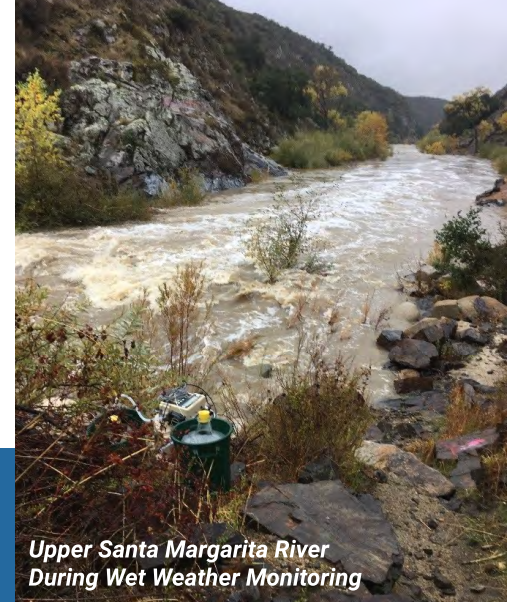


# SANTA MARGARITA RIVER Watershed Management Area

## 2019-2020 Water Quality Improvement Plan Annual Report

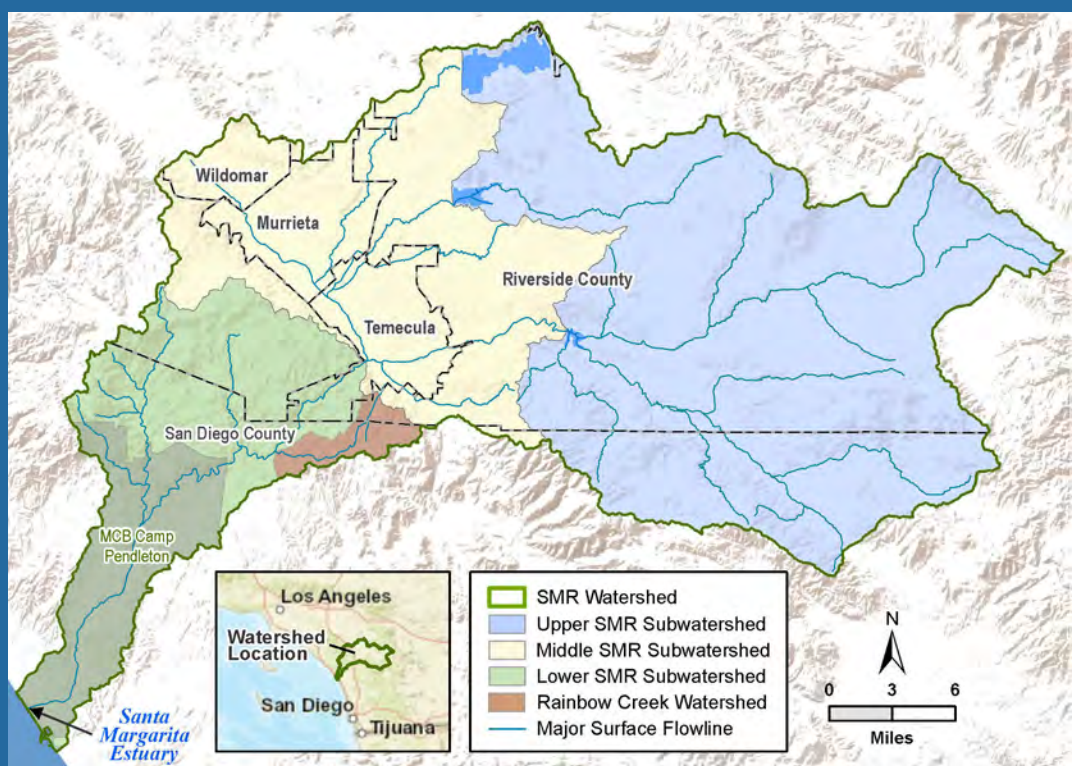
### Executive Summary



Upper Santa Margarita River  
During Wet Weather Monitoring

The Santa Margarita River (SMR) Watershed Management Area (WMA) encompasses over 740 square miles in southern Riverside County and northern San Diego County. To protect, preserve, and restore surface water quality and designated beneficial uses of water bodies in the WMA, Copermittees implement strategies through a watershed-based Water Quality Improvement Plan (WQIP) and individual Jurisdictional Runoff Management Programs. These plans were developed to meet the requirements of the San Diego Region Municipal Separate Storm Sewer System (MS4) permit (Permit) issued by the San Diego Regional Water Quality Control Board (San Diego Water Board).

The WQIP identifies eutrophication and nutrient loading as highest priority water quality conditions (HPWQCs). Goals, strategies, and schedules for addressing HPWQCs have been developed by Subwatershed area and are applicable to Copermittees within those areas. For the 2019-2020 reporting year, this executive summary highlights WQIP implementation progress and strategies. The full report provides details on program implementation including monitoring and adaptive management elements.



## COPERMITTEES



# Progress To Goals and Strategy Implementation

The Copermittees are implementing a variety of strategies to improve conditions identified as impacted by eutrophication and nutrient loading. Progress is measured against interim and final goals that have been established for the following Subwatershed areas in the WMA:

- ◆ *Middle SMR Subwatershed*
- ◆ *Lower SMR Subwatershed*
- ◆ *Rainbow Creek*

Each of these areas has several compliance pathway options. Middle and Lower SMR Subwatershed pathways include WQIP goals designed to measure progress toward dry weather numeric targets for a Total Maximum Daily Load (TMDL) Alternative for the SMR Estuary. For Rainbow Creek, the goals are intended to demonstrate compliance with the existing Nutrient TMDL. Goals have not yet been established for the Upper SMR Subwatershed because a HPWQC has not yet been assigned due to insufficient data. Water quality data are scarce due to historically ephemeral conditions. However, a focused data collection effort has been initiated and strategies are being implemented in this Subwatershed.

Progress toward goals based on implementation of strategies and other selected compliance pathways is shown by Subwatershed area in the table below. No goals were due to be achieved in the 2019-2020 year.

## Summary of Progress Toward Achieving WQIP Goals

Spatial and Temporal Extent	Regulatory Driver	Goal	Due Date	Selected Compliance Pathway	Status
Upper SMR Subwatershed	TBD	TBD - Copermittees in the Upper Watershed are collecting additional data. Goals will be developed if a HPWQC is identified after data collection and analysis is completed.			
Middle SMR Subwatershed <sup>1</sup> (Dry Conditions)	SMR Estuary TMDL Alternative and WQIP <sup>3</sup>	Interim	Fiscal Year (FY) 2023	WQIP Implementation through strategies in the JRMPs (Pathway 6). See Annual Report Section 2, Table 2-3.	Met for FY19-20. WQIP strategies were implemented and will continue to be
Lower SMR Subwatershed <sup>2</sup> (Dry Conditions)		Interim	FY 2023	Reduce the baseline aggregate flow volume by 25% (Pathway 1). See Annual Report Section 2, Table 2-4.	In progress
				Turf replacement in Rainbow Park (Pathway 1). See Annual Report Section 2, Table 2-4.	Achieved. Project completed (1.7 acres of grass replaced with artificial turf)
Rainbow Creek <sup>2</sup> (Year Round)	Rainbow Creek Nutrient TMDL	Final	December 31, 2021 (TMDL Final Goal)	WQIP Implementation (Pathway 1). See Annual Report Section 2, Table 2-13 and Appendix 5B to Appendix 5.	In progress

1. Copermittees responsible are County of Riverside, Riverside County Flood Control and Water Conservation District, City of Murrieta, City of Temecula, and City of Wildomar.

2. Copermittee responsible is County of San Diego.

3. The Riverside County Copermittees and the County of San Diego are all responsible parties for meeting the goals related to the SMR Estuary TMDL Alternative. The WQIP has different sets of goals for these two groups, the actions taken by the Riverside County Copermittees and the County of San Diego are both designed to meet the SMR Estuary TMDL Alternative objectives, as set forth in Investigative Order No. R9-2019-0007.

## Regional Strategy Implementation

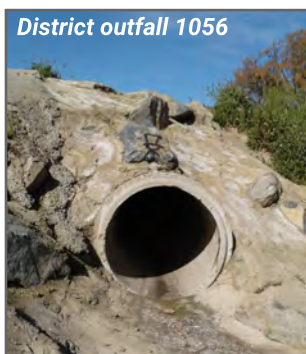
Strategies implemented regionally within the WMA during FY19-20 included:

- Irrigation runoff reduction efforts through overwatering prevention webpages, creation of an overwatering doorhanger, and public reporting tools.
- Identification and elimination of non-stormwater runoff through implementation of robust illegal discharge detection and elimination (IDDE) programs.
- Implementation of the Five-Year Public Education and Outreach Strategic Plan, developed proactively by the Copermittees, including outreach to students and businesses; creation of a public education strategic task force; and use of digital news and social media to engage citizens and stakeholders.
- Increased opportunities for funding water quality projects in accordance with the Copermittees' new Upper Santa Margarita River Watershed Storm Water Resource Plan.
- Participation by both Riverside Copermittees and County of San Diego in the Santa Margarita River Nutrient Initiative Group (SMRNIG), addressing nutrient issues in the SMR Watershed. The technical work is currently in Phase III and expects to identify potential restoration actions to improve biointegrity, reduce eutrophication, and calculate load and waste load allocations required to meet the proposed biostimulatory targets.



## Strategy Highlights by Copermittee

A strategy implementation highlight is provided below for each Copermittee. Additional details and other strategies implemented are provided in Section 2 and Appendix 2 of this Annual Report. Copermittees implemented their jurisdictional programs with adaptations as needed due to the COVID-19 pandemic.



### Riverside County Flood Control and Water Conservation District (District)

At a frequency greater than required by the Permit, the District conducted field screening at District outfalls during the 2019-2020 reporting year to identify and eliminate illegal discharges and reduce dry weather flow. Accessible major outfalls with the presence of flow at the time of inspections were prioritized for additional field screening during dry weather as a targeted approach to flow source tracking. All identified dischargers were notified of the discharge prohibitions, either through direct contact or provided with educational materials, to assist in correcting the condition causing the discharge.

### County of Riverside

The public can now report pollutant issues with the County's new "RivCo" mobile application (app). The app (image shown to right) facilitates public reporting and includes options to report illegal dumping and necessary maintenance to storm drains. Service requests can also be submitted on the County of Riverside's website.



### City of Murrieta

To ensure the contractors are prepared to implement appropriate best management practices (BMPs) prior to the rainy season, the City distributed public information letters to the responsible parties of active construction sites. The letters emphasized the City’s expectations for compliance and compliance areas that require additional attention to reduce sources of sediment and other construction-related pollutants.



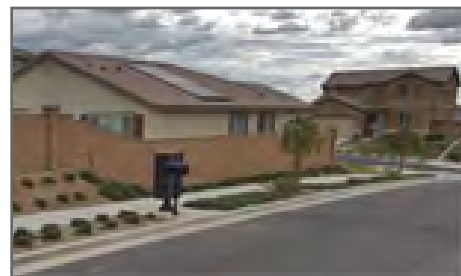
### City of Temecula

In response to Trash Amendments requirements, the City of Temecula initiated the installation of media filtration devices (image to right) that provide treatment for nutrients and other pollutants in addition to trash. Because of this additional treatment, the City generates alternative compliance credits that can be used for its own capital improvement projects or that it can sell to private developers. Therefore, in addition to providing additional water quality benefits as compared to installing only the basic trash controls, this approach generates a funding source to pay for the BMP installation and maintenance. The City also collaborated with community, local, and federal agencies on the Meadowview Creek Restoration Project, which is improving public safety and water quality.



### City of Wildomar

The City of Wildomar has been working with Home Owner Associations (HOAs) to eliminate dry weather flows. During the 2019-2020 reporting year, the City sent specific letters and an Irrigation Runoff BMP fact sheet to multiple HOA Managers throughout the City to highlight the City’s recent National Pollution Discharge Elimination System ordinance update and the over-irrigation prohibition. The City requested that HOAs share the information with their communities to inform residents. Based on FY19-20 dry weather MS4 outfall monitoring, many of the City’s major outfalls remained dry.



### County of San Diego

To meet Rainbow Creek Nutrient TMDL requirements, the County of San Diego is implementing and planning structural and non-structural BMPs. The County is pursuing stream restoration and BMP retrofits, or their equivalent, consisting of subsurface wetland channels and bioretention swales within segments of the County’s road drainage system in the Rainbow Creek Watershed. The Rainbow Creek Water Quality Improvement Project consists of four planned BMP retrofits. Preliminary design was completed, and funding was secured for these four BMP retrofits. The figure to the right is a rendering of the proposed subsurface wetland channels during wet weather. The BMP retrofits will treat runoff from approximately 324.6 acres based on the drainage areas of four MS4 outfalls. During FY19-20, project design was initiated and the 30% design deliverables were in process of internal review. The goal for FY20-21 is to complete the project design, obtain Board of Supervisor approval for the Bid and Award of construction contract, and begin coordination of utility relocations. Project construction is expected to begin in FY21-22. Total project costs (soft costs and construction costs) are \$11.4 million.

*Example Rendered Subsurface Wetland Channel During Wet Weather*



# MONITORING AND ASSESSMENT



Monitoring was conducted during the 2019-2020 reporting year in accordance with the WQIP and Permit. The table below provides an overview of the monitoring accomplished including long term receiving water (LTRW) monitoring, Nutrient TMDL monitoring, MS4 outfall field screening and discharge monitoring, progress to goals monitoring and special studies. By conducting multiple types of monitoring, the Copermittees collect data to evaluate progress toward achieving numeric goals and determine if modifications to jurisdictional and WMA strategies or monitoring activities are necessary.

Section 3 of this Annual Report provides high level results for the HPWQCs. Monitoring methods and detailed results are presented in Appendix 4 and its attachments. Data are assessed per Permit requirements including comparison of receiving water to water quality objectives, Nutrient TMDL receiving water

limitations for Rainbow Creek, dry weather outfall discharge to non-stormwater action levels and stormwater discharge to stormwater action levels. Trend results and estimates of discharge volumes and loads for monitored outfalls are also provided as required.

Monitoring Program	Monitoring Component	2019-2020 Monitoring Requirement	Completed?
Receiving Water Monitoring	Long Term Receiving Water Monitoring (LTM)	3 Wet weather events at three LTRW stations <sup>1</sup> 3 Dry weather Events at one LTRW station <sup>2</sup>	✓ <sup>1</sup>
	Rainbow Creek Nutrient TMDL Monitoring	County of San Diego: Monthly dry weather sampling at 13 TMDL compliance stations if measurable flow is present	✓
	SMC Bioassessment Monitoring Program	Two trend and two condition sites	✓
MS4 Outfall Monitoring	Wet Weather	By Copermittee: Wet weather sampling at one major MS4 outfall during one storm event of the wet weather season	✓
	Dry Weather	By Copermittee: Field screening at 80% of outfalls 2x per year, dry weather discharge monitoring at five highest priority outfalls 2x per year if measurable flow is present. Flow source investigations as needed.	✓
	Rainbow Creek Progress to Goals Monitoring	County of San Diego: Dry weather monitoring at 21 outfalls in the Rainbow Creek Watershed (not required by Permit or TMDL)	✓
Special Studies		At least two special studies focused on HPWQCs 9 special studies were completed or remain ongoing	✓

1. Per the Monitoring and Assessment Program (MAP) of the WQIP, wet weather monitoring at all three LTRW monitoring stations was conducted for all three events required during the Permit term. The Upper SMR Subwatershed station did not flow during five monitored storm events. Monitoring will be conducted during the 2020-2021 year in further attempts to collect samples using site specific mobilization criteria recently developed for this LTRW monitoring station.

2. The County of San Diego conducted dry weather LTRW monitoring at SMR-MLS-2 in the Lower SMR Subwatershed during the 2019-2020 monitoring year. Dry weather monitoring also included hydromodification monitoring and bioassessment monitoring. The Riverside Copermittees will conduct dry weather monitoring, hydromodification monitoring and bioassessment at their two LTRW monitoring stations during the 2020-2021 monitoring year per the WQIP MAP.

## Special Studies

Special studies are focused on the HPWQCs and address data gaps and/or develop information necessary to more effectively address the pollutants and/or stressors that cause or contribute to HPWQCs. These studies supplement Permit prescribed receiving water and storm drain outfall monitoring; they provide additional information about dry weather flows, likely sources of nutrients and spatial and temporal patterns. The Copermittees use data from special studies to improve and adapt the implementation of their jurisdictional strategies and refine or develop new special studies, and ultimately to achieve compliance with the numeric goals outlined in the WQIP. The Copermittees are required to conduct two special studies during the Permit term. During the 2019-2020 reporting year, the Copermittees completed or continued ten special studies, which are listed below. These special studies are summarized in Appendix 4 and special study reports are provided in Attachment 4I:

- ▶ Dry Weather MS4 Outfall Monitoring in the Rainbow Creek Watershed (County of San Diego)
- ▶ Rainbow Creek HF183 Monitoring (County of San Diego)
- ▶ Rainbow Creek Wet Weather Pre-BMP Monitoring (County of San Diego)
- ▶ HF183 Follow-up Monitoring at MS4-SMG-095 (County of San Diego)
- ▶ Dry Weather MS4 Outfall Flow Source Study (County of San Diego)
- ▶ Dry Weather Low-Flow Monitoring Equipment Testing and Uncertainty Estimation (County of San Diego)
- ▶ Post-Fire Stormwater Monitoring Study – 2019 Tenaja Fire (District)
- ▶ Santa Margarita River Nutrient Initiative Group (District on behalf of all Copermittees)
- ▶ Participation in SMC California LID Evaluation and Analysis Network Project (Riverside Copermittees)
- ▶ Wilson Creek Flow Simulation Modeling - Technical Memorandum (Riverside Copermitttes)

## WQIP Adaptive Management

The SMR WMA Copermittees use an adaptive management process to evaluate and make adjustments to their WQIP as needed to improve strategies that reduce pollutants from MS4 outfalls. Drivers for adaptive management include Monitoring and Assessment Program data, new regulatory actions, requests or recommendations from the San Diego Water Board, public input, and progress to goals assessment results. The adaptive management process and results of the 2019-2020 evaluation are presented in Section 4 and Appendix 5 of this Annual Report.



Updates to WQIP elements based on San Diego Water Board requests in the 2017-2018 WQIP Annual Report review letter are provided as a WQIP update with this Annual Report. The San Diego Water Board also required the WQIP to be updated to incorporate the final numeric targets of the SMR Estuary TMDL Alternative, strategies, monitoring and assessment activities, schedules and reporting. Proposed WQIP updates were presented to the Consultation Committee on October 22, 2020. The updates were subject to a 30-day public review period from November 5 to December 7, 2020 to satisfy the public participation requirements of Permit Provision F.2.c. They will be deemed acceptable for inclusion in the WQIP 90 days after the submission of the updates with this Annual Report (Attachment 5B to Appendix 5) on January 31, 2021. The new Permit is anticipated after this WQIP Update and will likely incorporate new regulations to be addressed.

The Copermittees will continue to make improvements by applying lessons learned from implementing their programs. Of note, the latter portion of the 2019-2020 year brought incredible challenges due to the COVID-19 pandemic and necessitated rapid adaptations to the way work is conducted to meet requirements. The next couple of years will likely present further challenges due to economic and social impacts of the pandemic, and further adaptations are anticipated to address resulting conditions.