0.4	0.4	0.5	ng/L		Caltest	1/14/21	1/21/21
SE75	5M-25R	1/22/2021	Cyfluthrin	EPA 625.1M (NCI-SIM)	<	0.4	0.4	0.5	ng/L		Caltest	1/25/21	1/30/21
SE77	5M-25R	3/10/2021	Cyfluthrin	EPA 625.1	<	0.4	0.4	0.5	ng/L		Caltest	3/11/21	3/19/21
DW46	5M-25R	3/29/2021	Cyfluthrin	EPA 625.1	<	0.4	0.4	0.5	ng/L		Caltest	4/1/21	4/10/21
DW44	5M-26	9/8/2020	Cyfluthrin	EPA 8270M_NCI	=	0.5	0.2	0.5	ng/L		Caltest	9/11/20	9/18/20
SE74	5M-26	12/12/2020	Cyfluthrin	EPA 8270M_NCI	<	0.4	0.4	0.5	ng/L		Caltest	12/15/20	12/19/20
DW45	5M-26	1/13/2021	Cyfluthrin	EPA 625.1	<	0.4	0.4	0.5	ng/L		Caltest	1/14/21	1/21/21
SE75	5M-26	1/22/2021	Cyfluthrin	EPA 625.1M (NCI-SIM)	=	8	0.4	0.5	ng/L		Caltest	1/25/21	1/30/21
SE77	5M-26	3/10/2021	Cyfluthrin	EPA 625.1	<	2	2	2.5	ng/L		Caltest	3/11/21	3/20/21
DW46	5M-26	3/29/2021	Cyfluthrin	EPA 625.1	<	2	2	2.9	ng/L		Caltest	4/1/21	4/11/21
DW44	5M-26R	9/8/2020	Cyfluthrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L		Caltest	9/11/20	9/18/20
SE74	5M-26R	12/12/2020	Cyfluthrin	EPA 8270M_NCI	<	0.4	0.4	0.5	ng/L		Caltest	12/15/20	12/19/20
DW45	5M-26R	1/13/2021	Cyfluthrin	EPA 625.1	<	0.4	0.4	0.5	ng/L		Caltest	1/14/21	1/21/21
SE75	5M-26R	1/22/2021	Cyfluthrin	EPA 625.1M (NCI-SIM)	<	0.4	0.4	0.5	ng/L		Caltest	1/25/21	1/30/21
SE77	5M-26R	3/10/2021	Cyfluthrin	EPA 625.1	<	2	2	2.5	ng/L		Caltest	3/11/21	3/20/21
DW46	5M-26R	3/29/2021	Cyfluthrin	EPA 625.1	<	0.4	0.4	0.5	ng/L		Caltest	4/1/21	4/10/21
DW44	5M-28	9/8/2020	Cyfluthrin	EPA 8270M_NCI	J	0.4	0.2	0.5	ng/L		Caltest	9/11/20	9/18/20
SE74	5M-28	12/12/2020	Cyfluthrin	EPA 8270M_NCI	<	0.4	0.4	0.5	ng/L		Caltest	12/15/20	12/19/20
DW45	5M-28	1/13/2021	Cyfluthrin	EPA 625.1	=	0.5	0.4	0.5	ng/L		Caltest	1/14/21	1/21/21
SE75	5M-28	1/22/2021	Cyfluthrin	EPA 625.1M (NCI-SIM)	=	0.7	0.4	0.5	ng/L		Caltest	1/25/21	2/6/21
SE77	5M-28	3/10/2021	Cyfluthrin	EPA 625.1	J	2	2	2.5	ng/L		Caltest	3/11/21	3/20/21
DW46	5M-28	3/29/2021	Cyfluthrin	EPA 625.1	J	0.5	0.4	0.6	ng/L		Caltest	4/1/21	4/10/21
DW44	5M-28R	9/8/2020	Cyfluthrin	EPA 8270M_NCI	J	0.2	0.2	0.5	ng/L		Caltest	9/11/20	9/18/20
SE74	5M-28R	12/12/2020	Cyfluthrin	EPA 8270M_NCI	<	2	2	2.5	ng/L		Caltest	12/15/20	12/19/20

Event	Site Code	Date Sampled	Analyte	Analytical Method	Q	Result	MDL	RL/ML	Units	Flag	Lab Name	Prep Date	Analysis Date
DW45	5M-28R	1/13/2021	Cyfluthrin	EPA 625.1	<	0.4	0.4	0.5	ng/L		Caltest	1/14/21	1/22/21
SE75	5M-28R	1/22/2021	Cyfluthrin	EPA 625.1M (NCI-SIM)	<	0.4	0.4	0.5	ng/L		Caltest	1/25/21	1/30/21
SE77	5M-28R	3/10/2021	Cyfluthrin	EPA 625.1	<	2	2	2.5	ng/L		Caltest	3/11/21	3/20/21
DW46	5M-28R	3/29/2021	Cyfluthrin	EPA 625.1	<	0.4	0.4	0.5	ng/L		Caltest	4/1/21	4/10/21
SE74	NE-RAIN	12/12/2020	Cyfluthrin	EPA 625.1M (NCI-SIM)	<	0.4	0.4	0.5	ng/L		Caltest	12/15/20	12/19/20
SE76	NE-RAIN	2/2/2021	Cyfluthrin	EPA 625.1M (NCI-SIM)	<	0.4	0.4	0.5	ng/L		Caltest	2/5/21	2/17/21
SE77	NE-RAIN	3/10/2021	Cyfluthrin	EPA 625.1M (NCI-SIM)	<	0.4	0.4	0.6	ng/L		Caltest	3/12/21	3/18/21
SE74	NW-RAIN	12/12/2020	Cyfluthrin	EPA 625.1M (NCI-SIM)	<	0.4	0.4	0.5	ng/L		Caltest	12/15/20	12/19/20
SE76	NW-RAIN	2/2/2021	Cyfluthrin	EPA 625.1M (NCI-SIM)	<	0.4	0.4	0.5	ng/L		Caltest	2/5/21	2/17/21
SE77	NW-RAIN	3/10/2021	Cyfluthrin	EPA 625.1M (NCI-SIM)	<	0.5	0.5	0.6	ng/L		Caltest	3/12/21	3/18/21
SE74	SC-RAIN	12/12/2020	Cyfluthrin	EPA 625.1M (NCI-SIM)	<	0.4	0.4	0.5	ng/L		Caltest	12/15/20	12/19/20
SE76	SC-RAIN	2/2/2021	Cyfluthrin	EPA 625.1M (NCI-SIM)	<	0.4	0.4	0.5	ng/L		Caltest	2/5/21	2/17/21
SE77	SC-RAIN	3/10/2021	Cyfluthrin	EPA 625.1M (NCI-SIM)	=	0.6	0.4	0.5	ng/L		Caltest	3/12/21	3/18/21
DW44	5M-25	9/8/2020	Cypermethrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L		Caltest	9/11/20	9/18/20
SE74	5M-25	12/12/2020	Cypermethrin	EPA 8270M_NCI	<	0.3	0.3	0.5	ng/L		Caltest	12/15/20	12/19/20
DW45	5M-25	1/13/2021	Cypermethrin	EPA 625.1	<	0.3	0.3	0.6	ng/L		Caltest	1/14/21	1/21/21
SE75	5M-25	1/22/2021	Cypermethrin	EPA 625.1M (NCI-SIM)	=	1.2	0.3	0.5	ng/L		Caltest	1/25/21	1/30/21
SE77	5M-25	3/10/2021	Cypermethrin	EPA 625.1	<	2	2	2.5	ng/L		Caltest	3/11/21	3/27/21
DW46	5M-25	3/29/2021	Cypermethrin	EPA 625.1	=	3.1	2	2.8	ng/L		Caltest	4/1/21	4/10/21
DW44	5M-25R	9/8/2020	Cypermethrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L		Caltest	9/11/20	9/18/20
SE74	5M-25R	12/12/2020	Cypermethrin	EPA 8270M_NCI	<	0.3	0.3	0.5	ng/L		Caltest	12/15/20	12/19/20
DW45	5M-25R	1/13/2021	Cypermethrin	EPA 625.1	<	0.3	0.3	0.5	ng/L		Caltest	1/14/21	1/21/21
SE75	5M-25R	1/22/2021	Cypermethrin	EPA 625.1M (NCI-SIM)	<	0.3	0.3	0.5	ng/L		Caltest	1/25/21	1/30/21
SE77	5M-25R	3/10/2021	Cypermethrin	EPA 625.1	<	0.3	0.3	0.5	ng/L		Caltest	3/11/21	3/19/21
DW46	5M-25R	3/29/2021	Cypermethrin	EPA 625.1	<	0.3	0.3	0.5	ng/L		Caltest	4/1/21	4/10/21
DW44	5M-26	9/8/2020	Cypermethrin	EPA 8270M_NCI	=	1.1	0.2	0.5	ng/L		Caltest	9/11/20	9/18/20
SE74	5M-26	12/12/2020	Cypermethrin	EPA 8270M_NCI	<	2	2	2.5	ng/L		Caltest	12/15/20	12/31/20
DW45	5M-26	1/13/2021	Cypermethrin	EPA 625.1	=	0.7	0.3	0.5	ng/L		Caltest	1/14/21	1/21/21
SE75	5M-26	1/22/2021	Cypermethrin	EPA 625.1M (NCI-SIM)	=	41	0.3	0.5	ng/L		Caltest	1/25/21	1/30/21
SE77	5M-26	3/10/2021	Cypermethrin	EPA 625.1	=	2.8	2	2.5	ng/L		Caltest	3/11/21	3/20/21
DW46	5M-26	3/29/2021	Cypermethrin	EPA 625.1	=	4.7	2	2.9	ng/L		Caltest	4/1/21	4/11/21
DW44	5M-26R	9/8/2020	Cypermethrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L		Caltest	9/11/20	9/18/20
SE74	5M-26R	12/12/2020	Cypermethrin	EPA 8270M_NCI	<	0.3	0.3	0.5	ng/L		Caltest	12/15/20	12/19/20
DW45	5M-26R	1/13/2021	Cypermethrin	EPA 625.1	J	0.3	0.3	0.5	ng/L		Caltest	1/14/21	1/21/21
SE75	5M-26R	1/22/2021	Cypermethrin	EPA 625.1M (NCI-SIM)	<	0.3	0.3	0.5	ng/L		Caltest	1/25/21	1/30/21
SE77	5M-26R	3/10/2021	Cypermethrin	EPA 625.1	<	2	2	2.5	ng/L		Caltest	3/11/21	3/20/21
DW46	5M-26R	3/29/2021	Cypermethrin	EPA 625.1	<	0.3	0.3	0.5	ng/L		Caltest	4/1/21	4/10/21

Ambient Monitoring Program 2020-2021 Data

Event	Site Code	Date Sampled	Analyte	Analytical Method	Q	Result	MDL	RL/ML	Units	Flag	Lab Name	Prep Date	Analysis Date
DW44	5M-28	9/8/2020	Cypermethrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L		Caltest	9/11/20	9/18/20
SE74	5M-28	12/12/2020	Cypermethrin	EPA 8270M_NCI	<	2	2	2.5	ng/L		Caltest	12/15/20	12/24/20
DW45	5M-28	1/13/2021	Cypermethrin	EPA 625.1	=	0.5	0.3	0.5	ng/L		Caltest	1/14/21	1/21/21
SE75	5M-28	1/22/2021	Cypermethrin	EPA 625.1M (NCI-SIM)	=	0.8	0.3	0.5	ng/L		Caltest	1/25/21	2/6/21
SE77	5M-28	3/10/2021	Cypermethrin	EPA 625.1	<	2	2	2.5	ng/L		Caltest	3/11/21	3/20/21
DW46	5M-28	3/29/2021	Cypermethrin	EPA 625.1	<	2	2	2.8	ng/L		Caltest	4/1/21	4/11/21
DW44	5M-28R	9/8/2020	Cypermethrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L		Caltest	9/11/20	9/18/20
SE74	5M-28R	12/12/2020	Cypermethrin	EPA 8270M_NCI	<	2	2	2.5-5	ng/L		Caltest	12/15/20	12/19/20
DW45	5M-28R	1/13/2021	Cypermethrin	EPA 625.1	<	0.3	0.3	0.5	ng/L		Caltest	1/14/21	1/22/21
SE75	5M-28R	1/22/2021	Cypermethrin	EPA 625.1M (NCI-SIM)	=	0.8	0.3	0.5	ng/L		Caltest	1/25/21	1/30/21
SE77	5M-28R	3/10/2021	Cypermethrin	EPA 625.1	<	2	2	2.5	ng/L		Caltest	3/11/21	3/20/21
DW46	5M-28R	3/29/2021	Cypermethrin	EPA 625.1	<	0.3	0.3	0.5	ng/L		Caltest	4/1/21	4/10/21
SE74	NE-RAIN	12/12/2020	Cypermethrin	EPA 625.1M (NCI-SIM)	<	0.3	0.3	0.5	ng/L		Caltest	12/15/20	12/19/20
SE76	NE-RAIN	2/2/2021	Cypermethrin	EPA 625.1M (NCI-SIM)	<	0.3	0.3	0.5	ng/L		Caltest	2/5/21	2/17/21
SE77	NE-RAIN	3/10/2021	Cypermethrin	EPA 625.1M (NCI-SIM)	<	0.3	0.3	0.6	ng/L		Caltest	3/12/21	3/18/21
SE74	NW-RAIN	12/12/2020	Cypermethrin	EPA 625.1M (NCI-SIM)	<	0.3	0.3	0.5	ng/L		Caltest	12/15/20	12/19/20
SE76	NW-RAIN	2/2/2021	Cypermethrin	EPA 625.1M (NCI-SIM)	<	0.3	0.3	0.5	ng/L		Caltest	2/5/21	2/17/21
SE77	NW-RAIN	3/10/2021	Cypermethrin	EPA 625.1M (NCI-SIM)	<	0.3	0.3	0.6	ng/L		Caltest	3/12/21	3/18/21
SE74	SC-RAIN	12/12/2020	Cypermethrin	EPA 625.1M (NCI-SIM)	<	0.3	0.3	0.5	ng/L		Caltest	12/15/20	12/19/20
SE76	SC-RAIN	2/2/2021	Cypermethrin	EPA 625.1M (NCI-SIM)	<	0.3	0.3	0.5	ng/L		Caltest	2/5/21	2/17/21
SE77	SC-RAIN	3/10/2021	Cypermethrin	EPA 625.1M (NCI-SIM)	=	0.7	0.3	0.5	ng/L		Caltest	3/12/21	3/18/21
DW44	5M-25	9/8/2020	Deltamethrin:Tralomethrin	EPA 8270M_NCI	=	5.3	0.2	1	ng/L		Caltest	9/11/20	9/18/20
SE74	5M-25	12/12/2020	Deltamethrin:Tralomethrin	EPA 8270M_NCI	<	0.2	0.2	1	ng/L		Caltest	12/15/20	12/19/20
DW45	5M-25	1/13/2021	Deltamethrin:Tralomethrin	EPA 625.1	=	6.5	0.2	1.2	ng/L		Caltest	1/14/21	1/21/21
SE75	5M-25	1/22/2021	Deltamethrin:Tralomethrin	EPA 625.1M (NCI-SIM)	=	4.7	0.2	1	ng/L		Caltest	1/25/21	1/30/21
SE77	5M-25	3/10/2021	Deltamethrin:Tralomethrin	EPA 625.1	J	1.7	1	5	ng/L		Caltest	3/11/21	3/27/21
DW46	5M-25	3/29/2021	Deltamethrin:Tralomethrin	EPA 625.1	=	13	1	5.6	ng/L		Caltest	4/1/21	4/10/21
DW44	5M-25R	9/8/2020	Deltamethrin:Tralomethrin	EPA 8270M_NCI	<	0.2	0.2	1	ng/L		Caltest	9/11/20	9/18/20
SE74	5M-25R	12/12/2020	Deltamethrin:Tralomethrin	EPA 8270M_NCI	<	0.2	0.2	1	ng/L		Caltest	12/15/20	12/19/20
DW45	5M-25R	1/13/2021	Deltamethrin:Tralomethrin	EPA 625.1	<	0.2	0.2	1	ng/L		Caltest	1/14/21	1/21/21
SE75	5M-25R	1/22/2021	Deltamethrin:Tralomethrin	EPA 625.1M (NCI-SIM)	<	0.2	0.2	1	ng/L		Caltest	1/25/21	1/30/21
SE77	5M-25R	3/10/2021	Deltamethrin:Tralomethrin	EPA 625.1	<	0.2	0.2	1	ng/L		Caltest	3/11/21	3/19/21
DW46	5M-25R	3/29/2021	Deltamethrin:Tralomethrin	EPA 625.1	<	0.2	0.2	1	ng/L		Caltest	4/1/21	4/10/21
DW44	5M-26	9/8/2020	Deltamethrin:Tralomethrin	EPA 8270M_NCI	<	0.2	0.2	1	ng/L		Caltest	9/11/20	9/18/20
SE74	5M-26	12/12/2020	Deltamethrin:Tralomethrin	EPA 8270M_NCI	<	0.2	0.2	1	ng/L		Caltest	12/15/20	12/19/20
DW45	5M-26	1/13/2021	Deltamethrin:Tralomethrin	EPA 625.1	<	0.2	0.2	1	ng/L		Caltest	1/14/21	1/21/21
SE75	5M-26	1/22/2021	Deltamethrin:Tralomethrin	EPA 625.1M (NCI-SIM)	=	15	0.2	1	ng/L		Caltest	1/25/21	1/30/21

Ambient Monitoring Program 2020-2021 Data

Event	Site Code	Date Sampled	Analyte	Analytical Method	Q	Result	MDL	RL/ML	Units	Flag	Lab Name	Prep Date	Analysis Date
SE77	5M-26	3/10/2021	Deltamethrin:Tralomethrin	EPA 625.1	<	1	1	5	ng/L		Caltest	3/11/21	3/20/21
DW46	5M-26	3/29/2021	Deltamethrin:Tralomethrin	EPA 625.1	J	2.1	1	5.7	ng/L		Caltest	4/1/21	4/11/21
DW44	5M-26R	9/8/2020	Deltamethrin:Tralomethrin	EPA 8270M_NCI	<	0.2	0.2	1	ng/L		Caltest	9/11/20	9/18/20
SE74	5M-26R	12/12/2020	Deltamethrin:Tralomethrin	EPA 8270M_NCI	<	0.2	0.2	1	ng/L		Caltest	12/15/20	12/19/20
DW45	5M-26R	1/13/2021	Deltamethrin:Tralomethrin	EPA 625.1	<	0.2	0.2	1	ng/L		Caltest	1/14/21	1/21/21
SE75	5M-26R	1/22/2021	Deltamethrin:Tralomethrin	EPA 625.1M (NCI-SIM)	<	0.2	0.2	1	ng/L		Caltest	1/25/21	1/30/21
SE77	5M-26R	3/10/2021	Deltamethrin:Tralomethrin	EPA 625.1	<	1	1	5	ng/L		Caltest	3/11/21	3/20/21
DW46	5M-26R	3/29/2021	Deltamethrin:Tralomethrin	EPA 625.1	<	1	1	5	ng/L		Caltest	4/1/21	4/11/21
DW44	5M-28	9/8/2020	Deltamethrin:Tralomethrin	EPA 8270M_NCI	<	0.2	0.2	1	ng/L		Caltest	9/11/20	9/18/20
SE74	5M-28	12/12/2020	Deltamethrin:Tralomethrin	EPA 8270M_NCI	<	0.2	0.2	1	ng/L		Caltest	12/15/20	12/19/20
DW45	5M-28	1/13/2021	Deltamethrin:Tralomethrin	EPA 625.1	=	1.4	0.2	1	ng/L		Caltest	1/14/21	1/21/21
SE75	5M-28	1/22/2021	Deltamethrin:Tralomethrin	EPA 625.1M (NCI-SIM)	=	3.3	0.2	1	ng/L		Caltest	1/25/21	2/6/21
SE77	5M-28	3/10/2021	Deltamethrin:Tralomethrin	EPA 625.1	=	9.8	1	5	ng/L		Caltest	3/11/21	3/20/21
DW46	5M-28	3/29/2021	Deltamethrin:Tralomethrin	EPA 625.1	<	1	1	5.6	ng/L		Caltest	4/1/21	4/11/21
DW44	5M-28R	9/8/2020	Deltamethrin:Tralomethrin	EPA 8270M_NCI	=	2.4	0.2	1	ng/L		Caltest	9/11/20	9/18/20
SE74	5M-28R	12/12/2020	Deltamethrin:Tralomethrin	EPA 8270M_NCI	J	2.9	1	1-5	ng/L		Caltest	12/15/20	12/19/20
DW45	5M-28R	1/13/2021	Deltamethrin:Tralomethrin	EPA 625.1	J	0.6	0.2	1	ng/L		Caltest	1/14/21	1/22/21
SE75	5M-28R	1/22/2021	Deltamethrin:Tralomethrin	EPA 625.1M (NCI-SIM)	=	4.3	0.2	1	ng/L		Caltest	1/25/21	1/30/21
SE77	5M-28R	3/10/2021	Deltamethrin:Tralomethrin	EPA 625.1	=	6.7	1	5	ng/L		Caltest	3/11/21	3/20/21
DW46	5M-28R	3/29/2021	Deltamethrin:Tralomethrin	EPA 625.1	<	0.2	0.2	1	ng/L		Caltest	4/1/21	4/10/21
SE74	NE-RAIN	12/12/2020	Deltamethrin:Tralomethrin	EPA 625.1M (NCI-SIM)	<	0.2	0.2	1	ng/L		Caltest	12/15/20	12/19/20
SE76	NE-RAIN	2/2/2021	Deltamethrin:Tralomethrin	EPA 625.1M (NCI-SIM)	<	0.2	0.2	1	ng/L		Caltest	2/5/21	2/17/21
SE77	NE-RAIN	3/10/2021	Deltamethrin:Tralomethrin	EPA 625.1M (NCI-SIM)	<	0.2	0.2	1.1	ng/L		Caltest	3/12/21	3/18/21
SE74	NW-RAIN	12/12/2020	Deltamethrin:Tralomethrin	EPA 625.1M (NCI-SIM)	<	0.2	0.2	1	ng/L		Caltest	12/15/20	12/19/20
SE76	NW-RAIN	2/2/2021	Deltamethrin:Tralomethrin	EPA 625.1M (NCI-SIM)	<	0.2	0.2	1	ng/L		Caltest	2/5/21	2/17/21
SE77	NW-RAIN	3/10/2021	Deltamethrin:Tralomethrin	EPA 625.1M (NCI-SIM)	<	0.2	0.2	1.1	ng/L		Caltest	3/12/21	3/18/21
SE74	SC-RAIN	12/12/2020	Deltamethrin:Tralomethrin	EPA 625.1M (NCI-SIM)	<	0.2	0.2	1	ng/L		Caltest	12/15/20	12/19/20
SE76	SC-RAIN	2/2/2021	Deltamethrin:Tralomethrin	EPA 625.1M (NCI-SIM)	<	0.2	0.2	1	ng/L		Caltest	2/5/21	2/17/21
SE77	SC-RAIN	3/10/2021	Deltamethrin:Tralomethrin	EPA 625.1M (NCI-SIM)	J	0.2	0.2	1	ng/L		Caltest	3/12/21	3/18/21
DW44	5M-25	9/8/2020	Esfenvalerate:Fenvalerate	EPA 8270M_NCI	J	0.3	0.2	1	ng/L		Caltest	9/11/20	9/18/20
SE74	5M-25	12/12/2020	Esfenvalerate:Fenvalerate	EPA 8270M_NCI	<	0.4	0.4	1	ng/L		Caltest	12/15/20	12/19/20
DW45	5M-25	1/13/2021	Esfenvalerate:Fenvalerate	EPA 625.1	J	0.8	0.5	1.2	ng/L		Caltest	1/14/21	1/21/21
SE75	5M-25	1/22/2021	Esfenvalerate:Fenvalerate	EPA 625.1M (NCI-SIM)	=	1.3	0.4	1	ng/L		Caltest	1/25/21	1/30/21
SE77	5M-25	3/10/2021	Esfenvalerate:Fenvalerate	EPA 625.1	<	2	2	5	ng/L		Caltest	3/11/21	3/27/21
DW46	5M-25	3/29/2021	Esfenvalerate:Fenvalerate	EPA 625.1	=	5.7	2	5.6	ng/L		Caltest	4/1/21	4/10/21
DW44	5M-25R	9/8/2020	Esfenvalerate:Fenvalerate	EPA 8270M_NCI	<	0.2	0.2	1	ng/L		Caltest	9/11/20	9/18/20
SE74	5M-25R	12/12/2020	Esfenvalerate:Fenvalerate	EPA 8270M_NCI	<	0.4	0.4	1	ng/L		Caltest	12/15/20	12/19/20

Event	Site Code	Date Sampled	Analyte	Analytical Method	Q	Result	MDL	RL/ML	Units	Flag	Lab Name	Prep Date	Analysis Date
DW45	5M-25R	1/13/2021	Esfenvalerate:Fenvalerate	EPA 625.1	<	0.4	0.4	1	ng/L		Caltest	1/14/21	1/21/21
SE75	5M-25R	1/22/2021	Esfenvalerate:Fenvalerate	EPA 625.1M (NCI-SIM)	<	0.4	0.4	1	ng/L		Caltest	1/25/21	1/30/21
SE77	5M-25R	3/10/2021	Esfenvalerate:Fenvalerate	EPA 625.1	<	0.4	0.4	1	ng/L		Caltest	3/11/21	3/19/21
DW46	5M-25R	3/29/2021	Esfenvalerate:Fenvalerate	EPA 625.1	<	0.4	0.4	1	ng/L		Caltest	4/1/21	4/10/21
DW44	5M-26	9/8/2020	Esfenvalerate:Fenvalerate	EPA 8270M_NCI	<	0.2	0.2	1	ng/L		Caltest	9/11/20	9/18/20
SE74	5M-26	12/12/2020	Esfenvalerate:Fenvalerate	EPA 8270M_NCI	<	2	2	5	ng/L		Caltest	12/15/20	12/31/20
DW45	5M-26	1/13/2021	Esfenvalerate:Fenvalerate	EPA 625.1	<	0.4	0.4	1	ng/L		Caltest	1/14/21	1/21/21
SE75	5M-26	1/22/2021	Esfenvalerate:Fenvalerate	EPA 625.1M (NCI-SIM)	=	5	0.4	1	ng/L		Caltest	1/25/21	1/30/21
SE77	5M-26	3/10/2021	Esfenvalerate:Fenvalerate	EPA 625.1	<	2	2	5	ng/L		Caltest	3/11/21	3/20/21
DW46	5M-26	3/29/2021	Esfenvalerate:Fenvalerate	EPA 625.1	<	2	2	5.7	ng/L		Caltest	4/1/21	4/11/21
DW44	5M-26R	9/8/2020	Esfenvalerate:Fenvalerate	EPA 8270M_NCI	<	0.2	0.2	1	ng/L		Caltest	9/11/20	9/18/20
SE74	5M-26R	12/12/2020	Esfenvalerate:Fenvalerate	EPA 8270M_NCI	<	0.4	0.4	1	ng/L		Caltest	12/15/20	12/19/20
DW45	5M-26R	1/13/2021	Esfenvalerate:Fenvalerate	EPA 625.1	J	0.6	0.4	1	ng/L		Caltest	1/14/21	1/21/21
SE75	5M-26R	1/22/2021	Esfenvalerate:Fenvalerate	EPA 625.1M (NCI-SIM)	J	0.4	0.4	1	ng/L		Caltest	1/25/21	1/30/21
SE77	5M-26R	3/10/2021	Esfenvalerate:Fenvalerate	EPA 625.1	<	2	2	5	ng/L		Caltest	3/11/21	3/20/21
DW46	5M-26R	3/29/2021	Esfenvalerate:Fenvalerate	EPA 625.1	<	0.4	0.4	1	ng/L		Caltest	4/1/21	4/10/21
DW44	5M-28	9/8/2020	Esfenvalerate:Fenvalerate	EPA 8270M_NCI	<	0.2	0.2	1	ng/L		Caltest	9/11/20	9/18/20
SE74	5M-28	12/12/2020	Esfenvalerate:Fenvalerate	EPA 8270M_NCI	<	0.4	0.4	1	ng/L		Caltest	12/15/20	12/19/20
DW45	5M-28	1/13/2021	Esfenvalerate:Fenvalerate	EPA 625.1	J	0.6	0.4	1	ng/L		Caltest	1/14/21	1/21/21
SE75	5M-28	1/22/2021	Esfenvalerate:Fenvalerate	EPA 625.1M (NCI-SIM)	=	1.5	0.4	1	ng/L		Caltest	1/25/21	2/6/21
SE77	5M-28	3/10/2021	Esfenvalerate:Fenvalerate	EPA 625.1	J	3.3	2	5	ng/L		Caltest	3/11/21	3/20/21
DW46	5M-28	3/29/2021	Esfenvalerate:Fenvalerate	EPA 625.1	<	2	2	5.6	ng/L		Caltest	4/1/21	4/11/21
DW44	5M-28R	9/8/2020	Esfenvalerate:Fenvalerate	EPA 8270M_NCI	<	0.2	0.2	1	ng/L		Caltest	9/11/20	9/18/20
SE74	5M-28R	12/12/2020	Esfenvalerate:Fenvalerate	EPA 8270M_NCI	<	0.4	0.4	0.5-1	ng/L		Caltest	12/15/20	12/19/20
DW45	5M-28R	1/13/2021	Esfenvalerate:Fenvalerate	EPA 625.1	<	0.4	0.4	1	ng/L		Caltest	1/14/21	1/22/21
SE75	5M-28R	1/22/2021	Esfenvalerate:Fenvalerate	EPA 625.1M (NCI-SIM)	J	0.9	0.4	1	ng/L		Caltest	1/25/21	1/30/21
SE77	5M-28R	3/10/2021	Esfenvalerate:Fenvalerate	EPA 625.1	<	2	2	5	ng/L		Caltest	3/11/21	3/20/21
DW46	5M-28R	3/29/2021	Esfenvalerate:Fenvalerate	EPA 625.1	<	0.4	0.4	1	ng/L		Caltest	4/1/21	4/10/21
SE74	NE-RAIN	12/12/2020	Esfenvalerate:Fenvalerate	EPA 625.1M (NCI-SIM)	<	0.4	0.4	1	ng/L		Caltest	12/15/20	12/19/20
SE76	NE-RAIN	2/2/2021	Esfenvalerate:Fenvalerate	EPA 625.1M (NCI-SIM)	=	1.8	0.4	1	ng/L		Caltest	2/5/21	2/17/21
SE77	NE-RAIN	3/10/2021	Esfenvalerate:Fenvalerate	EPA 625.1M (NCI-SIM)	J	0.7	0.4	1.1	ng/L		Caltest	3/12/21	3/18/21
SE74	NW-RAIN	12/12/2020	Esfenvalerate:Fenvalerate	EPA 625.1M (NCI-SIM)	<	0.4	0.4	1	ng/L		Caltest	12/15/20	12/19/20
SE76	NW-RAIN	2/2/2021	Esfenvalerate:Fenvalerate	EPA 625.1M (NCI-SIM)	=	1.7	0.4	1	ng/L		Caltest	2/5/21	2/17/21
SE77	NW-RAIN	3/10/2021	Esfenvalerate:Fenvalerate	EPA 625.1M (NCI-SIM)	J	0.9	0.5	1.1	ng/L		Caltest	3/12/21	3/18/21
SE74	SC-RAIN	12/12/2020	Esfenvalerate:Fenvalerate	EPA 625.1M (NCI-SIM)	<	0.4	0.4	1	ng/L		Caltest	12/15/20	12/19/20
SE76	SC-RAIN	2/2/2021	Esfenvalerate:Fenvalerate	EPA 625.1M (NCI-SIM)	=	1.4	0.4	1	ng/L		Caltest	2/5/21	2/17/21
SE77	SC-RAIN	3/10/2021	Esfenvalerate:Fenvalerate	EPA 625.1M (NCI-SIM)	J	0.9	0.4	1	ng/L		Caltest	3/12/21	3/18/21

Ambient Monitoring Program 2020-2021 Data

Event	Site Code	Date Sampled	Analyte	Analytical Method	Q	Result	MDL	RL/ML	Units	Flag	Lab Name	Prep Date	Analysis Date
DW44	5M-25	9/8/2020	Fenpropathrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L		Caltest	9/11/20	9/18/20
SE74	5M-25	12/12/2020	Fenpropathrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L		Caltest	12/15/20	12/19/20
DW45	5M-25	1/13/2021	Fenpropathrin	EPA 625.1	<	0.2	0.2	0.6	ng/L		Caltest	1/14/21	1/21/21
SE75	5M-25	1/22/2021	Fenpropathrin	EPA 625.1M (NCI-SIM)	<	0.2	0.2	0.5	ng/L		Caltest	1/25/21	1/30/21
SE77	5M-25	3/10/2021	Fenpropathrin	EPA 625.1	<	0.2	0.2	0.5	ng/L		Caltest	3/11/21	3/19/21
DW46	5M-25	3/29/2021	Fenpropathrin	EPA 625.1	<	1	1	2.8	ng/L		Caltest	4/1/21	4/10/21
DW44	5M-25R	9/8/2020	Fenpropathrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L		Caltest	9/11/20	9/18/20
SE74	5M-25R	12/12/2020	Fenpropathrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L		Caltest	12/15/20	12/19/20
DW45	5M-25R	1/13/2021	Fenpropathrin	EPA 625.1	<	0.2	0.2	0.5	ng/L		Caltest	1/14/21	1/21/21
SE75	5M-25R	1/22/2021	Fenpropathrin	EPA 625.1M (NCI-SIM)	<	0.2	0.2	0.5	ng/L		Caltest	1/25/21	1/30/21
SE77	5M-25R	3/10/2021	Fenpropathrin	EPA 625.1	<	0.2	0.2	0.5	ng/L		Caltest	3/11/21	3/19/21
DW46	5M-25R	3/29/2021	Fenpropathrin	EPA 625.1	<	0.2	0.2	0.5	ng/L		Caltest	4/1/21	4/10/21
DW44	5M-26	9/8/2020	Fenpropathrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L		Caltest	9/11/20	9/18/20
SE74	5M-26	12/12/2020	Fenpropathrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L		Caltest	12/15/20	12/19/20
DW45	5M-26	1/13/2021	Fenpropathrin	EPA 625.1	<	0.2	0.2	0.5	ng/L		Caltest	1/14/21	1/21/21
SE75	5M-26	1/22/2021	Fenpropathrin	EPA 625.1M (NCI-SIM)	<	0.2	0.2	0.5	ng/L		Caltest	1/25/21	1/30/21
SE77	5M-26	3/10/2021	Fenpropathrin	EPA 625.1	<	1	1	2.5	ng/L		Caltest	3/11/21	3/20/21
DW46	5M-26	3/29/2021	Fenpropathrin	EPA 625.1	<	0.2	0.2	0.6	ng/L		Caltest	4/1/21	4/10/21
DW44	5M-26R	9/8/2020	Fenpropathrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L		Caltest	9/11/20	9/18/20
SE74	5M-26R	12/12/2020	Fenpropathrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L		Caltest	12/15/20	12/19/20
DW45	5M-26R	1/13/2021	Fenpropathrin	EPA 625.1	<	0.2	0.2	0.5	ng/L		Caltest	1/14/21	1/21/21
SE75	5M-26R	1/22/2021	Fenpropathrin	EPA 625.1M (NCI-SIM)	<	0.2	0.2	0.5	ng/L		Caltest	1/25/21	1/30/21
SE77	5M-26R	3/10/2021	Fenpropathrin	EPA 625.1	<	1	1	2.5	ng/L		Caltest	3/11/21	3/20/21
DW46	5M-26R	3/29/2021	Fenpropathrin	EPA 625.1	<	0.2	0.2	0.5	ng/L		Caltest	4/1/21	4/10/21
DW44	5M-28	9/8/2020	Fenpropathrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L		Caltest	9/11/20	9/18/20
SE74	5M-28	12/12/2020	Fenpropathrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L		Caltest	12/15/20	12/19/20
DW45	5M-28	1/13/2021	Fenpropathrin	EPA 625.1	<	0.2	0.2	0.5	ng/L		Caltest	1/14/21	1/21/21
SE75	5M-28	1/22/2021	Fenpropathrin	EPA 625.1M (NCI-SIM)	<	0.2	0.2	0.5	ng/L		Caltest	1/25/21	1/30/21
SE77	5M-28	3/10/2021	Fenpropathrin	EPA 625.1	<	1	1	2.5	ng/L		Caltest	3/11/21	3/20/21
DW46	5M-28	3/29/2021	Fenpropathrin	EPA 625.1	<	0.2	0.2	0.6	ng/L		Caltest	4/1/21	4/10/21
DW44	5M-28R	9/8/2020	Fenpropathrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L		Caltest	9/11/20	9/18/20
SE74	5M-28R	12/12/2020	Fenpropathrin	EPA 8270M_NCI	<	0.2	0.2	0.5-2.5	ng/L		Caltest	12/15/20	12/19/20
DW45	5M-28R	1/13/2021	Fenpropathrin	EPA 625.1	<	0.2	0.2	0.5	ng/L		Caltest	1/14/21	1/22/21
SE75	5M-28R	1/22/2021	Fenpropathrin	EPA 625.1M (NCI-SIM)	<	0.2	0.2	0.5	ng/L		Caltest	1/25/21	1/30/21
SE77	5M-28R	3/10/2021	Fenpropathrin	EPA 625.1	<	1	1	2.5	ng/L		Caltest	3/11/21	3/20/21
DW46	5M-28R	3/29/2021	Fenpropathrin	EPA 625.1	<	0.2	0.2	0.5	ng/L		Caltest	4/1/21	4/10/21
SE74	NE-RAIN	12/12/2020	Fenpropathrin	EPA 625.1M (NCI-SIM)	=	0.6	0.2	0.5	ng/L		Caltest	12/15/20	12/19/20

City of Stockton and County of San Joaquin
Ambient Monitoring Program 2020-2021 Data

Event	Site Code	Date Sampled	Analyte	Analytical Method	Q	Result	MDL	RL/ML	Units	Flag	Lab Name	Prep Date	Analysis Date
SE76	NE-RAIN	2/2/2021	Fenpropathrin	EPA 625.1M (NCI-SIM)	<	0.2	0.2	0.5	ng/L		Caltest	2/5/21	2/17/21
SE77	NE-RAIN	3/10/2021	Fenpropathrin	EPA 625.1M (NCI-SIM)	<	0.2	0.2	0.6	ng/L		Caltest	3/12/21	3/18/21
SE74	NW-RAIN	12/12/2020	Fenpropathrin	EPA 625.1M (NCI-SIM)	<	0.2	0.2	0.5	ng/L		Caltest	12/15/20	12/19/20
SE76	NW-RAIN	2/2/2021	Fenpropathrin	EPA 625.1M (NCI-SIM)	<	0.2	0.2	0.5	ng/L		Caltest	2/5/21	2/17/21
SE77	NW-RAIN	3/10/2021	Fenpropathrin	EPA 625.1M (NCI-SIM)	<	0.2	0.2	0.6	ng/L		Caltest	3/12/21	3/18/21
SE74	SC-RAIN	12/12/2020	Fenpropathrin	EPA 625.1M (NCI-SIM)	<	0.2	0.2	0.5	ng/L		Caltest	12/15/20	12/19/20
SE76	SC-RAIN	2/2/2021	Fenpropathrin	EPA 625.1M (NCI-SIM)	<	0.2	0.2	0.5	ng/L		Caltest	2/5/21	2/17/21
SE77	SC-RAIN	3/10/2021	Fenpropathrin	EPA 625.1M (NCI-SIM)	<	0.2	0.2	0.5	ng/L		Caltest	3/12/21	3/18/21
DW44	5M-25	9/8/2020	Lambda-Cyhalothrin	EPA 8270M_NCI	J	0.3	0.2	0.5	ng/L		Caltest	9/11/20	9/18/20
SE74	5M-25	12/12/2020	Lambda-Cyhalothrin	EPA 8270M_NCI	<	0.3	0.3	0.5	ng/L		Caltest	12/15/20	12/19/20
DW45	5M-25	1/13/2021	Lambda-Cyhalothrin	EPA 625.1	J	0.5	0.3	0.6	ng/L		Caltest	1/14/21	1/21/21
SE75	5M-25	1/22/2021	Lambda-Cyhalothrin	EPA 625.1M (NCI-SIM)	J	0.4	0.3	0.5	ng/L		Caltest	1/25/21	1/30/21
SE77	5M-25	3/10/2021	Lambda-Cyhalothrin	EPA 625.1	J	1.9	2	2.5	ng/L		Caltest	3/11/21	3/27/21
DW46	5M-25	3/29/2021	Lambda-Cyhalothrin	EPA 625.1	<	2	2	2.8	ng/L		Caltest	4/1/21	4/10/21
DW44	5M-25R	9/8/2020	Lambda-Cyhalothrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L		Caltest	9/11/20	9/18/20
SE74	5M-25R	12/12/2020	Lambda-Cyhalothrin	EPA 8270M_NCI	<	0.3	0.3	0.5	ng/L		Caltest	12/15/20	12/19/20
DW45	5M-25R	1/13/2021	Lambda-Cyhalothrin	EPA 625.1	<	0.3	0.3	0.5	ng/L		Caltest	1/14/21	1/21/21
SE75	5M-25R	1/22/2021	Lambda-Cyhalothrin	EPA 625.1M (NCI-SIM)	<	0.3	0.3	0.5	ng/L		Caltest	1/25/21	1/30/21
SE77	5M-25R	3/10/2021	Lambda-Cyhalothrin	EPA 625.1	<	0.3	0.3	0.5	ng/L		Caltest	3/11/21	3/19/21
DW46	5M-25R	3/29/2021	Lambda-Cyhalothrin	EPA 625.1	<	2	2	2.5	ng/L		Caltest	4/1/21	4/10/21
DW44	5M-26	9/8/2020	Lambda-Cyhalothrin	EPA 8270M_NCI	J	0.2	0.2	0.5	ng/L		Caltest	9/11/20	9/18/20
SE74	5M-26	12/12/2020	Lambda-Cyhalothrin	EPA 8270M_NCI	<	2	2	2.5	ng/L		Caltest	12/15/20	12/31/20
DW45	5M-26	1/13/2021	Lambda-Cyhalothrin	EPA 625.1	=	0.5	0.3	0.5	ng/L		Caltest	1/14/21	1/21/21
SE75	5M-26	1/22/2021	Lambda-Cyhalothrin	EPA 625.1M (NCI-SIM)	=	11	0.3	0.5	ng/L		Caltest	1/25/21	1/30/21
SE77	5M-26	3/10/2021	Lambda-Cyhalothrin	EPA 625.1	J	1.8	2	2.5	ng/L		Caltest	3/11/21	3/20/21
DW46	5M-26	3/29/2021	Lambda-Cyhalothrin	EPA 625.1	<	2	2	2.9	ng/L		Caltest	4/1/21	4/11/21
DW44	5M-26R	9/8/2020	Lambda-Cyhalothrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L		Caltest	9/11/20	9/18/20
SE74	5M-26R	12/12/2020	Lambda-Cyhalothrin	EPA 8270M_NCI	<	0.3	0.3	0.5	ng/L		Caltest	12/15/20	12/19/20
DW45	5M-26R	1/13/2021	Lambda-Cyhalothrin	EPA 625.1	J	0.3	0.3	0.5	ng/L		Caltest	1/14/21	1/21/21
SE75	5M-26R	1/22/2021	Lambda-Cyhalothrin	EPA 625.1M (NCI-SIM)	<	0.3	0.3	0.5	ng/L		Caltest	1/25/21	1/30/21
SE77	5M-26R	3/10/2021	Lambda-Cyhalothrin	EPA 625.1	<	2	2	2.5	ng/L		Caltest	3/11/21	3/20/21
DW46	5M-26R	3/29/2021	Lambda-Cyhalothrin	EPA 625.1	<	2	2	2.5	ng/L		Caltest	4/1/21	4/11/21
DW44	5M-28	9/8/2020	Lambda-Cyhalothrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L		Caltest	9/11/20	9/18/20
SE74	5M-28	12/12/2020	Lambda-Cyhalothrin	EPA 8270M_NCI	<	0.3	0.3	0.5	ng/L		Caltest	12/15/20	12/19/20
DW45	5M-28	1/13/2021	Lambda-Cyhalothrin	EPA 625.1	=	0.8	0.3	0.5	ng/L		Caltest	1/14/21	1/21/21
SE75	5M-28	1/22/2021	Lambda-Cyhalothrin	EPA 625.1M (NCI-SIM)	=	0.6	0.3	0.5	ng/L		Caltest	1/25/21	2/6/21
SE77	5M-28	3/10/2021	Lambda-Cyhalothrin	EPA 625.1	<	2	2	2.5	ng/L		Caltest	3/11/21	3/20/21

Ambient Monitoring Program 2020-2021 Data

Event	Site Code	Date Sampled	Analyte	Analytical Method	Q	Result	MDL	RL/ML	Units	Flag	Lab Name	Prep Date	Analysis Date
DW46	5M-28	3/29/2021	Lambda-Cyhalothrin	EPA 625.1	<	2	2	2.8	ng/L		Caltest	4/1/21	4/11/21
DW44	5M-28R	9/8/2020	Lambda-Cyhalothrin	EPA 8270M_NCI	J	0.4	0.2	0.5	ng/L		Caltest	9/11/20	9/18/20
SE74	5M-28R	12/12/2020	Lambda-Cyhalothrin	EPA 8270M_NCI	<	2	2	2.5	ng/L		Caltest	12/15/20	12/19/20
DW45	5M-28R	1/13/2021	Lambda-Cyhalothrin	EPA 625.1	J	0.3	0.3	0.5	ng/L		Caltest	1/14/21	1/22/21
SE75	5M-28R	1/22/2021	Lambda-Cyhalothrin	EPA 625.1M (NCI-SIM)	=	0.9	0.3	0.5	ng/L		Caltest	1/25/21	1/30/21
SE77	5M-28R	3/10/2021	Lambda-Cyhalothrin	EPA 625.1	<	2	2	2.5	ng/L		Caltest	3/11/21	3/20/21
DW46	5M-28R	3/29/2021	Lambda-Cyhalothrin	EPA 625.1	<	2	2	2.5	ng/L		Caltest	4/1/21	4/11/21
SE74	NE-RAIN	12/12/2020	Lambda-Cyhalothrin	EPA 625.1M (NCI-SIM)	<	0.3	0.3	0.5	ng/L		Caltest	12/15/20	12/19/20
SE76	NE-RAIN	2/2/2021	Lambda-Cyhalothrin	EPA 625.1M (NCI-SIM)	=	0.6	0.3	0.5	ng/L		Caltest	2/5/21	2/17/21
SE77	NE-RAIN	3/10/2021	Lambda-Cyhalothrin	EPA 625.1M (NCI-SIM)	=	0.9	0.3	0.6	ng/L		Caltest	3/12/21	3/18/21
SE74	NW-RAIN	12/12/2020	Lambda-Cyhalothrin	EPA 625.1M (NCI-SIM)	<	0.3	0.3	0.5	ng/L		Caltest	12/15/20	12/19/20
SE76	NW-RAIN	2/2/2021	Lambda-Cyhalothrin	EPA 625.1M (NCI-SIM)	=	1	0.3	0.5	ng/L		Caltest	2/5/21	2/17/21
SE77	NW-RAIN	3/10/2021	Lambda-Cyhalothrin	EPA 625.1M (NCI-SIM)	<	0.3	0.3	0.6	ng/L		Caltest	3/12/21	3/18/21
SE74	SC-RAIN	12/12/2020	Lambda-Cyhalothrin	EPA 625.1M (NCI-SIM)	<	0.3	0.3	0.5	ng/L		Caltest	12/15/20	12/19/20
SE76	SC-RAIN	2/2/2021	Lambda-Cyhalothrin	EPA 625.1M (NCI-SIM)	=	0.7	0.3	0.5	ng/L		Caltest	2/5/21	2/17/21
SE77	SC-RAIN	3/10/2021	Lambda-Cyhalothrin	EPA 625.1M (NCI-SIM)	<	0.3	0.3	0.5	ng/L		Caltest	3/12/21	3/18/21
DW44	5M-25	9/8/2020	Permethrin	EPA 8270M_NCI	<	2	2	10	ng/L		Caltest	9/11/20	9/18/20
SE74	5M-25	12/12/2020	Permethrin	EPA 8270M_NCI	<	2	2	5	ng/L		Caltest	12/15/20	12/19/20
DW45	5M-25	1/13/2021	Permethrin	EPA 625.1	J	4.1	2	5.8	ng/L		Caltest	1/14/21	1/21/21
SE75	5M-25	1/22/2021	Permethrin	EPA 625.1M (NCI-SIM)	<	2	2	5	ng/L		Caltest	1/25/21	1/30/21
SE77	5M-25	3/10/2021	Permethrin	EPA 625.1	<	2	2	5	ng/L		Caltest	3/11/21	3/19/21
DW46	5M-25	3/29/2021	Permethrin	EPA 625.1	<	10	10	28	ng/L		Caltest	4/1/21	4/10/21
DW44	5M-25R	9/8/2020	Permethrin	EPA 8270M_NCI	<	2	2	10	ng/L		Caltest	9/11/20	9/18/20
SE74	5M-25R	12/12/2020	Permethrin	EPA 8270M_NCI	<	2	2	5	ng/L		Caltest	12/15/20	12/19/20
DW45	5M-25R	1/13/2021	Permethrin	EPA 625.1	<	2	2	5	ng/L		Caltest	1/14/21	1/21/21
SE75	5M-25R	1/22/2021	Permethrin	EPA 625.1M (NCI-SIM)	<	2	2	5	ng/L		Caltest	1/25/21	1/30/21
SE77	5M-25R	3/10/2021	Permethrin	EPA 625.1	<	2	2	5	ng/L		Caltest	3/11/21	3/19/21
DW46	5M-25R	3/29/2021	Permethrin	EPA 625.1	<	2	2	5	ng/L		Caltest	4/1/21	4/10/21
DW44	5M-26	9/8/2020	Permethrin	EPA 8270M_NCI	<	2	2	10	ng/L		Caltest	9/11/20	9/18/20
SE74	5M-26	12/12/2020	Permethrin	EPA 8270M_NCI	<	10	10	25	ng/L		Caltest	12/15/20	12/31/20
DW45	5M-26	1/13/2021	Permethrin	EPA 625.1	<	2	2	5	ng/L		Caltest	1/14/21	1/21/21
SE75	5M-26	1/22/2021	Permethrin	EPA 625.1M (NCI-SIM)	=	150	2	5	ng/L		Caltest	1/25/21	1/30/21
SE77	5M-26	3/10/2021	Permethrin	EPA 625.1	<	10	10	25	ng/L		Caltest	3/11/21	3/20/21
DW46	5M-26	3/29/2021	Permethrin	EPA 625.1	<	10	10	29	ng/L		Caltest	4/1/21	4/11/21
DW44	5M-26R	9/8/2020	Permethrin	EPA 8270M_NCI	<	2	2	10	ng/L		Caltest	9/11/20	9/18/20
SE74	5M-26R	12/12/2020	Permethrin	EPA 8270M_NCI	<	2	2	5	ng/L		Caltest	12/15/20	12/19/20
DW45	5M-26R	1/13/2021	Permethrin	EPA 625.1	<	2	2	5	ng/L		Caltest	1/14/21	1/21/21

City of Stockton and County of San Joaquin

Ambient Monitoring Program 2020-2021 Data

Event	Site Code	Date Sampled	Analyte	Analytical Method	Q	Result	MDL	RL/ML	Units	Flag	Lab Name	Prep Date	Analysis Date
SE75	5M-26R	1/22/2021	Permethrin	EPA 625.1M (NCI-SIM)	<	2	2	5	ng/L		Caltest	1/25/21	1/30/21
SE77	5M-26R	3/10/2021	Permethrin	EPA 625.1	<	10	10	25	ng/L		Caltest	3/11/21	3/20/21
DW46	5M-26R	3/29/2021	Permethrin	EPA 625.1	<	2	2	5	ng/L		Caltest	4/1/21	4/10/21
DW44	5M-28	9/8/2020	Permethrin	EPA 8270M_NCI	J	5.1	2	10	ng/L		Caltest	9/11/20	9/18/20
SE74	5M-28	12/12/2020	Permethrin	EPA 8270M_NCI	<	2	2	5	ng/L		Caltest	12/15/20	12/19/20
DW45	5M-28	1/13/2021	Permethrin	EPA 625.1	<	2	2	5	ng/L		Caltest	1/14/21	1/21/21
SE75	5M-28	1/22/2021	Permethrin	EPA 625.1M (NCI-SIM)	<	2	2	5	ng/L		Caltest	1/25/21	1/30/21
SE77	5M-28	3/10/2021	Permethrin	EPA 625.1	<	10	10	25	ng/L		Caltest	3/11/21	3/20/21
DW46	5M-28	3/29/2021	Permethrin	EPA 625.1	<	2	2	5.6	ng/L		Caltest	4/1/21	4/10/21
DW44	5M-28R	9/8/2020	Permethrin	EPA 8270M_NCI	<	2	2	10	ng/L		Caltest	9/11/20	9/18/20
SE74	5M-28R	12/12/2020	Permethrin	EPA 8270M_NCI	<	2	2	0.5-5	ng/L		Caltest	12/15/20	12/19/20
DW45	5M-28R	1/13/2021	Permethrin	EPA 625.1	<	2	2	5	ng/L		Caltest	1/14/21	1/22/21
SE75	5M-28R	1/22/2021	Permethrin	EPA 625.1M (NCI-SIM)	<	2	2	5	ng/L		Caltest	1/25/21	1/30/21
SE77	5M-28R	3/10/2021	Permethrin	EPA 625.1	<	10	10	25	ng/L		Caltest	3/11/21	3/20/21
DW46	5M-28R	3/29/2021	Permethrin	EPA 625.1	<	2	2	5	ng/L		Caltest	4/1/21	4/10/21
SE74	NE-RAIN	12/12/2020	Permethrin	EPA 625.1M (NCI-SIM)	<	2	2	5	ng/L		Caltest	12/15/20	12/19/20
SE76	NE-RAIN	2/2/2021	Permethrin	EPA 625.1M (NCI-SIM)	<	2	2	5	ng/L		Caltest	2/5/21	2/17/21
SE77	NE-RAIN	3/10/2021	Permethrin	EPA 625.1M (NCI-SIM)	<	2	2	5.6	ng/L		Caltest	3/12/21	3/18/21
SE74	NW-RAIN	12/12/2020	Permethrin	EPA 625.1M (NCI-SIM)	<	2	2	5	ng/L		Caltest	12/15/20	12/19/20
SE76	NW-RAIN	2/2/2021	Permethrin	EPA 625.1M (NCI-SIM)	<	2	2	5	ng/L		Caltest	2/5/21	2/17/21
SE77	NW-RAIN	3/10/2021	Permethrin	EPA 625.1M (NCI-SIM)	<	2	2	5.7	ng/L		Caltest	3/12/21	3/18/21
SE74	SC-RAIN	12/12/2020	Permethrin	EPA 625.1M (NCI-SIM)	<	2	2	5	ng/L		Caltest	12/15/20	12/19/20
SE76	SC-RAIN	2/2/2021	Permethrin	EPA 625.1M (NCI-SIM)	<	2	2	5	ng/L		Caltest	2/5/21	2/17/21
SE77	SC-RAIN	3/10/2021	Permethrin	EPA 625.1M (NCI-SIM)	<	2	2	5	ng/L		Caltest	3/12/21	3/18/21
DW44	5M-25	9/8/2020	Tau-Fluvalinate	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L		Caltest	9/11/20	9/18/20
SE74	5M-25	12/12/2020	Tau-Fluvalinate	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L		Caltest	12/15/20	12/19/20
DW45	5M-25	1/13/2021	Tau-Fluvalinate	EPA 625.1	<	0.2	0.2	0.6	ng/L		Caltest	1/14/21	1/21/21
SE75	5M-25	1/22/2021	Tau-Fluvalinate	EPA 625.1M (NCI-SIM)	<	0.2	0.2	0.5	ng/L		Caltest	1/25/21	1/30/21
SE77	5M-25	3/10/2021	Tau-Fluvalinate	EPA 625.1	<	0.2	0.2	0.5	ng/L		Caltest	3/11/21	3/19/21
DW46	5M-25	3/29/2021	Tau-Fluvalinate	EPA 625.1	<	0.2	0.2	0.6	ng/L		Caltest	4/1/21	4/10/21
DW44	5M-25R	9/8/2020	Tau-Fluvalinate	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L		Caltest	9/11/20	9/18/20
SE74	5M-25R	12/12/2020	Tau-Fluvalinate	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L		Caltest	12/15/20	12/19/20
DW45	5M-25R	1/13/2021	Tau-Fluvalinate	EPA 625.1	<	0.2	0.2	0.5	ng/L		Caltest	1/14/21	1/21/21
SE75	5M-25R	1/22/2021	Tau-Fluvalinate	EPA 625.1M (NCI-SIM)	<	0.2	0.2	0.5	ng/L		Caltest	1/25/21	1/30/21
SE77	5M-25R	3/10/2021	Tau-Fluvalinate	EPA 625.1	<	0.2	0.2	0.5	ng/L		Caltest	3/11/21	3/19/21
DW46	5M-25R	3/29/2021	Tau-Fluvalinate	EPA 625.1	<	0.2	0.2	0.5	ng/L		Caltest	4/1/21	4/10/21
DW44	5M-26	9/8/2020	Tau-Fluvalinate	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L		Caltest	9/11/20	9/18/20

Event	Site Code	Date Sampled	Analyte	Analytical Method	Q	Result	MDL	RL/ML	Units	Flag	Lab Name	Prep Date	Analysis Date
SE74	5M-26	12/12/2020	Tau-Fluvalinate	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L		Caltest	12/15/20	12/19/20
DW45	5M-26	1/13/2021	Tau-Fluvalinate	EPA 625.1	<	0.2	0.2	0.5	ng/L		Caltest	1/14/21	1/21/21
SE75	5M-26	1/22/2021	Tau-Fluvalinate	EPA 625.1M (NCI-SIM)	<	0.2	0.2	0.5	ng/L		Caltest	1/25/21	1/30/21
SE77	5M-26	3/10/2021	Tau-Fluvalinate	EPA 625.1	<	1	1	2.5	ng/L		Caltest	3/11/21	3/20/21
DW46	5M-26	3/29/2021	Tau-Fluvalinate	EPA 625.1	<	0.2	0.2	0.6	ng/L		Caltest	4/1/21	4/10/21
DW44	5M-26R	9/8/2020	Tau-Fluvalinate	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L		Caltest	9/11/20	9/18/20
SE74	5M-26R	12/12/2020	Tau-Fluvalinate	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L		Caltest	12/15/20	12/19/20
DW45	5M-26R	1/13/2021	Tau-Fluvalinate	EPA 625.1	<	0.2	0.2	0.5	ng/L		Caltest	1/14/21	1/21/21
SE75	5M-26R	1/22/2021	Tau-Fluvalinate	EPA 625.1M (NCI-SIM)	<	0.2	0.2	0.5	ng/L		Caltest	1/25/21	1/30/21
SE77	5M-26R	3/10/2021	Tau-Fluvalinate	EPA 625.1	<	1	1	2.5	ng/L		Caltest	3/11/21	3/20/21
DW46	5M-26R	3/29/2021	Tau-Fluvalinate	EPA 625.1	<	0.2	0.2	0.5	ng/L		Caltest	4/1/21	4/10/21
DW44	5M-28	9/8/2020	Tau-Fluvalinate	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L		Caltest	9/11/20	9/18/20
SE74	5M-28	12/12/2020	Tau-Fluvalinate	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L		Caltest	12/15/20	12/19/20
DW45	5M-28	1/13/2021	Tau-Fluvalinate	EPA 625.1	<	0.2	0.2	0.5	ng/L		Caltest	1/14/21	1/21/21
SE75	5M-28	1/22/2021	Tau-Fluvalinate	EPA 625.1M (NCI-SIM)	<	0.2	0.2	0.5	ng/L		Caltest	1/25/21	1/30/21
SE77	5M-28	3/10/2021	Tau-Fluvalinate	EPA 625.1	<	1	1	2.5	ng/L		Caltest	3/11/21	3/20/21
DW46	5M-28	3/29/2021	Tau-Fluvalinate	EPA 625.1	<	0.2	0.2	0.6	ng/L		Caltest	4/1/21	4/10/21
DW44	5M-28R	9/8/2020	Tau-Fluvalinate	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L		Caltest	9/11/20	9/18/20
SE74	5M-28R	12/12/2020	Tau-Fluvalinate	EPA 8270M_NCI	<	0.2	0.2	0.5-5	ng/L		Caltest	12/15/20	12/19/20
DW45	5M-28R	1/13/2021	Tau-Fluvalinate	EPA 625.1	<	0.2	0.2	0.5	ng/L		Caltest	1/14/21	1/22/21
SE75	5M-28R	1/22/2021	Tau-Fluvalinate	EPA 625.1M (NCI-SIM)	<	0.2	0.2	0.5	ng/L		Caltest	1/25/21	1/30/21
SE77	5M-28R	3/10/2021	Tau-Fluvalinate	EPA 625.1	<	1	1	2.5	ng/L		Caltest	3/11/21	3/20/21
DW46	5M-28R	3/29/2021	Tau-Fluvalinate	EPA 625.1	<	0.2	0.2	0.5	ng/L		Caltest	4/1/21	4/10/21
SE74	NE-RAIN	12/12/2020	Tau-Fluvalinate	EPA 625.1M (NCI-SIM)	<	0.2	0.2	0.5	ng/L		Caltest	12/15/20	12/19/20
SE76	NE-RAIN	2/2/2021	Tau-Fluvalinate	EPA 625.1M (NCI-SIM)	<	0.2	0.2	0.5	ng/L		Caltest	2/5/21	2/17/21
SE77	NE-RAIN	3/10/2021	Tau-Fluvalinate	EPA 625.1M (NCI-SIM)	<	0.2	0.2	0.6	ng/L		Caltest	3/12/21	3/18/21
SE74	NW-RAIN	12/12/2020	Tau-Fluvalinate	EPA 625.1M (NCI-SIM)	<	0.2	0.2	0.5	ng/L		Caltest	12/15/20	12/19/20
SE76	NW-RAIN	2/2/2021	Tau-Fluvalinate	EPA 625.1M (NCI-SIM)	<	0.2	0.2	0.5	ng/L		Caltest	2/5/21	2/17/21
SE77	NW-RAIN	3/10/2021	Tau-Fluvalinate	EPA 625.1M (NCI-SIM)	<	0.2	0.2	0.6	ng/L		Caltest	3/12/21	3/18/21
SE74	SC-RAIN	12/12/2020	Tau-Fluvalinate	EPA 625.1M (NCI-SIM)	<	0.2	0.2	0.5	ng/L		Caltest	12/15/20	12/19/20
SE76	SC-RAIN	2/2/2021	Tau-Fluvalinate	EPA 625.1M (NCI-SIM)	<	0.2	0.2	0.5	ng/L		Caltest	2/5/21	2/17/21
SE77	SC-RAIN	3/10/2021	Tau-Fluvalinate	EPA 625.1M (NCI-SIM)	<	0.2	0.2	0.5	ng/L		Caltest	3/12/21	3/18/21
DW44	5M-25	9/8/2020	Tetramethrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L		Caltest	9/11/20	9/18/20
SE74	5M-25	12/12/2020	Tetramethrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L		Caltest	12/15/20	12/19/20
DW45	5M-25	1/13/2021	Tetramethrin	EPA 625.1	<	0.2	0.2	0.6	ng/L		Caltest	1/14/21	1/21/21
SE75	5M-25	1/22/2021	Tetramethrin	EPA 625.1M (NCI-SIM)	<	0.2	0.2	0.5	ng/L		Caltest	1/25/21	1/30/21
SE77	5M-25	3/10/2021	Tetramethrin	EPA 625.1	<	1	1	2.5	ng/L		Caltest	3/11/21	3/27/21

Event	Site Code	Date Sampled	Analyte	Analytical Method	Q	Result	MDL	RL/ML	Units	Flag	Lab Name	Prep Date	Analysis Date
DW46	5M-25	3/29/2021	Tetramethrin	EPA 625.1	<	0.2	0.2	0.6	ng/L		Caltest	4/1/21	4/10/21
DW44	5M-25R	9/8/2020	Tetramethrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L		Caltest	9/11/20	9/18/20
SE74	5M-25R	12/12/2020	Tetramethrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L		Caltest	12/15/20	12/19/20
DW45	5M-25R	1/13/2021	Tetramethrin	EPA 625.1	<	0.2	0.2	0.5	ng/L		Caltest	1/14/21	1/21/21
SE75	5M-25R	1/22/2021	Tetramethrin	EPA 625.1M (NCI-SIM)	<	0.2	0.2	0.5	ng/L		Caltest	1/25/21	1/30/21
SE77	5M-25R	3/10/2021	Tetramethrin	EPA 625.1	<	0.2	0.2	0.5	ng/L		Caltest	3/11/21	3/19/21
DW46	5M-25R	3/29/2021	Tetramethrin	EPA 625.1	<	0.2	0.2	0.5	ng/L		Caltest	4/1/21	4/10/21
DW44	5M-26	9/8/2020	Tetramethrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L		Caltest	9/11/20	9/18/20
SE74	5M-26	12/12/2020	Tetramethrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L		Caltest	12/15/20	12/19/20
DW45	5M-26	1/13/2021	Tetramethrin	EPA 625.1	<	0.2	0.2	0.5	ng/L		Caltest	1/14/21	1/21/21
SE75	5M-26	1/22/2021	Tetramethrin	EPA 625.1M (NCI-SIM)	<	0.2	0.2	0.5	ng/L		Caltest	1/25/21	1/30/21
SE77	5M-26	3/10/2021	Tetramethrin	EPA 625.1	<	1	1	2.5	ng/L		Caltest	3/11/21	3/20/21
DW46	5M-26	3/29/2021	Tetramethrin	EPA 625.1	<	0.2	0.2	0.6	ng/L		Caltest	4/1/21	4/10/21
DW44	5M-26R	9/8/2020	Tetramethrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L		Caltest	9/11/20	9/18/20
SE74	5M-26R	12/12/2020	Tetramethrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L		Caltest	12/15/20	12/19/20
DW45	5M-26R	1/13/2021	Tetramethrin	EPA 625.1	<	0.2	0.2	0.5	ng/L		Caltest	1/14/21	1/21/21
SE75	5M-26R	1/22/2021	Tetramethrin	EPA 625.1M (NCI-SIM)	<	0.2	0.2	0.5	ng/L		Caltest	1/25/21	1/30/21
SE77	5M-26R	3/10/2021	Tetramethrin	EPA 625.1	<	1	1	2.5	ng/L		Caltest	3/11/21	3/20/21
DW46	5M-26R	3/29/2021	Tetramethrin	EPA 625.1	<	0.2	0.2	0.5	ng/L		Caltest	4/1/21	4/10/21
DW44	5M-28	9/8/2020	Tetramethrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L		Caltest	9/11/20	9/18/20
SE74	5M-28	12/12/2020	Tetramethrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L		Caltest	12/15/20	12/19/20
DW45	5M-28	1/13/2021	Tetramethrin	EPA 625.1	<	0.2	0.2	0.5	ng/L		Caltest	1/14/21	1/21/21
SE75	5M-28	1/22/2021	Tetramethrin	EPA 625.1M (NCI-SIM)	<	0.2	0.2	0.5	ng/L		Caltest	1/25/21	1/30/21
SE77	5M-28	3/10/2021	Tetramethrin	EPA 625.1	<	1	1	2.5	ng/L		Caltest	3/11/21	3/20/21
DW46	5M-28	3/29/2021	Tetramethrin	EPA 625.1	<	1	1	2.8	ng/L		Caltest	4/1/21	4/11/21
DW44	5M-28R	9/8/2020	Tetramethrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L		Caltest	9/11/20	9/18/20
SE74	5M-28R	12/12/2020	Tetramethrin	EPA 8270M_NCI	<	0.2	0.2	0.5	ng/L		Caltest	12/15/20	12/19/20
DW45	5M-28R	1/13/2021	Tetramethrin	EPA 625.1	<	0.2	0.2	0.5	ng/L		Caltest	1/14/21	1/22/21
SE75	5M-28R	1/22/2021	Tetramethrin	EPA 625.1M (NCI-SIM)	<	0.2	0.2	0.5	ng/L		Caltest	1/25/21	1/30/21
SE77	5M-28R	3/10/2021	Tetramethrin	EPA 625.1	<	1	1	2.5	ng/L		Caltest	3/11/21	3/20/21
DW46	5M-28R	3/29/2021	Tetramethrin	EPA 625.1	<	0.2	0.2	0.5	ng/L		Caltest	4/1/21	4/10/21
SE74	NE-RAIN	12/12/2020	Tetramethrin	EPA 625.1M (NCI-SIM)	<	0.2	0.2	0.5	ng/L		Caltest	12/15/20	12/19/20
SE76	NE-RAIN	2/2/2021	Tetramethrin	EPA 625.1M (NCI-SIM)	<	0.2	0.2	0.5	ng/L		Caltest	2/5/21	2/17/21
SE77	NE-RAIN	3/10/2021	Tetramethrin	EPA 625.1M (NCI-SIM)	<	0.2	0.2	0.6	ng/L		Caltest	3/12/21	3/18/21
SE74	NW-RAIN	12/12/2020	Tetramethrin	EPA 625.1M (NCI-SIM)	<	0.2	0.2	0.5	ng/L		Caltest	12/15/20	12/19/20
SE76	NW-RAIN	2/2/2021	Tetramethrin	EPA 625.1M (NCI-SIM)	<	0.2	0.2	0.5	ng/L		Caltest	2/5/21	2/17/21
SE77	NW-RAIN	3/10/2021	Tetramethrin	EPA 625.1M (NCI-SIM)	<	0.2	0.2	0.6	ng/L		Caltest	3/12/21	3/18/21

City of Stockton and County of San Joaquin

Ambient Monitoring Program 2020-2021 Data

Event	Site Code	Date Sampled	Analyte	Analytical Method	Q	Result	MDL	RL/ML	Units	Flag	Lab Name	Prep Date	Analysis Date
SE74	SC-RAIN	12/12/2020	Tetramethrin	EPA 625.1M (NCI-SIM)	<	0.2	0.2	0.5	ng/L		Caltest	12/15/20	12/19/20
SE76	SC-RAIN	2/2/2021	Tetramethrin	EPA 625.1M (NCI-SIM)	<	0.2	0.2	0.5	ng/L		Caltest	2/5/21	2/17/21
SE77	SC-RAIN	3/10/2021	Tetramethrin	EPA 625.1M (NCI-SIM)	<	0.2	0.2	0.5	ng/L		Caltest	3/12/21	3/18/21

Flag definitions:

1. Reporting limits may be elevated due to limited sample volume.
2. The sample was diluted prior to analysis to reduce matrix interference, resulting in higher reporting limits.
3. The RPD exceeds the recommended difference.
4. BOD check standard was low, therefore result may reflect a low bias.

E. Estimated concentration due to high internal standard recovery caused by matrix interference. Result may be biased high.

I. The RPD for the laboratory duplicate exceeded the laboratory criteria.

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Appendix D
2020-2021 Data Summary Tables

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FIVE-MILE SLOUGH 2020-2021 DATA FOR POLLUTANTS OF CONCERN

Urban Discharge and Receiving Water Data

Event	Date	5M-25	5M-25R	5M-26	5M-26R	5M-28	5M-28R	WQO
Fecal Indicator Bacteria, MPN/100mL								
E. Coli								
DW44	9/8/2020	<10	<10	161	10	703	613	235
SE74	12/12/2020	<10	86	857	249	2,613	8,664	235
DW45	1/13/2021	47.1	461	7.4	42.8	461	79.8	235
SE75	1/22/2021	93.3	21.6	2,420	6.3	196	192	235
SE77	3/10/2021	1,989	20	3,733	185	6,867	2,909	235
DW46	3/29/2021	228	4.1	2,420	3.1	2,420	488	235
DW47	5/10/2021	<10	10	62	10	11,199	836	235
Fecal Coliform								
DW44	9/8/2020	230	<18	33,000	130	3,300	1,700	400
SE74	12/12/2020	33	79	2,600	920	9,200	17,000	400
DW45	1/13/2021	46	240	4	79	310	94	400
SE75	1/22/2021	130	33	16,000	4	540	240	400
SE77	3/10/2021	9,200	33	920	1,600	7,000	3,500	400
DW46	3/29/2021	220	4.5	160,000	2	3,500	540	400
DW47	5/10/2021	7.8	7.8	5,400	11	16,000	920	400
Dissolved Oxygen, mg/L								
DW44	9/8/2020	5.39	5.55	2.59	5.87	4.72	2.96	>6
SE74	12/12/2020	5.12	9.35	8.03	8.9	9	8.67	>5
DW45	1/13/2021	6.05	10.8	4.95	10.89	4.88	8.59	>5
SE75	1/22/2021	8.46	11.24	9.13	12.25	6.86	7.4	>5
SE77	3/10/2021	3.12	9.08	7.88	8.25	9.97	8.35	>5
DW46	3/29/2021	7.56	16.51	2.47	12.18	6.7	7.75	>5
DW47	5/10/2021	4.41	8.15	4.85	8.32	7.32	5.01	>5
Chlorpyrifos, ng/L								
DW44	9/8/2020	<0.5	<0.5	<0.5	<0.5	<0.5	0.6	15
SE74	12/12/2020	<0.5	<0.5	<2	<0.5	<2	<0.5	15
DW45	1/13/2021	<0.6	<0.5	<0.5	<0.5	<0.5	<0.5	15
SE75	1/22/2021	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	15
SE77	3/10/2021	<0.5	<0.5	<2	<2	<2	<2	15
DW46	3/29/2021	<3	<2	<3	<2	<3	<2	15
DW47	5/10/2021	<0.5	<0.5	<0.5	<0.5	<0.5	<2	15

Event	Date	5M-25	5M-25R	5M-26	5M-26R	5M-28	5M-28R	WQO
Pyrethroids, ng/L								
Allethrin								
DW44	9/8/2020	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	-
SE74	12/12/2020	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	-
DW45	1/13/2021	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	-
SE75	1/22/2021	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	-
SE77	3/10/2021	<0.3	<0.3	<2	<2	<2	<2	-
DW46	3/29/2021	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	-
DW47	5/10/2021	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	-
Bifenthrin								
DW44	9/8/2020	2.5	0.2	7.1	2.4	1.5	7.7	-
SE74	12/12/2020	0.5	0.4	35	2.1	4.6	11	-
DW45	1/13/2021	3.1	0.5	5.3	1.5	12	1.3	-
SE75	1/22/2021	5.6	0.5	450	0.9	22	19	-
SE77	3/10/2021	4.1	1.7	49	11	24	8	-
DW46	3/29/2021	6.2	<2	10	3.3	3.6	2	-
DW47	5/10/2021	1.1	0.4	1.7	2.5	1.8	15	-
Cyfluthrin								
DW44	9/8/2020	<0.2	<0.2	0.5	<0.2	0.4	0.2	-
SE74	12/12/2020	<0.4	<0.4	<0.4	<0.4	<0.4	<2	-
DW45	1/13/2021	<0.5	<0.4	<0.4	<0.4	0.5	<0.4	-
SE75	1/22/2021	<0.4	<0.4	8	<0.4	0.7	<0.4	-
SE77	3/10/2021	<0.4	<0.4	<2	<2	2	<2	-
DW46	3/29/2021	<2	<0.4	<2	<0.4	0.5	<0.4	-
DW47	5/10/2021	1	<0.4	<0.4	<0.4	<0.4	2	-
Cypermethrin								
DW44	9/8/2020	<0.2	<0.2	1.1	<0.2	<0.2	<0.2	-
SE74	12/12/2020	<0.3	<0.3	<2	<0.3	<2	<2	-
DW45	1/13/2021	<0.3	<0.3	0.7	0.3	0.5	<0.3	-
SE75	1/22/2021	1.2	<0.3	41	<0.3	0.8	0.8	-
SE77	3/10/2021	<2	<0.3	2.8	<2	<2	<2	-
DW46	3/29/2021	3.1	<0.3	4.7	<0.3	<2	<0.3	-
DW47	5/10/2021	<0.3	<0.3	<0.3	<0.3	<0.3	<2	-

Event	Date	5M-25	5M-25R	5M-26	5M-26R	5M-28	5M-28R	WQO
Deltamethrin:Tralomethrin								
DW44	9/8/2020	5.3	<0.2	<0.2	<0.2	<0.2	2.4	-
SE74	12/12/2020	<0.2	<0.2	<0.2	<0.2	<0.2	2.9	-
DW45	1/13/2021	6.5	<0.2	<0.2	<0.2	1.4	0.6	-
SE75	1/22/2021	4.7	<0.2	15	<0.2	3.3	4.3	-
SE77	3/10/2021	1.7	<0.2	<1	<1	9.8	6.7	-
DW46	3/29/2021	13	<0.2	2.1	<1	<1	<0.2	-
DW47	5/10/2021	5	<0.2	<0.2	<0.2	<0.2	5.7	-
Esfenvalerate:Fenvalerate								
DW44	9/8/2020	0.3	<0.2	<0.2	<0.2	<0.2	<0.2	-
SE74	12/12/2020	<0.4	<0.4	<2	<0.4	<0.4	<0.4	-
DW45	1/13/2021	0.8	<0.4	<0.4	0.6	0.6	<0.4	-
SE75	1/22/2021	1.3	<0.4	5	0.4	1.5	0.9	-
SE77	3/10/2021	<2	<0.4	<2	<2	3.3	<2	-
DW46	3/29/2021	5.7	<0.4	<2	<0.4	<2	<0.4	-
DW47	5/10/2021	<0.4	<0.4	<0.4	<0.4	<0.4	<2	-
Fenpropathrin								
DW44	9/8/2020	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-
SE74	12/12/2020	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-
DW45	1/13/2021	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-
SE75	1/22/2021	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-
SE77	3/10/2021	<0.2	<0.2	<1	<1	<1	<1	-
DW46	3/29/2021	<1	<0.2	<0.2	<0.2	<0.2	<0.2	-
DW47	5/10/2021	<0.2	<0.2	<0.2	<0.2	<0.2	<1	-
Lambda-Cyhalothrin								
DW44	9/8/2020	0.3	<0.2	0.2	<0.2	<0.2	0.4	-
SE74	12/12/2020	<0.3	<0.3	<2	<0.3	<0.3	<2	-
DW45	1/13/2021	0.5	<0.3	0.5	0.3	0.8	0.3	-
SE75	1/22/2021	0.4	<0.3	11	<0.3	0.6	0.9	-
SE77	3/10/2021	1.9	<0.3	1.8	<2	<2	<2	-
DW46	3/29/2021	<2	<2	<2	<2	<2	<2	-
DW47	5/10/2021	<0.3	<0.3	<0.3	<0.3	<0.3	1.9	-
Permethrin								
DW44	9/8/2020	<2	<2	<2	<2	5.1	<2	-
SE74	12/12/2020	<2	<2	<10	<2	<2	<2	-
DW45	1/13/2021	4.1	<2	<2	<2	<2	<2	-
SE75	1/22/2021	<2	<2	150	<2	<2	<2	-
SE77	3/10/2021	<2	<2	<10	<10	<10	<10	-
DW46	3/29/2021	<10	<2	<10	<2	<2	<2	-

Event	Date	5M-25	5M-25R	5M-26	5M-26R	5M-28	5M-28R	WQO
DW47	5/10/2021	<2	<2	<2	<2	<2	<10	-
Tau-Fluvalinate								
DW44	9/8/2020	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-
SE74	12/12/2020	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-
DW45	1/13/2021	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-
SE75	1/22/2021	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-
SE77	3/10/2021	<0.2	<0.2	<1	<1	<1	<1	-
DW46	3/29/2021	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-
DW47	5/10/2021	<0.2	<0.2	0.4	<0.2	<0.2	<1	-
Tetramethrin								
DW44	9/8/2020	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-
SE74	12/12/2020	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-
DW45	1/13/2021	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-
SE75	1/22/2021	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-
SE77	3/10/2021	<1	<0.2	<1	<1	<1	<1	-
DW46	3/29/2021	<0.2	<0.2	<0.2	<0.2	<1	<0.2	-
DW47	5/10/2021	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-

Rainwater/Atmospheric Deposition Monitoring Data

	NE-RAIN	NW-RAIN	SC-RAIN
Dissolved Oxygen (mg/L)			
SE74	11.5	9.73	10.75
SE76	7.98	8.59	8.27
SE77	10.33	[a]	9.52
Mercury			
Methyl Mercury, Total (ng/L)			
SE74	0.08	0.05	0.08
SE76	0.07	0.07	0.08
SE77	0.12	0.23	0.24
Mercury, total (ng/L)			
SE74	1.8	1.3	1.9
SE76	1.8	2.1	2.5
SE77	3.3	5.8	4.5
Chlorpyrifos (ng/L)			
SE71	<0.5	<0.5	<0.5
SE72	<0.5	<0.5	<0.5
SE73	1.5	<0.6	<0.5
Pyrethroids (ng/L)			
Allethrin (ng/L)			
SE71	<0.3	<0.3	<0.3
SE72	<0.3	<0.3	<0.3
SE73	<0.3	<0.3	<0.3
Bifenthrin (ng/L)			
SE71	0.8	0.7	0.6
SE72	0.6	0.8	0.8
SE73	0.6	0.7	0.8
Cyfluthrin (ng/L)			
SE71	<0.4	<0.4	<0.4
SE72	<0.4	<0.4	<0.4
SE73	<0.4	<0.5	0.6
Cypermethrin (ng/L)			
SE71	<0.3	<0.3	<0.3
SE72	<0.3	<0.3	<0.3
SE73	<0.3	<0.3	0.7
Deltamethrin:Tralomethrin (ng/L)			
SE71	<0.2	<0.2	<0.2
SE72	<0.2	<0.2	<0.2

	NE-RAIN	NW-RAIN	SC-RAIN
SE73	<0.2	<0.2	0.2
Esfenvalerate:Fenvalerate (ng/L)			
SE71	<0.4	<0.4	<0.4
SE72	1.8	1.7	1.4
SE73	0.7	0.9	0.9
Fenpropathrin (ng/L)			
SE71	0.6	<0.2	<0.2
SE72	<0.2	<0.2	<0.2
SE73	<0.2	<0.2	<0.2
Lambda-Cyhalothrin (ng/L)			
SE71	<0.3	<0.3	<0.3
SE72	0.6	1	0.7
SE73	0.9	<0.3	<0.3
Permethrin (ng/L)			
SE71	<2	<2	<2
SE72	<2	<2	<2
SE73	<2	<2	<2
tau-Fluvalinate (ng/L)			
SE71	<0.2	<0.2	<0.2
SE72	<0.2	<0.2	<0.2
SE73	<0.2	<0.2	<0.2
Tetramethrin (ng/L)			
SE71	<0.2	<0.2	<0.2
SE72	<0.2	<0.2	<0.2
SE73	<0.2	<0.2	<0.2

[a] Insufficient water for sampling.

Appendix E
Comprehensive Data Summary Tables

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Comprehensive Data Summary Tables

LIST OF TABLES

Summary Tables Key

Waterbodies Included	Event Type	Dataset Time Period	Average Result
Calaveras River Duck Creek Five-Mile Slough Mosher Slough Smith Canal	Dry or Wet[a]	Current or Historical[b]	ND, ID, result[c]

[a] Sampled during dry weather or sampled during wet weather
[b] Current dataset date range: November 2015 – May 2021
Historical dataset date range: September 2007 – May 2015
[c] ND = Not Detected; ID = Insufficient Detected Data; result = arithmetic mean

PYRETHROIDS IN URBAN DISCHARGE

Table 1. Allethrin (Pyrethroid) in Urban Discharge, ng/L

Waterbody	Event Type	Dataset	Count	% Detected	Average	Range
Calaveras River	Dry	Current	16	0%	ND	<0.1
		Historical	11	0%	ND	<0.1
	Wet	Current	21	5%	ID	<0.1 - 0.2
		Historical	10	0%	ND	<0.1
Duck Creek	Dry	Current	12	0%	ND	<0.1
		Historical	10	0%	ND	<0.1
	Wet	Current	18	0%	ND	<0.1
		Historical	10	0%	ND	<0.1
Five-Mile Slough	Dry	Current	12	0%	ND	<0.1
	Wet	Current	9	0%	ND	<0.3
Mosher Slough	Dry	Current	16	0%	ND	<0.1
		Historical	14	0%	ND	<0.1
	Wet	Current	16	0%	ND	<0.1
		Historical	20	0%	ND	<0.1
Smith Canal	Dry	Current	12	0%	ND	<0.1
		Historical	11	9%	ID	<0.1 - 0.88
	Wet	Current	9	0%	ND	<0.1
		Historical	10	0%	ND	<0.1

Table 2. Bifenthrin (Pyrethroid) in Urban Discharge, ng/L

Waterbody	Event Type	Dataset	Count	% Detected	Average	Range
Calaveras River	Dry	Current	16	81%	0.78	<0.1 - 2.4
		Historical	12	42%	1.93	<0.1 - 5.7
	Wet	Current	21	100%	32.75	6.7 - 220
		Historical	10	100%	24.95	0.8 - 47.4
Duck Creek	Dry	Current	12	75%	3.42	<0.1 - 14
		Historical	11	64%	7.06	<0.464 - 58
	Wet	Current	18	56%	5.29	<0.1 - 34
		Historical	10	80%	22.72	<0.5 - 90
Five-Mile Slough	Dry	Current	12	100%	4.66	1.1 - 12
	Wet	Current	9	100%	66.09	0.5 - 450
Mosher Slough	Dry	Current	16	88%	1.66	<0.1 - 6.2
		Historical	15	80%	6.79	<0.3 - 50
	Wet	Current	16	100%	27.07	1.2 - 46
		Historical	20	90%	173.13	<0.5 - 1085.4
Smith Canal	Dry	Current	12	100%	7.81	0.2 - 21
		Historical	12	50%	3.81	<0.478 - 17
	Wet	Current	9	100%	18.92	6.3 - 32
		Historical	10	90%	143.28	<0.3 - 954

Table 3. Cyfluthrin (Pyrethroid) in Urban Discharge, ng/L

Waterbody	Event Type	Dataset	Count	% Detected	Average	Range
Calaveras River	Dry	Current	16	6%	ID	<0.2 - 0.9
		Historical	12	50%	2.75	<0.476 - 13
	Wet	Current	21	90%	16.49	<0.3 - 230
		Historical	10	80%	12.09	<0.2 - 45
Duck Creek	Dry	Current	12	33%	0.43	<0.2 - 1
		Historical	11	18%	ID	<0.2 - 1.1
	Wet	Current	18	44%	1.14	<0.2 - 12
		Historical	10	70%	11.62	<0.5 - 42
Five-Mile Slough	Dry	Current	12	42%	0.73	<0.2 - 1
	Wet	Current	9	33%	1.63	<0.4 - 8
Mosher Slough	Dry	Current	16	25%	0.28	<0.2 - 0.6
		Historical	15	33%	2.89	<0.2 - 19.6
	Wet	Current	16	94%	7.11	<0.2 - 22
		Historical	20	75%	52.97	<0.5 - 451.3
Smith Canal	Dry	Current	12	58%	0.73	<0.2 - 2.5
		Historical	12	25%	1.93	<0.2 - 7.18
	Wet	Current	9	78%	3.91	<0.3 - 20
		Historical	10	70%	18.81	<0.2 - 96.1

Table 4. Cypermethrin (Pyrethroid) in Urban Discharge, ng/L

Waterbody	Event Type	Dataset	Count	% Detected	Average	Range
Calaveras River	Dry	Current	16	44%	1.46	<0.2 - 13
		Historical	12	42%	3.04	<0.3 - 16
	Wet	Current	21	95%	5.87	<0.2 - 19
		Historical	10	90%	7.45	<0.66 - 26.6
Duck Creek	Dry	Current	12	67%	1.08	<0.2 - 3
		Historical	11	45%	1.95	<0.4 - 11
	Wet	Current	18	50%	2.29	<0.2 - 13
		Historical	10	70%	6.44	<0.5 - 26.6
Five-Mile Slough	Dry	Current	12	42%	1.14	<0.2 - 4.7
	Wet	Current	9	44%	6.01	<0.3 - 41
Mosher Slough	Dry	Current	16	63%	0.38	<0.2 - 0.8
		Historical	15	27%	1.24	<0.2 - 6.2
	Wet	Current	16	100%	4.33	0.7 - 17
		Historical	20	60%	25.13	<0.5 - 232.3
Smith Canal	Dry	Current	12	83%	1.22	<0.2 - 5.3
		Historical	12	33%	1.43	<0.04 - 6.8
	Wet	Current	9	100%	2.96	1.5 - 6.1
		Historical	10	90%	19.99	<0.2 - 92

Table 5. Deltamethrin:Tralomethrin (Pyrethroid) in Urban Discharge, ng/L

Waterbody	Event Type	Dataset	Count	% Detected	Average	Range
Calaveras River	Dry	Current	16	13%	ID	<0.2 - 0.9
		Historical	12	25%	1.26	<0.2 - 5
	Wet	Current	21	90%	89.89	<1 - 1400
		Historical	10	40%	2.74	<0.5 - 14
Duck Creek	Dry	Current	12	0%	ND	<0.2
		Historical	11	9%	ID	<0.2 - 12
	Wet	Current	18	11%	ID	<0.2 - 4.4
		Historical	10	20%	1.14	<0.2 - 3.4
Five-Mile Slough	Dry	Current	12	50%	2.94	<0.2 - 13
	Wet	Current	9	56%	4.01	<0.2 - 15
Mosher Slough	Dry	Current	16	6%	ID	<0.2 - 0.6
		Historical	15	13%	ID	<0.2 - 3.1
	Wet	Current	16	88%	7.48	<0.2 - 74
		Historical	20	35%	4.12	<0.2 - 24
Smith Canal	Dry	Current	12	42%	1.47	<0.2 - 7.3
		Historical	12	17%	ID	<0.2 - 1.6
	Wet	Current	9	56%	4.66	<0.2 - 11
		Historical	10	30%	1.81	<0.2 - 9.4

Table 6. Esfenvalerate:Fenvalerate (Pyrethroid) in Urban Discharge, ng/L

Waterbody	Event Type	Dataset	Count	% Detected	Average	Range
Calaveras River	Dry	Current	16	0%	ND	<0.2
		Historical	16	13%	ID	<0.2 - 1.6
	Wet	Current	21	67%	2.37	<0.2 - 8.1
		Historical	15	67%	1.91	<0.2 - 5.4
Duck Creek	Dry	Current	12	42%	0.63	<0.2 - 1.6
		Historical	15	20%	6.96	<0.2 - 92
	Wet	Current	18	33%	0.50	<0.2 - 2.7
		Historical	15	87%	3.33	<0.98 - 12.4
Five-Mile Slough	Dry	Current	12	33%	1.12	<0.2 - 5.7
	Wet	Current	9	44%	1.99	<0.4 - 5
Mosher Slough	Dry	Current	16	19%	ID	<0.2 - 0.3
		Historical	20	20%	1.01	<0.2 - 1.7
	Wet	Current	16	88%	0.90	<0.2 - 4.8
		Historical	29	55%	3.05	<0.2 - 14.9
Smith Canal	Dry	Current	12	42%	1.82	<0.2 - 15
		Historical	16	13%	ID	<0.2 - 5.2
	Wet	Current	9	33%	0.86	<0.3 - 1
		Historical	15	67%	2.53	<0.2 - 10.2

Table 7. Fenpropathrin (Pyrethroid) in Urban Discharge, ng/L

Waterbody	Event Type	Dataset	Count	% Detected	Average	Range
Calaveras River	Dry	Current	16	0%	ND	<0.2
		Historical	11	9%	ID	<0.2 - 3.53
	Wet	Current	21	0%	ND	<0.2
		Historical	10	30%	1.81	<0.2 - 6.1
Duck Creek	Dry	Current	12	8%	ID	<0.2 - 0.5
		Historical	10	0%	ND	<0.2
	Wet	Current	18	0%	ND	<0.2
		Historical	10	50%	3.59	<0.2 - 15.7
Five-Mile Slough	Dry	Current	12	0%	ND	<0.2
	Wet	Current	9	0%	ND	<0.2
Mosher Slough	Dry	Current	16	0%	ND	<0.2
		Historical	14	0%	ND	<0.2
	Wet	Current	16	19%	ID	<0.2 - 6.3
		Historical	20	10%	ID	<0.2 - 1.5
Smith Canal	Dry	Current	12	25%	0.41	<0.2 - 1.3
		Historical	11	0%	ND	<0.2
	Wet	Current	9	44%	2.17	<0.2 - 5.4
		Historical	10	30%	1.72	<0.2 - 11.7

Table 8. Fluvalinate (Pyrethroid) in Urban Discharge, ng/L

Waterbody	Event Type	Dataset	Count	% Detected	Average	Range
Calaveras River	Dry	Current	16	0%	ND	<0.2
		Historical	10	0%	ND	<0.2
	Wet	Current	21	5%	ID	<0.2 - 6.4
		Historical	8	13%	ID	<0.2 - 2.2
Duck Creek	Dry	Current	12	0%	ND	<0.2
		Historical	9	0%	ND	<0.2
	Wet	Current	18	0%	ND	<0.2
		Historical	8	25%	1.58	<0.2 - 7.8
Five-Mile Slough	Dry	Current	12	8%	ID	<0.2 - 0.4
	Wet	Current	9	0%	ND	<0.2
Mosher Slough	Dry	Current	16	0%	ND	<0.2
		Historical	13	15%	ID	<0.2 - 2.6
	Wet	Current	16	13%	ID	<0.2 - 0.4
		Historical	17	12%	ID	<0.2 - 1.8
Smith Canal	Dry	Current	12	0%	ND	<0.2
		Historical	10	0%	ND	<0.2
	Wet	Current	9	0%	ND	<0.2
		Historical	8	0%	ND	<0.2

Table 9. Lamda-Cyhalothrin (Pyrethroid) in Urban Discharge, ng/L

Waterbody	Event Type	Dataset	Count	% Detected	Average	Range
Calaveras River	Dry	Current	16	19%	ID	<0.2 - 92
		Historical	12	25%	1.02	<0.2 - 2
	Wet	Current	21	81%	2.07	<0.6 - 14
		Historical	10	90%	12.27	<0.3 - 71.7
Duck Creek	Dry	Current	12	50%	0.73	<0.2 - 2.8
		Historical	11	27%	1.26	<0.2 - 4.4
	Wet	Current	18	44%	0.82	<0.2 - 3.7
		Historical	10	80%	8.26	<0.5 - 39.1
Five-Mile Slough	Dry	Current	12	42%	0.78	<0.2 - 0.8
	Wet	Current	9	56%	2.26	<0.3 - 11
Mosher Slough	Dry	Current	16	25%	0.29	<0.2 - 0.8
		Historical	15	13%	ID	<0.2 - 2.3
	Wet	Current	16	94%	6.63	<0.2 - 54
		Historical	20	80%	26.84	<0.4 - 184.8
Smith Canal	Dry	Current	12	42%	0.80	<0.2 - 4
		Historical	12	25%	2.04	<0.2 - 13.1
	Wet	Current	9	78%	2.58	<1 - 5.6
		Historical	10	70%	13.40	<0.2 - 59

Table 10. Permethrin (Pyrethroid) in Urban Discharge, ng/L

Waterbody	Event Type	Dataset	Count	% Detected	Average	Range
Calaveras River	Dry	Current	16	6%	ID	<2 - 5.5
		Historical	14	21%	4.17	<0.95 - 19
	Wet	Current	21	57%	14.79	<2 - 60
		Historical	11	36%	11.56	<1.1 - 52
Duck Creek	Dry	Current	12	33%	18.58	<2 - 99
		Historical	12	42%	15.52	<0.95 - 130
	Wet	Current	18	22%	50.44	<2 - 450
		Historical	11	45%	6.84	<2 - 13
Five-Mile Slough	Dry	Current	12	17%	ID	<2 - 5.1
	Wet	Current	9	11%	ID	<2 - 150
Mosher Slough	Dry	Current	16	0%	ND	<2
		Historical	18	6%	ID	<0.94 - 2.4
	Wet	Current	16	94%	16.03	<2 - 43
		Historical	23	83%	191.85	<0.94 - 1101.3
Smith Canal	Dry	Current	12	50%	6.91	<2 - 18
		Historical	14	21%	3.64	<0.94 - 7.9
	Wet	Current	9	22%	12.00	<2 - 24
		Historical	11	73%	52.13	<2 - 269.2

Table 11. Tetramethrin (Pyrethroid) in Urban Discharge, ng/L

Waterbody	Event Type	Dataset	Count	% Detected	Average	Range
Calaveras River	Dry	Current	16	0%	ND	<0.2
		Historical	4	0%	ND	<0.2
	Wet	Current	21	0%	ND	<0.2
		Historical	4	0%	ND	<0.2
Duck Creek	Dry	Current	12	0%	ND	<0.2
		Historical	4	25%	0.55	<0.2 - 1.4
	Wet	Current	18	0%	ND	<0.2
		Historical	4	25%	4.65	<0.2 - 18
Five-Mile Slough	Dry	Current	12	0%	ND	<0.2
	Wet	Current	9	0%	ND	<0.2
Mosher Slough	Dry	Current	16	0%	ND	<0.2
		Historical	5	0%	ND	<0.2
	Wet	Current	16	0%	ND	<0.2
		Historical	6	17%	ID	<0.2 - 20
Smith Canal	Dry	Current	12	0%	ND	<0.2
		Historical	4	0%	ND	<0.2
	Wet	Current	9	11%	ID	<0.2 - 28
		Historical	4	25%	3.90	<0.2 - 15

PYRETHROIDS IN RECEIVING WATER

Table 12. Allethrin (Pyrethroid) in Receiving Water, ng/L

Waterbody	Event Type	Dataset	Count	% Detected	Average	Range
Calaveras River	Dry	Current	14	0%	ND	<0.1
		Historical	26	0%	ND	<0.1
	Wet	Current	11	0%	ND	<0.1
		Historical	23	9%	ID	<0.1 - 6.6
Duck Creek	Dry	Current	6	0%	ND	<0.1
		Historical	20	0%	ND	<0.1
	Wet	Current	6	0%	ND	<0.1
		Historical	14	7%	ID	<0.1 - 0.2
Five-Mile Slough	Dry	Current	12	0%	ND	<0.1
		Historical	7	0%	ND	<0.1
	Wet	Current	9	0%	ND	<0.3
		Historical	10	0%	ND	<0.1
Mosher Slough	Dry	Current	10	0%	ND	<0.1
		Historical	26	0%	ND	<0.1
	Wet	Current	9	0%	ND	<0.1
		Historical	28	0%	ND	<0.1
Smith Canal	Dry	Current	12	0%	ND	<0.1
		Historical	15	0%	ND	<0.1
	Wet	Current	9	0%	ND	<0.1
		Historical	19	0%	ND	<0.1

Table 13. Bifenthrin (Pyrethroid) in Receiving Water, ng/L

Waterbody	Event Type	Dataset	Count	% Detected	Average	Range
Calaveras River	Dry	Current	14	7%	ID	<0.1 - 0.2
		Historical	28	14%	ID	<0.1 - 0.4
	Wet	Current	11	82%	3.74	<0.1 - 22
		Historical	23	43%	3.56	<0.1 - 16.5
Duck Creek	Dry	Current	6	67%	0.52	<0.1 - 1
		Historical	22	27%	1.85	<0.2 - 16.7
	Wet	Current	6	83%	1.63	<0.1 - 3
		Historical	14	36%	3.31	<0.1 - 29
Five-Mile Slough	Dry	Current	12	92%	3.23	<0.2 - 15
		Historical	7	29%	1.28	<0.1 - 4.1
	Wet	Current	9	100%	6.07	0.4 - 19
		Historical	10	30%	1.89	<0.2 - 5.8
Mosher Slough	Dry	Current	10	70%	0.64	<0.1 - 1.9
		Historical	27	22%	1.31	<0.1 - 6
	Wet	Current	9	100%	9.58	0.3 - 47
		Historical	28	64%	9.85	<0.5 - 35
Smith Canal	Dry	Current	12	75%	0.43	<0.1 - 0.8
		Historical	16	31%	1.11	<0.2 - 1.3
	Wet	Current	9	100%	2.90	0.9 - 6.1
		Historical	19	53%	20.21	<0.2 - 313.6

Table 14. Cyfluthrin (Pyrethroid) in Receiving Water, ng/L

Waterbody	Event Type	Dataset	Count	% Detected	Average	Range
Calaveras River	Dry	Current	14	0%	ND	<0.2
		Historical	28	4%	ID	<0.2 - 1.7
	Wet	Current	11	27%	118.63	<0.2 - 1300
		Historical	23	35%	21.50	<0.2 - 390
Duck Creek	Dry	Current	6	0%	ND	<0.2
		Historical	22	0%	ND	<0.2
	Wet	Current	6	17%	ID	<0.2 - 0.4
		Historical	14	21%	0.95	<0.2 - 3.4
Five-Mile Slough	Dry	Current	12	17%	ID	<0.2 - 2
		Historical	7	0%	ND	<0.2
	Wet	Current	9	0%	ND	<0.4
		Historical	10	0%	ND	<0.2
Mosher Slough	Dry	Current	10	0%	ND	<0.2
		Historical	27	4%	ID	<0.2 - 1.6
	Wet	Current	9	56%	1.50	<0.2 - 8.7
		Historical	28	39%	3.78	<0.5 - 20.5
Smith Canal	Dry	Current	12	25%	0.25	<0.2 - 0.7
		Historical	16	6%	ID	<0.2 - 3.2
	Wet	Current	9	33%	0.60	<0.2 - 2.5
		Historical	19	26%	12.53	<0.2 - 190.3

Table 15. Cypermethrin (Pyrethroid) in Receiving Water, ng/L

Waterbody	Event Type	Dataset	Count	% Detected	Average	Range
Calaveras River	Dry	Current	14	7%	ID	<0.2 - 0.3
		Historical	28	0%	ND	<0.2
	Wet	Current	11	45%	0.91	<0.2 - 5.6
		Historical	23	39%	4.04	<0.2 - 33.8
Duck Creek	Dry	Current	6	0%	ND	<0.2
		Historical	22	0%	ND	<0.2
	Wet	Current	6	33%	0.43	<0.2 - 0.8
		Historical	14	21%	0.91	<0.2 - 4.7
Five-Mile Slough	Dry	Current	12	8%	ID	<0.2 - 0.3
		Historical	7	0%	ND	<0.2
	Wet	Current	9	11%	ID	<0.3 - 0.8
		Historical	10	10%	ID	<0.2 - 2.5
Mosher Slough	Dry	Current	10	10%	ID	<0.2 - 0.2
		Historical	27	0%	ND	<0.2
	Wet	Current	9	89%	2.09	<0.2 - 6.8
		Historical	28	29%	2.18	<0.5 - 19.5
Smith Canal	Dry	Current	12	8%	ID	<0.2 - 0.3
		Historical	16	0%	ND	<0.2
	Wet	Current	9	67%	0.60	<0.2 - 1.5
		Historical	19	16%	ID	<0.2 - 49.5

Table 16. Deltamethrin:Tralomethrin (Pyrethroid) in Receiving Water, ng/L

Waterbody	Event Type	Dataset	Count	% Detected	Average	Range
Calaveras River	Dry	Current	14	14%	ID	<0.2 - 3.4
		Historical	28	7%	ID	<0.2 - 0.9
	Wet	Current	11	36%	2.68	<0.2 - 19
		Historical	23	22%	8.87	<0.2 - 180
Duck Creek	Dry	Current	6	0%	ND	<0.2
		Historical	22	0%	ND	<0.2
	Wet	Current	6	0%	ND	<0.2
		Historical	14	14%	ID	<0.2 - 4.3
Five-Mile Slough	Dry	Current	12	25%	0.94	<0.2 - 5.7
		Historical	7	0%	ND	<0.2
	Wet	Current	9	33%	1.77	<0.2 - 6.7
		Historical	10	0%	ND	<0.2
Mosher Slough	Dry	Current	10	0%	ND	<0.2
		Historical	27	0%	ND	<0.2
	Wet	Current	9	56%	1.56	<0.2 - 7.6
		Historical	28	21%	1.25	<0.2 - 5.8
Smith Canal	Dry	Current	12	17%	ID	<0.2 - 0.5
		Historical	16	0%	ND	<0.2
	Wet	Current	9	22%	0.53	<0.2 - 1
		Historical	19	11%	ID	<0.2 - 4.3

Table 17. Esfenvalerate:Fenvalerate (Pyrethroid) in Receiving Water, ng/L

Waterbody	Event Type	Dataset	Count	% Detected	Average	Range
Calaveras River	Dry	Current	14	0%	ND	<0.2
		Historical	36	6%	ID	<0.2 - 1.8
	Wet	Current	11	18%	ID	<0.2 - 0.5
		Historical	33	21%	1.39	<0.2 - 1.6
Duck Creek	Dry	Current	6	17%	ID	<0.2 - 0.4
		Historical	30	7%	ID	<0.2 - 5.1
	Wet	Current	6	0%	ND	<0.2
		Historical	22	14%	ID	<0.2 - 0.8
Five-Mile Slough	Dry	Current	12	8%	ID	<0.2 - 0.6
		Historical	9	0%	ND	<0.2
	Wet	Current	9	22%	0.81	<0.4 - 0.9
		Historical	14	0%	ND	<0.2
Mosher Slough	Dry	Current	10	0%	ND	<0.2
		Historical	37	5%	ID	<0.2 - 1.1
	Wet	Current	9	44%	0.40	<0.2 - 1.4
		Historical	44	20%	1.05	<0.2 - 7.7
Smith Canal	Dry	Current	12	0%	ND	<0.2
		Historical	22	9%	ID	<0.2 - 2.4
	Wet	Current	9	11%	ID	<0.2 - 0.3
		Historical	28	14%	ID	<0.2 - 10.5

Table 18. Fenpropathrin (Pyrethroid) in Receiving Water, ng/L

Waterbody	Event Type	Dataset	Count	% Detected	Average	Range
Calaveras River	Dry	Current	14	7%	ID	<0.2 - 0.4
		Historical	26	0%	ND	<0.2
	Wet	Current	11	0%	ND	<0.2
		Historical	23	4%	ID	<0.2 - 2.4
Duck Creek	Dry	Current	6	0%	ND	<0.2
		Historical	20	5%	ID	<0.2 - 7.6
	Wet	Current	6	0%	ND	<0.2
		Historical	14	0%	ND	<0.2
Five-Mile Slough	Dry	Current	12	0%	ND	<0.2
		Historical	7	0%	ND	<0.2
	Wet	Current	9	0%	ND	<0.2
		Historical	10	0%	ND	<0.2
Mosher Slough	Dry	Current	10	0%	ND	<0.2
		Historical	26	8%	ID	<0.2 - 3.59
	Wet	Current	9	11%	ID	<0.2 - 2.2
		Historical	28	11%	ID	<0.2 - 1.9
Smith Canal	Dry	Current	12	0%	ND	<0.2
		Historical	15	0%	ND	<0.2
	Wet	Current	9	11%	ID	<0.2 - 1.2
		Historical	19	11%	ID	<0.2 - 12.2

Table 19. Fluvalinate (Pyrethroid) in Receiving Water, ng/L

Waterbody	Event Type	Dataset	Count	% Detected	Average	Range
Calaveras River	Dry	Current	14	0%	ND	<0.2
		Historical	23	0%	ND	<0.2
	Wet	Current	11	0%	ND	<0.2
		Historical	20	5%	ID	<0.2 - 48
Duck Creek	Dry	Current	6	0%	ND	<0.2
		Historical	18	0%	ND	<0.2
	Wet	Current	6	0%	ND	<0.2
		Historical	11	0%	ND	<0.2
Five-Mile Slough	Dry	Current	12	0%	ND	<0.2
		Historical	6	0%	ND	<0.2
	Wet	Current	9	0%	ND	<0.2
		Historical	9	0%	ND	<0.2
Mosher Slough	Dry	Current	10	0%	ND	<0.2
		Historical	24	8%	ID	<0.2 - 1.2
	Wet	Current	9	0%	ND	<0.2
		Historical	25	4%	ID	<0.2 - 0.6
Smith Canal	Dry	Current	12	0%	ND	<0.2
		Historical	14	0%	ND	<0.2
	Wet	Current	9	0%	ND	<0.2
		Historical	16	0%	ND	<0.2

Table 20. Lambda-Cyhalothrin (Pyrethroid) in Receiving Water, ng/L

Waterbody	Event Type	Dataset	Count	% Detected	Average	Range
Calaveras River	Dry	Current	14	7%	ID	<0.2 - 0.2
		Historical	28	0%	ND	<0.2
	Wet	Current	11	18%	ID	<0.2 - 0.7
		Historical	23	30%	5.08	<0.2 - 51
Duck Creek	Dry	Current	6	0%	ND	<0.2
		Historical	22	5%	ID	<0.2 - 1.3
	Wet	Current	6	0%	ND	<0.2
		Historical	14	21%	0.83	<0.2 - 3.1
Five-Mile Slough	Dry	Current	12	33%	0.85	<0.2 - 1.9
		Historical	7	0%	ND	<0.2
	Wet	Current	9	11%	ID	<0.3 - 0.9
		Historical	10	0%	ND	<0.2
Mosher Slough	Dry	Current	10	0%	ND	<0.2
		Historical	27	0%	ND	<0.2
	Wet	Current	9	67%	1.12	<0.2 - 3.6
		Historical	28	50%	3.03	<0.4 - 20.5
Smith Canal	Dry	Current	12	0%	ND	<0.2
		Historical	16	0%	ND	<0.2
	Wet	Current	9	33%	0.50	<0.2 - 1
		Historical	19	21%	6.02	<0.2 - 83.6

Table 21. Permethrin (Pyrethroid) in Receiving Water, ng/L

Waterbody	Event Type	Dataset	Count	% Detected	Average	Range
Calaveras River	Dry	Current	14	0%	ND	<2
		Historical	34	0%	ND	<0.95
	Wet	Current	11	0%	ND	<2
		Historical	27	19%	ID	<0.94 - 238.3
Duck Creek	Dry	Current	6	0%	ND	<2
		Historical	26	0%	ND	<0.95
	Wet	Current	6	0%	ND	<2
		Historical	15	20%	4.18	<0.97 - 7.4
Five-Mile Slough	Dry	Current	12	0%	ND	<2
		Historical	9	0%	ND	<0.95
	Wet	Current	9	0%	ND	<0.5
		Historical	12	0%	ND	<0.94
Mosher Slough	Dry	Current	10	0%	ND	<2
		Historical	33	0%	ND	<0.94
	Wet	Current	9	56%	5.08	<2 - 15
		Historical	32	31%	5.49	<0.94 - 17
Smith Canal	Dry	Current	12	0%	ND	<2
		Historical	19	5%	ID	<0.95 - 4.3
	Wet	Current	9	11%	ID	<2 - 26
		Historical	22	18%	ID	<0.2 - 296

Table 22. Tetramethrin (Pyrethroid) in Receiving Water, ng/L

Waterbody	Event Type	Dataset	Count	% Detected	Average	Range
Calaveras River	Dry	Current	14	0%	ND	<0.2
		Historical	9	0%	ND	<0.2
	Wet	Current	11	0%	ND	<0.2
		Historical	7	14%	ID	<0.2 - 5.8
Duck Creek	Dry	Current	6	0%	ND	<0.2
		Historical	6	33%	0.92	<0.2 - 2.5
	Wet	Current	6	0%	ND	<0.2
		Historical	5	0%	ND	<0.2
Five-Mile Slough	Dry	Current	12	0%	ND	<0.2
		Historical	2	0%	ND	<0.2
	Wet	Current	9	0%	ND	<0.2
		Historical	2	0%	ND	<0.2
Mosher Slough	Dry	Current	10	10%	ID	<0.2 - 9
		Historical	8	13%	ID	<0.2 - 1.1
	Wet	Current	9	0%	ND	<0.2
		Historical	6	17%	ID	<0.2 - 13
Smith Canal	Dry	Current	12	0%	ND	<0.2
		Historical	5	0%	ND	<0.2
	Wet	Current	9	0%	ND	<0.2
		Historical	5	0%	ND	<0.2

NON-PRIORITY POLLUTANTS IN URBAN DISCHARGE

Table 23. Oil & Grease in Urban Discharge, mg/L (Non-Priority Pollutant)

Waterbody	Event Type	Dataset	Count	% Detected	Average	Range	% Compliance with WQO (no oil & grease)
Calaveras River	Dry	Current	4	50%	2.5	<1.5 - 4.4	50%
		Historical	14	21%	2.8	<0.74 - 4.51	79%
	Wet	Current	3	67%	1.6	<1.5 - 1.68	33%
		Historical	11	36%	2.9	<0.97 - 3.4	64%
Duck Creek	Dry	Current	4	100%	4.8	3.57 - 6.09	0%
		Historical	13	38%	3.6	<0.69 - 7.8	62%
	Wet	Current	3	100%	3.2	2.09 - 4.95	0%
		Historical	9	33%	3.4	<1.3 - 3.74	67%
Five-Mile Slough	Dry	Current	1	0%	ND	<1.4	0%
Mosher Slough	Dry	Current	4	75%	2.4	<1.5 - 3.9	25%
		Historical	14	7%	ID	<0.39 - 3.5	93%
	Wet	Current	3	67%	2.6	<1.5 - 3.46	33%
		Historical	11	36%	2.7	<0.68 - 2.2	64%
Smith Canal	Dry	Current	4	50%	3.3	<1.9 - 5.44	50%
		Historical	14	29%	3.2	<0.4 - 7	71%
	Wet	Current	3	100%	3.7	2.34 - 5.56	0%
		Historical	11	36%	4.2	<1.3 - 13	64%

Table 24. pH in Urban Discharge, SU (Non-Priority Pollutant)

Waterbody	Event Type	Dataset	Count	% Detected	Average	Range	% Compliance with WQO (6.5 - 8.5)
Calaveras River	Dry	Current	16	100%	7.6	6.73 - 8.16	100%
		Historical	14	100%	7.2	6.6 - 7.83	100%
	Wet	Current	28	100%	7.4	5.38 - 8.39	100%
		Historical	11	100%	6.9	5.3 - 8.87	55%
Duck Creek	Dry	Current	12	100%	7.0	6.35 - 7.56	100%
		Historical	13	100%	7.3	6.79 - 7.88	100%
	Wet	Current	18	100%	7.6	6.76 - 8.66	100%
		Historical	11	100%	7.3	6.5 - 8.93	91%
Five-Mile Slough	Dry	Current	12	100%	7.7	6.97 - 8.45	75%
	Wet	Current	9	100%	7.5	7.25 - 8.16	100%
Mormon Slough	Dry	Current	9	100%	7.3	6.39 - 7.92	100%
	Wet	Current	6	100%	7.4	7.03 - 7.83	100%
Mosher Slough	Dry	Current	16	100%	7.3	5.66 - 8.14	100%
		Historical	14	100%	7.3	6.44 - 7.81	86%
	Wet	Current	16	100%	7.5	6.53 - 8.77	100%
		Historical	12	100%	7.0	6.5 - 7.81	100%
Smith Canal	Dry	Current	12	100%	7.6	7.22 - 8.26	100%
		Historical	15	100%	7.7	7.03 - 8.43	100%
	Wet	Current	9	100%	7.2	6.77 - 7.63	100%
		Historical	12	100%	6.8	6.1 - 7.72	75%

Table 25. Temperature in Urban Discharge, °C (Non-Priority Pollutant)

Waterbody	Event Type	Dataset	Count	% Detected	Average	Range
Calaveras River	Dry	Current	16	100%	18.6	12.3 - 24.58
		Historical	10	100%	20.0	13.33 - 22.35
	Wet	Current	28	100%	15.3	9.18 - 22.04
		Historical	7	100%	15.3	11.3 - 20.74
Duck Creek	Dry	Current	12	100%	19.0	15.3 - 25
		Historical	10	100%	20.7	16.05 - 24.61
	Wet	Current	18	100%	14.5	9.1 - 18.3
		Historical	6	100%	15.1	11.49 - 18.24
Five-Mile Slough	Dry	Current	12	100%	18.5	12.6 - 26.1
	Wet	Current	9	100%	13.7	11.4 - 15.3
Mormon Slough	Dry	Current	9	100%	19.6	11.4 - 25.3
	Wet	Current	6	100%	11.9	11 - 13.3
Mosher Slough	Dry	Current	16	100%	19.1	15.52 - 22.43
		Historical	10	100%	20.9	17.1 - 23.02
	Wet	Current	16	100%	16.7	13.47 - 18.42
		Historical	7	100%	14.7	10.7 - 18.16
Smith Canal	Dry	Current	12	100%	20.3	14.7 - 25.5
		Historical	11	100%	20.9	14.57 - 24.5
	Wet	Current	9	100%	15.8	13 - 19.9
		Historical	7	100%	16.4	11.2 - 21.09

Table 26. Alkalinity in Urban Discharge, mg/L (Non-Priority Pollutant)

Waterbody	Event Type	Dataset	Count	% Detected	Average	Range
Calaveras River	Dry	Current	4	100%	115	44.5 - 165
		Historical	14	100%	133	22 - 220
	Wet	Current	3	100%	9.4	8.48 - 10.6
		Historical	11	100%	31.8	9.96 - 72.3
Duck Creek	Dry	Current	4	100%	50.0	31 - 80
		Historical	13	100%	78.1	40 - 120
	Wet	Current	3	100%	29.5	17.7 - 50.3
		Historical	10	100%	31.6	12.3 - 52
Mosher Slough	Dry	Current	4	100%	199	190 - 208
		Historical	14	100%	202	166 - 290
	Wet	Current	4	100%	25.7	13.4 - 39.4
		Historical	11	100%	32.5	13.7 - 66
Smith Canal	Dry	Current	4	100%	214	110 - 330
		Historical	14	100%	232	88 - 480
	Wet	Current	3	100%	23.2	14 - 36.7
		Historical	11	100%	37.8	17 - 98

Table 27. Ammonia as N in Urban Discharge, mg/L (Non-Priority Pollutant)

Waterbody	Event Type	Dataset	Count	% Detected	Average	Range
Calaveras River	Dry	Current	4	0%	ND	<0.072
		Historical	14	57%	0.18	<0.072 - 0.44
	Wet	Current	3	100%	0.74	0.394 - 1.23
		Historical	11	55%	0.63	<0.1 - 1.65
Duck Creek	Dry	Current	4	100%	0.60	0.315 - 1.32
		Historical	13	69%	0.46	<0.1 - 2.72
	Wet	Current	3	100%	1.1	0.337 - 1.89
		Historical	10	50%	0.67	<0.1 - 1.6
Mosher Slough	Dry	Current	4	25%	0.095	<0.072 - 0.163
		Historical	14	29%	0.20	<0.072 - 1.2
	Wet	Current	4	100%	0.61	0.461 - 0.699
		Historical	11	55%	0.37	<0.1 - 1.05
Smith Canal	Dry	Current	4	25%	0.18	<0.036 - 0.537
		Historical	14	36%	0.16	<0.072 - 0.548
	Wet	Current	3	100%	0.70	0.417 - 0.983
		Historical	11	64%	0.68	<0.1 - 1.9

Table 28. Bicarbonate in Urban Discharge, mg/L (Non-Priority Pollutant)

Waterbody	Event Type	Dataset	Count	% Detected	Average	Range
Calaveras River	Dry	Current	4	100%	140	54.4 - 201
		Historical	12	100%	140	22 - 260
	Wet	Current	3	100%	11.4	10.2 - 12.9
		Historical	10	100%	36.3	12.2 - 88.3
Duck Creek	Dry	Current	4	100%	60.9	37.8 - 97.6
		Historical	11	100%	80.0	44 - 140
	Wet	Current	3	100%	36.1	21.7 - 61.5
		Historical	10	100%	33.5	14.9 - 63
Mosher Slough	Dry	Current	4	100%	243	232 - 254
		Historical	12	100%	230	170 - 350
	Wet	Current	4	100%	31.4	16.3 - 48.1
		Historical	10	100%	34.7	16.6 - 66
Smith Canal	Dry	Current	4	100%	261	134 - 403
		Historical	12	100%	248	88 - 420
	Wet	Current	3	100%	28.3	17.1 - 44.9
		Historical	10	100%	41.5	20 - 98

Table 29. BOD in Urban Discharge, mg/L (Non-Priority Pollutant)

Waterbody	Event Type	Dataset	Count	% Detected	Average	Range
Calaveras River	Dry	Current	4	100%	2.3	0.5 - 5.7
		Historical	14	93%	2.4	<1.1 - 5.5
	Wet	Current	22	100%	12.4	3.9 - 28.9
		Historical	11	100%	20.8	7.1 - 45.8
Duck Creek	Dry	Current	12	100%	12.4	2.6 - 66.5
		Historical	13	92%	10.0	<2 - 46
	Wet	Current	18	100%	12.2	1.6 - 34.7
		Historical	10	100%	40.2	9 - 100
Five-Mile Slough	Dry	Current	12	50%	7.6	<2.4 - 27
	Wet	Current	9	89%	38.2	<5 - 125
Mormon Slough	Dry	Current	9	100%	9.8	0.4 - 43.4
	Wet	Current	6	100%	35.7	8.97 - 86
Mosher Slough	Dry	Current	4	100%	1.1	0.8 - 1.4
		Historical	14	79%	2.1	<0.5 - 5.06
	Wet	Current	4	100%	18.8	5.42 - 39.3
		Historical	11	100%	29.1	6.6 - 100
Smith Canal	Dry	Current	4	100%	3.2	0.8 - 4.7
		Historical	14	100%	4.2	1.1 - 15
	Wet	Current	3	100%	29.2	24.6 - 33.8
		Historical	11	100%	43.1	12 - 100

Table 30. Carbonate in Urban Discharge, mg/L (Non-Priority Pollutant)

Waterbody	Event Type	Dataset	Count	% Detected	Average	Range
Calaveras River	Dry	Current	4	0%	ND	<1.1
		Historical	12	0%	ND	<1.1
	Wet	Current	3	0%	ND	<1.1
		Historical	10	0%	ND	<1.1
Duck Creek	Dry	Current	4	0%	ND	<1.1
		Historical	11	0%	ND	<1.1
	Wet	Current	3	0%	ND	<1.1
		Historical	10	0%	ND	<1.1
Mosher Slough	Dry	Current	4	0%	ND	<1.1
		Historical	12	0%	ND	<1.1
	Wet	Current	4	0%	ND	<1.1
		Historical	10	0%	ND	<1.1
Smith Canal	Dry	Current	4	0%	ND	<1.1
		Historical	12	0%	ND	<1.1
	Wet	Current	3	0%	ND	<1.1
		Historical	10	0%	ND	<1.1

Table 31. COD in Urban Discharge, mg/L (Non-Priority Pollutant)

Waterbody	Event Type	Dataset	Count	% Detected	Average	Range
Calaveras River	Dry	Current	4	50%	6.6	<4.4 - 8.89
		Historical	14	50%	15.6	<3.3 - 38
	Wet	Current	3	100%	62.8	40 - 104
		Historical	11	91%	73.8	<8.1 - 150
Duck Creek	Dry	Current	4	100%	62.5	20.2 - 147
		Historical	13	77%	41.1	<8.1 - 170
	Wet	Current	3	100%	94.1	56.2 - 170
		Historical	10	90%	157	<8.1 - 500
Mosher Slough	Dry	Current	4	25%	5.7	<4.4 - 9.43
		Historical	14	36%	20.3	<3.3 - 130
	Wet	Current	4	100%	53.6	39.1 - 71.9
		Historical	11	100%	133	21.2 - 600
Smith Canal	Dry	Current	4	50%	11.3	<7.9 - 15.3
		Historical	14	79%	31.9	<8.1 - 190
	Wet	Current	3	100%	110	81.6 - 140
		Historical	11	100%	138	41 - 490

Table 32. Hydroxide in Urban Discharge, mg/L (Non-Priority Pollutant)

Waterbody	Event Type	Dataset	Count	% Detected	Average	Range
Calaveras River	Dry	Current	4	0%	ND	<1.1
		Historical	12	0%	ND	<0.7
	Wet	Current	3	0%	ND	<1.1
		Historical	10	0%	ND	<0.7
Duck Creek	Dry	Current	4	0%	ND	<1.1
		Historical	11	0%	ND	<0.7
	Wet	Current	3	0%	ND	<1.1
		Historical	10	0%	ND	<0.7
Mosher Slough	Dry	Current	4	0%	ND	<1.1
		Historical	12	0%	ND	<0.7
	Wet	Current	4	0%	ND	<1.1
		Historical	10	0%	ND	<0.7
Smith Canal	Dry	Current	4	0%	ND	<1.1
		Historical	12	0%	ND	<0.7
	Wet	Current	3	0%	ND	<1.1
		Historical	10	0%	ND	<0.7

Table 33. Specific Conductance in Urban Discharge, µmhos/cm (Non-Priority Pollutant)

Waterbody	Event Type	Dataset	Count	% Detected	Average	Range	% Compliance with WQO (900 µmhos/cm)
Calaveras River	Dry	Current	20	100%	579	86.6 - 1371	80%
		Historical	18	100%	408	80 - 598	100%
	Wet	Current	31	100%	209	17 - 1114	97%
		Historical	13	100%	123	27 - 558	100%
Duck Creek	Dry	Current	15	100%	357	130 - 1250	87%
		Historical	17	100%	229	140 - 380	100%
	Wet	Current	21	100%	116	29 - 233.1	100%
		Historical	12	100%	143	50.1 - 249	100%
Five-Mile Slough	Dry	Current	12	100%	545	412.5 - 737	75%
	Wet	Current	9	100%	306	109.7 - 709	100%
Mormon Slough	Dry	Current	9	100%	854	0.7345 - 1874	56%
	Wet	Current	6	100%	213	87.2 - 436.3	100%
Mosher Slough	Dry	Current	20	100%	475	105 - 711	100%
		Historical	18	100%	553	390 - 930	94%
	Wet	Current	20	100%	165	39 - 797	100%
		Historical	13	100%	123	54 - 288	100%
Smith Canal	Dry	Current	16	100%	706	302 - 1165	69%
		Historical	19	100%	706	310 - 852	100%
	Wet	Current	12	100%	132	60.5 - 462.5	100%
		Historical	13	100%	156	50.3 - 470	100%

Table 34. Total Dissolved Solids in Urban Discharge, mg/L (Non-Priority Pollutant)

Waterbody	Event Type	Dataset	Count	% Detected	Average	Range	% Compliance with WQO (500 mg/L)
Calaveras River	Dry	Current	4	100%	195	65.3 - 289	100%
		Historical	14	100%	208	10 - 414	100%
	Wet	Current	3	100%	32.4	15.3 - 52.9	100%
		Historical	11	100%	72.6	22 - 183	100%
Duck Creek	Dry	Current	4	100%	340	70.8 - 1070	75%
		Historical	13	100%	153	89 - 270	100%
	Wet	Current	3	100%	75.0	16.5 - 137	100%
		Historical	10	100%	111	47.6 - 206	100%
Mosher Slough	Dry	Current	4	100%	328	315 - 346	100%
		Historical	14	100%	326	228 - 510	93%
	Wet	Current	4	100%	76.3	43.7 - 139	100%
		Historical	11	100%	100	24 - 320	100%
Smith Canal	Dry	Current	4	100%	493	300 - 635	50%
		Historical	14	100%	406	130 - 535	79%
	Wet	Current	3	100%	62.1	50.2 - 83.7	100%
		Historical	11	100%	120	46 - 250	100%

Table 35. Total Hardness in Urban Discharge, mg/L (Non-Priority Pollutant)

Waterbody	Event Type	Dataset	Count	% Detected	Average	Range
Calaveras River	Dry	Current	4	100%	112	51.4 - 163
		Historical	17	100%	116	16 - 235
	Wet	Current	3	100%	16.2	11.7 - 23.2
		Historical	13	100%	35.2	13 - 101
Duck Creek	Dry	Current	4	100%	124	29.4 - 363
		Historical	14	100%	74.9	35 - 120
	Wet	Current	3	100%	39.9	19.3 - 75.4
		Historical	12	100%	48.1	17 - 78
Mosher Slough	Dry	Current	4	100%	139	108 - 162
		Historical	17	100%	155	12 - 280
	Wet	Current	4	100%	27.7	12.6 - 51.5
		Historical	13	100%	32.0	13 - 65
Smith Canal	Dry	Current	4	100%	254	165 - 312
		Historical	17	100%	229	67 - 360
	Wet	Current	3	100%	33.0	20.9 - 49.2
		Historical	13	100%	53.9	14 - 140

Table 36. Total Kjeldahl Nitrogen in Urban Discharge, mg/L (Non-Priority Pollutant)

Waterbody	Event Type	Dataset	Count	% Detected	Average	Range
Calaveras River	Dry	Current	4	25%	0.38	<0.19 - 0.695
		Historical	14	71%	0.82	<0.32 - 1.9
	Wet	Current	3	67%	1.3	<0.32 - 2.98
		Historical	11	100%	2.3	0.99 - 4.2
Duck Creek	Dry	Current	4	100%	1.8	0.747 - 4
		Historical	13	92%	1.9	<0.3 - 9.23
	Wet	Current	3	67%	1.9	<0.32 - 4.77
		Historical	10	100%	3.8	1.6 - 13
Mosher Slough	Dry	Current	4	50%	0.40	<0.32 - 0.492
		Historical	14	86%	1.2	<0.32 - 4.3
	Wet	Current	4	100%	1.1	0.75 - 1.5
		Historical	11	100%	2.0	1.2 - 7.1
Smith Canal	Dry	Current	4	50%	0.46	<0.32 - 0.855
		Historical	14	93%	2.0	<0.196 - 18.1
	Wet	Current	3	100%	2.2	1.23 - 3.78
		Historical	11	100%	2.6	1.3 - 6.7

Table 37. Total Organic Carbon in Urban Discharge, mg/L (Non-Priority Pollutant)

Waterbody	Event Type	Dataset	Count	% Detected	Average	Range
Calaveras River	Dry	Current	4	100%	2.6	1.5 - 3.65
		Historical	14	100%	4.3	1.4 - 8.1
	Wet	Current	3	100%	11.0	2.51 - 23.6
		Historical	11	100%	16.9	1.9 - 43.3
Duck Creek	Dry	Current	4	100%	21.0	2.89 - 61.4
		Historical	13	100%	10.0	3 - 27
	Wet	Current	3	100%	27.0	8.93 - 58.7
		Historical	10	100%	30.6	2.7 - 120
Mosher Slough	Dry	Current	4	100%	2.1	1.81 - 2.3
		Historical	14	100%	3.7	1.9 - 5.6
	Wet	Current	4	100%	17.6	7.64 - 27.2
		Historical	11	100%	41.7	2 - 270
Smith Canal	Dry	Current	4	100%	1.9	1.01 - 3.49
		Historical	14	93%	4.8	<0.5 - 13
	Wet	Current	3	100%	19.3	14.6 - 26.6
		Historical	11	100%	36.1	2.1 - 150

Table 38. TSS in Urban Discharge, mg/L (Non-Priority Pollutant)

Waterbody	Event Type	Dataset	Count	% Detected	Average	Range
Calaveras River	Dry	Current	4	100%	13.6	0.8 - 45.8
		Historical	21	90%	10.0	<1.02 - 76
	Wet	Current	4	100%	41.9	23.9 - 72.4
		Historical	22	100%	45.1	6 - 140
Duck Creek	Dry	Current	4	100%	8.6	6.29 - 9.91
		Historical	13	100%	116	1.77 - 1200
	Wet	Current	3	100%	47.0	24 - 61.3
		Historical	10	100%	127	44 - 360
Mormon Slough	Dry	Historical	4	100%	179	27 - 390
	Wet	Historical	6	100%	25.0	1 - 47
Mosher Slough	Dry	Current	4	100%	3.1	0.706 - 9.97
		Historical	18	83%	12.2	<0.337 - 120
	Wet	Current	4	100%	30.8	19.6 - 62.9
		Historical	16	94%	39.6	<2 - 180
Smith Canal	Dry	Current	4	100%	9.9	1.5 - 23.7
		Historical	19	89%	13.8	<1.87 - 59
	Wet	Current	3	100%	55.6	44.7 - 69.4
		Historical	17	100%	82.2	3 - 490

Table 39. Turbidity in Urban Discharge, NTU (Non-Priority Pollutant)

Waterbody	Event Type	Dataset	Count	% Detected	Average	Range
Calaveras River	Dry	Current	4	100%	7.4	1.2 - 23.9
		Historical	14	100%	4.3	0.635 - 13.6
	Wet	Current	3	100%	43.4	20.2 - 61.7
		Historical	10	100%	37.1	4.5 - 83
Duck Creek	Dry	Current	4	100%	10.5	0.206 - 24.4
		Historical	13	100%	10.0	0.063 - 47
	Wet	Current	3	100%	63.3	44.1 - 82.2
		Historical	10	100%	67.8	6.9 - 200
Mosher Slough	Dry	Current	4	100%	1.2	0.599 - 2.74
		Historical	14	100%	0.87	0.35 - 2
	Wet	Current	4	100%	20.2	12.5 - 36.8
		Historical	11	100%	17.9	2.7 - 47.2
Smith Canal	Dry	Current	4	100%	4.2	1.18 - 9.28
		Historical	14	100%	4.0	0.2 - 27
	Wet	Current	3	100%	49.0	36.5 - 58.1
		Historical	11	100%	38.9	2.7 - 129

Table 40. Total Mercury in Urban Discharge, ng/L (Non-Priority Pollutant)

Waterbody	Event Type	Dataset	Count	% Detected	Average	Range	% Compliance with WQO (50 ng/L)
Calaveras River	Dry	Current	16	100%	1.3	0.76 - 2.7	100%
		Historical	22	95%	8.1	<0.8 - 40	100%
	Wet	Current	21	100%	20.8	5.1 - 95	95%
		Historical	25	96%	16.2	<2.3 - 80.7	96%
Duck Creek	Dry	Current	12	100%	3.6	1.5 - 7.8	100%
		Historical	13	92%	15.6	<1.8 - 40	100%
	Wet	Current	18	100%	8.2	0.41 - 32	100%
		Historical	10	100%	29.0	11.1 - 100	90%
Mormon Slough	Dry	Historical	5	100%	58.0	2.1 - 248	80%
	Wet	Historical	9	100%	25.9	3.97 - 117	89%
Mosher Slough	Dry	Current	16	100%	2.1	0.96 - 4.1	100%
		Historical	19	89%	8.9	<1.4 - 7.66	100%
	Wet	Current	16	100%	6.2	3.1 - 14	100%
		Historical	19	95%	26.0	<2.2 - 120	79%
Smith Canal	Dry	Current	12	100%	90.5	1 - 830	75%
		Historical	20	90%	9.4	<1 - 10.7	100%
	Wet	Current	9	100%	13.4	7 - 21	100%
		Historical	20	95%	27.8	<1.97 - 84	85%

Table 41. Dissolved Aluminum in Urban Discharge, µg/L (Non-Priority Pollutant)

Waterbody	Event Type	Dataset	Count	% Detected	Average	Range	WQO	% Compliance
Calaveras River	Dry	Current	4	100%	18.2	2.7 - 57.7	200	100%
		Historical	14	57%	27.7	<1.56 - 100		100%
	Wet	Current	3	100%	30.7	23.6 - 40.9	750	100%
		Historical	11	100%	123	23.4 - 670		100%
Duck Creek	Dry	Current	4	75%	11.7	<0.1 - 20.5	200	100%
		Historical	13	69%	37.7	<2.4 - 130		100%
	Wet	Current	3	100%	56.0	32.2 - 94	750	100%
		Historical	10	90%	256	<48 - 960		90%
Mosher Slough	Dry	Current	4	100%	3.3	1.42 - 5.54	200	100%
		Historical	14	14%	ID	<0.14 - 3.6		100%
	Wet	Current	4	100%	18.3	15.2 - 24	750	100%
		Historical	11	82%	100	<19 - 420		100%
Smith Canal	Dry	Current	4	100%	4.3	1.09 - 6.9	200	100%
		Historical	14	57%	31.7	<0.14 - 180		100%
	Wet	Current	3	100%	23.9	18.9 - 30.7	750	100%
		Historical	11	100%	141	37 - 460		100%

Table 42. Total Aluminum in Urban Discharge, µg/L (Non-Priority Pollutant)

Waterbody	Event Type	Dataset	Count	% Detected	Average	Range	WQO	% Compliance
Calaveras River	Dry	Current	4	100%	346	28.9 – 1,230	200	75%
		Historical	14	100%	146	22 - 640		93%
	Wet	Current	3	100%	2693	1,230 – 3,710	750	0%
		Historical	11	100%	1873	300 – 4,720		27%
Duck Creek	Dry	Current	4	100%	162	14.3 - 313	200	50%
		Historical	13	100%	1021	41 – 5,000		38%
	Wet	Current	3	100%	2157	1,640 – 2,450	750	0%
		Historical	10	100%	4135	1,300 – 8,200		0%
Mosher Slough	Dry	Current	4	100%	38.4	21.8 - 68.1	200	100%
		Historical	14	86%	170	<14 – 1,600		86%
	Wet	Current	4	100%	57.8	33.5 - 91.2	750	100%
		Historical	11	100%	1130	120 – 3,000		55%
Smith Canal	Dry	Current	4	100%	163	78.6 - 310	200	75%
		Historical	14	93%	220	<26 – 1,500		79%
	Wet	Current	3	100%	2693	1,590 – 3,610	750	0%
		Historical	11	100%	1985	260 – 6,970		18%

Table 43. Dissolved Copper in Urban Discharge, µg/L (Non-Priority Pollutant)

Waterbody	Event Type	Dataset	Count	% Detected	Average	Range	WQO	% Compliance
Calaveras River	Dry	Current	4	100%	1.5	0.668 - 2.41	2.23 - 8.95	75%
		Historical	12	100%	8.4	0.8 - 54	5.12 - 12.1	83%
	Wet	Current	3	100%	9.1	4.46 - 18.4	7.35 - 10.3	67%
		Historical	10	100%	12.6	5.05 - 24	3.89 - 22.2	40%
Duck Creek	Dry	Current	4	100%	3.6	2.69 - 4.39	No RW hardness	
		Historical	11	91%	4.5	<0.5 - 8.71	2.83 - 7.48	45%
	Wet	Current	3	100%	5.6	4.57 - 6.7	5 - 7.85	67%
		Historical	10	100%	6.7	1.2 - 14	4.05 - 17.2	60%
Mosher Slough	Dry	Current	4	100%	3.1	1.88 - 5.15	5.46 - 7.67	100%
		Historical	12	92%	2.6	<0.5 - 6.22	4.95 - 10.5	100%
	Wet	Current	4	100%	11.2	7.69 - 16.1	8.28 - 10.6	25%
		Historical	10	90%	7.9	<0.5 - 15	2.25 - 19.7	50%
Smith Canal	Dry	Current	4	100%	3.2	1.38 - 8.02	6.09 - 13.1	100%
		Historical	12	100%	3.6	0.55 - 7.8	5.79 - 16.8	92%
	Wet	Current	3	100%	6.6	4.84 - 9.62	7.85 - 16	100%
		Historical	10	100%	9.9	2.5 - 24	3.09 - 25.1	80%

Table 44. Total Iron in Urban Discharge, µg/L (Non-Priority Pollutant)

Waterbody	Event Type	Dataset	Count	% Detected	Average	Range	% Compliance with WQO (300 µg/L)
Calaveras River	Dry	Current	4	100%	456	92.8 - 1420	75%
		Historical	13	100%	385	110 - 850	46%
	Wet	Current	3	100%	2803	1600 - 4120	0%
		Historical	11	100%	2061	360 - 5970	0%
Duck Creek	Dry	Current	4	100%	1107	614 - 2110	0%
		Historical	12	100%	1042	100 - 5500	17%
	Wet	Current	3	100%	2340	1210 - 3640	0%
		Historical	10	100%	4198	230 - 10000	10%
Mosher Slough	Dry	Current	4	100%	224	115 - 346	50%
		Historical	13	100%	398	36 - 3600	92%
	Wet	Current	4	100%	770	476 - 1190	0%
		Historical	11	100%	1428	160 - 3500	27%
Smith Canal	Dry	Current	4	100%	253	124 - 550	75%
		Historical	13	100%	239	48 - 710	77%
	Wet	Current	3	100%	2893	2000 - 4000	0%
		Historical	11	100%	2607	190 - 9460	9%

Table 45. Dissolved Lead in Urban Discharge, µg/L (Non-Priority Pollutant)

Waterbody	Event Type	Dataset	Count	% Detected	Average	Range	WQO	% Compliance
Calaveras River	Dry	Current	4	75%	0.073	<0.015 - 0.121	0.44 - 2.55	100%
		Historical	11	45%	0.40	<0.16 - 0.98	1.26 - 3.71	100%
	Wet	Current	3	100%	0.38	0.085 - 0.852	32.7 - 48	100%
		Historical	10	70%	0.67	<0.26 - 1.2	15.7 - 115	100%
Duck Creek	Dry	Current	4	75%	0.23	<0.015 - 0.511	No RW hardness	
		Historical	10	40%	0.38	<0.16 - 0.822	0.59 - 2.03	100%
	Wet	Current	3	100%	0.13	0.046 - 0.294	21 - 35.3	100%
		Historical	10	60%	0.56	<0.06 - 1.7	16.5 - 86.7	100%
Mosher Slough	Dry	Current	4	25%	0.10	<0.036 - 0.052	1.36 - 2.1	100%
		Historical	11	0%	ND	<0.16	1.6 - 3.1	100%
	Wet	Current	4	100%	0.25	0.085 - 0.495	37.5 - 49.9	100%
		Historical	10	50%	0.49	<0.03 - 1.32	8.45 - 101	100%
Smith Canal	Dry	Current	4	25%	0.039	<0.015 - 0.015	1.57 - 4.1	100%
		Historical	11	0%	ND	<0.16	1.47 - 5.59	100%
	Wet	Current	3	100%	0.60	0.322 - 0.908	35.3 - 79.6	100%
		Historical	10	90%	2.2	<0.5 - 4.3	12.1 - 133	100%

Table 46. Total Zinc in Urban Discharge, µg/L (Non-Priority Pollutant)

Waterbody	Event Type	Dataset	Count	% Detected	Average	Range	WQO	% Compliance
Calaveras River	Dry	Current	4	100%	37.6	16.6 - 61.1	30.2 - 120	75%
		Historical	14	100%	62.8	14 - 140	68.8 - 161	79%
	Wet	Current	3	100%	215	128 - 377	69.6 - 94	0%
		Historical	11	100%	293	73 - 490	28 - 188	9%
Duck Creek	Dry	Current	4	100%	51.1	36.7 - 70.6	No RW hardness	
		Historical	13	100%	39.7	3.9 - 140	38.3 - 100	77%
	Wet	Current	3	100%	142	90.6 - 228	49.2 - 73.9	0%
		Historical	10	100%	291	36 - 830	40.7 - 150	10%
Mosher Slough	Dry	Current	4	100%	11.3	8.23 - 18.4	73.3 - 103	100%
		Historical	14	93%	30.2	<1.5 - 300	66.6 - 140	93%
	Wet	Current	4	100%	40.6	29.9 - 59.2	77.5 - 96.9	100%
		Historical	11	100%	85.8	24.3 - 290	24 - 169	64%
Smith Canal	Dry	Current	4	100%	54.0	28.7 - 72.8	81.8 - 175	100%
		Historical	14	93%	27.2	<4 - 96	77.7 - 224	100%
	Wet	Current	3	100%	210	103 - 295	73.9 - 140	0%
		Historical	11	100%	198	55.5 - 500	31.9 - 210	36%

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Table 47. Oil & Grease in Receiving Water, mg/L (Non-Priority Pollutant)

Waterbody	Event Type	Dataset	Count	% Detected	Average	Range	% Compliance with WQO (no oil & grease)
Calaveras River	Dry	Current	4	25%	2.6	<1.5 - 5.98	75%
		Historical	23	17%	ID	<1.3 - 30	83%
	Wet	Current	3	33%	1.6	<1.5 - 1.94	67%
		Historical	14	14%	ID	<1.3 - 1.9	86%
Duck Creek	Dry	Historical	24	8%	ID	<0.39 - 61	92%
	Wet	Current	3	67%	2.7	<1.5 - 3.8	33%
		Historical	14	14%	ID	<1.3 - 2.4	86%
Mosher Slough	Dry	Current	4	25%	2.0	<1.5 - 3.48	75%
		Historical	23	9%	ID	<0.4 - 3.35	91%
	Wet	Current	4	75%	3.2	<1.5 - 4.34	25%
		Historical	15	13%	ID	<1.2 - 1.6	87%
Smith Canal	Dry	Current	4	75%	3.3	<1.9 - 4.78	25%
		Historical	14	29%	3.4	<1.3 - 6.9	71%
	Wet	Current	3	100%	3.6	2.56 - 4.12	0%
		Historical	10	30%	3.3	<0.78 - 7.8	70%

Table 48. pH in Receiving Water, SU (Non-Priority Pollutant)

Waterbody	Event Type	Dataset	Count	% Detected	Average	Range	% Compliance with WQO (6.5 – 8.5)
Calaveras River	Dry	Current	14	100%	8.1	7.4 - 8.63	100%
		Historical	24	100%	7.8	6.42 - 8.91	88%
	Wet	Current	15	100%	7.9	6.9 - 9.95	100%
		Historical	14	100%	7.2	5.34 - 8.6	79%
Duck Creek	Dry	Current	6	100%	7.2	6.93 - 7.72	100%
		Historical	25	100%	7.3	6.22 - 8.21	92%
	Wet	Current	6	100%	7.1	6.71 - 7.42	100%
		Historical	15	100%	7.2	6 - 8.81	80%
Five-Mile Slough	Dry	Current	12	100%	8.3	7.15 - 9.32	75%
	Wet	Current	9	100%	7.9	7.37 - 8.35	100%
Mormon Slough	Dry	Current	9	100%	7.8	7.14 - 9.48	100%
	Wet	Current	5	100%	7.3	7.01 - 7.63	100%
Mosher Slough	Dry	Current	10	100%	7.7	6.9 - 8.44	100%
		Historical	23	100%	7.3	5.77 - 8.21	91%
	Wet	Current	9	100%	7.4	6.61 - 8.05	100%
		Historical	17	100%	7.0	6.41 - 7.96	94%
Smith Canal	Dry	Current	12	100%	8.1	7.64 - 8.4	100%
		Historical	14	100%	8.4	7.67 - 9.33	57%
	Wet	Current	9	100%	7.4	6.77 - 8.17	100%
		Historical	11	100%	7.6	6.65 - 9.48	91%

Table 49. Temperature in Receiving Water, ºC (Non-Priority Pollutant)

Waterbody	Event Type	Dataset	Count	% Detected	Average	Range
Calaveras River	Dry	Current	14	100%	18.7	10.1 - 28.1
		Historical	16	100%	23.0	14.97 - 26.05
	Wet	Current	15	100%	14.0	8.9 - 20.79
		Historical	10	100%	14.0	10.17 - 17.22
Duck Creek	Dry	Current	6	100%	24.4	19 - 28
		Historical	17	100%	22.3	12.69 - 26.58
	Wet	Current	6	100%	13.8	9.9 - 16.6
		Historical	8	100%	13.4	10.53 - 16.4
Five-Mile Slough	Dry	Current	12	100%	18.7	9.4 - 26.1
	Wet	Current	9	100%	11.4	9.9 - 13.1
Mormon Slough	Dry	Current	9	100%	21.0	8.8 - 27.2
	Wet	Current	5	100%	12.0	9.6 - 14.6
Mosher Slough	Dry	Current	10	100%	18.8	14.61 - 26.1
		Historical	16	100%	21.1	15.53 - 26.2
	Wet	Current	9	100%	16.2	12.63 - 18.27
		Historical	9	100%	13.9	10.3 - 16.62
Smith Canal	Dry	Current	12	100%	21.0	13.4 - 29.2
		Historical	10	100%	24.7	15 - 27.3
	Wet	Current	9	100%	14.9	11.2 - 20.9
		Historical	6	100%	14.4	9 - 20.17

Table 50. Alkalinity in Receiving Water, mg/L (Non-Priority Pollutant)

Waterbody	Event Type	Dataset	Count	% Detected	Average	Range
Calaveras River	Dry	Current	4	100%	54.7	18.8 - 78.4
		Historical	23	100%	70.8	44 - 98
	Wet	Current	3	100%	52.3	51.5 - 52.8
		Historical	14	100%	59.1	22 - 100
Duck Creek	Dry	Historical	24	100%	51.3	28 - 120
	Wet	Current	3	100%	43.2	26 - 53.1
		Historical	14	100%	57.7	24 - 100
Mosher Slough	Dry	Current	4	100%	67.0	60.2 - 85.7
		Historical	23	100%	78.2	51.7 - 120
	Wet	Current	4	100%	70.4	63.9 - 78.8
		Historical	16	100%	51.2	17.9 - 100
Smith Canal	Dry	Current	4	100%	79.3	62.5 - 106
		Historical	14	100%	79.4	52 - 110
	Wet	Current	3	100%	72.9	49.9 - 106
		Historical	10	100%	80.6	62 - 105

Table 51. Ammonia as N in Receiving Water, mg/L (Non-Priority Pollutant)

Waterbody	Event Type	Dataset	Count	% Detected	Average	Range
Calaveras River	Dry	Current	4	25%	0.10	<0.072 - 0.186
		Historical	23	4%	ID	<0.067 - 0.163
	Wet	Current	3	67%	0.60	<0.072 - 1.57
		Historical	14	57%	0.28	<0.1 - 0.84
Duck Creek	Dry	Historical	24	17%	ID	<0.072 - 0.601
	Wet	Current	3	0%	ND	<0.072
		Historical	14	36%	0.28	<0.072 - 0.88
Mosher Slough	Dry	Current	4	25%	0.084	<0.072 - 0.121
		Historical	23	30%	0.13	<0.072 - 0.361
	Wet	Current	4	100%	0.17	0.114 - 0.203
		Historical	15	47%	0.19	<0.1 - 0.48
Smith Canal	Dry	Current	4	0%	ND	<0.036
		Historical	14	21%	0.097	<0.072 - 0.156
	Wet	Current	3	67%	0.34	<0.072 - 0.724
		Historical	10	40%	0.22	<0.072 - 0.62

Table 52. Bicarbonate in Receiving Water, mg/L (Non-Priority Pollutant)

Waterbody	Event Type	Dataset	Count	% Detected	Average	Range
Calaveras River	Dry	Current	4	100%	66.8	22.9 - 95.6
		Historical	21	100%	80.2	54 - 110
	Wet	Current	3	100%	63.8	62.7 - 64.4
		Historical	13	100%	66.0	36 - 122
Duck Creek	Dry	Historical	22	100%	57.1	28 - 120
	Wet	Current	3	100%	52.7	31.7 - 64.9
		Historical	14	100%	60.3	24 - 100
Mosher Slough	Dry	Current	4	100%	81.6	73.4 - 104
		Historical	21	100%	87.5	63 - 150
	Wet	Current	4	100%	85.8	77.8 - 96.1
		Historical	14	100%	55.8	20 - 102
Smith Canal	Dry	Current	4	100%	96.6	76.1 - 129
		Historical	12	100%	83.6	52 - 124
	Wet	Current	3	100%	89.2	61 - 130
		Historical	9	100%	85.4	62 - 128

Table 53. BOD in Receiving Water, mg/L (Non-Priority Pollutant)

Waterbody	Event Type	Dataset	Count	% Detected	Average	Range
Calaveras River	Dry	Current	4	100%	1.8	0.5 - 3.1
		Historical	23	74%	1.8	<0.92 - 6.8
	Wet	Current	13	100%	7.6	0.6 - 66.3
		Historical	14	79%	10.5	<0.51 - 39
Duck Creek	Dry	Current	6	100%	2.1	1.6 - 2.6
		Historical	24	92%	2.8	<0.89 - 12
	Wet	Current	6	100%	3.1	2.5 - 4.6
		Historical	14	100%	6.8	1.2 - 21
Five-Mile Slough	Dry	Current	12	67%	6.6	<2.2 - 19
	Wet	Current	9	67%	12.3	<5 - 57
Mormon Slough	Dry	Current	9	100%	4.9	0.25 - 15.1
	Wet	Current	5	100%	5.2	1.5 - 12.7
Mosher Slough	Dry	Current	4	100%	1.8	1.4 - 2.4
		Historical	23	87%	2.0	<0.5 - 4.4
	Wet	Current	4	100%	4.8	4.4 - 5
		Historical	15	93%	10.2	<2 - 35
Smith Canal	Dry	Current	4	100%	5.3	3.2 - 6.9
		Historical	14	100%	6.3	1.6 - 20.7
	Wet	Current	3	100%	6.7	5.8 - 8.58
		Historical	10	80%	7.3	<1.9 - 22

Table 54. Carbonate in Receiving Water, mg/L (Non-Priority Pollutant)

Waterbody	Event Type	Dataset	Count	% Detected	Average	Range
Calaveras River	Dry	Current	4	0%	ND	<1.1
		Historical	21	0%	ND	<1.1
	Wet	Current	3	0%	ND	<1.1
		Historical	13	0%	ND	<1.1
Duck Creek	Dry	Historical	22	0%	ND	<1.1
	Wet	Current	3	0%	ND	<1.1
		Historical	14	0%	ND	<1.1
Mosher Slough	Dry	Current	4	0%	ND	<1.1
		Historical	21	0%	ND	<1.1
	Wet	Current	4	0%	ND	<1.1
		Historical	14	0%	ND	<1.1
Smith Canal	Dry	Current	4	0%	ND	<1.1
		Historical	12	8%	ID	<1.1 - 7.68
	Wet	Current	3	0%	ND	<1.1
		Historical	9	0%	ND	<1.1

Table 55. COD in Receiving Water, mg/L (Non-Priority Pollutant)

Waterbody	Event Type	Dataset	Count	% Detected	Average	Range
Calaveras River	Dry	Current	4	50%	8.3	<4.4 - 17.7
		Historical	23	43%	14.1	<3.3 - 27
	Wet	Current	3	100%	91.9	15.2 - 225
		Historical	14	71%	34.6	<10 - 100
Duck Creek	Dry	Historical	24	71%	23.0	<8.1 - 57
	Wet	Current	3	100%	34.6	28.7 - 41.9
		Historical	14	71%	46.6	<8.75 - 266
Mosher Slough	Dry	Current	4	100%	19.7	18.6 - 20.8
		Historical	23	52%	23.6	<3.3 - 119
	Wet	Current	4	100%	55.7	25.4 - 130
		Historical	15	87%	32.8	<10 - 84
Smith Canal	Dry	Current	4	75%	19.1	<7.9 - 39.8
		Historical	14	86%	26.7	<12 - 67.5
	Wet	Current	3	100%	26.7	21.7 - 34.1
		Historical	10	80%	21.1	<10 - 44

Table 56. Hydroxide in Receiving Water, mg/L (Non-Priority Pollutant)

Waterbody	Event Type	Dataset	Count	% Detected	Average	Range
Calaveras River	Dry	Current	4	0%	ND	<1.1
		Historical	21	0%	ND	<0.7
	Wet	Current	3	0%	ND	<1.1
		Historical	13	0%	ND	<0.7
Duck Creek	Dry	Historical	22	0%	ND	<0.7
	Wet	Current	3	0%	ND	<1.1
		Historical	14	0%	ND	<0.7
Mosher Slough	Dry	Current	4	0%	ND	<1.1
		Historical	21	0%	ND	<0.7
	Wet	Current	4	0%	ND	<1.1
		Historical	14	0%	ND	<0.7
Smith Canal	Dry	Current	4	0%	ND	<1.1
		Historical	12	0%	ND	<0.7
	Wet	Current	3	0%	ND	<1.1
		Historical	9	0%	ND	<0.7

Table 57. Specific Conductance in Receiving Water, µmhos/cm (Non-Priority Pollutant)

Waterbody	Event Type	Dataset	Count	% Detected	Average	Range	% Compliance with WQO (900 µmhos/cm)
Calaveras River	Dry	Current	18	100%	238	59.1 - 638	100%
		Historical	30	100%	257	130 - 781	100%
	Wet	Current	18	100%	223	128 - 755	100%
		Historical	16	100%	275	1 - 1165	94%
Duck Creek	Dry	Current	6	100%	181	111.7 - 304	100%
		Historical	31	100%	144	71 - 650	100%
	Wet	Current	9	100%	178	110 - 236.1	100%
		Historical	16	100%	304	79 - 630	100%
Five-Mile Slough	Dry	Current	12	100%	606	290 - 999	75%
	Wet	Current	9	100%	490	161.8 - 728	100%
Mormon Slough	Dry	Current	9	100%	494	299.4 - 670.1	100%
	Wet	Current	5	100%	406	203.2 - 593.5	100%
Mosher Slough	Dry	Current	14	100%	252	161 - 503	100%
		Historical	30	100%	226	141 - 381	100%
	Wet	Current	13	100%	365	43 - 2450	92%
		Historical	17	100%	200	59.4 - 653	100%
Smith Canal	Dry	Current	16	100%	494	150.5 - 947	75%
		Historical	18	100%	611	150 - 1340	78%
	Wet	Current	12	100%	377	249.7 - 667	100%
		Historical	11	100%	690	360 - 1480	82%

Table 58. Total Dissolved Solids in Receiving Water, mg/L (Non-Priority Pollutant)

Waterbody	Event Type	Dataset	Count	% Detected	Average	Range	% Compliance with WQO (500 mg/L)
Calaveras River	Dry	Current	4	100%	130	46.1 - 232	100%
		Historical	23	100%	119	58 - 382	100%
	Wet	Current	3	100%	137	99.4 - 203	100%
		Historical	14	100%	140	22 - 514	93%
Duck Creek	Dry	Historical	24	100%	104	32 - 372	100%
	Wet	Current	3	100%	89.2	59.2 - 113	100%
		Historical	14	100%	172	50 - 356	100%
Mosher Slough	Dry	Current	4	100%	135	128 - 151	100%
		Historical	23	100%	119	52 - 235	100%
	Wet	Current	4	100%	121	100 - 133	100%
		Historical	15	100%	112	34 - 240	100%
Smith Canal	Dry	Current	4	100%	236	108 - 518	75%
		Historical	14	100%	297	94 - 696	86%
	Wet	Current	3	100%	172	117 - 218	100%
		Historical	10	100%	342	190 - 803	90%

Table 59. Total Hardness in Receiving Water, mg/L (Non-Priority Pollutant)

Waterbody	Event Type	Dataset	Count	% Detected	Average	Range
Calaveras River	Dry	Current	4	100%	62.3	19.7 - 99.9
		Historical	29	100%	71.4	46 - 142
	Wet	Current	3	100%	62.4	52.7 - 75.1
		Historical	17	100%	71.5	18 - 170
Duck Creek	Dry	Historical	30	100%	49.0	26 - 170
	Wet	Current	3	100%	48.6	35 - 56.5
		Historical	17	100%	78.1	26 - 180
Mosher Slough	Dry	Current	4	100%	67.7	56 - 83.4
		Historical	28	100%	84.1	50 - 120
	Wet	Current	4	100%	67.0	59.8 - 77.8
		Historical	17	100%	60.9	15 - 150
Smith Canal	Dry	Current	4	100%	97.5	63.7 - 156
		Historical	17	100%	106	46 - 209
	Wet	Current	3	100%	82.7	56.5 - 120
		Historical	12	100%	111	21 - 194

Table 60. Total Kjeldahl Nitrogen in Receiving Water, mg/L (Non-Priority Pollutant)

Waterbody	Event Type	Dataset	Count	% Detected	Average	Range
Calaveras River	Dry	Current	4	50%	0.65	<0.19 - 1.67
		Historical	23	87%	0.54	<0.18 - 1.5
	Wet	Current	3	67%	1.9	<0.32 - 4.11
		Historical	14	100%	1.2	0.4 - 2.1
Duck Creek	Dry	Historical	24	88%	0.94	<0.21 - 1.8
	Wet	Current	3	67%	4.0	<0.32 - 11.4
		Historical	14	86%	1.4	<0.32 - 4
Mosher Slough	Dry	Current	4	25%	0.41	<0.32 - 0.687
		Historical	23	83%	0.95	<0.17 - 5.4
	Wet	Current	4	100%	1.2	0.379 - 1.94
		Historical	15	93%	1.2	<0.32 - 2.1
Smith Canal	Dry	Current	4	75%	0.61	<0.32 - 0.917
		Historical	14	86%	0.91	<0.32 - 1.4
	Wet	Current	3	100%	1.5	0.471 - 3.05
		Historical	10	80%	1.1	<0.06 - 2.1

Table 61. Total Organic Carbon in Receiving Water, mg/L (Non-Priority Pollutant)

Waterbody	Event Type	Dataset	Count	% Detected	Average	Range
Calaveras River	Dry	Current	4	100%	3.9	2.27 - 5.98
		Historical	23	100%	4.4	2.6 - 8.1
	Wet	Current	3	100%	27.5	4.31 - 68.9
		Historical	14	93%	11.7	<0.5 - 42
Duck Creek	Dry	Historical	24	100%	4.7	2.4 - 11
	Wet	Current	3	100%	5.7	4.1 - 7.64
		Historical	14	86%	6.5	<0.5 - 17
Mosher Slough	Dry	Current	4	100%	6.8	4.97 - 8.31
		Historical	23	100%	4.6	1.2 - 7.3
	Wet	Current	4	100%	9.3	7.2 - 11.5
		Historical	15	93%	12.1	<0.5 - 38
Smith Canal	Dry	Current	4	100%	3.2	2.16 - 4.42
		Historical	14	100%	5.1	2.8 - 7.7
	Wet	Current	3	100%	5.7	3.55 - 7.49
		Historical	10	100%	5.0	1.6 - 8.1

Table 62. TSS in Receiving Water, mg/L (Non-Priority Pollutant)

Waterbody	Event Type	Dataset	Count	% Detected	Average	Range
Calaveras River	Dry	Current	4	100%	5.2	2.26 - 8.24
		Historical	28	96%	13.4	<0.945 - 60
	Wet	Current	4	100%	39.4	19.9 - 64.9
		Historical	22	77%	23.4	<1.6 - 150
Duck Creek	Dry	Historical	24	96%	85.9	<2 - 440
	Wet	Current	3	100%	58.9	16.5 - 92.5
		Historical	14	93%	179	<2 - 1100
Mormon Slough	Dry	Historical	4	100%	18.0	6 - 31
	Wet	Historical	6	83%	7.5	<1 - 11
Mosher Slough	Dry	Current	4	100%	61.9	5.2 - 221
		Historical	26	92%	74.7	<2 - 1100
	Wet	Current	4	100%	25.5	4.36 - 62.1
		Historical	20	90%	52.1	<2 - 460
Smith Canal	Dry	Current	4	100%	17.6	10.1 - 21.3
		Historical	18	100%	26.3	8.4 - 58
	Wet	Current	3	100%	24.7	13.1 - 43.6
		Historical	16	100%	24.0	5 - 68

Table 63. Turbidity in Receiving Water, NTU (Non-Priority Pollutant)

Waterbody	Event Type	Dataset	Count	% Detected	Average	Range
Calaveras River	Dry	Current	4	100%	5.9	5.27 - 6.58
		Historical	23	100%	8.7	0.3 - 99
	Wet	Current	3	100%	27.0	13.2 - 46.3
		Historical	14	100%	9.7	0.9 - 31
Duck Creek	Dry	Historical	24	100%	36.2	2.3 - 200
	Wet	Current	3	100%	33.5	17 - 64.8
		Historical	14	100%	80.9	1.5 - 700
Mosher Slough	Dry	Current	4	100%	7.5	5.22 - 13.5
		Historical	23	100%	20.5	0.3 - 223
	Wet	Current	4	100%	9.5	5.98 - 13
		Historical	15	100%	10.6	1.3 - 35
Smith Canal	Dry	Current	4	100%	9.8	6.23 - 12.7
		Historical	14	100%	21.3	1.6 - 120
	Wet	Current	3	100%	18.1	9.38 - 29
		Historical	10	100%	10.6	1 - 18

Table 64. Total Mercury in Receiving Water, ng/L (Non-Priority Pollutant)

Waterbody	Event Type	Dataset	Count	% Detected	Average	Range	% Compliance with WQO (50 ng/L)
Calaveras River	Dry	Current	14	100%	2.7	0.44 - 6.6	100%
		Historical	29	100%	84.9	0.66 - 1400	90%
	Wet	Current	11	100%	5.4	0.88 - 14	100%
		Historical	25	100%	221	0.75 - 5200	92%
Duck Creek	Dry	Current	6	100%	2.6	1.2 - 4.7	100%
		Historical	24	100%	45.5	1 - 520	92%
	Wet	Current	6	100%	3.8	1.3 - 9.5	100%
		Historical	14	100%	7.8	0.8 - 38	100%
Mormon Slough	Dry	Historical	5	100%	3.4	0.7 - 5.15	100%
	Wet	Historical	9	100%	4.0	1.55 - 16	100%
Mosher Slough	Dry	Current	10	100%	1.7	0.8 - 2.4	100%
		Historical	27	100%	96.8	1.5 - 1600	93%
	Wet	Current	9	100%	5.2	2 - 14	100%
		Historical	22	100%	21.8	1.52 - 300	95%
Smith Canal	Dry	Current	12	100%	110	0.86 - 1300	92%
		Historical	19	100%	90.6	1.44 - 860	89%
	Wet	Current	9	100%	6.1	1.6 - 24	100%
		Historical	19	100%	79.4	2.45 - 520	84%

Table 65. Dissolved Aluminum in Receiving Water, µg/L (Non-Priority Pollutant)

Waterbody	Event Type	Dataset	Count	% Detected	Average	Range	WQO	% Compliance
Calaveras River	Dry	Current	4	100%	7.9	4.59 - 10.8	200	100%
		Historical	23	70%	45.6	<0.954 - 390		96%
	Wet	Current	3	100%	30.7	4.55 - 70.5	750	100%
		Historical	14	71%	53.3	<3.1 - 240		100%
Duck Creek	Dry	Historical	24	75%	207	<46 - 760	200	71%
	Wet	Current	3	100%	8.9	4.08 - 16.8	750	100%
		Historical	14	93%	134	<8.28 - 540		100%
Mosher Slough	Dry	Current	4	100%	10.9	4.73 - 24.9	200	100%
		Historical	23	65%	35.1	<2.42 - 110		100%
	Wet	Current	4	75%	4.1	<0.071 - 6.54	750	100%
		Historical	15	67%	45.5	<7.9 - 140		100%
Smith Canal	Dry	Current	4	75%	3.7	<0.427 - 6.13	200	100%
		Historical	14	57%	54.5	<2.31 - 490		93%
	Wet	Current	3	67%	4.7	<2.75 - 4.52	750	100%
		Historical	10	70%	65.0	<9.8 - 300		100%

Table 66. Total Aluminum in Receiving Water, µg/L (Non-Priority Pollutant)

Waterbody	Event Type	Dataset	Count	% Detected	Average	Range	WQO	% Compliance
Calaveras River	Dry	Current	4	100%	208	148 - 280	200	50%
		Historical	23	100%	298	66.2 - 684		30%
	Wet	Current	3	100%	1714	553 - 2750	750	33%
		Historical	14	100%	556	94 - 1740		71%
Duck Creek	Dry	Historical	24	100%	2276	650 - 10000	200	0%
	Wet	Current	3	100%	1609	818 - 2140	750	0%
		Historical	14	100%	5168	337 - 41000		64%
Mosher Slough	Dry	Current	4	100%	28.3	12.1 - 44.1	200	100%
		Historical	23	100%	2725	66 - 33900		9%
	Wet	Current	4	100%	516	19.2 - 1960	750	75%
		Historical	15	93%	834	<50 - 2600		60%
Smith Canal	Dry	Current	4	100%	391	149 - 570	200	25%
		Historical	14	100%	627	77 - 1140		7%
	Wet	Current	3	100%	662	198 - 1230	750	67%
		Historical	10	100%	494	130 - 1100		80%

Table 67. Dissolved Copper in Receiving Water, µg/L (Non-Priority Pollutant)

Waterbody	Event Type	Dataset	Count	% Detected	Average	Range	WQO	% Compliance
Calaveras River	Dry	Current	4	100%	1.7	1.26 - 2.02	2.23 - 8.95	100%
		Historical	21	90%	1.9	<0.5 - 4.3	3.74 - 12.1	100%
	Wet	Current	3	100%	28.0	2.58 - 74.6	7.35 - 10.3	67%
		Historical	13	77%	4.0	<0.5 - 9.51	3.89 - 22.2	92%
Duck Creek	Dry	Current	0				No RW hardness	
		Historical	22	86%	2.0	<0.5 - 3.8	2.83 - 14.1	100%
	Wet	Current	3	100%	2.7	2.09 - 3.48	5 - 7.85	100%
		Historical	14	79%	3.0	<0.5 - 8.4	4.05 - 23.4	86%
Mosher Slough	Dry	Current	4	100%	6.1	2.34 - 16	5.46 - 7.67	75%
		Historical	21	81%	4.3	<0.5 - 52.9	4.95 - 10.5	95%
	Wet	Current	4	100%	4.3	3.47 - 5.29	8.28 - 10.6	100%
		Historical	14	64%	2.4	<0.5 - 4.89	2.25 - 19.7	93%
Smith Canal	Dry	Current	4	100%	3.1	1.26 - 7.99	6.09 - 13.1	100%
		Historical	12	100%	1.9	1.2 - 3	5.79 - 16.8	100%
	Wet	Current	3	100%	2.6	1.48 - 3.84	7.85 - 16	100%
		Historical	9	67%	1.7	<0.5 - 3.5	3.09 - 25.1	100%

Table 68. Total Iron in Receiving Water, µg/L (Non-Priority Pollutant)

Waterbody	Event Type	Dataset	Count	% Detected	Average	Range	% Compliance with WQO (300 µg/L)
Calaveras River	Dry	Current	4	100%	415	259 - 639	25%
		Historical	22	100%	449	130 - 809	27%
	Wet	Current	3	100%	1641	803 - 2970	0%
		Historical	14	100%	793	180 - 2400	29%
Duck Creek	Dry	Historical	22	100%	2662	680 - 13000	0%
	Wet	Current	3	100%	1647	1120 - 1960	0%
		Historical	14	100%	6547	220 - 55000	14%
Mosher Slough	Dry	Current	4	100%	476	357 - 689	0%
		Historical	22	100%	3132	120 - 29500	5%
	Wet	Current	4	100%	1025	296 - 2560	25%
		Historical	15	100%	1134	190 - 3500	27%
Smith Canal	Dry	Current	4	100%	637	571 - 791	0%
		Historical	13	100%	787	150 - 1600	8%
	Wet	Current	3	100%	965	557 - 1550	0%
		Historical	10	90%	663	<100 - 1600	20%

Table 69. Dissolved Lead in Receiving Water, µg/L (Non-Priority Pollutant)

Waterbody	Event Type	Dataset	Count	% Detected	Average	Range	WQO	% Compliance
Calaveras River	Dry	Current	4	100%	0.033	0.018 - 0.047	0.44 - 2.55	100%
		Historical	20	10%	ID	<0.16 - 0.924	1.1 - 3.71	100%
	Wet	Current	3	100%	0.35	0.04 - 0.93	32.7 - 48	100%
		Historical	13	31%	0.35	<0.03 - 0.537	15.7 - 115	100%
Duck Creek	Dry	Current	0				No RW hardness	
		Historical	20	25%	0.31	<0.16 - 0.44	0.59 - 4.5	100%
	Wet	Current	3	67%	0.072	<0.036 - 0.111	21 - 35.3	100%
		Historical	14	43%	0.37	<0.08 - 0.7	16.5 - 123	100%
Mosher Slough	Dry	Current	4	50%	0.15	<0.106 - 0.19	1.36 - 2.1	100%
		Historical	20	15%	ID	<0.16 - 0.29	1.57 - 3.1	100%
	Wet	Current	4	75%	0.18	<0.159 - 0.213	37.5 - 49.9	100%
		Historical	14	21%	0.37	<0.03 - 0.5	8.45 - 101	100%
Smith Canal	Dry	Current	4	50%	0.14	<0.027 - 0.071	1.57 - 4.1	100%
		Historical	11	9%	ID	<0.16 - 0.69	1.47 - 5.59	100%
	Wet	Current	3	67%	0.14	<0.09 - 0.208	35.3 - 79.6	100%
		Historical	9	11%	ID	<0.08 - 0.08	12.1 - 133	100%

Table 70. Total Zinc in Receiving Water, µg/L (Non-Priority Pollutant)

Waterbody	Event Type	Dataset	Count	% Detected	Average	Range	WQO	% Compliance
Calaveras River	Dry	Current	4	100%	32.8	6.48 - 97.9	30.2 - 120	75%
		Historical	23	57%	10.0	<1 - 12	62.1 - 161	100%
	Wet	Current	3	100%	83.9	16.7 - 209	69.6 - 94	67%
		Historical	14	93%	37.6	<4 - 100	28 - 188	79%
Duck Creek	Dry	Current	0				No RW hardness	
		Historical	24	92%	21.5	<4 - 190	38.3 - 188	92%
	Wet	Current	3	100%	28.7	19.4 - 42.1	49.2 - 73.9	100%
		Historical	14	100%	66.9	5.7 - 430	40.7 - 197	71%
Mosher Slough	Dry	Current	4	100%	14.9	8.31 - 21	73.3 - 103	100%
		Historical	23	91%	20.8	<2.4 - 50	66.6 - 140	96%
	Wet	Current	4	100%	26.3	17.9 - 34.3	77.5 - 96.9	100%
		Historical	15	100%	27.6	3.1 - 60	24 - 169	87%
Smith Canal	Dry	Current	4	100%	36.6	12.4 - 67.9	81.8 - 175	100%
		Historical	14	93%	10.8	<4 - 27	77.7 - 224	100%
	Wet	Current	3	100%	36.2	26.4 - 49.4	73.9 - 140	100%
		Historical	10	100%	14.5	7.5 - 27	31.9 - 210	100%