DECEMBER 2019

CALLEGUAS CREEK WATERSHED TMDL COMPLIANCE MONITORING PROGRAM

ELEVENTH YEAR ANNUAL MONITORING REPORT JULY 2018 TO JUNE 2019

Monitoring and Reporting Program for the Nitrogen and Related Effects; Organochlorine Pesticides, Polychlorinated Biphenyls and Siltation; Toxicity; Salts; and Metals and Selenium Total Maximum Daily Loads

SUBMITTED TO LOS ANGELES REGIONAL WATER QUALITY CONTROL BOARD

PREPARED BY



ASSOCIATES

ON BEHALF OF THE STAKEHOLDERS IMPLEMENTING TMDLS IN THE CALLEGUAS CREEK WATERSHED ~Page intentionally left blank~

Table of Contents

Table of Contents	i
List of Tables	iii
List of Figures	v
Appendices – Text Documents	
Attachments – Electronic Documents	······ VIII
Acronyms	ix
Executive Summary	ES-1
Total Maximum Daily Loads	ES-1
Project Organization	ES-1
Monitoring Event Summaries	ES-2
Receiving Waters Status by TMDL	ES-2
Monitoring Program Changes	ES-5
Introduction and Program Background	1
Introduction	1
Project Organization	
Watershed Background	
Monitoring Questions	5
Monitoring Program Description	6
Required Monitoring Elements	6
Optional Monitoring Elements	
Monitoring Program Structure	
Compliance Monitoring	
Compliance Monitoring for Toxicity, OC Pesticides, Metals, Nitrogen, and	l Salts TMDLs 10
Investigation Monitoring	
Land Use Discharge Investigation	
Optional Toxicity Investigation	
Sampling Sites	
Monitoring Data Summary	

i

OC Pesticides TMDL Data Summary	
Metals TMDL Data Summary	
Toxicity TMDL	
Nutrients TMDL	
Salts TMDL	
Fish Tissue Data	
Toxicity Data	106
	100
Exceedance Evaluation and Discussion	
Exceedance Evaluation and Discussion Receiving Water Site Comparison	110
Exceedance Evaluation and Discussion Receiving Water Site Comparison POTW Data Comparison	110
Exceedance Evaluation and Discussion Receiving Water Site Comparison POTW Data Comparison Exceedance Evaluation Discussion	110 112 119 124
Exceedance Evaluation and Discussion Receiving Water Site Comparison POTW Data Comparison Exceedance Evaluation Discussion OC Pesticides, Toxicity, Metals, Nutrients, and Salts	110 112 112 119 124 124

List of Tables

Table 1. Description of Calleguas Creek Watershed Reaches Second Se
Table 2. Constituents and Monitoring Frequency for CCWTMP (varies by site)
Table 3. Optional Constituents and Monitoring Frequency for CCWTMP (varies by site)
Table 4. CCWTMP Compliance Monitoring and Optional Nutrient Investigation Sites Annual Sampling Frequency
Table 5. CCWTMP Land Use Monitoring Sites and Sample Frequency 15
Table 6. Optional Toxicity Investigation Monitoring Sites and Potential Sampling Frequency. 16
Table 7. Receiving Water Sites Color Coded by Subwatershed
Table 8. Land Use and POTW Sites Color Coded by Type Type
Table 9. OC Pesticides TMDL Receiving Water Monitoring Site Event Summary - Year 11 29
Table 10. OC Pesticides TMDL Land Use Monitoring Site Event Summary - Year 11
Table 11. Metals TMDL Receiving Water Monitoring Site Event Summary - Year 11
Table 12. Metals TMDL Land Use Monitoring Site Event Summary - Year 11 48
Table 13. Toxicity TMDL Receiving Water Monitoring Sites Event Summary - Year 11
Table 14. Toxicity TMDL Land Use Monitoring Sites Event Summary - Year 11 71
Table 15. Nutrients TMDL Receiving Water Monitoring Sites Event Summary - Year 11
Table 16. Nutrients TMDL Land Use Monitoring Sites Event Summary - Year 11
Table 17. Conejo Creek – Adolfo Road (9B_ADOLF) Fish Tissue Data ¹ 105
Table 18. Revolon Slough – Wood Road (04_WOOD) Fish Tissue Data ¹ 105
Table 19. Revolon Slough – Wood Road (04_WOOD) Metals Fish Tissue Data 105
Table 20. Water Column Toxicity for All Monitoring Events and Sites 107
Table 21. Sediment Toxicity for All CCWTMP Freshwater Monitoring Events and Sites 109
Table 22. OC Pesticides, PCBs, & Siltation in Sediment
Table 23. Nitrogen Compounds in Water 114
Table 24. Toxicity, Diazinon, and Chlorpyrifos in Water 116
Table 25. Metals and Selenium in Water
Table 26. Monthly Mean Salts Concentrations
Table 27. Nitrogen Compounds – POTWs 119
Table 28. OC Pesticides, PCBs, and Siltation - POTWs 120
Table 29. Toxicity, Chlorpyrifos, and Diazinon - POTWs 121
Table 30. Metals - POTWs 122

Table 31.	Salts - POTWs 1	23
Table 32.	Exceedances of Nitrate-N Numeric TMDL Target of 10 mg/L 1	25
Table 33.	Compliance and Land Use Sites Comparison to Determine Attainment of MS4 Chlorpyrifos Wasteload Allocations	27
Table 34.	Compliance and Land Use Sites Comparison to Determine Attainment of Ag Chlorpyrifos Load Allocations	27
Table 35.	Total Selenium Monitoring Data (ug/L) in the Revolon Slough Subwatershed 1	28
Table 36.	Total Dissolved Solids Monitoring Data (mg/L) in Revolon Slough 1	30
Table 37.	Sulfate Monitoring Data (mg/L) in Revolon Slough 1	30
Table 38.	Boron Monitoring Data (mg/L) in Revolon Slough 1	31
Table 39.	Chloride Monitoring Data (mg/L) in Conejo Creek 1	31

List of Figures

Figure 1. Calleguas Creek Watershed
Figure 2. CCWTMP Compliance Monitoring Sampling Sites – Receiving Water
Figure 3. CCWMTP Compliance Monitoring Receiving Water Sampling Sites – Freshwater
Sediment
Figure 4. CCWMTP Compliance Monitoring Sampling Sites – Freshwater Fish Tissue
Figure 5. CCWMTP Compliance Monitoring Sampling Sites – POTW Effluent
Figure 6. CCWMTP Compliance Monitoring Sampling Zones – Mugu Lagoon Sediment 21
Figure 7. CCWTMP Compliance Monitoring Sampling Zones – Mugu Lagoon Tissue 22
Figure 8. CCWTMP Optional Toxicity Investigation Receiving Water Sampling Sites – Water and Sediment
Figure 9. CCWTMP Land Use Sampling Sites
Figure 10. 4,4'-DDD Water Column Concentrations in Receiving Water Sites: 2008-2019 31
Figure 11. 4,4'-DDD Water Column Concentrations in Urban, Ag, and POTW Sites: 2008-2019
Figure 12. 4,4'-DDE Water Column Concentrations in Receiving Water Sites: 2008-2019 33
Figure 13. 4,4'-DDE Water Column Concentrations in Urban, Ag, and POTW Sites: 2008-2019
Figure 14. 4,4'-DDT Water Column Concentrations in Receiving Water Sites: 2008-2019 35
Figure 15. 4,4'-DDT Water Column Concentrations in Urban, Ag, and POTW Sites: 2008-2019
Figure 16. Total Chlordane Water Column Concentrations in Receiving Water Sites: 2008-2019
Figure 17. Total Chlordane Water Column Concentrations in Urban, Ag, and POTW Sites: 2008-2019
Figure 18. Toxaphene Water Column Concentrations in Receiving Water Sites: 2008-2019 39
Figure 19. Toxaphene Water Column Concentrations in Urban, Ag, and POTW Sites: 2008- 2019
Figure 20. 4,4'-DDD Sediment Concentrations in Receiving Water Sites: 2008-2019
Figure 21. 4,4'-DDE Sediment Concentrations in Receiving Water Sites: 2008-2019
Figure 22. 4,4'-DDT Sediment Concentrations in Receiving Water Sites: 2008-2019
Figure 23. Total Chlordane Sediment Concentrations in Receiving Water Sites: 2008-2019 44
Figure 24. Toxaphene Sediment Concentrations in Receiving Water Sites: 2008-2019
Figure 25. Total Copper Dry Weather Concentrations in Receiving Water Sites: 2008-2019 49

Figure 26. Total Copper Stormwater Concentrations in Receiving Water Sites: 2008-2019 50
Figure 27. Total Copper Dry Weather Concentrations in Urban, Ag, and POTW Sites: 2008-
2019
Figure 28. Total Copper Wet Weather Concentrations in Urban and Ag Sites: 2008-2019 52
Figure 29. Dissolved Copper Concentrations in Receiving Water Sites: 2008-2019
Figure 30. Dissolved Copper Concentrations in Urban, Ag, and POTW Sites: 2008-2019 54
Figure 31. Total Mercury Concentrations in Receiving Water Sites: 2008-2019
Figure 32. Total Mercury Concentrations in Urban and Ag Sites: 2008-2019
Figure 33. Total Nickel Dry Weather Concentrations in Receiving Water Sites: 2008-2019 57
Figure 34. Total Nickel Stormwater Concentrations in Receiving Water Sites: 2008-2019 58
Figure 35. Total Nickel Dry Weather Concentrations in Urban, Ag, and POTW Sites: 2008-2019
Figure 36. Total Nickel Stormwater Concentrations in Urban and Ag Sites: 2008-2019
Figure 37. Dissolved Nickel Concentrations in Receiving Water Sites: 2008-2019
Figure 38. Dissolved Nickel Concentrations in Urban, Ag, and POTW Sites: 2008-2019
Figure 39. Total Selenium Dry Weather Concentrations in Receiving Water Sites: 2008-2019 63
Figure 40 Total Selenium Stormwater Concentration in Receiving Water Sites: 2008-2019 64
Figure 10. Fotal Scientian Stoffwarer Concentration in Receiving Water Stess. 2000 2017 01
Figure 41. Total Selenium Dry Weather Concentrations in Urban, Ag, and POTW Sites: 2008- 2019
 Figure 41. Total Selenium Dry Weather Concentrations in Urban, Ag, and POTW Sites: 2008-2019
 Figure 41. Total Selenium Dry Weather Concentrations in Urban, Ag, and POTW Sites: 2008-2019
 Figure 41. Total Selenium Dry Weather Concentrations in Urban, Ag, and POTW Sites: 2008-2019
 Figure 41. Total Selenium Dry Weather Concentrations in Urban, Ag, and POTW Sites: 2008-2019
 Figure 41. Total Selenium Dry Weather Concentrations in Urban, Ag, and POTW Sites: 2008-2019
 Figure 40. Total Selenium Dry Weather Concentrations in Urban, Ag, and POTW Sites: 2008-2019
 Figure 41. Total Selenium Dry Weather Concentrations in Urban, Ag, and POTW Sites: 2008-2019
 Figure 40. Total Selenium Dry Weather Concentrations in Urban, Ag, and POTW Sites: 2008-2019
 Figure 41. Total Selenium Dry Weather Concentrations in Urban, Ag, and POTW Sites: 2008-2019
 Figure 40. Fotal Belefitation Dry Weather Concentrations in Freeering (Fater 51.2000 2019)
 Figure 10: Fotal Selenium Brommater Concentrations in Urban, Ag, and POTW Sites: 2008-2019
Figure 40. Four bernman boom water Concentrations in Urban, Ag, and POTW Sites: 2008-2019
 Figure 41. Total Selenium Dry Weather Concentrations in Urban, Ag, and POTW Sites: 2008-2019

Figure 56. Nitrate-N Concentrations in Ag and POTW Sites: 2008-2019
Figure 57. Nitrite-N Concentrations in Receiving Water Sites: 2008-2019
Figure 58. Nitrite-N Concentrations in Ag and POTW Sites: 2008-2019
Figure 59. Nitrate-N + Nitrite-N Concentrations in Receiving Water Sites: 2008-2019 89
Figure 60. Nitrate-N + Nitrite-N Concentrations in Ag and POTW Sites: 2008-2019
Figure 61. TDS Monthly Means for Receiving Water Sites Collected During Dry Weather 92
Figure 62. Chloride Monthly Means for Receiving Water Sites Collected During Dry Weather 93
Figure 63. Sulfate Monthly Means for Receiving Water Sites Collected During Dry Weather . 94
Figure 64. Boron Monthly Means for Receiving Water Sites Collected During Dry Weather 95
Figure 65. Total Dissolved Solids in Water from Urban and Ag Sites: 2011-2019
Figure 66. Chloride in Water from Urban & Ag Sites: 2011-2019
Figure 67. Sulfate in Water from Urban & Ag Sites: 2011-2019
Figure 68. Boron in Water from Urban & Ag Sites: 2011-2019
Figure 69. Total Dissolved Solids in Water from POTW Sites: 2012-2019 100
Figure 70. Sulfate in Water from POTW Sites: 2012-2019
Figure 71. Chloride in Water from POTW Sites: 2012-2019
Figure 72. Boron in Water from POTW Sites: 2012-2019

Appendices – Text Documents

- Appendix A. Monitoring Event Summaries for Toxicity, OC Pesticides, Nutrients, Metals, and Salts TMDLs
- Appendix B. Salts Rating Curves and Surrogate Relationships
- Appendix C. Toxicity Testing and Toxicity Identification Evaluations Summary
- Appendix D. Laboratory QA/QC Results and Discussion

Attachments - Electronic Documents

- Attachment 1. Toxicity Data
- Attachment 2. Monitoring Data
- Attachment 3. Salts Mean Daily Flows: July 2018 June 2019
- Attachment 4. Chain-of-Custody Forms

Acronyms

Ag Waiver	Conditional Waiver for Irrigated Agricultural Lands
AMR	Annual Monitoring Report
AWQMP	Agriculture Water Quality Management Plan
BPAs	Basin Plan Amendments
BMP	Best Management Practice
Caltrans	California Department of Transportation
CCW	Calleguas Creek Watershed
CCWTMP	Calleguas Creek Watershed TMDL Compliance Monitoring Program
DNQ	Detected Not Quantified
EC	Electrical Conductivity
EST	Estimated
GSQC	General Sediment Quality Constituents
GWQC	General Water Quality Constituents
LA	Load Allocation
MOA	Memorandum of Agreement
MDL	Method Detection Limit
NA	Not Applicable
ND	Not Detected
NR	Not Required
NS	Not Sampled
OC	Organochlorine
OP	Organophosphorus
PCBs	Polychlorinated Biphenyls
POTWs	Publically-Owned Treatment Works
QA	Quality Assurance
QAPP	Quality Assurance Project Plan
QC	Quality Control
RL	Reporting Limit
SOPs	Standard Operating Procedures
TDS	Total Dissolved Solids
TIE	Toxicity Identification Evaluation
TKN	Total Kjehdahl Nitrogen
TMDL	Total Maximum Daily Load
TOC	Total Organic Carbon
TSS	Total Suspended Solids
VCAILG	Ventura County Agricultural Irrigated Lands Group
WLA	Wasteload Allocation

Executive Summary

The purpose of this annual report is to document the eleventh-year monitoring efforts and results of the Calleguas Creek Watershed (CCW) Total Maximum Daily Load (TMDL) Compliance Monitoring Program (CCWTMP), conducted between July 2018 and June 2019. This annual report includes information for the sampling events completed per the current Quality Assurance Project Plan (QAPP), summaries of collected data, water quality data analysis, and TMDL waste load allocation (WLA)/load allocation (LA) exceedance.

TOTAL MAXIMUM DAILY LOADS

There are six TMDLs currently effective and being implemented in the CCW. They include:

- Nitrogen Compounds and Related Effects in Calleguas Creek (Nitrogen or Nutrients TMDL)
- Organochlorine (OC) Pesticides, Polychlorinated Biphenyls (PCBs) and Siltation in Calleguas Creek, its Tributaries, and Mugu Lagoon (OC Pesticides TMDL)
- Toxicity, Chlorpyrifos, and Diazinon in the Calleguas Creek, its Tributaries and Mugu Lagoon (Toxicity TMDL)
- Metals and Selenium in Calleguas Creek, its Tributaries, and Mugu Lagoon (Metals TMDL)
- Revolon Slough and Beardsley Wash Trash TMDL (Trash TMDL)¹
- Boron, Chloride, Sulfate and TDS (Salts) in the Calleguas Creek, its Tributaries and Mugu Lagoon (Salts TMDL)

To address the monitoring requirements of the TMDLs, the CCWTMP was established and a QAPP developed and approved by the Los Angeles Regional Water Quality Control Board (Regional Water Board) Executive Officer. Over time the original QAPP has been revised to incorporate newly adopted TMDLs, reflect changing field conditions, and include changes recommended in previous annual monitoring reports. The QAPP currently addresses monitoring requirements for the Nitrogen, OC Pesticides, Toxicity, Metals, and Salts TMDLs. The Trash TMDL is addressed through a separate Trash Monitoring and Reporting Plan and annual reports submitted separately to the Regional Water Board.

PROJECT ORGANIZATION

The CCWTMP is a coordinated effort with the various responsible parties that make up the Stakeholders Implementing TMDLs in the Calleguas Creek Watershed (Stakeholders). Stakeholders identified in the TMDLs have developed a Memorandum of Agreement (MOA) that outlines an agreement to implement the CCWTMP.

The stakeholders to the MOA, for which this report fulfills the TMDL monitoring requirements, are as follows:

¹ Information related to the Revolon Slough and Beardsley Wash Trash TMDL is not part of this report. The Trash TMDL annual report is submitted separately to the Regional Water Board by January 28th, annually.

- **POTWs**: consisting of Camrosa Water District, Camarillo Sanitary District, Ventura County Waterworks District No. 1, and the Cities of Simi Valley and Thousand Oaks;
- Urban Dischargers: consisting of the Cities of Simi Valley, Thousand Oaks, Camarillo, Moorpark and Oxnard, Ventura County Watershed Protection District, and the Ventura County Public Works Agency;
- Agricultural Dischargers: consisting of the entities represented by the Ventura County Agricultural Irrigated Lands Group (VCAILG) within the Calleguas Creek Watershed, a subdivision of the Farm Bureau of Ventura County; and
- **Other Dischargers**: consisting of the U.S. Department of Navy, California Department of Transportation, and the California Department of Parks and Recreation².

MONITORING EVENT SUMMARIES

Sampling events required by the Nitrogen, OC Pesticides, Toxicity, Metals, and Salts TMDLs during the eleventh year of TMDL monitoring included four dry-weather events (Events 68, 69, 72, 73) and two wet weather events (Events 70 and 71). Grab samples for salts were obtained during these events but were not used directly to determine compliance at receiving water sites.³ A summary of Events 68 through 73 is included in **Table ES-1**.

			Mugu Lagoon			Freshwater Sites		
Event	Туре	Date	Water Quality ¹	Sediment Quality & Toxicity ²	Tissue ²	Water Quality & Toxicity	Sediment Quality & Toxicity	Tissue
68	Dry	Aug-18	Х			Х	Х	
69	Dry	Nov-18	Х			Х		
70	Storm	Nov-18	Х			Х		
71	Storm	Jan-19	Х			Х		
72	Dry	Mar-19	Х			Х		
73	Dry	May-19	Х			Х		Х

Table ES-1. Summary of Year 11 Monitoring Events

1. Mugu Lagoon water quality testing is limited to monitoring site 01_RR_BR per CCWTMP QAPP Revision 3, submitted December 2014.

2. Mugu Lagoon sediment quality, sediment toxicity, and tissue samples are collected every three years. Samples were not collected as part of the Year 11 Annual Report.

RECEIVING WATERS STATUS BY TMDL

The CCW TMDLs were written so that compliance is evaluated on a reach basis (Nitrogen) or by subwatershed (OC Pesticides, Metals Toxicity, Salts), per receiving water compliance site data. The following table is provided as a way of looking at the various TMDLs and the status in attaining applicable load and wasteload allocations, with the goal of acknowledging where progress has been made and where additional focus is needed. Individual Stakeholders are

² The California Department of Parks and Recreation joined the Stakeholder group in July 2018.

³ Grab samples for salts at receiving water compliance sites are used to develop statistical relationships between specific conductivity (EC) and salt constituents, which are in turn used to convert high-density EC data from continuous monitors in the field to time series of salt concentrations.

working through their various permitting mechanisms with a focus on their individual compliance, however, this is a way to take a general view of the greater watershed and subwatersheds compared to progress expectations at this point in time.

The table expresses allocation achievement status in the following ways:

- \checkmark Applicable interim or final allocation consistently met
- o Applicable interim or final allocation typically exceeded
- Applicable interim or final allocation occasionally exceeded
- Load allocation met but wasteload allocation exceeded
 No applicable allocation for this subwatershed

				Subw	atershed		
TMDL	Constituent	Mugu	Calleguas	Revolon	Las Posas	Arroyo Simi	Conejo
Final Allocations Effective							
Nitrogen	Ammonia-N	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark
	Nitrate-N	•	•	0	\checkmark	\checkmark	\checkmark
	Nitrite-N	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark
	Nitrate-N + Nitrite-N	•	•	0	•	\checkmark	\checkmark
Toxicity	Chlorpyrifos (dry)	•	•	\checkmark	✓	\checkmark	\checkmark
	Chlorpyrifos (storms)	\checkmark	\checkmark	0	\checkmark	\checkmark	\checkmark
	Diazinon (dry)	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark
	Diazinon (storms)	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark
Interim Allocations Effectiv	e						
OC Pesticides	4,4'-DDD (sediment)	\checkmark	\checkmark	\checkmark	✓	\checkmark	✓
(Final date 2026)	4,4'-DDE (sediment)	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark
	4,4'-DDT (sediment)	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark
	Total Chlordane (sediment)	√ 2	✓ 2	✓ 2	✓ 2	✓ 2	√ 2
	Dieldrin (sediment)	√ 1	✓ 1	✓ 1	✓ 1	✓ 1	✓ 1
	PCBs (sediment)	✓ 1	✓ 1	✓ 1	✓ 1	✓ 1	✓ 1
	Toxaphene (sediment)	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark
Metals	Total Copper (storms and dry)	(1)	✓ 1	✓ 2	(1)	(1)	(1)
(Final date 2022)	Total Mercury (annual load)	(2)	✓ 2	✓ 2	(2)	(2)	(2)
	Total Nickel (dry)	(1)	✓ 1	✓ 2	(1)	(1)	(1)
	Total Selenium (dry)			0			
Salts	Total Dissolved Solids (dry)		✓	*		~	\checkmark
(Final date 2023)	Chloride (dry)		✓	\checkmark		\checkmark	\checkmark
	Sulfate (dry)		✓	*		~	\checkmark
	Boron (dry)			*		~	

Table ES-2. TMDL Allocation Attainment Status by Subwatershed

Final TMDL targets are being attained in these reaches ahead of the TMDL schedule.
 Final TMDL targets are only occasionally exceeded in these reaches.

MONITORING PROGRAM CHANGES

The QAPP specifies that upon the completion of each CCWTMP annual report, revisions to standard procedures will be made, including: site relocation, ceasing monitoring efforts and/or deleting certain constituents from sample collection. An updated QAPP was submitted in December 2014 that incorporated the proposed revisions and recommendations included in the previous six CCWTMP annual reports. Additional modifications that reflect the most current lab methods and procedures for the field conditions were also part of the QAPP update process. Monitoring for the 2018-2019 monitoring year was conducted per the revised QAPP.

In August 2018, during the first monitoring event of year 11, construction activities were observed at the monitoring site 04D_VENTURA. This is an urban land use site in the City of Camarillo. It was determined that a stretch of the stormwater channel is being enclosed directly up and downstream of the existing monitoring location. A new sampling site, 04D_SPRINGVILLE was selected to replace 04D_VENTURA for the remainder of the year 11 monitoring period. This site has been permanently relocated approximately 0.6 miles downstream from the original site, but still within the City of Camarillo's urban area.

The Stakeholders have submitted TMDL receiving water data to the California Environmental Data Exchange Network (CEDEN) going back to the beginning of the monitoring program in 2008. TMDL receiving water monitoring data will continue to be uploaded for future monitoring events, as well.

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Introduction and Program Background

INTRODUCTION

In the Calleguas Creek Watershed (CCW), the following six total maximum daily loads (TMDLs) are currently effective and include monitoring requirements in the implementation plans:

- Nitrogen Compounds and Related Effects in Calleguas Creek (Nitrogen or Nutrients TMDL)
- Organochlorine (OC) Pesticides, Polychlorinated Biphenyls (PCBs) and Siltation in Calleguas Creek, its Tributaries, and Mugu Lagoon (OC Pesticides TMDL)
- Toxicity, Chlorpyrifos, and Diazinon in the Calleguas Creek, its Tributaries and Mugu Lagoon (Toxicity TMDL)
- Metals and Selenium in Calleguas Creek, Its Tributaries, and Mugu Lagoon (Metals TMDL)
- Revolon Slough and Beardsley Wash Trash TMDL (Trash TMDL)¹
- Boron, Chloride, Sulfate and TDS (Salts) in the Calleguas Creek, its Tributaries and Mugu Lagoon (Salts TMDL)

To address the monitoring requirements of the TMDLs, the responsible parties that make up the Stakeholders Implementing TMDLs in the CCW (Stakeholders) established a CCW TMDL Compliance Monitoring Program (CCWTMP) and developed a Quality Assurance Project Plan (QAPP) for approval by the Los Angeles Regional Water Quality Control Board (Regional Water Board) Executive Officer. The original QAPP covered monitoring for only the Nitrogen, OC Pesticides, Toxicity, and Metals TMDLs. A monitoring approach (Salts Plan) for the Salts TMDL was submitted by the Stakeholders to the Regional Water Board in June 2009, which was conditionally approved in September 2011. Compliance monitoring for the Salts TMDL was required starting September 9, 2012.

Over time, the original QAPP has been revised to incorporate newly adopted TMDLs, reflect changing field conditions, and include changes recommended in previous annual monitoring reports. The QAPP currently addresses monitoring requirements for the Nitrogen, OC Pesticides, Toxicity, Metals, and Salts TMDLs. The Trash TMDL is addressed through a separate monitoring plan and annual monitoring report.

The primary purpose of this report is to document the eleventh year monitoring efforts (July 2018 to June 2019) and results of the CCWTMP for the five TMDLs included in the QAPP. The report includes summaries of the sampling events, data summaries, and a comparison to applicable TMDL allocations and targets. The report is divided into the following sections:

- Introduction and Program Background
- Monitoring Program Structure

¹ Information related to the Revolon Slough and Beardsley Wash Trash TMDL is not part of this report. The Trash TMDL annual report is submitted to the Regional Water Board annually by January 28th.

- Monitoring Data Summary
- Exceedance Evaluation and Discussion
- Revisions and Recommendations

In addition, there are several appendices included with this report and several attachments (electronic data files) associated with this report, including:

- Appendices (text documents)
 - Appendix A: Monitoring Event Summaries for Toxicity, OC Pesticides, Nutrients, Metals, and Salts TMDLs
 - o Appendix B: Salts Rating Curves and Surrogate Relationships
 - o Appendix C: Toxicity Testing and Toxicity Identification Evaluations Summary
 - Appendix D: Laboratory Quality Assurance/Quality Control Results and Discussion
- Attachments (electronic data files)
 - Attachment 1: Toxicity Data
 - o Attachment 2: Monitoring Data
 - Attachment 3: Salts Mean Daily Flows: July 2018 to June 2019
 - Attachment 4: Chain-of-Custody Forms

PROJECT ORGANIZATION

The CCWTMP is a coordinated effort where the various responsible parties identified in the TMDLs have developed a Memorandum of Agreement (MOA) that outlines an agreement to implement the CCWTMP. The responsible parties identified in the organizational structure have formally joined together to fulfill their monitoring requirements as outlined in the Basin Plan Amendments (BPAs) for the five TMDLs included in the QAPP.

The CCWTMP is intended to fulfill the monitoring requirements for only those stakeholders that are part of the MOA and/or identified by the participants of the MOA. The stakeholders to the MOA for which this report fulfills the TMDL monitoring requirements are as follows:

- **POTWs**: consisting of Camrosa Water District, Camarillo Sanitary District, Ventura County Waterworks District No. 1, and the Cities of Simi Valley and Thousand Oaks;
- Urban Dischargers: consisting of the Cities of Simi Valley, Thousand Oaks, Camarillo, Moorpark and Oxnard, Ventura County Watershed Protection District, and the County of Ventura Public Works Agency;
- Agricultural Dischargers: consisting of the entities represented by the Ventura County Agricultural Irrigated Lands Group (VCAILG) within the Calleguas Creek Watershed, a subdivision of the Farm Bureau of Ventura County; and
- **Other Dischargers**: consisting of the U.S. Department of the Navy, the California Department of Parks and Recreation, and the California Department of Transportation (Caltrans).

Per the MOA, a Management Committee, consisting of one representative each from the POTWs, Urban Dischargers and Other Dischargers groups, and two representatives from the Agricultural Dischargers group, oversees the CCWTMP and makes decisions to assure the CCWTMP is carried out in a timely, accountable fashion.

The Stakeholders contracted implementation of the CCWTMP with the following contractors to perform the eleventh year monitoring effort:

- General Project Management Larry Walker Associates, Inc. (LWA)
- Field Monitoring Activities
 - **Freshwater Water Quality/Sediment Sampling** Kinnetic Laboratories, Inc. (KLI), Fugro West, Inc. (Fugro), LWA
 - **Freshwater Fish Tissue** ICF Jones and Stokes, Inc.
- Water, Sediment, and Tissue Chemistry Analysis Physis Environmental Laboratories, Inc. (Physis)
- Salts Chemistry Analysis Fruit Growers Laboratory, Inc. (FGL) and Physis
- **Toxicity Analysis** Pacific Eco Risk Laboratories (PacEco)

The aforementioned contractors performed all management activities and sampling efforts covered by this annual report. This list of contractors will be amended in each report to reflect contractors used for the work performed.

WATERSHED BACKGROUND

Calleguas Creek drains an area of approximately 343 square miles from the Santa Susana Pass in the east to Mugu Lagoon in the southwest. The main surface water system drains from the mountains in the northeast part of the watershed toward the southwest where it flows through the Oxnard Plain before emptying into the Pacific Ocean through Mugu Lagoon. The watershed, which is elongated along an east-west axis, is approximately thirty miles long and fourteen miles wide. The Santa Susana Mountains, South Mountain, and Oak Ridge form the northern boundary of the watershed; the southern boundary is formed by the Simi Hills and Santa Monica Mountains. **Figure 1** depicts the CCW and **Table 1** presents the reaches of the CCW as identified in the TMDLs covered by the CCWTMP.



Figure 1. Calleguas Creek Watershed

Reach No.	Reach Name	Subwatershed	Geographic Description
1	Mugu Lagoon	Mugu	Lagoon fed by Calleguas Creek
2	Calleguas Creek (Estuary to Potrero Rd.)	Calleguas	Downstream (south) of Potrero Rd
3	Calleguas Creek (Potrero Rd. to Conejo Creek)	Calleguas	Potrero Rd. upstream to confluence with Conejo Creek
4	Revolon Slough	Revolon	Revolon Slough from confluence with Calleguas Creek to Central Ave
5	Beardsley Channel	Revolon	Revolon Slough upstream of Central Ave.
6	Arroyo Las Posas	Las Posas	Confluence with Calleguas Creek to Hitch Road
7	Arroyo Simi	Arroyo Simi	End of Arroyo Las Posas (Hitch Rd) to headwaters in Simi Valley.
8	Tapo Canyon Creek	Arroyo Simi	Confluence w/ Arroyo Simi up Tapo Canyon to headwaters
9B ¹	Conejo Creek (Camrosa Diversion to Arroyo Santa Rosa)	Conejo	Extends from the confluence with Arroyo Santa Rosa downstream to the Conejo Creek Diversion.
9A ¹	Conejo Creek (Calleguas Creek to Camrosa Diversion)	Conejo	Extends from Conejo Creek Diversion to confluence with Calleguas Creek.
10	Hill Canyon reach of Conejo Creek	Conejo	Confluence with Arroyo Santa Rosa to confluence with N. Fork; and N. Fork to just above Hill Canyon WTP
11	Arroyo Santa Rosa	Conejo	Confluence with Conejo Creek to headwaters
12	North Fork Conejo Creek	Conejo	Confluence with Conejo Creek to headwaters
13	Arroyo Conejo (South Fork Conejo Creek)	Conejo	Confluence with N. Fork to headwaters —two channels

Table 1.	Descri	ption of	Calleguas	Creek	Watershed Reaches
	000011		Janogaao	0.001	That of onload thought of

1. In the 2012 updates to the Los Angeles Region Basin Plan, the reach designations for 9A and 9B were switched.

MONITORING QUESTIONS

The purpose of the CCWTMP is to direct the monitoring activities conducted to meet the requirements of the TMDLs effective for the CCW, excluding the Trash TMDL. The goals of the CCWTMP include:

- To determine compliance with numeric targets, wasteload and load allocations, and interim load reduction milestones.
- To test for sediment toxicity at sediment monitoring stations.
- To identify causes of unknown toxicity.
- To generate additional land use runoff data to better understand pollutant sources and proportional contributions from various land use types.

- To monitor the effect of implementation actions by urban, POTW, and agricultural dischargers on in-stream water, sediment, fish tissue quality, and watershed balances (salts).
- To implement the program consistent with other regulatory actions within the CCW.

In addition, the CCWTMP is intended to answer the following monitoring questions to meet the goals of the program:

- Are numeric targets and allocations met at the locations indicated in the TMDLs?
- Are conditions improving?
- What is the contribution of constituents of concern from various land use types?

MONITORING PROGRAM DESCRIPTION

The CCWTMP was developed to address all necessary TMDL monitoring requirements and answer the monitoring questions mentioned previously using the following monitoring elements.

Required Monitoring Elements

The following environmental monitoring elements are required by the TMDLs' BPAs and are included in the CCWTMP:

- General water and sediment quality constituents;
- Water column and sediment toxicity;
- Metals and selenium in water, sediment, fish tissue, and bird eggs;
- Organic compounds in water, sediment, and fish tissue; and,
- Nitrogen and phosphorus compounds in water;
- Salt compounds in water and continuous flow in dry weather (the latter only at Salts TMDL receiving water compliance sites).

Table 2 lists the constituents for which analyses are conducted. **Table 2** also provides a summary of sampled constituent groups and sampling frequency. The QAPP outlines, in detail, the justification of the process design, specific methodologies (both field and analytical), and quality assurance/quality control (QA/QC) procedures.

Table 2. Constituents and Monitoring Frequency for CCWTMP (varies by site)

Constituent	Frequency					
Chronic Aquatic Toxicity	Quarterly + Two wet events					
General Water Quality Constituents (GWQC)						
Flow, pH, Temperature, Dissolved Oxygen, Conductivity, Total Suspended Solids (TSS), Hardness (at freshwater sites where metals samples are collected), and Dissolved Organic Carbon (at saltwater sites where metals samples are collected)	Quarterly based on location + Two wet events					
Nutrients						
Ammonia Nitrogen, Nitrate Nitrogen, Nitrite Nitrogen, Organic Nitrogen, Total Kjehdahl Nitrogen (TKN), Total Phosphorus, Orthophosphate-P	Quarterly + Two wet events					
Organic Constituents In Water						
OC Pesticides ¹ and PCBs ² , OP Pesticides ³ , and Pyrethroid Pesticides ⁴	- Quarterly + Two wet events					
Metals and Selenium In Water	Ouarterly + Two wet events 6					
Copper, Mercury, Nickel, Zinc, and Selenium ⁵						
Salts						
Electrical Conductivity (EC) and Discharge	Receiving water: Continuous (via in- situ sensors for EC and depth) plus monthly grabs for EC and discharge for sensor calibration					
Tatal Dissolved Solida (TDS) Sulfate, Chlorida, Paran	Receiving water: Continuous (derived from EC/salt relationships)					
Total Dissolved Solids (TDS), Sullate, Chionde, Boron	Other sites: Quarterly + Two wet events					
Chronic Sediment Toxicity	Annually (Every three years in Lagoon)					
General Sediment Quality Constituents (GSQC)	Annually					
Total Ammonia, Percent Moisture, Grain Size Analysis, Total Organic Carbon (TOC)	(Every three years in Lagoon)					
Organic Constituents In Sediment	Annually (Every three years in Lagoon)					
OC Pesticides ¹ and PCBs ² , OP Pesticides ³ , and Pyrethroids ⁴						

Table 2. Constituents and Monitoring Frequency for CCWTMP (varies by site) - continued

	Constituent	Frequency				
	Additional Constituents For Mugu Lagoon Sediment	Every three years				
N	letals ⁷					
	Tissue	Annually				
Ρ	ercent Lipids, OC Pesticides ¹ and PCBs ² , OP Pesticides ³ , and Metals ⁸	(Every three years in Lagoon)				
1.	OC Pesticides considered: aldrin, alpha-BHC, beta-BHC, gamma-BHC (lindane), delta-BHC, gamma, 2,4'-DDD, 2,4'-DDE, 2,4'-DDT, 4,4'-DDD, 4,4'-DDE, 4,4'-DDT, dieldrin, endosulfan I a endrin aldehyde, endrin ketone, and toxaphene	chlordane-alpha, chlordane- and II, endosulfan sulfate, endrin,				
2.	PCBs considered: Aroclors identified in the CTR (1016, 1221, 1232, 1242, 1248, 1254, and 1	260).				
3.	OP Pesticides considered: chlorpyrifos, diazinon, and malathion. Chlorpyrifos is the only OP tissue, as it is the only OP listed in tissue.	pesticide that will be measured in				
4.	Pyrethroid Pesticides considered: bifenthrin, cyfluthrin, cypermethrin, deltamethrin, and perm	ethrin				

5. Copper, mercury, nickel, selenium and zinc will be measured as dissolved and total recoverable.

6. Monitoring at sites in Mugu Lagoon other than at the Ronald Reagan Street Bridge Site (01_RR_BR) for metals is an optional element.

7. Includes arsenic, cadmium, copper, lead, mercury, nickel, selenium and zinc.

8. Total mercury and selenium will be measured in bird eggs and methyl mercury and total selenium will be measured in fish tissue.

Optional Monitoring Elements

The QAPP outlines the optional monitoring efforts, all of which are considered above and beyond what is necessary to meet the requirements of the BPAs and answer the monitoring questions.

Table 3 lists the constituents and analyses that are considered optional for the CCWTMP.Monitoring for the constituents and conducting the analyses are not BPA requirements but can provide supplemental data to meet general program goals and answer program questions. Table 3 also provides a general sampling frequency for each constituent group, should optional monitoring be conducted.

Table 3. Optional Constituents and Monitoring Frequency for CCWTMP (varies by site)

Constituent	Frequency⁵					
Organic Constituents in Water – Grain Size Fractions ¹	One wet event annually					
OC Pesticides and PCBs, OP, and Pyrethroid Pesticides						
Organic Constituents in Sediment – Grain Size Fractions ¹	Annually (Every three					
OC Pesticides and PCBs, OP, and Pyrethroid Pesticides	— years in Mugu Lagoon)					
Additional Constituents for Mugu Lagoon Sediment						
Macrobenthic community assessment	Every three years ²					
Sediment Toxicity – Eohaustorius estuaries and Mytilus galloprovincialis						
PCBs ³ and PAHs ⁴						
 Please see Table 2 for a list of individual constituents in each suite. Mugu Lagoon assessments were conducted during the first, fourth, seventh, and tenth mon PCBs considered: 2,4'-Dichlorobiphenyl, 2,2',5-Trichlorobiphenyl, 2,4,4'-Trichlorobiphenyl, 2,2',5,5'-Tetrachlorobiphenyl, 2,3',4,4'-Tetrachlorobiphenyl, 2,2',4,5,5'-Pentachlorobiphenyl, 	itoring years. 2,2',3,5'-Tetrachlorobiphenyl, 2,3,3',4,4-Pentachlorobiphenyl,					

2,2,3,3-1 etrachlorobiphenyl, 2,3,4,4-5 etrachlorobiphenyl, 2,2,4,3,5-7 etrachlorobiphenyl, 2,3,4,4-5 etrachlorobiphenyl, 2,2,3,4,4-5 etrachlorobiphenyl, 2,2,3,4,4-5 etrachlorobiphenyl, 2,2,3,4,4,5-1 etrachlorobiphenyl, 2,2,4,4,5,5-1 etrachlorobiphenyl, 2,2,3,4,4,5,5-1 etrachlorobiphenyl, 2,2,3,4,4,5,5-1

Acenaphthene, Anthracene, Biphenyl, Fluorene, Naphthalene, Phenanthrene, Benz(a)anthracene, Benzo(a)pyrene, Benzo(e)pyrene, Chrysene, Dibenz(a,h)anthracene, Fluoranthene, Perylene, Pyrene.

5. Optional monitoring related to grain size fractions was not performed during the 11th monitoring year. Additional Mugu Lagoon Sediment monitoring was last completed in year 10.

Monitoring Program Structure

As outlined previously, the CCWTMP covers a broad range of TMDL monitoring requirements, including both required and optional efforts. The overall structure of these requirements per each event can be broken down into two categories: (1) compliance monitoring and (2) investigation monitoring. Compliance monitoring sites are typically located in receiving water bodies where 303(d) listings occur and are considered points of compliance measurements. The investigational sites are located throughout the watershed and include monitoring of drain outfalls. The purpose of these sites is not to measure compliance, but to assist with evaluating land use-specific contributions of various constituents to the watershed.

The CCWTMP effort is also divided into two monitoring efforts: (1) dry weather monitoring and (2) wet weather storm water monitoring. The following sections describe, in detail, the basis for each monitoring effort, starting with the definitions of the compliance monitoring sites and investigation monitoring sites. Specific monitoring efforts associated with each sample site are included, including the frequency of sampling by site for both dry weather and wet weather events. The sampling frequency and the constituents analyzed at the sites covered by the CCWTMP vary. A more detailed description of each topic covered can be found in the appropriate element of the QAPP, including standard operating procedures (SOPs) for field collection and sample handing techniques, and analytical procedures and protocols including minimum detection limit (MDL) and reporting limit (RL) requirements.

COMPLIANCE MONITORING

Compliance Monitoring for Toxicity, OC Pesticides, Metals, Nitrogen, and Salts TMDLs

For compliance monitoring to address the Toxicity, OC Pesticides, Metals and Nitrogen TMDLs, dry weather in-stream water column samples were collected quarterly for water column toxicity, general water quality constituents (GWQC), target organic constituents, metals, and nutrients. The specific target constituents for each of the previously mentioned TMDLs are listed as footnotes in **Table 2**.

In-stream water column samples to measure compliance for the Toxicity, OC Pesticides, and Metals TMDLs are generally collected at the base of each of the subwatersheds used to assign waste load and load allocations, per the BPAs. In-stream water column samples to measure compliance for the Nitrogen TMDL are generally collected at the base of each listed reach. Toxicity Identification Evaluations (TIEs) are conducted on toxic samples as outlined in the Toxicity Testing and TIE section of the QAPP and results of these are discussed in the Toxicity Testing and TIE Evaluations Summary section of this report and **Appendix C**.

In-stream water column grab samples for salts were collected quarterly during dry weather and twice during wet weather at the base of each of the subwatersheds specified in the Salts TMDL. The grab sample results are used to develop statistical relationships between salt constituents and EC. These relationships are used to convert high frequency EC-sensor data to time-series of salt concentrations. Compliance with interim dry weather salt allocations is determined using monthly mean salt concentrations for dry weather developed from the time-series of data.

Additionally, POTW effluent was monitored for comparison to the wasteload allocations presented in the Toxicity, OC Pesticides, Metals, and Salts TMDL BPAs. Currently, POTWs collect data required by each of their individual permits. For additional TMDL constituents not currently sampled by the plants, CCWTMP crews perform sampling as necessary (efforts vary by plant and constituent group). All CCWTMP-required data for POTWs are compiled in this report.

All efforts are made to include two wet weather water sampling events for compliance monitoring for the OC Pesticides, Toxicity, Metals, and Salts TMDLs during targeted storm events between October and April. Two wet weather events were completed in year eleven, the first storm sampled on November 29, 2018 and the second on January 15, 2019.

Streambed sediment samples, collected annually in the freshwater portion of the watershed, were collected during the first event of this monitoring year and analyzed for sediment toxicity, general sediment quality constituents (GSQC), and target organics. Sediment samples in Mugu Lagoon are collected every three years per the approved QAPP and were not collected in the eleventh year monitoring effort, having been most recently collected during year ten.

Fish tissue samples are also collected annually in the freshwater portion of the watershed. These samples were collected during year eleven in April 2019 and will continue to be collected annually for the CCWTMP. As with sediment samples, fish tissue samples in Mugu Lagoon were not collected during the eleventh year monitoring efforts. Such samples are collected every three years and were previously collected and reported in year ten of the monitoring program.

INVESTIGATION MONITORING

Investigation monitoring focuses on identifying the contribution of constituents of concern from various land uses in the watershed and areas where toxicity has been observed to occur in the past that are not addressed by compliance monitoring. These sites are meant to compliment compliance monitoring efforts, fill identified data gaps, and assist in identification of sources of constituents that may be leading to non-compliant conditions. The following describes the various types of investigation sites sampled during this reporting period.

Land Use Discharge Investigation

Land use discharge samples are generally collected concurrently (on the same day when possible) with compliance monitoring at representative agricultural and urban discharge sites generally located in each of the subwatersheds and analyzed for selected GWQC, nutrients (at agricultural land use sites only), metals, salts, and target organic constituents (constituents monitored per site varies based upon sub-watershed).

Optional Toxicity Investigation

This optional monitoring element includes two sites for water toxicity investigation monitoring and two sites for sediment toxicity investigation monitoring. The annual sampling frequency, constituents analyzed and sites for the toxicity investigation are provided in **Table 6**.

SAMPLING SITES

The QAPP details the justification and rationale for each of the sites sampled via the CCWTMP. Information on compliance monitoring sites and land use sites sample collection frequency is presented in **Table 4** and **Table 5**, respectively. The general locations of the receiving water compliance monitoring sites (excluding Mugu Lagoon) for water, sediment, and fish tissue are presented in **Figure 2** through **Figure 4**. The POTW effluent discharge sites are presented in **Figure 5**. The sampling sites in each figure are designated by sampled constituent group. The compliance monitoring sampling zones for sediment sampling and tissue sampling in Mugu Lagoon are shown in **Figure 6** and **Figure 7**, respectively and can be found in previous monitoring reports for the years in which such data was collected.

Optional water and sediment toxicity investigation sampling sites coincide with current and previous sampling programs in the CCW. Water and sediment toxicity investigation sampling sites and sampling frequency are presented in **Table 6**, while the general locations of the water and sediment toxicity investigation sampling sites in the CCW are presented in **Figure 8**. Land use monitoring sites are shown in **Figure 9**.

The salt monitoring sites correspond with compliance sites or land use sites used for monitoring related to other TMDLs (**Figure 2**) with two exceptions:

- 1. One of the salt compliance points is only used for salt monitoring (Conejo Creek at Baron Brothers Nursery).
- 2. The continuous monitoring equipment (and the location of monthly salt grab samples) for the Simi subwatershed was installed just downstream of the Tierra Rejada bridge, and is referred to as "07_TIERRA".

The CCWTMP efforts summarized in the annual report correspond to the sites and locations listed below. As this program progresses, the number and location of sites may be revised if existing sites become inaccessible, if it is determined that alternative locations are needed, or if the number of land use stations needed to appropriately characterize discharges needs modification.

	Site Id F			GPS Coordinates		Water 1, 2					Sediment			Tissue ³		
Wat.		Reach	Site Location	Lat	Long	Тох	Pests/ PCBs	Nut	Metal	Salts	GWQC	Тох	Pests /PCBs	Metal	Pests/ PCBs	Metal ⁴
	01_RR_BR	1	Ronald Reagan St Bridge	34.1090	-119.0916	6	6	6	6	NA	6	NA	NA	NA	NA	NA
	01_BPT_3	1	Located in Eastern Arm	_		NA	NA	NA	NA	NA	NA	_				
	01_BPT_6	1	Located in eastern part of Western Arm	_		NA	NA	NA	NA	NA	NA	_				
	01_BPT_14	1	Located in the central part of the Western Arm	General s	General site locations are provided as each		NA	NA	NA	NA	NA	On	ce Every ⁻ Years	Three		
Mugu Lagoon	01_BPT_15	1	Located between Estuary and mouth of Lagoon	site rep generaliz	presents a zed sample	NA	NA	NA	NA	NA	NA	_	rears			
	01_SG_74	1	Located in Western Part of Central Lagoon	collection which a	on zone in sample will	NA	NA	NA	NA	NA	NA					
	Central Lagoon	1	Sampled in Central Lagoon	be co	ollected.	NA	NA	NA	NA	NA	NA			Once Every Three Years		
	Western Arm	1	Sampled in Western Arm of the Lagoon	_		NA	NA	NA	NA	NA	NA					
Revolon	04_WOOD 5	4	Revolon Slough east side of Wood Road	34.1698	-119.0958	6	6	6	6	6	6	1	1	NA	1	1
Slough	05_CENTR	5	Beardsley Wash at Central Avenue	34.2300	-119.1128	NA	NA	6	NA	NA	NA	NA	NA	NA	NA	NA
	02_PCH	2	Calleguas Creek NE side of Hwy 1 Bridge	34.1119	-119.0818	NA	NA	6	6	NA	NA	NA	NA	NA	NA	NA
	03_UNIV	3	Calleguas Creek at Camarillo Street	34.1795	-119.0399	6	6	6	6	6	6	1	1	NA	1	NA
Calleguas	03D_CAMR 6	3	Camrosa Water Reclamation Plant	34.1679	-119.0530	4	4	NA	4	NA	4	NA	NA	NA	NA	NA
	9A_HOWAR 7	9B ⁷	Conejo Creek at Howard Road Bridge	34.1931	-119.0025	NA	NA	NA	NA	6	NA	NA	NA	NA	NA	NA
	9AD_CAMA 7	9B 7	Camarillo Water Reclamation Plant	34.1938	-119.0017	4	4	NA	4	4	4	NA	NA	NA	NA	NA
	9B_ADOLF 7	9A 7	Conejo Creek at Adolfo Road	34.2137	-118.9894	6	6	6	NA	NA	6	NA	1	NA	1	NA
Conejo	10D_HILL	10	Hill Canyon Wastewater Treatment Plant	34.2113	-118.9218	4	4	NA	4	4	4	NA	NA	NA	NA	NA
	9B_BARON ⁷	9A 7	Conejo Creek at Baron Brothers Nursery	34.2365	-118.9643	NA	NA	NA	NA	6	NA	NA	NA	NA	NA	NA

 Table 4. CCWTMP Compliance Monitoring and Optional Nutrient Investigation Sites Annual Sampling Frequency

Sub			Site Location	GPS Coordinates			Water ^{1, 2}				Sediment			Tissue ³		
Wat.	Site Id	Reach		Lat	Long	Тох	Pests/ PCBs	Nut	Metal	Salts	GWQC	Тох	Pests /PCBs	Metal	Pests/ PCBs	Metal ⁴
Las Posas	06_UPLAND ⁸	6	Arroyo Las Posas upstream of Upland Road	34.2449	-118.0051	6	6	6	NA	NA	6	NA	1	NA	1	NA
	06D_MOOR 6	6	Ventura County Wastewater Treatment Plant	34.2697	-118.9357	4	4	NA	NA	NA	4	NA	NA	NA	NA	NA
Arroyo Simi	07_HITCH	7	Arroyo Simi East Of Hitch Boulevard	34.2716	-118.9234	6	6	6	NA	NA	6	NA	1	NA	1	NA
	07_TIERRA	7	Arroyo Simi downstream from Tierra Rejada Blvd.	34.2701	-118.9058	NA	NA	NA	NA	6	NA	NA	NA	NA	NA	NA
	07D_SIMI	7	Simi Valley Water Quality Control Plant	34.2848	-118.8128	4	4	NA	4	4	4	NA	NA	NA	NA	NA

NA – Not Analyzed

Bolded sites indicate the site was selected for optional nutrient investigation sampling.

Tox – Samples will be analyzed for toxicity and OP and pyrethroid pesticides as listed in Table 2. Toxicity in water will not be analyzed at 01_RR_BR or at the POTWs.

Pests/PCBs – Samples will be analyzed for OC pesticides and PCBs as listed in Table 2. Chlorpyrifos will be analyzed in tissue at 04_WOOD as it is on the 303(d) list for this reach. Nut – Samples will be analyzed for Nutrients as listed in Table 2.

Metal – Samples will be analyzed for Metals as listed in Table 2.

GWQC - Samples will be analyzed or measured for General Water Quality Constituents as listed in Table 2.

1. Sites listed for 6 sampling events per monitoring year refers to 4 quarterly dry events and the attempt to sample 2 additional wet events.

2. Grab samples for salts at compliance sites are not directly used to determine compliance with salts WQOs, but are used to develop statistical relationships between EC and salt constituents (Appendix B).

3. Tissue samples will be collected in the same location as water and sediment samples. Samples may be collected elsewhere if no fish are found at pre-established sample stations.

4. Bird egg samples will be collected and analyzed for mercury and selenium in the Mugu Lagoon subwatershed.

5. TIEs will not be performed at 04_WOOD as the primary toxicant has already been identified.

6. The Camrosa Water Reclamation Plant and the Ventura County Wastewater Treatment Plant are not currently discharging. However, these sites are included in case they must be sampled at a later date.

7. In the 2012 updates to the Los Angeles Region Basin Plan, the reach designations for 9A and 9B were switched. For consistency with the TMDLs and historic site naming conventions, the site names in the annual monitoring reports maintain the original reach designations.

8. In Year 8, sampling crews were unable to access the 06_SOMIS site. Due to the loss of access, 06_SOMIS was replaced with 06_UPLAND, which is approximately one mile downstream.

Sub-Wat.	Site ID	Reach	Site	Site Location	GPS C	GPS Coordinates		Nutrients	Metal	Salts	GWQC
Mugu		1	Туре	Duck Pond/Mugu/Oxnard Drain #2 S.	Lat	Long	6	6	6	NΔ	6
Lagoon		I	Лу	of Hueneme Rd	54.1575	-117.1105	0	0	0	IN/A	0
	04D_WOOD	4	Ag	Agricultural Drain on E. Side of Wood Rd N. of Revolon	34.1708	-119.0963	6	6	6	6	6
Revolon Slough	05D_SANT_ VCWPD	5	Ag	Santa Clara Drain at VCWPD Gage 781 prior to confluence with Beardsley Channel	34.2426	-119.1137	6	6	6	6	6
	04D_SPRINGVIL LE ⁵	4	Urban	Camarillo Hills Drain, North side of channel off of Wood Rd on Camarillo Airport.	34.2153 89	-119.07925	6	NA	6	6	6
Calleguas	02D_BROOM	2	Ag	Discharge to Calleguas Creek at Broome Ranch Rd.	34.1433	-119.0713	6	6	6	NA	6
	9BD_GERRY ²	9A ²	Ag	Drainage ditch crossing Santa Rosa Rd at Gerry Rd	34.2358	-118.9446	6	6	6	6	6
Conejo	9BD_ADOLF ²	9A ²	Urban	Urban storm drain passing under N. side of Adolfo Rd approximately 300 meters from Reach 9B	34.2148	-118.9951	6	NA	6	6	6
	13_SB_HILL	13	Urban	South Branch Arroyo Conejo on S. Side of W Hillcrest	34.1849	-118.9075	6	NA	NA	6	6
Las Posas	06T_FC_BR	6	Ag	Fox Canyon at Bradley Rd - just north of Hwy 118	34.2646	-119.0111	6	6	NA	NA	6
Arroyo	07D_HITCH_ LEVEE_2	7	Ag	2 nd corrugated pipe discharging on north side of Arroyo Simi flood control levee off of Hitch Blvd just beyond 1 st power pole.	34.2716	-118.9219	6	6	NA	6	6
Simi	07D_MPK 3	7	Urban	Gabbert Canyon Drain, N. side of 118	34.2790	-118.9056	6	NA	NA	6	6
	07D_SIM_BUS 4	7	Urban	Bus Canyon Dr N. of 5th St and LA Ave intersection	34.2719	-118.7837	6	NA	NA	NA	6
Ag = Agricultu	g = Agricultural Land Use Site Urban = Urban Land Use Site NA - Not Analyzed										

Table 5. CCWTMP Land Use Monitoring Sites and Sample Frequency

Ag = Agricultural Land Use Site Urban = Urban Land Use Site

1. Specific constituents analyzed under each category are listed in Table 2.

In the 2012 updates to the Los Angeles Region Basin Plan, the reach designations for 9A and 9B were switched. For consistency with the TMDLs and historic site naming conventions, the site names in the annual monitoring reports maintain the original reach designations.
 In Year 8, site 07D_MPK replaced 07D_CTP to correspond with the Moorpark MS4 outfall sampling location.

In Year 8, site 07D_SIM_BUS replaced 07T_DC_H to correspond with the Simi Valley MS4 outfall sampling location. 4.

In Year 11, site 04D_SPRINGVILLE replaced 04D_VENTURA due to the construction and enclosure of the storm channel at the original monitoring site. 5.

				GPS Coordinates							
Subwatershed	Site ID	Reach	Site Location	Lat	Long	Тох	Pests/PCBs	GWQC			
Sediment Toxic	city Investigation	1									
Collegues	02_PCH	2	Calleguas Creek Northeast Side Of Highway 1 Bridge	34.1119	-119.0818	1	1	1			
Calleguas	9A_HOWAR ² 9B ² Conejo Creek At Howard Road Bridge				-119.0025	1	1	1			
Water Toxicity	Investigation ^{1, 3}										
Consis	10_GATE	10	Conejo Creek Hill Canyon Below North Fork Of Conejo Creek	34.2178	-118.9281	6	6	6			
Conejo	13_BELT	13	Conejo Creek South Fork Behind Hill Canyon Belt Press Building	34.2078	-118.9194	6	6	6			

 Table 6. Optional Toxicity Investigation Monitoring Sites and Potential Sampling Frequency

Tox – Samples will be analyzed for toxicity, OP, and pyrethroid pesticides in water and toxicity, OP, and pyrethroid pesticides in sediment as listed in Table 2. Pests/PCBs – Samples will be analyzed for OC pesticides and PCBs as listed in Table 2.

GWQC – Samples will be analyzed for General Water Quality Constituents as listed in Table 2.

1. This table depicts the toxicity investigation sampling frequency when this optional monitoring takes place.

2. In the 2012 updates to the Los Angeles Region Basin Plan, the reach designations for 9A and 9B were switched. For consistency with the TMDLs and historic site naming conventions, the site names in the annual monitoring reports maintain the original reach designations.

3. Includes two wet events per site; except during years when there is insufficient rainfall to trigger sampling.



Figure 2. CCWTMP Compliance Monitoring Sampling Sites – Receiving Water



Figure 3. CCWMTP Compliance Monitoring Receiving Water Sampling Sites – Freshwater Sediment



Figure 4. CCWMTP Compliance Monitoring Sampling Sites – Freshwater Fish Tissue


Figure 5. CCWMTP Compliance Monitoring Sampling Sites – POTW Effluent







Figure 7. CCWTMP Compliance Monitoring Sampling Zones – Mugu Lagoon Tissue



Figure 8. CCWTMP Optional Toxicity Investigation Receiving Water Sampling Sites - Water and Sediment



Figure 9. CCWTMP Land Use Sampling Sites

Monitoring Data Summary

To summarize the CCW TMDL monitoring data, box plots have been created for site and constituent combinations representing the data gathered over the entire monitoring program. The data presented includes all constituents with TMDL limits for water or sediment at the sites where the constituents were analyzed. Where TMDL limits are effective, those thresholds have been identified for the sites where they apply. As appropriate, data for constituents with specific dry or wet weather limits are presented separately. Data collected during year eleven, which is the reporting period for this document, have been overlain on the box plots as circles. The box plots include all of the data collected during this program (2008-2019). This was done to allow for easy comparison between recent data and what have been collected overall. The eleventh year data are presented in tabular form below each box plot. Each figure of box plots presents data from either receiving water sites or land use sites. The receiving water sites are color coded by subwatershed as shown in **Table 7**. Land use and POTW sites are displayed together and grouped by type as presented in **Table 8**.

Fish tissue data are not displayed as box plots. Fish tissue data are presented in tables due to the variable number of samples per site each monitoring year and to preserve the species information associated with each sample.

Toxicity data and TIE results are summarized in **Appendix C**. Summaries for each of the 2018-2019 monitoring events are included as **Appendix A**.

Some TMDL constituents were never, or are rarely detected and therefore, did not warrant a data summary. The constituents, which were never detected, include:

In Water: In Sediment:

- Endosulfan II Endrin
- Endrin BHC, gamma

Rarely detected constituents in water are as follows:

- Aldrin (four detects, none this year)
- Dieldrin (eight detects, none this year)
- Endosulfan I (three detects, none this year)
- BHC, gamma (three detects, none this year)
- Total PCBs (five detects, none this year)

Rarely detected constituents in sediment are as follows:

• Dieldrin (one detect, none this year)

Subwatershed	Reach	Site ID			
		01_BPT_14			
		01_BPT_15			
Mugulagoon	Booch 1	01_BPT_3			
Mugu Lagoon	Reach	01_BPT_6			
		01_RR_BR			
		01_SG_74			
	Reach 2	02_PCH			
Calleguas	Reach 3	03_UNIV			
	Reach 9B ¹	9A_HOWAR			
Poyolon Slough	Reach 4	04_WOOD			
Revoluti Slough	Reach 5	05_CENTR			
Las Posas	Reach 6 ²	06_UPLAND			
Arrovo Simi	Reach 7	07_HITCH			
Anoyo Sinii	INEACH 7	07_TIERRA			
	Reach 9A ¹	9B_ADOLF			
	Reach 9A ¹	9B_BARON			
Conejo	Reach 10	10_GATE			
	Reach 12	12_PARK			
	Reach 13	13_BELT			

Table 7. Receiving Water Sites Color Coded by Subwatershed

In the 2012 updates to the Los Angeles Region Basin Plan, the reach designations for 9A and 9B were switched. For consistency with the TMDLs and historic site naming conventions, the site names in the annual monitoring reports maintain the original reach designations.

In Year 8site 06_UPLAND replaced 06_SOMIS due to access issues. 06_UPLAND is approximately one mile downstream of 06_SOMIS..

Urban Land Use (MS4) Sites:						
Reach 4	04D_VENTURA ²					
Reach 4	04D_SPRINGVILLE					
Reach 7	07D_MPK					
Reach 7	07D_SIM_BUS					
Reach 9A ¹	9BD_ADOLF ¹					
Reach 13	13_SB_HILL					
Ag	Land Use Sites:					
Reach 1	01T_ODD2_DCH					
Reach 2	02D_BROOM					
Reach 4	04D_WOOD					
Reach 5	05D_SANT_VCWPD					
Reach 6	06T_FC_BR					
Reach 7	07D_HITCH_LEVEE_2					
Reach 9A ¹	9BD_GERRY ¹					
POTW Sites:						
Reach 7	07D_SIMI					
Reach 9B ¹	9AD_CAMA ¹					

 Reach 10
 10D_HILL

 1.
 In the 2012 updates to the Los Angeles Region Basin Plan, the reach designations for 9A and 9B were switched. For consistency with the TMDLs and historic site naming conventions, the site names in the annual monitoring reports maintain the original reach designations

original reach designations.In 2018, construction of a culvert led to the loss of access to 04D_VENTURA. The site was replaced with 04D_SPRINGVILLE.

OC PESTICIDES TMDL DATA SUMMARY

The following figures present OC pesticides data in both water and sediment. Presently, only the POTWs have wasteload allocations in water, but data for all sites is provided since the TMDL specifies final targets for OC pesticides in water. Effective interim allocations for agriculture and waste load allocations for urban dischargers are provided in the appropriate OC pesticides in sediment figures. Data collected during year eleven, which is the reporting period for this document, have been overlain on the box plots as circles. The box plots include all of the data collected during this program (2008-2019). This was done to allow for easy comparison between recent data and what have been collected overall.

The eleventh year data are presented in tabular form below each box plot. Bolded values in the tables within each figure indicate the concentration was above the applicable allocations for that constituent; italicized values in the tables within each figure indicate the concentration was detected but not quantifiable (DNQ); values in the tables within each figure with a "<" preceding it, indicate the constituent was not detected (ND) at MDL for that constituent; values identified as "--" in the tables indicate no samples were collected at those sites for those events.

Table 9 shows a summary of monitoring events for the OC Pesticides TMDL receiving water monitoring sites, and **Table 10** shows a summary of monitoring events for OC Pesticides TMDL land use monitoring sites. For both tables, shaded cells indicate sites that were not sampled in accordance with the QAPP, values identifies as "x" in the tables indicate that samples were collected at this site, and values identified as "Dry" indicate that samples were not collected at this site due to dry conditions.

	Reach	Site ID	Year 11 Events						
Subwatershed			68	69	70	71	72	73	
			18- Aug	18- Nov	18- Nov	19- Jan	19- Feb	19- Мау	
		01_BPT_14							
		01_BPT_15							
Mugulogoop	Deceb 1	01_BPT_3							
Mugu Lagoon	Reach	01_BPT_6							
		01_RR_BR	х	х	х	х	х	х	
		01_SG_74							
	Reach 2	02_PCH							
Calleguas	Reach 3	03_UNIV	х	х	х	х	х	х	
	Reach 9B	9A_HOWAR							
Revolon	Reach 4	04_WOOD	х	х	х	х	х	х	
Slough	Reach 5	05_CENTR							
Las Posas	Reach 6	06_UPLAND	Dry	Dry	х	х	Dry	Dry	
Arrovo Simi	Reach 7	07_HITCH	х	х	х	х	х	х	
Anoyo Simi		07_TIERRA							
	Reach 9A	9B_ADOLF	х	х	х	х	х	х	
Conejo	Reach 9A	9B_BARON							
	Reach 10	10_GATE	х	х	х	х	х	х	
	Reach 12	12_PARK							
	Reach 13	13_BELT	Х	х	x	x	x	х	

 Table 9. OC Pesticides TMDL Receiving Water Monitoring Site Event Summary - Year 11

	Reach Site ID		Year 11 Events							
Land Use Type		n Site ID	68	69	70	71	72	73		
	nouon		18- Aug	18- Nov	18- Nov	19- Jan	19- Feb	19- May		
	Reach 4	04D_VENTURA	Dry	Dry	Dry					
	Reach 4	04D_SPRINGVILLE				х	х	х		
Urban (MS4) Sites	Reach 7	07D_MPK	Dry	х	х	х	х	х		
	Reach 7	07D_SIM_BUS	х	х	х	х	х	х		
	Reach 9A	9BD_ADOLF	х	х	х	х	х	х		
	Reach 13	13_SB_HILL	х	х	х	х	х	х		
	Reach 1	01T_ODD2_DCH	х	х	х	х	х	х		
	Reach 2	02D_BROOM	Dry	Dry	Dry	Dry	Dry	Dry		
	Reach 4	04D_WOOD	Dry	х	х	х	х	х		
Agriculture	Reach 5	05D_SANT_VCWPD	х	х	х	х	х	х		
Chee	Reach 6	06T_FC_BR	Dry	Dry	Dry	х	Dry	Dry		
	Reach 7	07D_HITCH_LEVEE_2	Dry	Dry	х	х	х	Dry		
	Reach 9A	9BD_GERRY	Dry	х	х	х	Dry	Dry		
POTW Sites	Reach 7	07D_SIMI	х	х			х	x		
	Reach 9B	9AD_CAMA	х	х			х	х		
	Reach 10	10D_HILL	х	х			х	х		

Table 10. OC Pesticides TMDL Land Use Monitoring Site Event Summary - Year 11

4,4'-DDD in Receiving Water Sites: 2008-2019





1. Access to 06_SOMIS was revoked during Year 8 and was replaced by 06_UPLAND in Year 9. All collected data prior to event 56 were obtained from 06_SOMIS. This footnote applies to all boxplots with 06_UPLAND.

Figure 10. 4,4'-DDD Water Column Concentrations in Receiving Water Sites: 2008-2019

1.000 Concentration (u g /L) 0.100 0.010 Ċ Ó 8 $\widehat{\Xi}$ â 0.001 ᢓ Δ Â D5D_SANT_VCWPD SPRINGVILLE 01T_ODD2_DCH 07D_HITCH_LEVEI 07D_SIM_BUS 02D_BROOM 04D_WOOD 06T_FC_BR 9AD_CAMA 9BD_GERRY 07D_MPK 10D_HILL 07D_SIMI Date Туре Event <0.001 Aug-18 Dry 68 ---< 0.001 < 0.001 <0.001 <0.001 ---------<0.001 <0.001 <0.003 ------------Nov-18 Dry 69 <0.001 <0.001 < 0.001 <0.001 0.002 0.008 < 0.001 0.032 < 0.001 <0.001 <0.003 ---------------Nov-18 Storm 70 ---< 0.001 < 0.001 < 0.001 <0.001 0.040 ---0.115 0.095 ---0.008 0.011 ------------Jan-19 Storm 71 <0.001 0.104 0.141 0.077 0.081 ------< 0.001 0.009 < 0.001 < 0.001 ---0.104 0.063 ------Mar-19 Dry 72 <0.001 < 0.003 ---< 0.001 <0.001 <0.001 <0.001 <0.001 0.001 ---0.009 < 0.001 ---0.003 ---<0.001 May-19 Dry 73 <0.001 <0.001 <0.001 <0.001 <0.001 < 0.001 < 0.001 0.017 < 0.001 < 0.001 < 0.003 ---------------

4,4'-DDD in Water from Urban, Ag, & POTW Sites: 2008-2019

── POTW Interim WLA ● Year 11 Data ◎ DNQ ▲ ND

1. Access to 04D_VENTURA was lost after Event 70 and eventually was replaced by 04D_SPRINGVILLE in Year 11. All collected data prior to event 70 were obtained from 04D_VENTURA. This footnote applies to all boxplots with 04D_SPRINGVILLE.



4,4'-DDE in Receiving Water Sites: 2008-2019





Figure 12. 4,4'-DDE Water Column Concentrations in Receiving Water Sites: 2008-2019

4,4'-DDE in Water from Urban, Ag, & POTW Sites: 2008-2019



── POTW Interim WLA ● Year 11 Data ○ DNQ △ ND

Figure 13. 4,4'-DDE Water Column Concentrations in Urban, Ag, and POTW Sites: 2008-2019

4,4'-DDT in Receiving Water Sites: 2008-2019



🔹 Year 11 Data 🔺 ND

Figure 14. 4,4'-DDT Water Column Concentrations in Receiving Water Sites: 2008-2019

4,4'-DDT in Water from Urban, Ag, & POTW Sites: 2008-2019

- POTW Interim WLA
• Year 11 Data
A ND



Figure 15. 4,4'-DDT Water Column Concentrations in Urban, Ag, and POTW Sites: 2008-2019

Total Chlordane in Receiving Water Sites: 2008-2019



🔹 Year 11 Data \land ND

Figure 16. Total Chlordane Water Column Concentrations in Receiving Water Sites: 2008-2019



Total Chlordane in Water from Urban, Ag, & POTW Sites: 2008-2019

- POTW Interim WLA
• Year 11 Data
A ND

Figure 17. Total Chlordane Water Column Concentrations in Urban, Ag, and POTW Sites: 2008-2019

Toxaphene in Receiving Water Sites: 2008-2019



● Year 11 Data ◎ DNQ ▲ ND

Figure 18. Toxaphene Water Column Concentrations in Receiving Water Sites: 2008-2019



Toxaphene in Water from Urban, Ag, & POTW Sites: 2008-2019

---- POTW Interim WLA ● Year 11 Data ◎ DNQ ▲ ND

Figure 19. Toxaphene Water Column Concentrations in Urban, Ag, and POTW Sites: 2008-2019



4,4'-DDD in Sediment Sites: 2008-2019

Figure 20. 4,4'-DDD Sediment Concentrations in Receiving Water Sites: 2008-2019

4,4'-DDE in Sediment Sites: 2008-2019

- MS4 Interim WLA - Ag Interim LA • Year 11 Data



Figure 21. 4,4'-DDE Sediment Concentrations in Receiving Water Sites: 2008-2019



4,4'-DDT in Sediment Sites: 2008-2019

Figure 22. 4,4'-DDT Sediment Concentrations in Receiving Water Sites: 2008-2019

Total Chlordane in Sediment Sites: 2008-2019

- MS4 Interim WLA - Ag Interim LA ● Year 11 Data △ ND



Figure 23. Total Chlordane Sediment Concentrations in Receiving Water Sites: 2008-2019



Toxaphene in Sediment Sites: 2008-2019

Figure 24. Toxaphene Sediment Concentrations in Receiving Water Sites: 2008-2019

METALS TMDL DATA SUMMARY

The following figures present metals water quality data from receiving water, agricultural, urban, and POTW monitoring sites. Effective total metals interim load allocations and waste load allocations differ for wet and dry weather, therefore the data for each of these conditions is provided separately. Interim POTW waste load allocations for total mercury are in load form and are therefore calculated and presented in the exceedance evaluation section of the report. The Metals TMDL specifies final targets for dissolved copper, nickel and zinc to correspond with the objectives which are expressed in dissolved form. Dissolved concentrations for these three metals have been plotted for reference. Data collected during year eleven, which is the reporting period for this document, have been overlain on the box plots as circles. The box plots include all of the data collected during this program (2008-2019). This was done to allow for easy comparison between recent data and what have been collected overall. The eleventh year data are presented in tabular form below each box plot. Bolded values in the tables within each figure indicate the concentration was above the applicable limits for that constituent. Italicized values in the tables within each figure indicate the concentration was DNQ. Values in the tables within each figure with a "<" preceding them, indicate the constituent was ND at the MDL for that constituent. Values identified as "--" in the tables indicate no samples were collected at those sites for those events.

Table 11 shows a summary of monitoring events for the Metals TMDL receiving water monitoring sites, and **Table 12** shows a summary of monitoring events for Metals TMDL land use monitoring sites. For both tables, shaded cells indicate sites that were not sampled in accordance with the QAPP, values identifies as "x" in the tables indicate that samples were collected at this site, and values identified as "Dry" indicate that samples were not collected at this site due to dry conditions.

	Reach	Site ID	Year 11 Events						
Subwatershed			68	69	70	71	72	73	
			18- Aug	18- Nov	18- Nov	19- Jan	19- Feb	19- Мау	
		01_BPT_14							
		01_BPT_15							
Mugulagoon	Deceb 1	01_BPT_3							
Mugu Lagoon	Reach	01_BPT_6							
		01_RR_BR	х	х	х	х	х	х	
		01_SG_74							
	Reach 2	02_PCH	х	х	х	х	х	х	
Calleguas	Reach 3	03_UNIV	х	х	х	х	х	х	
	Reach 9B	9A_HOWAR							
Revolon	Reach 4	04_WOOD	х	х	х	х	х	х	
Slough	Reach 5	05_CENTR							
Las Posas	Reach 6	06_UPLAND							
Arrovo Simi	Reach 7	07_HITCH							
Arroyo Simi		07_TIERRA							
	Reach 9A	9B_ADOLF							
Conejo	Reach 9A	9B_BARON							
	Reach 10	10_GATE							
	Reach 12	12_PARK							
	Reach 13	13_BELT							

Table 11. Metals TMDL Receiving Water Monitoring Site Event Summary - Year 11

	Reach Site ID	Year 11 Events						
Land Use Type		ach Site ID	68	69	70	71	72	73
	nouon		18- Aug	18- Nov	18- Nov	19- Jan	19- Feb	19- Мау
	Reach 4	04D_VENTURA	Dry	Dry	Dry			
	Reach 4	04D_SPRINGVILLE				x	x	х
Urban (MS4)	Reach 7	07D_MPK						
Sites	Reach 7	07D_SIM_BUS						
	Reach 9A	9BD_ADOLF	х	х	х	х	х	х
	Reach 13	13_SB_HILL						
	Reach 1	01T_ODD2_DCH	х	х	х	х	х	х
	Reach 2	02D_BROOM	Dry	Dry	Dry	Dry	Dry	Dry
	Reach 4	04D_WOOD	Dry	x	x	x	x	x
Agriculture	Reach 5	05D_SANT_VCWPD	х	х	х	х	х	х
Ones	Reach 6	06T_FC_BR						
	Reach 7	07D_HITCH_LEVEE_2						
	Reach 9A	9BD_GERRY	Dry	х	х	х	Dry	Dry
POTW Sites	Reach 7	07D_SIMI	х	х			x	х
	Reach 9B	9AD_CAMA	х	х			x	х
	Reach 10	10D_HILL	х	х			x	х

 Table 12. Metals TMDL Land Use Monitoring Site Event Summary - Year 11

Total Copper in Receiving Water Sites: 2008-2019 Dry Weather



Figure 25. Total Copper Dry Weather Concentrations in Receiving Water Sites: 2008-2019



Total Copper in Receiving Water Sites: 2008-2019 Stormwater

Figure 26. Total Copper Stormwater Concentrations in Receiving Water Sites: 2008-2019

Total Copper in Water from Urban, Ag, & POTW Sites: 2008-2019 Dry Weather



Figure 27. Total Copper Dry Weather Concentrations in Urban, Ag, and POTW Sites: 2008-2019

CCW TMDL Monitoring Program Annual Report Year 11

300 100 Concentration (μ g /L) . 30 10 3 05D_SANT_VCWPD 04D_SPRINGVILLE¹ _DCH 04D_VENTURA 02D BROOM 9BD_ADOLF 9BD_GERRY 04D_WOOD 01T_ODD2 Туре Event 70 Nov-18 Storm 9.86 23.3 61.5 90.1 ------36.8 ---Jan-19 Storm 71 --7.05 4.55 38.1 10.3 34.8 30.9 ---

Total Copper in Water from Urban & Ag Sites: 2008-2019 Stormwater • Year 11 Data

Figure 28. Total Copper Wet Weather Concentrations in Urban and Ag Sites: 2008-2019

Date

Dissolved Copper in Receiving Water Sites: 2008-2019



Year 11 Data

Figure 29. Dissolved Copper Concentrations in Receiving Water Sites: 2008-2019

Dissolved Copper in Urban, Ag, & POTW Sites: 2008-2019



🔹 Year 11 Data 🔺 ND

Figure 30. Dissolved Copper Concentrations in Urban, Ag, and POTW Sites: 2008-2019

Total Mercury in Receiving Water Sites: 2008-2019



● Year 11 Data O DNQ △ ND

Figure 31. Total Mercury Concentrations in Receiving Water Sites: 2008-2019
Total Mercury in Urban, Ag, & POTW Sites: 2008-2019



🜒 Year 11 Data \land ND

Figure 32. Total Mercury Concentrations in Urban and Ag Sites: 2008-2019



Total Nickel in Receiving Water Sites: 2008-2019 Dry Weather

Figure 33. Total Nickel Dry Weather Concentrations in Receiving Water Sites: 2008-2019

Total Nickel in Receiving Water Sites: 2008-2019 Stormwater



Year 11 Data

Figure 34. Total Nickel Stormwater Concentrations in Receiving Water Sites: 2008-2019

1000 · 100 -Concentration (μ g /L) 10-1 04D_SPRINGVILLE 01T_ODD2_DCH 04D_VENTURA 9BD_ADOLF 02D_BROOM 04D_WOOD 9BD_GERRY 07D_SIMI 9AD_CAMA 05D_SANT_ VCWPD 10D_HILL Date Туре Event 8.79 2.4 Aug-18 Dry 68 ---8.31 ------2.9 ---2.16 4.63 ---Nov-18 9.62 5.24 0.429 2.1 Dry 69 ------6.06 ---144 1.8 2.66 9.77 Mar-19 Dry 72 3.51 10.7 20.3 3.41 1.96 4.98 2.8 ---------May-19 73 9.79 10.6 4.78 2.05 3.35 Dry ---1.79 ---1.56 --2.4

Total Nickel in Water from Urban, Ag, & POTW Sites: 2008-2019 Dry Weather

- POTW Final WLA MDEL - POTW Final WLA AMEL • Year 11 Data

Figure 35. Total Nickel Dry Weather Concentrations in Urban, Ag, and POTW Sites: 2008-2019

CCW TMDL Monitoring Program Annual Report Year 11



Total Nickel in Water from Urban & Ag Sites: 2008-2019 Stormwater

Year 11 Data

Figure 36. Total Nickel Stormwater Concentrations in Urban and Ag Sites: 2008-2019

Dissolved Nickel in Receiving Water Sites: 2008-2019



Year 11 Data

Figure 37. Dissolved Nickel Concentrations in Receiving Water Sites: 2008-2019



• Year 11 Data

Figure 38. Dissolved Nickel Concentrations in Urban, Ag, and POTW Sites: 2008-2019



Total Selenium in Receiving Water Sites: 2008-2019 Dry Weather

Figure 39. Total Selenium Dry Weather Concentrations in Receiving Water Sites: 2008-2019

Total Selenium in Receiving Water Sites: 2008-2019 Stormwater



🔹 Year 11 Data 🔺 ND

Figure 40. Total Selenium Stormwater Concentration in Receiving Water Sites: 2008-2019



Total Selenium in Water from Urban, Ag, & POTW Sites: 2008-2019 Dry Weather

Figure 41. Total Selenium Dry Weather Concentrations in Urban, Ag, and POTW Sites: 2008-2019

CCW TMDL Monitoring Program Annual Report Year 11

10.0 Concentration (μ g /L) 1.0 0.1 04D_SPRINGVILLE 01T_ODD2_DCH 04D_VENTURA 02D_BROOM 9BD_ADOLF 9BD_GERRY 04D_WOOD J5D_SANT __VCWPD 05D_ Date Туре Event 70 0.238 5.41 4.67 5.71 2.09 Nov-18 Storm ------71 0.106 0.979 5.15 1.53 Jan-19 Storm 0.068 0.28 ----

Total Selenium in Water from Urban & Ag Sites: 2008-2019 Stormwater

• Year 11 Data

Figure 42. Total Selenium Stormwater Concentrations in Urban and Ag Sites: 2008-2019

Dissolved Zinc in Receiving Water Sites: 2008-2019



Year 11 Data

Figure 43. Dissolved Zinc Concentrations in Receiving Water Sites: 2008-2019

Dissolved Zinc in Water from Urban, Ag, & POTW Sites: 2008-2019



Year 11 Data

Figure 44. Dissolved Zinc Concentrations in Urban, Ag, and POTW Sites: 2008-2019

TOXICITY TMDL

For the Toxicity TMDL, urban dischargers' and POTWs' final wasteload allocations and load allocations for agricultural dischargers are effective. The compliance points for these allocations are in the receiving waters at the base of the subwatersheds and are shown on the box plots for the appropriate site locations. Data for chlorpyrifos and diazinon have been separated into dry weather and stormwater since the allocations differ for the two conditions. Data collected during year eleven, which is the reporting period for this document, have been overlain on the box plots as circles. The box plots include all of the data collected during this program (2008-2019). This was done to allow for easy comparison between recent data and what have been collected overall. The eleventh year data are presented in tabular form below each box plot. Bolded values in the tables within each figure indicate the concentration was above the applicable limits for that constituent. Italicized values in the tables within each figure with a "<" preceding them, indicate the constituent was ND at the MDL for that constituent. Values identified as "---" in the tables indicate no samples were collected at those sites for those events.

Table 13 shows a summary of monitoring events for the Toxicity TMDL receiving water monitoring sites, and **Table 14** shows a summary of monitoring events for Toxicity TMDL land use monitoring sites. For both tables, shaded cells indicate sites that were not sampled in accordance with the QAPP, values identifies as "x" in the tables indicate that samples were collected at this site, and values identified as "Dry" indicate that samples were not collected at this site due to dry conditions.

	Reach	Site ID	Year 11 Events						
Subwatershed			68	69	70	71	72	73	
			18- Aug	18- Nov	18- Nov	19- Jan	19- Feb	19- May	
	Reach 1	01_BPT_14							
		01_BPT_15							
Mugulagoop		01_BPT_3							
Mugu Lagoon		01_BPT_6							
		01_RR_BR	х	х	х	х	х	х	
		01_SG_74							
Calleguas	Reach 2	02_PCH							
	Reach 3	03_UNIV	х	х	х	х	х	х	
	Reach 9B	9A_HOWAR							
Revolon	Reach 4	04_WOOD	х	х	х	х	х	х	
Slough	Reach 5	05_CENTR							
Las Posas	Reach 6	06_UPLAND	Dry	Dry	х	х	Dry	Dry	
Arroyo Simi	Reach 7	07_HITCH	х	х	х	х	х	х	
		07_TIERRA							
Conejo	Reach 9A	9B_ADOLF	х	х	х	х	х	х	
	Reach 9A	9B_BARON							
	Reach 10	10_GATE	х	х	х	х	х	х	
	Reach 12	12_PARK							
	Reach 13	13_BELT	х	х	х	х	х	х	

Table 13. Toxicity TMDL Receiving Water Monitoring Sites Event Summary - Year 11

Land Use Type	Reach	Site ID	Year 11 Events					
			68	69	70	71	72	73
			18- Aug	18- Nov	18- Nov	19- Jan	19- Feb	19- May
	Reach 4	04D_VENTURA	Dry	Dry	Dry			
	Reach 4	04D_SPRINGVILLE				х	x	х
Urban (MS4)	Reach 7	07D_MPK	Dry	х	х	х	х	х
Sites	Reach 7	07D_SIM_BUS	х	х	х	х	х	х
	Reach 9A	9BD_ADOLF	х	х	x	х	x	х
	Reach 13	13_SB_HILL	х	х	х	х	х	х
Agriculture Sites	Reach 1	01T_ODD2_DCH	х	х	х	х	х	х
	Reach 2	02D_BROOM	Dry	Dry	Dry	Dry	Dry	Dry
	Reach 4	04D_WOOD	Dry	х	х	х	х	х
	Reach 5	05D_SANT_VCWPD	х	х	х	х	х	х
	Reach 6	06T_FC_BR	Dry	Dry	Dry	х	Dry	Dry
	Reach 7	07D_HITCH_LEVEE_2	Dry	Dry	х	х	х	Dry
	Reach 9A	9BD_GERRY	Dry	х	х	х	Dry	Dry
POTW Sites	Reach 7	07D_SIMI	x	x			x	х
	Reach 9B	9AD_CAMA	х	х			x	х
	Reach 10	10D_HILL	х	х			х	х

 Table 14. Toxicity TMDL Land Use Monitoring Sites Event Summary - Year 11



Chlorpyrifos in Receiving Water Sites: 2008-2019 Dry Weather

Figure 45. Chlorpyrifos Dry Weather Concentrations in Receiving Water Sites: 2008-2019



Chlorpyrifos in Receiving Water Sites: 2008-2019 Stormwater

Figure 46. Chlorpyrifos Stormwater Concentrations in Receiving Water Sites: 2008-2019

Chlorpyrifos in Water from Urban, Ag, & POTW Sites: 2008-2019 Dry Weather



── POTW Final Chronic WLA ● Year 11 Data ○ DNQ △ ND

Figure 47. Chlorpyrifos Dry Weather Concentrations in Urban, Ag, and POTW Sites: 2008-2019

Chlorpyrifos in Water from Urban and Ag Sites: 2008-2019 Stormwater





Figure 48. Chlorpyrifos Stormwater Concentrations in Urban and Ag Sites: 2008-2019

Diazinon in Receiving Water Sites: 2008-2019 Dry Weather

- MS4 Final WLA - Ag Final LA ND



Figure 49. Diazinon Dry Weather Concentrations in Receiving Water Sites: 2008-2019

- MS4 Final WLA - Ag Final LA • Year 11 Data 🛆 ND 0.100 Concentration (µ g /L) 0.010 0.001 Δ Δ Δ 숲 $\stackrel{\triangle}{}$ Δ Δ Δ 06_UPLAND 9B_ADOLF 01_RR_BR 04_WOOD 07_HITCH GATE BELT 03_UNIV 9 <u></u>2 Date Type Event Nov-18 Storm 70 < 0.0005 < 0.0005 0.0528 0.0420 < 0.0005 < 0.0005 < 0.0005 < 0.0005 Jan-19 Storm 71 < 0.0005 < 0.0005 0.0517 < 0.0005 < 0.0005 < 0.0005 < 0.0005 < 0.0005

Diazinon in Receiving Water Sites: 2008-2019 Stormwater

Figure 50. Diazinon Stormwater Concentrations in Receiving Water Sites: 2008-2019



Diazinon in Water from Urban, Ag, & POTW Sites: 2008-2019 Dry Weather

Figure 51. Diazinon Dry Weather Concentrations in Urban, Ag, and POTW Sites: 2008-2019

1.000 Concentration (μ g /L) 0.001 会 8 Δ A Δ 惫 Δ Δ 04D_SPRINGVILLE 01T_ODD2_DCH 04D_VENTURA 07D_SIM_BUS 9BD_ADOLF 02D_BROOM 9BD_GERRY 04D_WOOD 07D_HITCH _LEVEE_2 13 SB HILL 06T_FC_BR 05D_SANT __VCWPD 07D_MPK Date Туре Event <0.0005 <0.0005 <0.0005 <0.0005 0.0119 0.3080 0.0005 <0.0005 <0.0005 Nov-18 Storm 70 ------------<0.0005 <0.0005 <0.0005 <0.0005 <0.0005 <0.0005 0.1650 <0.0005 <0.0005 <0.0005 <0.0005 71 ------Jan-19 Storm

Diazinon in Water from Urban and Ag Sites: 2008-2019 Stormwater

● Year 11 Data 🛆 ND

Figure 52. Diazinon Stormwater Concentrations in Urban and Ag Sites: 2008-2019

NUTRIENTS TMDL

Final targets and allocations are effective for the Nutrients TMDL. The applicable targets for each monitoring site are presented in the figures below. Data collected during year eleven, which is the reporting period for this document, have been overlain on the box plots as circles. The box plots include all of the data collected during this program (2008-2019). This was done to allow for easy comparison between recent data and what have been collected overall. The eleventh year data are presented in tabular form below each box plot. Bolded values in the tables within each figure indicate the concentration was above the applicable limits for that constituent. Italicized values in the tables within each figure with a "<" preceding them, indicate the constituent was ND at the MDL for that constituent. Values identified as "--" in the tables indicate no samples were collected at those sites for those events.

Table 15 shows a summary of monitoring events for the Nutrients TMDL receiving water monitoring sites, and **Table 16** shows a summary of monitoring events for Nutrients TMDL land use monitoring sites. For both tables, shaded cells indicate sites that were not sampled in accordance with the QAPP, values identifies as "x" in the tables indicate that samples were collected at this site, and values identified as "Dry" indicate that samples were not collected at this site due to dry conditions.

	Reach	Site ID	Year 11 Events						
Subwatershed			68	69	70	71	72	73	
			18- Aug	18- Nov	18- Nov	19- Jan	19- Feb	19- May	
		01_BPT_14							
		01_BPT_15							
Mugulogoop	Deceb 1	01_BPT_3							
Mugu Lagoon	Reach I	01_BPT_6							
		01_RR_BR	х	х	х	х	х	х	
		01_SG_74							
	Reach 2	02_PCH	х	х	х	х	х	х	
Calleguas	Reach 3	03_UNIV	х	х	х	х	х	х	
	Reach 9B	9A_HOWAR							
Revolon	Reach 4	04_WOOD	х	х	х	х	х	х	
Slough	Reach 5	05_CENTR	х	х	х	х	х	х	
Las Posas	Reach 6	06_UPLAND	Dry	Dry	x	х	Dry	Dry	
Arroyo Simi	Reach 7	07_HITCH	х	х	х	х	х	х	
		07_TIERRA							
Conejo	Reach 9A	9B_ADOLF	х	х	х	х	х	х	
	Reach 9A	9B_BARON							
	Reach 10	10_GATE							
	Reach 12	12_PARK							
	Reach 13	13_BELT							

Table 15. Nutrients TMDL Receiving Water Monitoring Sites Event Summary - Year 11

	Reach Site ID	Site ID	Year 11 Events					
Land Use Type			68	69	70	71	72	73
			18- Aug	18- Nov	18- Nov	19- Jan	19- Feb	19- May
	Reach 4	04D_VENTURA						
	Reach 4	04D_SPRINGVILLE						
Urban (MS4)	Reach 7	07D_MPK						
Sites	Reach 7	07D_SIM_BUS						
	Reach 9A	9BD_ADOLF						
	Reach 13	13_SB_HILL						
Agriculture Sites	Reach 1	01T_ODD2_DCH	х	х	х	х	х	х
	Reach 2	02D_BROOM	Dry	Dry	Dry	Dry	Dry	Dry
	Reach 4	04D_WOOD	Dry	х	х	х	х	х
	Reach 5	05D_SANT_VCWPD	х	x	x	х	x	х
	Reach 6	06T_FC_BR	Dry	Dry	Dry	х	Dry	Dry
	Reach 7	07D_HITCH_LEVEE_2	Dry	Dry	х	х	х	Dry
	Reach 9A	9BD_GERRY	Dry	х	х	х	Dry	Dry
	Reach 7	07D_SIMI	x	x			x	x
POTW Sites	Reach 9B	9AD_CAMA	х	х			x	х
	Reach 10	10D_HILL	х	х			х	х

Table 16. Nutrients TMDL Land Use Monitoring Sites Event Summary - Year 11



Ammonia-N in Receiving Water Sites: 2008-2019

Figure 53. Ammonia-N Concentrations in Receiving Water Sites: 2008-2019



Ammonia-N in Water from Ag & POTW Sites: 2008-2019

POTW Final WLA AMEL - POTW Final WLA MDEL • Year 11 Data

Figure 54. Ammonia-N Concentrations in Ag and POTW Sites: 2008-2019

Nitrate-N in Receiving Water Sites: 2008-2019

── Final Target ● Year 11 Data



Figure 55. Nitrate-N Concentrations in Receiving Water Sites: 2008-2019



Nitrate-N in Water from Ag & POTW Sites: 2008-2019

Figure 56. Nitrate-N Concentrations in Ag and POTW Sites: 2008-2019

Nitrite-N in Receiving Water Sites: 2008-2019

- Final Target
• Year 11 Data
A ND



Figure 57. Nitrite-N Concentrations in Receiving Water Sites: 2008-2019

Nitrite-N in Water from Ag & POTW Sites: 2008-2019

- Final Target
• Year 11 Data
A ND



Figure 58. Nitrite-N Concentrations in Ag and POTW Sites: 2008-2019



Nitrate-N + Nitrite-N in Receiving Water Sites: 2008-2019

— Final Target 🔹 Year 11 Data 回 No Sample



Nitrate-N + Nitrite-N in Water from Ag & POTW Sites: 2008-2019

Figure 60. Nitrate-N + Nitrite-N Concentrations in Ag and POTW Sites: 2008-2019

SALTS TMDL

For the Salts TMDL, compliance with interim dry weather salt allocations is determined using monthly mean salt concentrations for dry weather developed from the time-series of data collected at receiving water sites. The box plots include all of the data collected during this program. Data collected during year eleven, which is the reporting period for this document, have been overlain on the box plots as circles. This was done to allow for easy comparison between recent data and what have been collected overall. The eleventh year data are presented in tabular form below each box plot. Bolded values in the tables within each figure indicate the concentration was above the interim MS4 wasteload allocation and the interim load allocation for that constituent. Italicized values in the tables within each figure indicate the concentration. Values in the tables within each figure with a "<" preceding them, indicate the constituent was ND at the MDL for that constituent. Values identified as "---" in the tables indicate no samples were collected at those sites for those events.


Total Dissolved Solids Monthly Means in Receiving Water: 2012-2019

Year 11 Data — Interim WLA — Interim LA

rigule of TDS Monthly Means for Receiving Water Siles Conected During Dry Weath	Figure 61.	TDS Monthly	Means for	Receiving	Water Sites	Collected	During D	y Weathe
---	------------	--------------------	-----------	-----------	-------------	-----------	----------	----------



Chloride Monthly Means in Receiving Water: 2012-2019

Figure 62. Chloride Monthly Means for Receiving Water Sites Collected During Dry Weather



Sulfate Monthly Means in Receiving Water: 2012-2019

Figure 63. Sulfate Monthly Means for Receiving Water Sites Collected During Dry Weather



Figure 64. Boron Monthly Means for Receiving Water Sites Collected During Dry Weather

6000 Concentration (mg/L) 4000 2000 0 SPRINGVILLE 04D_VENTURA 07D SIM BUS 9BD_ADOLF 04D_WOOD 05D_SANT _VCWPD **JBD_GERRY** 06T_FC_BR отр_нітсн 13 SB HILL 07D_MPK EVEE. 04D Date Event Туре Aug-18 68 2370 2750 750 2300 Dry ---------------------Nov-18 Dry 69 670 2270 2610 830 2100 1420 850 ---------Nov-18 Storm 70 330 130 120 110 1230 430 1630 430 ------Jan-19 Storm 71 70 70 1260 70 470 2960 240 250 320 170 --2880 4330 Mar-19 72 1310 1100 760 4420 2950 Dry 880 --------May-19 Dry 73 800 1310 2680 4190 690 940 1520 -------

Total Dissolved Solids in Water from Urban & Ag Sites: 2011-2019

• Year 11 Data

Figure 65. Total Dissolved Solids in Water from Urban and Ag Sites: 2011-2019

1000 • 750 Concentration (mg/L) 500 250 0 04D_SPRINGVILLE 04D_VENTURA 07D_SIM_BUS 9BD ADOLF 07D_HITCH _LEVEE_2 SB_HILL 04D WOOD 05D_SANT _VCWPD 9BD_GERRY 06T_FC_BR 07D_MPK Event Date Туре 200 Aug-18 Dry 68 421 161 ---255 ------------------220 Nov-18 Dry 69 ---208 173 334 156 163 93.4 ---------Storm Nov-18 70 25 11 21 24 85 29 191 54 ---------Jan-19 71 10.9 5.9 125 7.47 87.6 229 66.4 28.7 36.3 16 Storm ---Mar-19 235 149 307 241 46.6 Dry 72 ---111 224 542 ------May-19 73 93.1 375 228 545 160 90 508 Dry -----------

Chloride in Water from Urban & Ag Sites: 2011-2019

Year 11 Data

Figure 66. Chloride in Water from Urban & Ag Sites: 2011-2019

2000 Concentration (mg/L) 1000 0 04D_SPRINGVILLE 04D_VENTURA 07D_SIM_BUS 07D_HITCH _LEVEE_2 9BD ADOLF 13_SB_HILL 04D_WOOD 9BD GERRY 06T_FC_BR 07D MPK 05D_SANT _VCWPD Date Event Туре Aug-18 68 1290 1220 131 ---1220 Dry ------------------Nov-18 69 1090 1040 126 915 626 113 Dry 112 ----------Nov-18 56 Storm 70 47 27 17 595 215 506 168 ---------Jan-19 17 725 10 78 1300 318 65 36 Storm 71 6 49 --Mar-19 Dry 72 561 205 1390 1710 134 2010 1240 121 -------May-19 Dry 73 --294 260 1400 1900 1370 349 2760 -----

Sulfate in Water from Urban & Ag Sites: 2011-2019

Year 11 Data

Figure 67. Sulfate in Water from Urban & Ag Sites: 2011-2019

2 Concentration (mg/L) \$ 0 **34D_SPRINGVILLE** 04D_VENTURA 07D_SIM_BUS 9BD ADOLF HIL 04D_WOOD 05D_SANT __VCWPD 06T_FC_BR **9BD GERRY** LEVEE 2 07D_HITCH 07D_MPK 13_SB_ Date Туре Event Aug-18 1.07 1.17 0.14 ---0.88 Dry 68 --------------0.34 Nov-18 Dry 69 6.58 1.23 0.14 1.19 0.77 ---0.22 -------Nov-18 Storm 70 0.05 0.03 0.04 0.02 0.61 0.15 0.40 0.10 ------Jan-19 Storm 71 0.02 0.00 0.52 0.01 0.09 1.18 0.09 0.05 0.17 0.06 --Mar-19 Dry 72 0.45 0.37 1.34 1.74 0.16 1.80 1.08 0.19 --May-19 1.78 Dry 73 0.28 0.98 1.13 0.15 0.52 0.69 -----------

Boron in Water from Urban & Ag Sites: 2011-2019

• Year 11 Data

Figure 68. Boron in Water from Urban & Ag Sites: 2011-2019

Concentration (mg/L) 07D_SIMI 9AD_CAMA 10D_HILL Date Jul-18 Aug-18 Sept-18 Oct-18 Nov-18 Dec-18 Jan-19 Feb-19 Mar-19 April-19 May-19 Jun-19

Total Dissolved Solids in Water from POTWs: 2012-2019
 Year 11 Data — Interim WLA

Figure 69. Total Dissolved Solids in Water from POTW Sites: 2012-2019

Sulfate in Water from POTWs: 2012-2019





Figure 70. Sulfate in Water from POTW Sites: 2012-2019

Chloride in Water from POTWs: 2012-2019





Figure 71. Chloride in Water from POTW Sites: 2012-2019

Boron in Water from POTWs: 2012-2019

Year 11 Data



Figure 72. Boron in Water from POTW Sites: 2012-2019

FISH TISSUE DATA

Tissue data is provided in the following tables for the freshwater monitoring locations. Tissue samples are only collected in Mugu Lagoon every three years. The last tissue collection in the lagoon took place in Year 10 and the associated data can be found in the Year 10 Calleguas Creek Watershed Annual Monitoring Report. For all tables, only those constituents that have been detected in at least one sample are included.

			Lipids		OC Pesticides							
Date	Fi	sh	Percent Lipids	Chlordane -alpha	Chlordane -gamma	2,4'- DDD	4,4'- DDD	4,4'- DDE	4,4'- DDT	Toxaphene	Total PCBs	
			%	ng/g	ng/g	ng/g	ng/g	ng/g	ng/g	ng/g	ng/g	
	Common	# 1	0.90	2.05	0.99	1.71	8.64	216	1.27	22.80	30.90	
4/8/19 Comm	Carp	# 2	5.06	6.55	0.68	ND	ND	213	ND	44.50	37.20	
	Carp	# 3	4.84	14.50	4.47	ND	ND	300	ND	48.20	36.10	

Table 17. Conejo Creek – Adolfo Road (9B_ADOLF) Fish Tissue Data¹

1. Only constituents with detected values are included in the table.

Table 18. Revolon Slough – Wood Road (04_WOOD) Fish Tissue Data¹

			 .		Lipids				OC Pes	sticides						PCBs
Date	Fish		Percent Lipids	Chlordane -alpha	Chlordane -gamma	Chlorpyrifos	2,4'- DDD	2,4'- DDE	2,4'- DDT	4,4'- DDD	4,4'- DDE	4,4'- DDT	Toxaphene	Total PCBs		
			%	ng/g	ng/g	ng/g	ng/g	ng/g	ng/g	ng/g	ng/g	ng/g	ng/g	ng/g		
1/0/10	Common	#1	4.41	51.5	8.73	2.13	74.2	29.1	10.1	491	4870	118	727	320		
4/8/19	Carp	#2	7.39	45.5	14.7	14.5	76.0	24.9	42.6	278	2950	223	667	65.6		

1. Only constituents with detected values are included in the table.

Table 19. Revolon Slough – Wood Road (04_WOOD) Metals Fish Tissue Data

			Lipids	Me	tals
Date	Fish		Percent Lipids	Methyl Mercury	Total Selenium
			%	μ g/g	μg/g
1/0/10	Common Corn	#1	4.41	0.0135	1.2
4/0/19	Common Carp	#2	7.39	0.0077	1.38

TOXICITY DATA

The following is a summary of the toxicity results to date for water column and sediment at the freshwater and estuarine sampling sites (**Table 4**), including the optional toxicity investigation sites (**Table 6**). **Table 20** displays significant water column mortality test results for the eleven years of CCWTMP events on record, including both dry weather and storm (bolded text) events. Significant mortality found in freshwater sediments is shown in**Table 21**.

Toxicity was frequently identified during the first two monitoring years in water column samples, but the occurrence of toxicity has generally been decreasing over the course of monitoring. For dry weather water column sampling, toxicity has been identified historically at all sampled sites except 13_BELT. For wet weather water column sampling, toxicity has been identified at all sites, except for 10_GATE and 13_BELT. Freshwater sediment toxicity is consistently found at the 04_WOOD site and occasionally at two of the three other freshwater toxicity monitoring sites: 02_PCH and 03_UNIV.

Water column TIEs were initiated as prescribed in the QAPP, and outcomes of these efforts had limited success in identifying the true cause of toxicity. While not identifying the specific constituents causing toxicity, the TIEs have identified:

- Organic compounds are likely contributors to ambient water toxicity.
- Compounds similar to organophosphorus (OP) pesticides are continually being identified as possible contributors to the observed toxicity.

Based on the toxicity found at 04_WOOD during the first two years of monitoring and the results of the TIE studies, the Stakeholders chose to invest resources into source control efforts to address sources potentially contributing to the toxicity issue, rather than invest resources in continuing TIE studies at this monitoring site. This is being accomplished through the implementation of the Water Quality Management Plan (WQMP) developed by the Ventura County Agricultural Irrigated Lands Group (VCAILG) as part of the Ag Waiver.

During the eleventh year of monitoring, significant survival toxicity in the water column was observed during Events 70 and 73 at the 04_WOOD site. No freshwater sediment toxicity was observed at any of the monitoring sites.

The results of future CCWTMP toxicity testing will continue to assist in the identification of when and where conditions are toxic in the Calleguas Creek watershed. This will help the Stakeholders target source control efforts in areas of the watershed where toxicity is consistently observed and more effectively utilize their limited resources to address toxicity.

COWMER	Event				Site ID			
Year	Event	04_WOOD	9B_ADOLF	03_UNIV	10_GATE	06_SOMIS/ UPLAND	13_BELT	07_HITCH
	1	Х						
	2	Х						
Voor 1	3	Х	х	X				x
Teal I	4	Х						
	5	Х						Х
	6							
	9							
	12	Х						
Vear 2	14	х		Х		х		
rear 2	16	Х		X				х
	17							
	20			Х				
	22							
	23							
Year 3	24	Х						
i our o	25							
	26	Х						X
	27							
	28					Х		
	29		Х		Х			
Year 4	30	Х						
, our i	31							
	32			Х				
	33							
	34							
	35							
Year 5 ¹	36	X ²						
	37			X ³				
	38							
	39	X ²						
	40				4			
Year 6	41		6	6	6	6	5	6
	42							
	43							
	44	X ²		7		8		
	45	X ²					9	
Voor 7	46	X ²		X ¹⁰		X ¹¹		X ¹⁰
	47	X ²						
	48							
	49	X ²				8	12	

Table 20. Water Column Toxicity for All Monitoring Events and Sites (Significant mortality denoted by "X", bolded events are wet weather events)

CCW TMDL Monitoring Program Annual Report Year 11

ссумтр					Site ID			
Year	Event	04_WOOD	9B_ADOLF	03_UNIV	10_GATE	06_SOMIS/ UPLAND	13_BELT	07_HITCH
	50					8		
	51							
Voor 9 13	52	X ²						
i eai o	53	X ²						
	54							
	55							
Year 9	56							
	57							
	58							
	59							
	60							
	61				14			
	62							
	63							
Vear 10	64							
	65	X ²						
	66							
	67							
	68							
	69							
Year 11	70	X ²						
100111	71							
	72							
	73	X ²						

1. 10_GATE and 13_BELT are optional toxicity investigation monitoring sites. During year 5 these sites were only sampled during Event 38.

- 2. A TIE was not initiated at this site. TIEs conducted during previous monitoring years identified organic compounds such as pesticides as the likely cause of the toxicity. TIEs have been suspended while efforts are taken to reduce the source of the toxicity.
- 3. A Phase I TIE was conducted for this site. While the TIE did not conclusively identify a source of toxicity, the results were indicative of organic compounds. The corresponding water quality sample detected the OP pesticide chlorpyrifos at a concentration of 0.083 µg/L. This level is above the wasteload allocation for stormwater discharges but below the agricultural discharger's interim load allocation and above the final numeric target.
- 4. Optional toxicity testing was not performed at the 10_GATE site for Event 40.
- 5. Optional toxicity testing was not performed at the 10_BELT site for Event 41.
- 6. Successful toxicity testing for sites with conductivity less than 3000 μS/cm could not be completed for Event 41 due to a decline in the *C. dubia* laboratory culture. Sites include: 9B_ADOLF, 03_UNIV, 10_GATE, 06_SOMIS, and 07_HITCH.
- 7. An initial and a follow-up Phase I TIE was conducted for this site. Though the acute and chronic results of the toxicity test was not significantly different than that of the laboratory, the testing of this site did result in a greater than 50% mortality, triggering the initial and follow-up Phase I TIE. The initial TIE did not conclusively determine the source of toxicity, but did suggest that multiple co-occurring contaminants may have been responsible for the toxicity. The follow-up TIE demonstrated that no additional reductions in survival or reproduction occurred after the initial Baseline treatment, suggesting that the toxicity observed in the initial test was not persistent. This result suggests that the toxicant may have undergone natural degradation processes as the sample water aged.
- 8. Toxicity testing was not performed at the 06_SOMIS site because the site was dry.
- 9. Optional toxicity testing was not performed at the 13_BELT site for Event 45.
- 10. A Phase I TIE was initiated at this site. While the TIE did not conclusively identify a source of toxicity, the results suggest that compounds that are activated by the Cytochrome-P450 system (e.g. OP pesticides) are contributing to sample toxicity.
- 11. A Phase I TIE was initiated at this site. While the TIE did not conclusively identify a source of toxicity, the results suggest that non-polar organic compound(s) are contributing to the ambient toxicity.
- 12. Optional toxicity testing was not performed at the 13_BELT site for Event 49.
- 13. During year 8 site access to 06_SOMIS was revoked by the landowner beginning with Event 52.
- 14. There were no statistically significant reductions in survival in this sample as compared to the control. However, based on the observation of greater than 50 percent mortality in the 100 percent concentration of the 10_GATE ambient water sample, a TIE targeted for organics was performed on the sample.

CCWMTP	Event		Sit	e ID	
Year	Event	04_WOOD	02_PCH ¹	03_UNIV	9A_HOWAR ¹
Year 1	1	х			
Year 2	9	х			
Year 3	22	х			
Year 4	28	х	Х	Х	
Year 5	34	х		Х	
Year 6	39	Х		X ²	
Year 7	44	Х		Х	
Year 8	50	х			
Year 9	56	Х	Х		
Year 10	62	Х	Х		
Year 11	68				

Table 21. Sediment Toxicity for All CCWTMP Freshwater Monitoring Events and Sites (Significant mortality denoted by "X")

1. 02_PCH and 9A_HOWAR are optional toxicity investigation monitoring sites.

A TIE targeted for organics was performed for the 03_UNIV site due to a greater than 50 percent reduction in *H. azteca* survival.

Exceedance Evaluation and Discussion

As outlined in the QAPP, data applicable to targets or allocations were reviewed for this report. The collected data were compared to the applicable interim and final targets or allocations outlined in the TMDL implementation schedule and this comparison will be used by the various agencies to determine necessary actions in accordance with their permit or Ag Waiver. The comparison does not provide a determination of compliance with any TMDL provision of an individual permit or Ag Waiver, as some permit/waiver conditions may vary from the comparisons provided in this section. For the comparison, various procedures were used depending on whether the final compliance dates for the TMDL were applicable during the monitoring year.

For TMDLs where final allocations or targets are not currently effective (OC Pesticides, Metals, and Salts TMDLs), the following compliance comparisons were conducted:

- 1. Applicable receiving water data at the compliance locations (base of each subwatershed) were compared to the interim load allocations and waste load allocations.
- 2. If an exceedance of an interim load allocation and/or waste load allocation was observed, the contributing land use data were reviewed to evaluate the potential cause of the exceedance.

POTW effluent data were compared to the relevant waste load allocations (interim or final, as appropriate).

For the Metals TMDL, the following comparisons were conducted:

- 1. For POTWs, the final waste load allocations became currently effective in March 2017. As a result, effluent monitoring results were compared to the final allocations for the analysis.
- 2. For agricultural dischargers and MS4 dischargers, final load allocations and wasteload allocations are not yet effective. As such, applicable receiving water data at the compliance locations (base of each subwatershed) were compared to the interim load allocations and wasteload allocations.

For the Nitrogen TMDL, the following comparisons were conducted:

- 1. For POTWs, the final waste load allocations are currently effective. As a result, effluent monitoring results were compared to the final allocations for the analysis.
- 2. For agricultural dischargers and other non-point sources, final load allocations are currently effective. Since agricultural dischargers are the only entities with allocations other than POTWs, compliance is evaluated by comparing receiving water results against TMDL numeric targets.

For the Toxicity TMDL, the following comparisons were conducted:

1. For POTWs, the final waste load allocations are currently effective. As a result, effluent monitoring results were compared to the final allocations for the comparison.

- 2. For MS4 dischargers, the final waste load allocations are currently effective. As a result, applicable receiving water data at the compliance locations (base of each subwatershed) were compared to the final waste load allocations. If an exceedance of the final waste load allocation was found, the contributing urban land use data were reviewed to evaluate whether the MS4 was potentially causing the exceedance.
- 3. For agricultural dischargers, the final load allocations are currently effective. As a result, applicable receiving water data at the compliance locations (base of each subwatershed) were compared to the final load allocation. If an exceedance of the applicable load allocation for a particular event was observed, the contributing agricultural land use data were reviewed to evaluate whether agricultural discharges were potentially causing the exceedance.
- 4. In cases where the applicable final load allocations or final waste load allocations have different values for acute (1-hour) toxicity and chronic (4-day) toxicity, the acute toxicity allocations were used for comparing wet weather data and the chronic toxicity allocations were used for comparing dry-weather data.

For the Salts TMDL, the following comparisons were conducted:

- 1. For POTWs, interim wasteload allocations are currently effective. As a result, effluent concentrations were compared to the interim wasteload allocations.
- 2. For agricultural and MS4 dischargers, final load allocations and wasteload allocations are not yet effective. As such, monthly dry weather mean salt concentrations at the Salts TMDL receiving water compliance sites were compared to the interim load and wasteload allocations. Appropriate land use data was evaluated in the instance of an exceedance to assess potential cause and contribution.

The following tables compare the applicable allocations based on the procedure outlined above for each of the TMDLs. Some constituents sampled under the CCWTMP do not have applicable allocations and/or targets and are not included in the comparison.

RECEIVING WATER SITE COMPARISON

Site & Constituent	Units	Interim WLA & LA ¹	Event 68 Aug-2018
Calleguas Creek – Hwy	1 Bridge (02_F	PCH)	
Total Chlordane ²	ng/g dw	17	DNQ
4,4'-DDD	ng/g dw	66	1.2
4,4'-DDE	ng/g dw	470	4.7
4,4'-DDT	ng/g dw	110	1.8
Dieldrin	ng/g dw	3	ND
PCBs ³	ng/g dw	3800	ND
Toxaphene	ng/g dw	260	ND
Revolon Slough – Woo	d Road (04_W0	DOD)	
Total Chlordane ²	ng/g dw	48	3.7
4,4'-DDD	ng/g dw	400	8.7
4,4'-DDE	ng/g dw	1600	52.1
4,4'-DDT	ng/g dw	690	17.8
Dieldrin	ng/g dw	5.7	ND
PCBs ³	ng/g dw	7600	ND
Toxaphene	ng/g dw	790	83.2
Calleguas Creek – Can	narillo Street CS	SUCI (03_UNIV)	
Total Chlordane ²	ng/g dw	17	DNQ
4,4'-DDD	ng/g dw	66	0.9
4,4'-DDE	ng/g dw	470	4.7
4,4'-DDT	ng/g dw	110	ND
Dieldrin	ng/g dw	3	ND
PCBs ³	ng/g dw	3800	ND
Toxaphene	ng/g dw	260	ND
Conejo Creek – Adolfo	Road (9B_ADC	DLF)	
Total Chlordane ²	ng/g dw	3.4	2.3
4,4'-DDD	ng/g dw	5.3	1.7
4,4'-DDE	ng/g dw	20	6.1
4,4'-DDT	ng/g dw	2	20.1
Dieldrin	ng/g dw	3	ND
PCBs ³	ng/g dw	3800	ND
Toxaphene	ng/g dw	260	ND

Table 22. OC Pesticides, PCBs, & Siltation in Sediment

Site & Constituent	Units	Interim WLA & LA ¹	Event 68 Aug-2018
Arroyo Las Posas – U	oland Road (06_	_UPLAND)	
Total Chlordane ²	ng/g dw	3.3	DNQ
4,4'-DDD	ng/g dw	290	ND
4,4'-DDE	ng/g dw	950	4.8
4,4'-DDT	ng/g dw	670	7.0
Dieldrin	ng/g dw	1.1	ND
PCBs ³	ng/g dw	25,700	ND
Toxaphene	ng/g dw	230	ND
Arroyo Simi – Hitch Bo	oulevard (07_HI	ТСН)	
Total Chlordane ²	ng/g dw	3.3	ND
4,4'-DDD	ng/g dw	14	ND
4,4'-DDE	ng/g dw	170	2.5
4,4'-DDT	ng/g dw	25	1.4
Dieldrin	ng/g dw	1.1	ND
PCBs ³	ng/g dw	25,700	ND
Toxaphene	ng/g dw	230	ND

ND=not detected; DNQ=detected not quantifiable

1. Interim waste load allocation for stormwater permittees and interim load allocations for agricultural dischargers; effective until March 24, 2026 (R4-2005-010).

2. Total chlordane is the sum of alpha and gamma-chlordane.

3. PCBs concentrations are the sum of the seven aroclors identified in CTR (1016, 1221, 1232, 1242, 1248, 1254, and 1260). Results in **bold red type** exceed the applicable wasteload allocation and load allocation.

Site & Constituent	Units	Target ¹	Event 68 Dry Aug-18	Event 69 Dry Nov-18	Event 70 Wet Nov-18	Event 71 Wet Jan-19	Event 72 Dry Mar-19	Event 73 Dry May-19
Mugu Lagoon -	Ronald R	eagan Brid	 lge (01_Rl	R_BR)				
Ammonia-N	mg/L	8.1	0.45	0.35	0.16	0.16	0.27	0.04
Nitrate-N	mg/L	10	1.1	9.59	0.84	14.70	38.90	24.70
Nitrite-N	mg/L	1	0.05	0.06	ND	0.10	0.11	0.20
Nitrate-N + Nitrite-N	mg/L	10	1.15	9.65	0.84	14.80	39.01	24.90
Calleguas Creek	k – Hwy 1	Bridge (02	PCH)					
Ammonia-N	mg/L	5.5	0.95	0.13	0.25	0.15	0.27	0.56
Nitrate-N	mg/L	10	11.40	12.60	16.20	4.33	11.30	11.60
Nitrite-N	mg/L	1	0.47	0.21	0.14	0.09	0.06	0.16
Nitrate-N + Nitrite-N	mg/L	10	11.87	12.81	16.34	4.42	11.36	11.76
Calleguas Creek	k – Camal	rillo Street	CSUCI (03	B_UNIV)				
Ammonia-N	mg/L	8.4	0.24	0.39	0.30	0.27	0.23	0.88
Nitrate-N	mg/L	10	14.80	6.88	5.26	2.72	7.76	11.30
Nitrite-N	mg/L	1	0.31	ND	0.07	0.08	0.13	0.18
Nitrate-N + Nitrite-N	mg/L	10	15.11	6.88	5.33	2.80	7.89	11.48
Revolon Slough	– Wood	Road (04_I	NOOD)					
Ammonia-N	mg/L	5.7	0.18	0.31	0.51	0.15	0.16	0.19
Nitrate-N	mg/L	10	37.90	43.60	16.00	7.29	48.80	33.70
Nitrite-N	mg/L	1	0.89	ND	0.14	0.08	0.17	0.44
Nitrate-N + Nitrite-N	mg/L	10	38.79	43.60	16.14	7.37	48.97	34.14
Beardsley Wash	n – Centra	al Avenue (05_CENTI	र)				
Ammonia-N	mg/L	5.7	0.05	0.05	0.83	0.22	0.04	0.42
Nitrate-N	mg/L	10	36.40	11.30	6.47	4.15	42.40	15.40
Nitrite-N	mg/L	1	0.71	ND	0.07	0.05	0.24	0.40
Nitrate-N + Nitrite-N	mg/L	10	37.11	11.30	6.54	4.20	42.64	15.80
Arroyo Las Pos	as – Upla	nd Road (0	6_UPLAN	D)				
Ammonia-N	mg/L	8.1	NS	NS	0.91	0.33	NS	NS
Nitrate-N	mg/L	10	NS	NS	6.17	2.43	NS	NS
Nitrite-N	mg/L	1	NS	NS	0.10	0.07	NS	NS
Nitrate-N + Nitrite-N	mg/L	10	NS	NS	6.27	2.50	NS	NS

Table 23. Nitrogen Compounds in Water

Site & Constituent	Units	Target ¹	Event 68 Dry Aug-18	Event 69 Dry Nov-18	Event 70 Wet Nov-18	Event 71 Wet Jan-19	Event 72 Dry Mar-19	Event 73 Dry May-19			
Arroyo Simi – Hitch Boulevard (07_HITCH)											
Ammonia-N	mg/L	4.7	0.04	DNQ	0.29	0.13	0.05	0.07			
Nitrate-N	mg/L	10	9.24	9.10	4.44	3.18	8.18	7.29			
Nitrite-N	mg/L	1	0.27	ND	0.06	0.08	0.11	0.19			
Nitrate-N + Nitrite-N	mg/L	10	9.51	9.10	4.50	3.26	8.29	7.48			
Conejo Creek –	Adolfo R	oad (9B_A	DOLF)								
Ammonia-N	mg/L	9.5	0.05	0.06	0.44	0.28	0.11	0.07			
Nitrate-N	mg/L	10	6.33	6.59	3.03	2.60	5.83	6.09			
Nitrite-N	mg/L	1	0.22	ND	ND	0.07	0.15	0.19			
Nitrate-N + Nitrite-N	mg/L	10	6.55	6.59	3.03	2.67	5.98	6.28			

NS=no sample, dry; ND=not detected

 Load allocations for Nitrate-N + Nitrite-N are in effect for agricultural and other non-point sources. For the comparison, monitoring results at receiving water compliance sites were compared against TMDL numeric targets (R4-2008-009).

Results in **bold red type** exceed numeric TMDL target.

Site & Constituent	Units	Dry WLA ¹	Dry LA ²	Event 68 Dry Aug-18	Event 69 Dry Nov-18	Event 72 Dry Mar-19	Event 73 Dry May-19	Wet WLA ¹	Wet LA ²	Event 70 Wet Nov-18	Event 71 Wet Jan-19
Mugu Lagool	n – Ron	ald Reag	an Bridge (01_RR_BR)							
Chlorpyrifos	ug/L	0.014	0.014	ND	ND	0.0016	DNQ	0.014	0.025	DNQ	0.0411
Diazinon	ug/L	0.1	0.1	ND	ND	ND	ND	0.1	0.1	ND	ND
Calleguas Creek – Camarillo Street CSUCI (03_UNIV)											
Chlorpyrifos	ug/L	0.014	0.0133	ND	ND	ND	ND	0.014	0.024	0.0176	0.0034
Diazinon	ug/L	0.1	0.1	ND	ND	ND	ND	0.1	0.1	ND	ND
Revolon Slou	ıgh – W	ood Roa	d (04_WOO	D)							
Chlorpyrifos	ug/L	0.014	0.0133	0.0051	0.0142	0.0055	0.0020	0.014	0.024	0.259	0.379
Diazinon	ug/L	0.1	0.1	ND	ND	ND	ND	0.1	0.1	0.0528	0.0517
Arroyo Las P	osas –	Upland R	oad (06_U	PLAND)							
Chlorpyrifos	ug/L	0.014	0.014	NS	NS	NS	NS	0.014	0.025	0.0525	0.0237
Diazinon	ug/L	0.1	0.1	NS	NS	NS	NS	0.1	0.1	0.04	ND
Arroyo Simi -	- Hitch	Boulevar	d (07_HITC	H)							
Chlorpyrifos	ug/L	0.014	0.014	ND	ND	0.0012	ND	0.014	0.025	0.0042	0.0057
Diazinon	ug/L	0.1	0.1	ND	ND	ND	ND	0.1	0.1	ND	ND
Conejo Creel	k – Adol	fo Road	(9B_ADOLF	=)							
Chlorpyrifos	ug/L	0.014	0.014	ND	ND	ND	ND	0.014	0.025	ND	0.0019
Diazinon	ug/L	0.1	0.1	ND	ND	ND	ND	0.1	0.1	ND	ND
Conejo Creel	k — Hill (Canyon E	Below N For	k (10_GATE	5)						
Chlorpyrifos	ug/L	0.014	0.014	ND	0.0012	ND	ND	0.014	0.025	ND	ND
Diazinon	ug/L	0.1	0.1	ND	ND	ND	ND	0.1	0.1	ND	ND
Conejo Creel	k – S Fo	rk Behin	d Belt Pres	s Build (13_	BELT)						
Chlorpyrifos	ug/L	0.014	0.014	ND	ND	ND	ND	0.014	0.025	ND	ND
Diazinon	ug/L	0.1	0.1	ND	ND	ND	ND	0.1	0.1	ND	ND

Table 24. Toxicity, Diazinon, and Chlorpyrifos in Water

ND=not detected; NS=no sample collected due to site being dry.

1. Final Dry and Wet Weather wasteload allocations for Stormwater Dischargers effective as of March 24, 2008 (R4-2005-009).

2. Final Dry and Wet Weather load allocations for Irrigated Agriculture; effective as of March 24, 2016 (R4-2005-009).

Results in **bold red type** exceed applicable final wasteload allocation and load allocation.

Results in **bold purple type** exceed the final wasteload allocation, but not the final load allocation

Table 25. Metals and Selenium in Water

		Dry Interim	Dry Interim	Event 68 Dry	Event 69 Dry	Event 72 Dry	Event 73 Dry	Wet Interim	Wet Interim	Event 70 Wet	Event 71 Wet	Annual
Constituent	Units	WLA ¹	LA ²	Aug-2018	Nov-2018	Mar-2019	May-2019	WLA ¹	LA ²	Nov-2018	Jan-2019	Average ³
Revolon Slough – Wood Road (04_WOOD)												
Total Copper	µg/L	19	19	4.70	3.32	4.28	4.13	204	1390	16.90	32.00	
Total Nickel	µg/L	13	42	8.39	7.52	9.14	6.48	74 ⁴	74 ⁴	9.73	21.60	
Total Selenium	µg/L	13	6	27.80	16.60	17.80	18.30	290 ⁴	290 ⁴	7.06	2.45	
Total Mercury ⁵	lbs/yr	1.7	2									0.21
Calleguas Creel	k – Cam	arillo Stre	et CSUCI	(03_UNIV)								
Total Copper	µg/L	19	19	2.54	1.89	2.56	3.16	204	1390	20.8	37.9	
Total Nickel	µg/L	13	42	7.98	6.97	5.81	6.39	74 ⁴	74 ⁴	13.6	30.4	
Total Selenium	µg/L			0.64	0.18	2.11	0.82			1.01	0.96	
Total Mercury ⁵	lbs/yr	3.3	3.9									0.84

1. Interim wasteload allocations for Stormwater Dischargers; effective until March 2022 (R4-2006-0012)

2. Interim load allocations for Irrigated Agriculture; effective until March 2022 (R4-2006-0012)

3. Mercury allocation is assessed as an annual load in suspended sediment. The water column mercury concentrations were used in calculating the loads, conservatively assuming that all mercury is on suspended sediment rather than being dissolved. The loads at each site are based on estimated annual concentrations (average of all monitored events at each site) and total annual flow calculated from preliminary streamflow data received from real time data loggers.

4. No wet weather exceedances of these constituents were observed in the TMDL analysis so no interim limits were assigned for the TMDL. For comparison purposes the wet weather targets are included in the table.

5. Interim wasteload allocations and load allocations are expressed as annual loads. Total annual flow for 07/01/18 to 06/30/19 into Mugu Lagoon from Calleguas Creek is calculated as 10,715 Mgal/yr. Total annual flow for 07/01/18 to 06/30/19 into Mugu Lagoon from Revolon Slough is calculated as 2,563 Mgal/yr. As such, the interim wasteload allocation and load allocation shown for both Calleguas Creek and Revolon Slough correspond to the flow range of 0 to 15,000 to Mgal/yr, per R4-2006-0012.

Results in **bold red type** exceed applicable interim wasteload allocation and load allocation.

Results in **bold purple type** exceed the interim wasteload allocation, but not the interim load allocation.

	Unite	Interim Limit	n Limit	1.1.40	A	0	0.140	No. 40	D 40	1	E-1.40	May 40	A	Mar. 40	
	Units	WLA	LA	Jui-18	Aug-18	Sep-18	Oct-18	NOV-18	Dec-18	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19
Revolon Sl	ough – W	ood Roa	d (04_W	OOD)											
TDS	mg/L	1720	3995	3509	3298	3346	3075	3172	3526	3691	3427	3199	2986	3127	3175
Chloride	mg/L	230	230	205	189	193	171	179	207	220	199	181	165	176	180
Sulfate	mg/L	1289	1962	1821	1712	1736	1596	1646	1830	1916	1779	1660	1549	1623	1648
Boron	mg/L	1.3	1.8	1.8	1.7	1.7	1.6	1.6	1.8	1.9	1.8	1.6	1.5	1.6	1.6
Calleguas Creek – University Drive CSUCI (03_UNIV)															
TDS	mg/L	1720	3995	1097	1084	1070	1027	972	874	895	976	1015	1099	1061	1095
Chloride	mg/L	230	230	243	239	236	226	213	190	194	214	223	243	234	242
Sulfate	mg/L	1289	1962	261	258	254	244	231	207	212	232	241	261	252	260
Conejo Creek – Howard Road Bridge (9A_HOWAR)															
TDS	mg/L	1720	3995	1031	1010	980	969	909	828	848	940	961	999	942	996
Chloride	mg/L	230	230	239	233	226	223	208	188	193	216	221	231	217	230
Sulfate	mg/L	1289	1962	252	247	239	236	220	199	204	228	234	244	229	243
Conejo Cre	ek – Barc	on Brothe	ers Nurs	ery (9B_BA	RON)										
TDS	mg/L	1720	3995	592	576	587	591	605	629	674	854	804	767	726	711
Chloride	mg/L	230	230	138	133	136	137	141	147	159	207	194	184	173	169
Sulfate	mg/L	1289	1962	113	106	111	113	119	130	151	233	210	193	174	167
Arroyo Sim	i – Tierra	Rejada I	Road (07	_TIERRA)											
TDS	mg/L	1720	3995	1092	1041	1022	1040	1066	1101	1100	1290	1221	1175	1134	1144
Chloride	mg/L	230	230	165	157	154	157	161	166	166	195	184	177	171	173
Sulfate	mg/L	1289	1962	409	378	366	377	393	415	415	529	487	459	434	440
Boron	mg/L	1.3	1.8	0.63	0.60	0.59	0.60	0.62	0.64	0.64	0.75	0.71	0.68	0.66	0.67

Table 26. Monthly Mean Salts Concentrations

Notes:

a. Monthly dry weather mean salt concentrations were generated using mean daily salt concentrations (from 5-min data) for days that met the definition of dry weather in the Salts TMDL (i.e., discharge < 86th percentile flow and no measureable rain in preceding 24 hrs). The 86th percentile of mean daily discharge at 03_Univ (generated using 5-min discharge data for the period July 1, 2018-June 30, 2019) was used as the flow-related threshold for distinguishing wet and dry days for all five compliance sites. Daily precipitation records for 24 gages in the CCW watershed (accessed via the VCWPD Hydrologic Data Server) were used to determine days with "measureable precipitation". Days were considered as having measureable precipitation if two or more rain gages in the watershed received 0.1 inch or more of precipitation.

Results in **bold red type** exceed both the applicable interim wasteload allocation and load allocation. Results in **bold purple type** exceed the interim wasteload allocation, but not the interim load allocation. Results in green type are below the applicable allocations.

POTW DATA COMPARISON

Table 27. Nitrogen Compounds – POTWs

			Event 68 Drv	Event 69 Drv	Event 72 Drv	Event 73 Drv
Site & Constituent	Units	Final WLA ¹	Aug-2018	Nov-2018	Feb-2019	May-2019
Camarillo Water Reclamati	on Plan	(9AD_CAMA)				
Ammonia-N	mg/L	3.1 ² , 5.6 ³	1.70	1.20	1.35	1.16
Nitrate-N	mg/L	9	16.70	5.84	7.00	8.16
Nitrite-N	mg/L	0.9	ND	ND	ND	ND
Nitrate-N + Nitrite-N	mg/L	9	16.70	5.84	7.00	8.16
Hill Canyon Wastewater Tr	eatment	Plant (10D_H	ILL)			
Ammonia-N	mg/L	2.4 ² , 3.3 ³	1.50	1.80	2.00	1.30
Nitrate-N	mg/L	9	8.00	7.50	7.80	7.50
Nitrite-N	mg/L	0.9	ND	ND	0.10	ND
Nitrate-N + Nitrite-N	mg/L	9	8.00	7.50	7.90	7.50
Simi Valley Water Quality (Control I	Plant (07D_SIN	11)			
Ammonia-N	mg/L	3.5 ² , 7.8 ³	1.30	1.00	0.80	1.00
Nitrate-N	mg/L	9	7.70	8.20	6.60	7.90
Nitrite-N	mg/L	0.9	0.02	0.01	0.01	0.02
Nitrate-N + Nitrite-N	mg/L	9	7.72	8.21	6.61	7.92

ND=constituent not detected at the MDL. 1. The effective date for these wasteload allocations was July 16, 2007 (R4-2008-009)

Wasteload allocations as Average Monthly Effluent Limit
 Wasteload allocations as Maximum Daily Effluent Limit

Results in **bold red type** exceed the applicable wasteload allocations.

POTW & Constituent	Units	Final WLA ¹	Event 68 Dry Aug-2018	Event 69 Dry Nov-2018	Event 72 Dry Feb-2019	Event 73 Dry May-2019
Camarillo Water Red	lamation	Plant (9AD_CA	AMA)			
Total Chlordane ²	ng/L	1.2	ND	ND	ND	ND
4,4'-DDD	ng/L	1.7	ND	ND	ND	ND
4,4'-DDE	ng/L	1.2	ND	ND	ND	ND
4,4'-DDT	ng/L	1.2	ND	ND	ND	ND
Dieldrin	ng/L	0.28	ND	ND	ND	ND
PCBs ³	ng/L	0.34	ND	ND	ND	ND
Toxaphene	ng/L	0.33	ND	ND	ND	ND
Hill Canyon Wastew	ater Treat	tment Plant (10	D_HILL)			
Total Chlordane ²	ng/L	1.2	ND	ND	ND	ND
4,4'-DDD	ng/L	1.7	ND	ND	ND	ND
4,4'-DDE	ng/L	1.2	ND	ND	ND	ND
4,4'-DDT	ng/L	1.2	ND	ND	ND	ND
Dieldrin	ng/L	0.28	ND	ND	ND	ND
PCBs ³	ng/L	0.34	ND	ND	ND	ND
Toxaphene	ng/L	0.33	ND	ND	ND	ND
Simi Valley Water Q	uality Cor	ntrol Plant (07D	_SIMI)			
Total Chlordane ²	ng/L	1.2	ND	ND	ND	ND
4,4'-DDD	ng/L	1.7	ND	ND	ND	ND
4,4'-DDE	ng/L	1.2	ND	ND	ND	ND
4,4'-DDT	ng/L	1.2	ND	ND	ND	ND
Dieldrin	ng/L	0.28	ND	ND	ND	ND
PCBs ³	ng/L	0.34	ND	ND	ND	ND
Toxaphene	ng/L	0.33	ND	ND	ND	ND

Table 28. OC Pesticides, PCBs, and Siltation - POTWs

ND=constituent not detected at the MDL.

1. Final wasteload allocations were added to each of the POTWs' permits in 2015.

2. Total chlordane is the sum of alpha and gamma-chlordane.

3. PCBs concentrations are the sum of the seven aroclors identified in CTR (1016, 1221, 1232, 1242, 1248, 1254, and 1260).

Results in green type are below the applicable allocations.

Results in **bold red type** exceed applicable wasteload allocation.

POTW & Constituent	Units	Final WLA	Event 68 Dry Aug-2018	Event 69 Dry Nov-2018	Event 72 Dry Feb-2019	Event 73 Dry May-2019
Camarillo Water Red	clamation	Plant (9AD_	CAMA)			
Chlorpyrifos	μg/L	0.0133	ND	DNQ	ND	ND
Diazinon	μg/L	0.1	ND	ND	ND	ND
Hill Canyon Wastew	ater Treati	ment Plant	(10D_HILL)			
Chlorpyrifos	μg/L	0.014	ND	ND	ND	ND
Diazinon	μg/L	0.1	ND	ND	ND	ND
Simi Valley Water Q	uality Con	trol Plant (0)7D_SIMI)			
Chlorpyrifos	μg/L	0.014	0.0036	DNQ	0.0134	0.0025
Diazinon	μg/L	0.1	ND	ND	ND	ND

Table 29. Toxicity, Chlorpyrifos, and Diazinon - POTWs

ND=constituent not detected at MDL.

Results in green type are below the applicable allocations.

Results in **bold red type** exceed applicable wasteload allocation.

Table 30. Metals - POTWs

POTW & Constituent	Units	Final Daily Max WLA ¹	Final Monthly Avg WLA ¹	Final WLA ¹	Event 68 Dry Aug-2018	Event 69 Dry Nov-2018	Event 72 Dry Feb-2019	Event 73 Dry May-2019
Camarillo Water	Reclamation I	Plant (9AD_0	CAMA)					
Total Coppor	µg/L		9.0		4.74	1.85	5.59	4.19
	lbs/day ²			0.54	0.06	0.03	0.15	0.03
Total Nickel	µg/L				4.63	2.66	4.98	3.35
TOTAL MICKEL	lbs/day ²			0.2	0.06	0.04	0.13	0.02
Total Mercury ³	lbs/month 4			0.015	0.0005	0.00001	0.0004	0.0003
Hill Canyon Was	tewater Treati	nent Plant (1	10D_HILL)					
Total Coppor	µg/L		6.0		2.2	3.6	3.2	3.5
	lbs/day ²			0.7	0.14	0.25	0.35	0.25
Total Niekal	µg/L				2.4	2.1	2.8	2.4
TOTAL NICKEL	lbs/day ²			0.3	0.15	0.15	0.30	0.17
Total Mercury	lbs/month 4			0.022	ND ⁵	ND ⁵	ND⁵	ND⁵
Simi Valley Wate	r Quality Con	trol Plant (07	7D_SIMI)					
Total Copper	μg/L	31.0	30.5		7.48	7.23	2.72	7.75
Total Nickel	µg/L	960	169		2.16	1.80	1.96	2.05
Total Mercury ³	lbs/month ⁴			0.031	0.0023	0.00003	0.0022	0.0044

1. Final wasteload allocations effective as of March 26, 2017 (R16-007).

2. During load calculation, the daily mean flow on the date of sampling was multiplied by the concentration of total copper or total nickel to yield the daily total copper or total nickel in pounds.

 For total mercury concentrations reported as not detected (ND); one half of the method detection limit was used to calculate the monthly loads
 During load calculation, the average monthly flow for each POTW was multiplied by the number of days in the month corresponding to when the sample was collected to get a total monthly flow. The total monthly flow was multiplied by the concentration of total mercury to yield the monthly total mercury load in pounds.

5. All dry weather event samples returned non-detected results, therefore, the monthly total mercury load in pounds was not calculated.

Results in green type are below the applicable allocations.

Results in **bold red type** exceed applicable wasteload allocation.

Table 31. Salts - POTWs

POTW & Constituent	Units	Monthly Avg Interim WLA	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19
Camarillo Water Re	eclamat	ion Plant (9A	D_CAM	4) 1										
Boron	mg/L	N/A	0.58	0.54	0.55	0.57	0.60	0.52	0.57	0.52	0.58	0.56	0.57	0.59
Chloride	mg/L	216	197	220	192	194	202	197	206	191	203	204	216	215
Sulfate	mg/L	283	216	228	198	203	223	208	238	271	274	279	258	282
Total Dissolved Solids	mg/L	1012	968	1040	1016	1016	1002	984	1000	1040	1036	1088	1012	1006
Hill Canyon Waster	water T	reatment Plan	nt (10D_	HILL)										
Boron	mg/L	N/A	0.4	0.4	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Chloride	mg/L	189	129	124	127	124	137	135	136	172	142	136	135	148
Sulfate	mg/L	N/A	82	81	84	85	89	97	104	143	118	110	109	111
Total Dissolved Solids	mg/L	N/A	511	495	505	504	509	500	554	698	626	590	583	605
Simi Valley Water (Quality	Control Plant	(07D_S	IMI)										
Boron	mg/L	N/A	0.5	0.52	0.46	0.48	0.43	0.49	0.43	0.47	0.52	0.49	0.52	0.52
Chloride	mg/L	183	119	118	112	110	116	128	126	136	146	140	142	149
Sulfate	mg/L	298	178	168	127	122	125	184	176	300	279	248	216	222
Total Dissolved Solids	mg/L	955	638	638	561	571	554	675	644	740	848	810	751	742

N/A: "The 95th percentile concentration is below the Basin Plan objective so interim limits are not necessary."

Results in **bold red type** exceed applicable interim wasteload allocation.

Results in green type are below the applicable allocations.

Due to water conservation and alterations in the composition of the water supply available in the POTW service area, effluent salt concentrations have increased since the
adoption of the TMDL. The increased salts concentrations are being addressed through a Time Schedule Order that provides for higher TDS and sulfate interim limits and a stay
of interim limits for chloride (SWRCB WQO 2003-0019). Interim limits set by the TSO are as follows: TDS 1242 mg/L, sulfate 359 mg/L, and chloride 351 mg/L, all of which were
met during the entire monitoring year.

EXCEEDANCE EVALUATION DISCUSSION

OC Pesticides, Toxicity, Metals, Nutrients, and Salts

The data comparisons shown in **Table 22** through **Table 31** above demonstrate that for the most part, the CCW is meeting the applicable interim or final wasteload allocations and load allocations currently in effect for the Nutrients, OC Pesticides, Toxicity, Salts, and Metals TMDLs. While this report provides a comparison of water quality monitoring results to applicable TMDL allocations and targets, it does not reflect an assessment of compliance with individual permit or Conditional Waiver for Irrigated Agricultural Lands (Ag Waiver) TMDL requirements for the responsible parties. The following observations summarize the comparison of monitoring results with applicable TMDL allocations:

- 1. Exceedances of the interim wasteload allocation and load allocations for 4,4-DDT were observed in sediment samples collected at 9B_ADOLF. No other exceedances were observed in either receiving water sediment or POTW effluent relative to the wasteload allocations and load allocations set by the OC Pesticides, PCBs, and Siltation TMDL.
- 2. Exceedances of numeric targets for Nitrate-N and Nitrate-N + Nitrite-N were observed at compliance sites in the following subwatersheds: Mugu Lagoon, Calleguas Creek, Revolon Slough, and Beardsley Wash. Most of the exceedances occurred during dry events, but there were a total of six wet weather exceedances in Mugu Lagoon, Calleguas Creek, and Revolon Slough. Two exceedances of the final nutrient wasteload allocation was observed at 9AD_CAMA.
- 3. There were six exceedances of the final chlorpyrifos allocations during wet weather, and one exceedance during dry weather in the receiving water. No exceedances of the diazinon final allocations were observed. These exceedances were considered in concert with urban and agricultural land use monitoring data. There were no exceedances of the final wasteload allocations for chlorpyrifos or diazinon at any POTW.
- 4. There were four exceedances of the interim load allocation and interim wasteload allocation for total selenium measured during the dry weather sampling events at the 04_WOOD site. As discussed in the TMDL, a primary source of selenium in Revolon Slough is considered to be rising groundwater levels and the interim allocations were to be considered in this context.
- 5. This monitoring year only one site exhibited significant survival toxicity in the water column. Toxicity was observed during one wet weather and event and one dry weather event at the 04_WOOD receiving water site in Revolon Slough. None of the sediment samples collected exhibited significant survival toxicity.
- 6. Two Salts TMDL compliance sites met interim wasteload and load allocations for all salts constituents, 9B_BARON and 07_TIERRA. Another two sites met interim allocations except for chloride, those were 03_UNIV and 9A_HOWAR. One final compliance site, 04_WOOD, had exceedances for all the salts constituents except for chloride. This site generally met the interim load allocations but exceeded the interim wasteload allocations. POTWs are meeting interim salts wasteload allocations, with the exception of Camarillo Water Reclamation Plant (WRP), which experienced exceedances of chloride and TDS. Additionally, one exceedance of sulfate was observed at the Simi

Valley Water Quality Control Plant. The exceedances of interim salts wasteload allocations for the Camarillo WRP have resulted from increased influent salt concentrations due to water conservation and a shift in the composition of the water supplied within the service area. Because the process for addressing salts is a watershed effort involving significant capital investments, the Camarillo WRP received an amended Time Schedule Order in December 2015 (R4-2011-0126-A03) to adjust the interim limits for TDS, sulfate and chloride (TSO limits: 1242 mg/L TDS, 359 mg/L sulfate, 351 mg/L chloride). This TSO was amended again in January 2019 (R4-2011-0126-AO5) and is now set to expire on December 31, 2019. As a result, the interim limits in the TMDL are not the current applicable interim limits for the Camarillo WRP discharge and the TSO limits were met during the entire monitoring year.

Nutrients

Exceedances of numeric targets for Nitrate-N and Nitrate-N + Nitrite-N were observed in Mugu Lagoon, Revolon Slough, Beardsley Wash, and Calleguas Creek. Nitrate-N exceedances are summarized in **Table 32** below. The table focuses on Nitrate-N results since Nitrate-N + Nitrite-N exceedances were caused by high Nitrate-N values. Nitrite-N was below the 1 mg/L target at all sites for every event.

Nitrogen TMDL Compliance	Event 68 Dry	Event 69 Dry	Event 70 Wet	Event 71 Wet	Event 72 Dry	Event 73 Dry
Sites	Aug-18	Nov-18	Nov-18	Jan-19	Mar-19	May-19
01_RR_BR	No	No	No	Yes	Yes	Yes
02_PCH	Yes	Yes	Yes	No	Yes	Yes
03_UNIV	Yes	No	No	No	No	Yes
04_WOOD	Yes	Yes	Yes	No	Yes	Yes
05_CENTR	Yes	Yes	No	No	Yes	Yes
06_UPLAND	NS	NS	No	No	NS	NS
07_HITCH	No	No	No	No	No	No
9B_ADOLF	No	No	No	No	No	No

Table 32.	Exceedances	of Nitrate-N	Numeric	TMDL	Target of	10 mg/L
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NR=not required, NS=no sample, dry

No signifies that monitoring results were below the Nitrate-N target during the monitoring event.

Yes signifies that monitoring results were above the Nitrate-N target during the monitoring event.

Nitrogen exceedances occurred primarily in areas of the watershed with agricultural inputs. Reaches downstream of POTW discharges are generally in attainment with the TMDL targets and urban discharges were determined to be negligible during the TMDL analysis and therefore do not have TMDL allocations. The final nitrogen load allocations for agriculture became effective in July 2010. Under the 2016 Conditional Waiver (Order No. R4-2016-0143), agricultural dischargers have until October 14, 2025 to comply with the nitrogen load allocations. The Water Quality Management Plans developed by VCAILG for compliance with the Ag Waiver specifies steps and milestones that work towards achieving these load allocations through the implementation of management practices.

Chlorpyrifos

Further examination of the chlorpyrifos exceedances at receiving water sites was needed to determine whether urban or agricultural dischargers were contributing. The final wasteload allocations for urban dischargers and final load allocations for agriculture are in effect and per the TMDL attainment is to be assessed in the receiving waters.

Monitoring data at urban land use sites from each subwatershed for which an exceedance was observed in the receiving water was compared to the wasteload allocation to determine if MS4 discharges significantly contributed to the exceedance. If the urban land use data were below the wasteload allocation, the MS4 dischargers were considered to be meeting allocations. If the urban land use data were above the wasteload allocation, the MS4 could be contributing to the exceedance in the receiving water. The results are shown in **Table 33**.

Monitoring data at agricultural land use sites from each subwatershed for which an exceedance was observed in the receiving water was compared to the load allocation to determine if agricultural discharges significantly contributed to the exceedance. If the agricultural land use data were below the load allocation, the agricultural dischargers were considered to be meeting allocations. If the agricultural land use data were above the load allocation, the agricultural dischargers could be contributing to the exceedance in the receiving water. The results are shown in Table 34. Under the 2016 Conditional Waiver (Order No. R4-2016-0143), agricultural dischargers have until March 24, 2022 to comply with the chlorpyrifos load allocations. The Water Quality Management Plans developed by VCAILG for compliance with the Ag Waiver specifies steps and milestones that work towards achieving these load allocations through the implementation of management practices. In addition to the current farm management efforts to minimize chlorpyrifos transport, the sale of chlorpyrifos to California farmers will end on February 6, 2020. After December 31, 2021 it will be illegal for farmers to possess or use chlorpyrifos in the state. There is an exception to the ban, which is some granular forms of the pesticide can remain in use. At this time, these granular forms make up less than one percent of the agricultural applications of chlorpyrifos.

Sites Exceeding WLAs	Constituent	Event 68 Dry Aug-18	Event 69 Dry Nov-18	Event 70 Wet Nov-18	Event 71 Wet Jan-19	Event 72 Dry Mar-19	Event 73 Dry May-19
01_RR_BR	Chlorpyrifos				NA		
03_UNIV	Chlorpyrifos			NA			
04_WOOD	Chlorpyrifos		No ¹	No ¹	No		
06_UPLAND	Chlorpyrifos			NA	NA		

 Table 33. Compliance and Land Use Sites Comparison to Determine Attainment of MS4

 Chlorpyrifos Wasteload Allocations

NA = there are no urban land use sites within this reach

No = none of the urban land use site for the subwatershed exceeded the MS4 wasteload allocation during the monitoring event.

Yes = the urban land use site for the subwatershed exceeded the MS4 wasteload allocation during the monitoring event.

Blank cells indicate that a wasteload allocation exceedance did not occur at the compliance monitoring site during a particular event. 1. The land use site was dry during this event.

Table 34.	. Compliance and Land Use Sites Comparison to Deter	mine Attainment of Ag
Chlorpyri	ifos Load Allocations	-

Sites Exceeding WLAs	Constituent	Event 68 Dry Aug-18	Event 69 Dry Nov-18	Event 70 Wet Nov-18	Event 71 Wet Jan-19	Event 72 Dry Mar-19	Event 73 Dry May-19
01_RR_BR	Chlorpyrifos				Yes		
03_UNIV	Chlorpyrifos			NA			
04_WOOD	Chlorpyrifos		No	Yes	Yes		
06_UPLAND	Chlorpyrifos			No ¹			

NA = there are no agricultural land use sites within this reach

No = none of the agricultural land use site for the subwatershed exceeded the MS4 wasteload allocation during the monitoring event.

Yes = the agricultural land use site for the subwatershed exceeded the Ag load allocation during the monitoring event.

Blank cells indicate that a load allocation exceedance did not occur at the compliance monitoring site during a particular event.

1. The land use site was dry during this event.
Selenium

Total selenium concentrations in Revolon Slough at 04_WOOD exceeded the urban dischargers interim wasteload allocation and the agricultural dischargers interim load allocation during all four dry weather monitoring events. A summary of monitoring results for total selenium at sites in the Revolon Slough subwatershed is shown in **Table 35** below.

		Dry Weather Events										
Site ID	Use	Interim		68	69	72	73					
		WLA ¹	LA ¹	Aug-18	Nov-18	Mar-19	May-19					
04_WOOD	RW	13	6	27.8	16.6	17.8	18.3					
04D_WOOD	Ag		6	NS	2.51	7.04	0.27					
05D_SANT_VCWPD	Ag		6	54.8	13.5	56.9	24.2					
04D_VENTURA ²	Urban	13										
04D_SPRINGVILLE ³	Urban	13				1.6	0.2					

Table 35. Total Seleni	m Monitoring Data	(ug/L) in the Revolon	Slough Subwatershed
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1. Interim WLAs for stormwater permittees and interim LAs for agricultural dischargers are effective until March 2022 (R4-2006-012).

2. Construction of a subterranean culvert has prevented access beginning with Event 68. The site was relocated to 04D SPRINGVILLE

3. The 04D_SPRINGVILLE replaced the 04D_VENTURA site beginning with Event 71.

RW - Receiving water compliance site; Ag - Agricultural Land Use Site; Urban - Urban Land Use Site

NS - Not sampled, site was dry.

Results in **bold type** exceed applicable interim WLA or interim LA.

As noted in the table above, high levels of selenium were also observed during all dry weather monitoring events at 05D_SANT_VCWPD, one of the agricultural land use sites in the Revolon Slough subwatershed. At the other agricultural land use site, 04D_WOOD, selenium concentrations above the interim load allocation were only observed during Event 72. No data were available for comparison from urban land use site 04D_VENTURA because this site was dry during the first two monitoring events and was then replaced by 04D_SPRINGVILLE beginning with Event 71. Selenium concentrations at 04D_SPRINGVILLE were well below the interim WLA during the two dry events sampled. As discussed in the TMDL, a primary source of selenium in this area is considered to be rising groundwater levels and the interim allocations were to be considered in this context.

Salts

A summary of monitoring results for total dissolved solids, sulfate, and boron at sites in the Revolon Slough subwatershed are shown in **Table 36** through **Table 38** and chloride in the Conejo Creek watershed in **Table 39** below.

Mean monthly dry weather TDS, sulfate, and boron concentrations in Revolon Slough at 04_WOOD exceeded their respective interim MS4 wasteload allocations during all twelve months of the monitoring period. However, concentrations of salts at 04D_VENTURA and its replacement site, 04D_SPRINGVILLE, which is an urban land use site in the upper Revolon Slough watershed, were consistently below the interim MS4 wasteload allocations for TDS, sulfate, and boron.

Mean monthly dry weather TDS, chloride, and sulfate concentrations in Revolon Slough at 04_WOOD did not exceed their respective load allocations during the monitoring period. Mean monthly dry weather boron concentrations exceeded load allocations in Revolon Slough at 04_WOOD on one occasion. Site 04D_WOOD represents agricultural discharge water quality in the Revolon Slough subwatershed. At this site, one exceedance of the interim LAs occurred.

Only mean monthly dry weather chloride concentrations in Conejo Creek at 9A_HOWAR exceeded the interim load allocation and interim MS4 wasteload allocation during four months of the monitoring period. Site 9BD_ADOLF represents urban discharge water quality in the Conejo Creek subwatershed. At this site, exceedances of the interim load allocation occurred during four sampling events, but only one corresponded with a receiving water exceedance of the chloride interim wasteload allocation. The agricultural site 9BD_GERRY for this subwatershed had no flow during two of the four dry weather sampling events, and did not exceed the interim wasteload allocation during the other two dry weather sampling events.

Mean monthly dry weather chloride concentrations in Calleguas Creek at 03_UNIV exceeded the interim load allocation and interim MS4 wasteload allocation during six months of the monitoring period. However, there are no land use monitoring sites located in Reach 3 of Calleguas Creek to compare land use water quality data to receiving water quality data.

Site ID	Use	Inte Lim	rim its	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19
		WLA	LA												
04_WOOD ¹	RW	1720	3995	3509	3298	3346	3075	3172	3526	3691	3427	3199	2986	3127	3175
04D_WOOD ²	Ag		3995		NS			2100		2960		4420		940	
04D_VENTURA ²	Urban	1720			NS			NS		-		-		-	
04D_SPRINGVILLE ²	Urban	1720			-			-		70		1310		800	

Table 36. Total Dissolved Solids Monitoring Data (mg/L) in Revolon Slough

NS=no sample, dry

1. Data presented are monthly means

2. Data presented are quarterly dry weather grabs

Results in **bold type** exceed applicable interim wasteload allocation or interim load allocation.

Table 37. Sulfate Monitoring Data (mg/L) in Revolon Slough

Site ID	Use	Inte Lim	rim nits	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19
		WLA	LA												
04_WOOD 1	RW	1289	1962	1821	1712	1736	1596	1646	1830	1916	1779	1660	1549	1623	1648
04D_WOOD ²	Ag		1962		NS			915		1300		2010		349	
04D_VENTURA ²	Urban	1289			NS			NS							
04D_SPRINGVILLE ²	Urban	1289								17.8		561		294	

NS=no sample, dry

Data presented are monthly means
Data presented are quarterly dry weather grabs
Results in **bold type** exceed applicable interim wasteload allocation or interim load allocation.

Site ID	Use	Inter Limi	im ts	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19
		WLA	LA			-									
04_WOOD 1	RW	1.3	1.8	1.8	1.7	1.7	1.6	1.6	1.8	1.9	1.8	1.6	1.5	1.6	1.6
04D_WOOD ²	Ag		1.8		NS			1.19		1.18		1.8		0.51	
04D_VENTURA ²	Urban	1.3			NS			NS							
04D_SPRINGVILLE ²	Urban	1.3								0.02		0.44		0.28	

Table 38. Boron Monitoring Data (mg/L) in Revolon Slough

NS=no sample, dry

1. Data presented are monthly means

2. Data presented are quarterly dry weather grabs

Results in **bold type** exceed the applicable interim wasteload allocation or interim load allocation

Table 39. Chloride Monitoring Data (mg/L) in Conejo Creek

Site ID	Use	Inter Lim	rim its	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19
		WLA	LA												
9A_HOWAR ¹	RW	230	230	239	233	226	223	208	188	193	216	221	231	217	230
9BD_GERRY ²	Ag	230			NS			220		16		NS		NS	
9BD_ADOLF ²	Urban		230		421			334		7.47		542		545	

NS=no sample, dry

1. Data presented are monthly means

2. Data presented are quarterly dry weather grabs Results in **bold type** exceed applicable interim wasteload allocation or interim load allocation.

Revisions and Recommendations

The QAPP specifies that upon the completion of each CCWTMP annual report, revisions to standard procedures will be made, including: site relocation, ceasing monitoring efforts and/or deleting certain constituents from sample collection. An updated QAPP was submitted in December 2014 that incorporated the proposed revisions and recommendations included in the previous six CCWTMP annual reports. Additional modifications that reflect the most current lab methods and procedures for the field conditions were also part of the QAPP update process. Monitoring for the 2018-2019 monitoring year was conducted per the revised QAPP.

In August 2018, during the first monitoring event of year 11, construction activities were observed at the monitoring site 04D_VENTURA. This is an urban land use site in the City of Camarillo. It was determined that a stretch of the stormwater channel is being enclosed directly up and downstream of the existing monitoring location. A new sampling site, 04D_SPRINGVILLE was selected to replace 04D_VENTURA for the remainder of the year 11 monitoring period. This site has been permanently relocated approximately 0.6 miles downstream from the original site, but still within the City of Camarillo's urban area.

The Stakeholders have submitted TMDL receiving water data to the California Environmental Data Exchange Network (CEDEN) going back to the beginning of the monitoring program in 2008. TMDL receiving water monitoring data will continue to be uploaded for future monitoring events, as well.