Appendix D
Carlsbad WMA Strategies

This appendix summarizes the Fiscal Year 2022-23 (FY23; July 1, 2022 – June 30, 2023) implementation efforts for the Responsible Agencies (RAs) identified in the Carlsbad Watershed Management Area (WMA) Water Quality Improvement Plan (WQIP) (September 2021 Update) and previous annual reports. The strategy table on the following pages presents the hydrologic area (HA), jurisdiction, pollutants addressed, temporal extent, and implementation status for each strategy. In combination with the summary information in Appendix C [Jurisdictional Runoff Management Program (JRMP) Annual Reports] of the WQIP Annual Report, these strategies provide comprehensive implementation efforts to address water quality.

Unimplemented or completed strategies are not summarized in this appendix. These strategies are described in the Carlsbad WMA WQIP (September 2021) and/or previous annual reports.

Hyperlinks are provided in the strategy table for strategies implemented or modified during the reporting period to facilitate document navigation. Hyperlinks are embedded in the strategy title to provide a direct connection to strategy implementation summaries presented in this appendix.

Table 1: Carlsbad WMA Strategies

Hydrologic Area						Strategy Title	Jurisdiction								Pollutants Addressed									Temporal Extent		Implementation Status		
Loma Alta	Buena Vista Creek	Agua Hedionda	Encinas	San Marcos	Escondido Creek		Oceanside	Vista	County of San Diego	Carlsbad	San Marcos	Encinitas	Escondido	Solana Beach	Bacteria/Pathogens	Trash	Heavy Metals	Nutrients	Toxicity	Oil and Grease	Riparian Habitat Degradation	Sediment	Pesticides	Hydromodification Impacts	Wet Season	Dry Season	Implemented in Reporting Period? (y/n)	Modifications to Strategy? (y/n)	Planned for implementation next Reporting Period? (y/n)
CORE JURISDICTIONAL STRATEGIES																												
✓	✓	✓	✓	✓	✓	Administrative BMPs	✓	✓	✓	✓	✓	✓	✓	✓	•	•	•	•	•	•	•	•	•	•	•	•	Y	N	Y
✓	✓	✓	✓	✓	✓	Investigations	✓	✓	✓	✓	✓	✓	✓	✓	•	•	•	•		•	•	•	•	•	•	•	Y	N	Y
✓	✓	✓	✓	✓	✓	Development and Redevelopment Requirements	✓	✓	✓	✓	✓	✓	✓	✓	•	•	•	•		•	•	•	•	•	•	•	Y	N	Y
✓	✓	✓	✓	✓	✓	Construction Site Inspections	✓	✓	✓	✓	✓	✓	✓	✓		•					•	•		•	•	•	Y	N	Y
✓	✓	✓	✓	✓	✓	Existing Development Facilities, Areas, and Activities Inspections	✓	✓	✓	✓	✓	✓	✓	✓		•	•	•		•	•	•	•		•	•	Y	N	Y
✓	✓	✓	✓	✓	✓	MS4 Inspections/Cleaning	✓	✓	✓	✓	✓	✓	✓	✓	•	•		•			•	•			•	•	Y	N	Y
✓	✓	✓	✓	✓	✓	Street Sweeping	✓	✓	✓	✓	✓	✓	✓	✓	•	•	•	•		•	•	•			•	•	Y	N	Y
✓	✓	✓	✓	✓	✓	General Education and Outreach	✓	✓	✓	✓	✓	✓	✓	✓	•	•	•	•		•	•	•	•	•	•	•	Y	N	Y
✓	✓	✓	✓	✓	✓	Employee Training/Focused Training	✓	✓	✓	✓	✓	✓	✓	✓	•	•	•	•		•	•	•	•		•	•	Y	N	Y
✓	✓	✓	✓	✓	✓	Enforcement	✓	✓	✓	✓	✓	✓	✓	✓	•	•	•	•		•	•	•	•		•	•	Y	N	Y
✓	✓	✓	✓	✓	✓	Partnership Program(s)	✓	✓	✓	✓	✓	✓	✓	✓	•	•	•	•		•	•	•	•	•	•	•	Y	N	Y
✓	✓	✓	✓	✓	✓	Program for Retrofitting Areas of Existing Development	✓	✓	✓	✓	✓	✓	✓	✓	•	•	•	•		•	•	•	•	•	•	•	Y	N	Y
✓	✓	✓	✓	✓	✓	Program for Stream, Channel, and/or Habitat Restoration in Areas of Existing Development	✓	✓	✓	✓	✓	✓	✓	✓	•	•	•	•		•	•	•	•	•	•	•	Y	N	Y
OPTIONAL JURISDICTIONAL STRATEGIES (PERMIT SECTION B.3.b.(1)(b)) AND WATERSHED MANAGEMENT AREA STRATEGIES (PERMIT SECTION B.3.b.(2))																												
EDUCATION, OUTREACH, AND INCENTIVES																												
		✓		✓		Homeowners Association and Property Manager Outreach Program	-	✓	✓	-	✓	-	-	-	•	•	•	•	•	•	•	•	•		•	•	Y	N	Y
✓	✓	✓		✓	✓	Promote Incentive Programs	✓	-	✓	-	-	-	✓	-	•	•	•	•	•	•		•	•	•	•	•	Y	N	Y
				✓	✓	LID Outreach and Incentive Programs	-	-	-	-	-	✓	-	-	•	•	•	•		•	•	•	•		•	•	Y	N	Y
	✓	✓		✓	✓	Enhanced Education Program	-	✓	✓	✓	✓	-	✓	✓	•	•	•	•	•	•	•	•	•	•	•	•	Y	N	Y
	✓	✓	✓	✓	✓	Pet Waste Bag Dispensers	✓	✓	✓	✓	✓	✓	✓	✓	•	•					•				•	•	Y	N	Y
✓	✓	✓	✓	✓	✓	Efforts to Address Homelessness	✓	✓	✓	✓	✓	✓	✓	✓	•	•					•	•			•	•	Y	N	Y
		✓				On-Site Wastewater Treatment Systems (Septic Systems)	-	✓	✓	✓	-	-	-	-	•										•	•	Y	N	Y
					✓	Enhanced Low Impact Development Residential Retrofit Outreach and Incentive Program	-	-	-	-	-	✓	-	-							•	•			•		Implementation not triggered		
EXISTING DEVELOPMENT INSPECTION STRATEGIES																												
	✓	✓		✓	✓	Property-Based Inspections/Patrol	-	✓	-	✓	✓	-	✓	✓	•	•	•	•	•	•	•	•	•		•	•	Y	Y	Y
				✓		Increased Inspection Frequency for Commercial Sources	-	-	-	-	-	✓	-	-	•	•	•			•					•	•	Y	N	Y

Hydrologic Area						Strategy Title	Jurisdiction								Pollutants Addressed									Temporal Extent		Implementation Status		
Loma Alta	Buena Vista Creek	Agua Hedionda	Encinas	San Marcos	Escondido Creek		Oceanside	Vista	County of San Diego	Carlsbad	San Marcos	Encinitas	Escondido	Solana Beach	Bacteria/Pathogens	Trash	Heavy Metals	Nutrients	Toxicity	Oil and Grease	Riparian Habitat Degradation	Sediment	Pesticides	Hydromodification Impacts	Wet Season	Dry Season	Implemented in Reporting Period? (y/n)	Modifications to Strategy? (y/n)	Planned for implementation next Reporting Period? (y/n)
✓						Existing Industrial and Commercial Inspections – Trash Enclosures	✓	-	-	-	-	-	-	-	•	•	•	•		•		•	•		•	•	Y	N	Y
				✓	✓	FOG Inspection Program	✓	-	-	-	✓	-	✓	✓	•	•	•	•	•	•	•	•	•		•	•	Y	N	Y
	✓	✓		✓	✓	Commercial Agricultural Operations Inspection Program	-	-	✓	-	✓	-	✓	-	•	•		•	•		•	•	•		•	•	Y	Y	Y
DRY WEATHER FLOW REDUCTION STRATEGIES																												
	✓	✓	✓	✓	✓	Irrigation Runoff Reduction	-	✓	✓	✓	✓	✓	✓	✓	•	•	•	•	•	•	•	•	•	•	•	•	Y	N	Y
✓						Runoff and Nutrients Source Reduction	✓	✓	-	-	-	-	-	-	•			•				•	•		•	•	Completed		
				✓		Citywide Landscape Conversion Program	-	-	-	-	✓	-	-	-	•			•					•		•	•	Y	N	Y
	✓	✓				Implement Program Efficiencies	-	-	-	✓	-	-	-	-	•	•	•	•	•	•	•	•	•		•	•	Y	N	Y
		✓				Provide Maximum Response Time for Complaints Received via Stormwater Hotline	-	-	-	✓	-	-	-	-	•	•	•	•	•	•	•	•	•	•	•	•	Y	N	Y
				✓		Active Field Program to Identify and Address Dry Weather Flows	-	-	✓	-	-	-	-	-	•	•	•	•		•		•	•			•	Y	N	Y
✓	✓	✓		✓	✓	Water District Coordination	✓	-	✓	-	✓	✓	✓	-			•	•				•	•			•	Y	N	Y
					✓	Dry Weather Flow Abatement Program	-	-	-	-	-	✓	-	-	•	•	•	•	•	•	•	•	•			•	Y	N	Y
	✓	✓	✓	✓	✓	Enhanced Major Outfall Investigations	-	✓	✓	✓	-	-	-	-	•	•	•	•	•	•	•	•	•	•		•	Y	N	Y
✓						MS4 Outfall Analysis	✓	-	-	-	-	-	-	-	•			•								•	Y	N	Y
				✓		Divert Persistent Dry Weather Flows from Storm Drains to Sewer	-	-	✓	-	-	-	-	-	•		•	•	•	•	•	•	•			•	Implementation not triggered		
MS4 AND INFRASTRUCTURE MAINTENANCE STRATEGIES																												
	✓	✓				Targeted Street Sweeping	-	-	-	✓	-	-	-	-	•	•	•		•			•	•		•		Y	N	Y
				✓	✓	Storm Drain Infrastructure	-	-	-	-	-	-	✓	✓	•	•		•	•	•			•		•	•	Y	N	Y
		✓		✓		Wastewater System Operation and Maintenance	-	✓	✓	✓	-	✓	-	-	•	•	•	•	•			•	•	•	•	•	Y	N	Y
STRUCTURAL BMP(S), RETROFIT, OR RESTORATION PROJECT STRATEGIES																												
✓						Loma Alta Slough Wetlands Enhancement Project	✓	-	-	-	-	-	-	-	•		•	•	•	•	•	•	•	•	•	•	Y	N	Y
✓						Garrison Creek Native Habitat Restoration Project	✓	-	-	-	-	-	-	-	•	•	•	•	•	•	•	•	•	•	•	•	Y	N	Y
	✓					Buena Vista Creek Restoration Project	✓	-	-	-	-	-	-	-	•	•	•	•		•	•	•	•	•	•	•	Y	N	Y
				✓		Filter Retrofit Program	-	-	-	-	✓	-	-	-	•			•							•	•	Y	N	Y
				✓		Permanent BMP Requirements for Standard Projects	-	-	-	-	-	✓	-	-				•							•	•	Y	N	Y
	✓					Buena Vista Creek at Brengle Terrace Restoration	-	✓	-	-	-	-	-	-	•		•	•		•	•	•	•		•	•	Completed		

Hydrologic Area						Strategy Title	Jurisdiction								Pollutants Addressed									Temporal Extent		Implementation Status		
Loma Alta	Buena Vista Creek	Agua Hedionda	Encinas	San Marcos	Escondido Creek		Oceanside	Vista	County of San Diego	Carlsbad	San Marcos	Encinitas	Escondido	Solana Beach	Bacteria/Pathogens	Trash	Heavy Metals	Nutrients	Toxicity	Oil and Grease	Riparian Habitat Degradation	Sediment	Pesticides	Hydromodification Impacts	Wet Season	Dry Season	Implemented in Reporting Period? (y/n)	Modifications to Strategy? (y/n)	Planned for implementation next Reporting Period? (y/n)
				✓		Implement San Marcos Creek District 401 Water Quality Certification No. 11C058	-	-	-	-	✓	-	-	-	•	•		•			•	•	•		•	•	Y	N	Y
				✓		Implement Preferred Watershed Remedy as Proposed Through the Final Corrective Action Plan	-	-	✓	-	✓	-	✓	-	•	•	•	•		•		•	•		•	•	Y	N	Y
					✓	Rehabilitation of the Olivenhain Trunk Sewer Line	-	-	-	-	-	✓	-	-	•	•	•	•	•	•	•	•	•		•		Y	N	Y
✓						RV sewage disposal and Modular Wetland	✓	-	-	-	-	-	-	-	•										•	•	Y	N	Y
	✓					Paseo Santa Fe Green Street Project – Phase 1	-	✓	-	-	-	-	-	-	•	•				•		•			•	•	Completed		
	✓					Paseo Santa Fe Green Street Project – Phase 2	-	✓	-	-	-	-	-	-	•	•				•		•			•	•	Completed		
					✓	North Cedros Stormwater Treatment Unit	-	-	-	-	-	-	-	✓	•	•	•	•		•	•	•	•		•	•	Y	N	Y
				✓		Escondido Country Club Redevelopment and Runoff Treatment Project	-	-	-	-	-	-	✓	-	•	•			•		•			•	•		Y	N	Y
					✓	Restoration of Spruce Street Channel |Escondido Creek Restoration Project	-	-	-	-	-	-	✓	-	•		•	•	•	•	•	•	•		•	•	Y	N	Y
					✓	Santa Rosita and Santa Florencia Slope Drainage Collection	-	-	-	-	-	-	-	✓	•	•	•	•		•	•	•	•			•	Y	N	Y
					✓	Enhancement of Native Habitats in the San Elijo Lagoon Ecological Preserve	-	-	-	-	-	✓	-	-							•				•	•	Completed		
		✓				Agua Hedionda Creek Restoration Project	-	-	-	✓	-	-	-	-	•		•	•	•	•	•	•	•	•	•	•	Y	N	Y
		✓				Roman Creek Wetland Project	-	✓	-	-	-	-	-	-	•		•	•	•	•	•	•	•	•	•	•	Y	N	Y
	✓					Buena Vista Lagoon Enhancement Project	✓	-	-	✓	-	-	-	-	•	•	•	•	•	•	•	•	•		•	•	Y	N	Y
✓	✓	✓		✓	✓	Implement Offsite Alternative Compliance Program	✓	-	✓	✓	✓	✓	✓	✓	•	•	•	•	•	•	•	•	•	•	•	•	Y	N	Y
	✓					Paseo Santa Fe Green Street Project-Phase 3	-	✓	-	-	-	-	-	-	•	•	•	•		•		•	•		•	•	Completed		
				✓	✓	Program to Remove Invasive Non-Native Plants	-	-	✓	-	-	-	-	-	•			•			•	•			•	•	Implementation not triggered		
					✓	San Elijo Lagoon Restoration	-	-	✓	-	-	✓	-	-				•			•					•	Completed		
				✓		Flood Mitigation in Leucadia Drainage Basin	-	-	-	-	-	✓	-	-								•			•		Y	N	Y
	✓	✓		✓	✓	Implement Structural or Retrofit BMPs	✓	✓	✓	✓	✓	-	✓	✓	•	•	•	•	•	•	•	•	•	•	•	•	Y	N	Y
✓						Enhanced Treatment Control BMP Inspection Program	✓	-	-	-	-	-	-	-	•	•	•	•	•	•	•	•	•		•	•	Implementation not triggered		
✓				✓		Ultraviolet Bacteria Treatment Facility	✓	-	-	-	-	✓	-	-	•										•	•	Y	N	Y
					✓	San Elijo JPA Dry Weather Diversion	-	-	-	-	-	✓	-	-	•	•	•	•	•	•	•	•	•			•	Y	N	Y
				✓		El Camino Real Channel Flood Control and Water Quality Improvements	-	-	-	-	-	✓	-	-	•			•			•	•			•	•	Completed		
				✓		Highway 101 Green Street Retrofit	-	-	-	-	-	✓	-	-	•	•	•	•		•		•	•		•	•	Implementation not triggered		
				✓		Sylvia Street and 4th Street Green Street Retrofit	-	-	-	-	-	✓	-	-	•	•	•	•		•		•	•		•	•	Implementation not triggered		
				✓		Ocean View Avenue Green Street Retrofit	-	-	-	-	-	✓	-	-	•	•	•	•		•		•	•		•	•	Implementation not triggered		

Hydrologic Area						Strategy Title	Jurisdiction								Pollutants Addressed										Temporal Extent		Implementation Status		
Loma Alta	Buena Vista Creek	Agua Hedionda	Encinas	San Marcos	Escondido Creek		Oceanside	Vista	County of San Diego	Carlsbad	San Marcos	Encinitas	Escondido	Solana Beach	Bacteria/Pathogens	Trash	Heavy Metals	Nutrients	Toxicity	Oil and Grease	Riparian Habitat Degradation	Sediment	Pesticides	Hydromodification Impacts	Wet Season	Dry Season	Implemented in Reporting Period? (y/n)	Modifications to Strategy? (y/n)	Planned for implementation next Reporting Period? (y/n)
				✓		Arden Drive and San Dieguito Drive Green Street Retrofit	-	-	-	-	-	✓	-	-	•	•	•	•		•		•	•		•	•	Implementation not triggered		
				✓		Encinitas Viewpoint Park Green Parcel Retrofit	-	-	-	-	-	✓	-	-	•	•	•	•		•		•	•		•	•	Implementation not triggered		
				✓		City Public Works Yard Green Parcel Retrofit	-	-	-	-	-	✓	-	-	•	•	•	•		•		•	•		•	•	Implementation not triggered		
				✓		Vulcan Avenue Low Impact Development and Flood Control Project	-	-	-	-	-	✓	-	-	•	•	•	•		•		•	•		•	•	Implementation not triggered		
				✓		Leucadia Highway 101 East Side Parking Areas and Stormwater Treatment	-	-	-	-	-	✓	-	-	•	•	•	•		•		•	•		•	•	Implementation not triggered		
				✓		Leucadia Highway 101 Streetscape (Phases I and II)	-	-	-	-	-	✓	-	-	•	•	•	•		•		•	•		•	•	Implementation not triggered		
				✓		Lumberyard Sidewalk (East Side Highway 101 Downtown)	-	-	-	-	-	✓	-	-	•	•	•	•		•		•	•		•	•	Completed		
				✓		Coastal Rail Trail	-	-	-	-	-	✓	-	-	•	•	•	•		•		•	•		•	•	Completed		
				✓		Implement Stream Restoration Activities	-	-	✓	-	✓	-	-	-	•	•		•		•		•			•	•	Implementation not triggered		
					✓	Evaluate Additional Green Infrastructure Opportunities	-	-	-	-	-	-	✓	-	•			•				•	•		•		Y	N	Y
					✓	Corporate Yard Improvements	-	-	-	-	-	-	✓	-				•		•		•				•	N	N	N
✓						Develop List of Potential Structural or Retrofit Existing BMPs to Address Flow/Pollutant Issues	✓	-	-	-	-	-	-	-	•	•	•	•	•	•	•	•	•		•	•	Implementation not triggered		
PHASED APPROACH ADDRESSING INDICATOR BACTERIA																													
		✓				Protect SHELL and REC-1 Beneficial Uses in Agua Hedionda Lagoon		✓	✓	✓					•											•	•	Y	N	N
REGULATORY BASED STRATEGIES																													
				✓	✓	Plastic Bag Ban	-	-	-	-	✓	✓	-	✓	•	•			•							•	•	Y	Y	Y
				✓	✓	Expanded Polystyrene Ban	-	-	-	-	-	✓	-	✓	•	•					•					•	•	Completed		
TRAINING-BASED STRATEGIES																													
	✓	✓		✓	✓	BMP Design Manual Training	-	-	✓	-	-	-	-	-	•	•	•	•		•		•	•		•	•	Completed		
	✓	✓		✓	✓	Annual Focused Training for County Field Staff	-	-	✓	-	-	-	-	-	•	•		•							•	•	Y	N	Y
WATERSHED MANAGEMENT AREA STRATEGIES (MS4 PERMIT SECTION B.3.b.(2))																													
✓	✓	✓	✓	✓	✓	Integrated Regional Water Management (IRWM)	✓	✓	✓	✓	✓	✓	✓	✓	•	•	•	•	•	•	•	•	•	•	•	•	Y	N	Y
✓	✓	✓	✓	✓	✓	Sustainable Landscape Incentive Program	✓	✓	✓	✓	✓	✓	✓	✓	•			•	•			•	•		•	•	Implementation not triggered		

Core Jurisdictional Program Strategies

Core jurisdictional strategies are planned jurisdictional strategies. These strategies represent programs designed to address the requirements of Permit Provisions E.2. through E.7. While these strategies will be implemented in each HA, some HAs have additional planned jurisdictional strategies. Additional information about the implementation of core jurisdictional strategies may be provided in JRMP Annual Report documentation.

Administrative BMPs

HA: ☒ Loma Alta ☒ Buena Vista ☒ Agua Hedionda ☒ San Marcos ☒ Encinas ☒ Escondido Creek
Jurisdiction/Area for Implementation: ALL

Strategy Description:

Administrative BMPs are core strategies for implementation. Program administration is fundamental in achieving effective outcomes, and confirmation is often used to track plan implementation. Administrative BMP activities include:

1. Review/update source inventories and priorities
2. Establish/review/update BMP requirements and develop BMP design requirements
3. Develop/review/update standard operating procedures (SOPs), Stormwater Pollution Prevention Plans, Stormwater Management Plans, manuals, enforcement procedures, etc.
4. Review/update General Plans,
5. Review/update ordinances, municipal code, etc.
6. Maintain appropriate contracts for BMP operation and maintenance
7. Review/update educational materials
8. Review/update approval process
9. Establish and maintain adequate legal authority

Administrative BMPs include establishing BMP requirements. In many cases, this means developing Activity BMPs for implementation by target audiences. Activity BMPs include: cover, contain, prevent discharges, (good housekeeping) and administrative BMPs. Some examples of activity BMPs include:

1) Covering activity/material
2) Clean floor mats, etc. indoors
3) Washing vehicles and equipment in designated areas
4) Properly managing pesticide/fertilizer use
5) Protecting storm drains
6) Cleaning up regularly with dry methods
7) Developing and implementing spill prevention plans.

Minimum Activity BMPs may vary between RAs (due to each jurisdiction's requirements), but each jurisdiction strives to require and enforce all minimum BMPs for the appropriate source. Jurisdiction-specific Minimum Activity BMPs for municipal, industrial and commercial, construction, and residential areas and activities are included in each JRMP.

The requirement and enforcement of Activity BMPs is a facilitation activity by the RAs that, when implemented by the target audience can assist in achieving behavior change and, in some cases, load reductions.

FY23 Implementation:

City of Oceanside

During the reporting year, the City of Oceanside updated their BMP Design Manual. The proposed changes to the design manual relate to site design requirements for all development projects and the California Regional Water Quality Control Board, San Diego Region (San Diego Water Board) issued Order No. R9-2017-0077 (Trash Order). This update will require private development and redevelopment projects to

install and maintain full capture systems (FCS) for all storm drains on private property. Additionally, the city created three new stormwater outreach brochures for PDP, agricultural, and residential sites. The brochures cover common best management practices and provide an accessible overview of stormwater pollution prevention information. The brochures will be handed out during outreach events and provided as needed during inspections and for enforcement cases.

County of San Diego

No updates to County Watershed Protection Ordinance or BMP Design Manual were needed this FY and all elements were successfully implemented. Internal training was provided to County Departments that implement BMP Design Manual requirements. Outreach to the development community was completed through the use of fact sheets and the Project Clean Water Q&A portal. The Community Event Permit (CEP) added a section to the Watershed Protection Program's BMPs for Special Events to help prevent pollution.

Investigations

HA: ☒ Loma Alta ☒ Buena Vista ☒ Agua Hedionda ☒ San Marcos ☒ Encinas ☒ Escondido Creek
Jurisdiction/Area for Implementation: ALL

Strategy Description:

RAs conduct investigations to identify illegal discharges and illicit connections resulting from public reporting (hotlines, websites, etc.), inspection findings, staff referrals, and/or monitoring results. Investigations may include visual observations, closed-circuit television (CCTV) pipeline inspections often used for the MS4, or additional monitoring. Investigations can occur in municipal, land development, construction, industrial, commercial, or residential areas. Investigations may also address a wide range of pollutants and pollutant-generating activities based upon the type of illegal discharge, illicit connection, or possibly natural source discovered. The purpose of investigations is to identify and eliminate any illegal discharges or illicit connections to the MS4. Typical illegal discharges identified through investigations include:

1) Motor oil or antifreeze from automobiles
2) Sanitary wastewater
3) Runoff from irrigation
4) Household toxic substances
5) Sediment
6) Trash

Investigations are a standard tool used to respond to reports of potential violations, and this data-gathering activity can be effective in finding and eliminating illegal discharges and illicit connections. The detection and elimination of illegal discharges and illicit connections can result in load reductions.

FY23 Implementation:

WMA-wide Efforts

During the reporting period, investigations were conducted to identify non-stormwater discharges resulting from public reporting (hotlines, websites, etc.), inspection findings, staff referrals, and/or monitoring results. Through the investigations, the RAs identified and eliminated 1,459 non-stormwater discharges and 1,269 illicit discharges/connections, which led to a reduction of potential pollutants entering the MS4 or receiving waters.

Development and Redevelopment Requirements

HA: ☒ Loma Alta ☒ Buena Vista ☒ Agua Hedionda ☒ San Marcos ☒ Encinas ☒ Escondido Creek
Jurisdiction/Area for Implementation: ALL

Strategy Description:

Development and redevelopment project proponents submit project applications to the RAs to obtain permits to construct their projects. In general, project types include those that have ground-disturbing activities and create or replace impervious surfaces. As required by the Permit, RAs, through their administrative processes (e.g., ordinances, standards, BMP Design Manuals), have established specific design requirements for development and redevelopment projects to incorporate low impact development (LID), source control, pollutant control, and hydromodification management BMPs into the project design.

In general, RAs use their land development processes as the mechanism to determine a project's development priority and place conditions on projects to fulfill the water quality and hydromodification related project requirements. Project proponents submit their plans and reports to demonstrate compliance with the RAs' requirements. Those plans and reports are then reviewed and evaluated for accuracy and compliance with the requirements of the Permit.

The implementation and enforcement of development and redevelopment requirements is an effective BMP because it mitigates potential water quality or hydromodification impacts from development land use. Furthermore, as redevelopment continues to occur, previously unmitigated existing land uses will have required treatment and flow controls installed that alleviate impacts to water quality or hydromodification impacts from historical land uses (i.e., impervious areas).

FY23 Implementation:

City of Oceanside

The City of Oceanside prepared an update to the BMP Design Manual (June 2023). The proposed changes to the BMP Design Manual relate to Chapter 4 Source Control and Site Design Requirements for all Development Projects and the California Regional Water Quality Control Board, San Diego Region (San Diego Water Board) issued Order No. R9-2017-0077 (Trash Order). The city is requiring private development and redevelopment projects to install and maintain full capture systems (FCS) for all storm drains on private property to meet the Trash Order regulatory requirements. The city will publish the updated BMP Design Manual and begin applying the requirements to projects after confirmation and acceptance from the San Diego Water Board. The current Manual (2022) is available on the city's website, and the link to this page is listed on Project Clean Water.

In FY23, city staff also updated their PDP self maintenance verification process. In the past staff sent out mailers and emails to all PDP site contacts, and conducted follow up in a similar manner. This fiscal year staff created an online maintenance verification document linked by a QR code for PDP site manager's. The document also included a link that allowed the responsible party to upload the required inspection photos and maintenance documentation.

County of San Diego

The County developed the Self-Verification Documentation (SVD) Online Portal to allow responsible parties of Structural BMPs (S-BMPs) to submit their MS4 Permit required annual operation and maintenance documentation electronically. The SVD Online Portal also provides a way for customers to send in photos that show the current conditions of their S-BMP(s) and view the location of their S-BMP(s) on a map. They can use the Portal to review BMP information, and to submit BMP photos and other maintenance documentation from a smartphone or desktop computer. The Portal was updated in FY23 to increase efficiency and ensure all photo file types are accepted. This tool has improved communication with responsible parties, simplified the submittal process, and reduced the paperwork associated with regular mail submittals.

Construction Site Inspections

HA: ☒ Loma Alta ☒ Buena Vista ☒ Agua Hedionda ☒ San Marcos ☒ Encinas ☒ Escondido Creek
Jurisdiction/Area for Implementation: ALL

Strategy Description:

Inspections are conducted to examine facilities or sites for stormwater requirements and BMP implementation and are often used as an opportunity to educate facility operators or owners regarding stormwater and BMPs. Typically, inspections consist of two primary components: a visual/observational assessment of the conditions and operations at the facility or site; and verbal interviewing of the facility or site representative. The purpose of the inspections is to identify issues or potential issues and initiate a course of action to correct identified issues.

Construction site inspections are on-site inspections that include, but are not limited to:

- Verification of coverage under the General Construction Permit (Notice of Intent (NOI) and/or Waste Discharge Identification Number);
- Assessment of compliance with ordinances and permits related to urban runoff, including the implementation and maintenance of designated minimum BMPs;
- Assessment of BMP effectiveness;
- Visual observations for non-stormwater discharges, potential illicit connections, and potential discharge of pollutants in stormwater runoff;
- Distribution of education and outreach material on stormwater pollution prevention (if needed), and
- Creation of a written or electronic inspection report.

Based on inspection findings, each jurisdiction implements follow-up actions necessary to comply with the Municipal Permit and any applicable jurisdictional ordinances, permits, etc.

Information and data from inspections can be used for program evaluations and effectiveness assessments. Additionally, inspections can address single or multiple pollutants such as bacteria, trash, heavy metals, nutrients, oil and grease, organics, sediment, and pesticides. The effectiveness of inspections in reducing runoff pollutants and discharges is highly variable and dependent upon site-specific conditions, including but not limited to: motivation of facility or site representative/owner; level of difficulty in making required corrections; BMP complexity, and other factors.

FY23 Implementation:

WMA-wide Effort

RAs completed 7,615 construction inspections within the WMA during the reporting period.

Existing Development Facilities, Areas, and Activities Inspections

HA: ☒ Loma Alta ☒ Buena Vista ☒ Agua Hedionda ☒ San Marcos ☒ Encinas ☒ Escondido Creek
Jurisdiction/Area for Implementation: ALL

Strategy Description:

Inspections are conducted to examine facilities or sites for stormwater requirements and BMP implementation. They are often used as an opportunity to educate facility operators or owners regarding stormwater and BMPs. Typically, inspections consist of two primary components: a visual/observational assessment of the conditions and operations at the facility or site; and verbal interviewing of the facility or site representative. The purpose of the inspections is to identify issues or potential issues and initiate a course of action to correct identified issues.

As part of the inspection program, inventories for facilities, residential management areas, and other activities and areas are maintained and prioritized. In general, inspection frequency is based on priority. Inspection and enforcement information and any applicable follow-up information are retained in a

database. Upon inspection findings, each jurisdiction implements follow-up actions necessary to comply with the Municipal Permit and any applicable jurisdictional ordinances, permits, etc.

Information and data from inspections can be used for program evaluations and effectiveness assessments. Additionally, inspections can address single or multiple pollutants such as bacteria, trash, heavy metals, nutrients, oil and grease, organics, sediment, and pesticides. The effectiveness of inspections in reducing runoff pollutants and discharges is highly variable and dependent upon site-specific conditions, including but not limited to: motivation of facility or site representative/owner; level of difficulty in making required corrections; BMP complexity, and other factors.

FY23 Implementation:

WMA-wide Efforts

There were 4,932 existing development (i.e., municipal, commercial, industrial, and residential facilities or areas) inspections conducted in the WMA during the reporting period. The inspection efforts contribute to identifying and eliminating sources that have the potential to adversely impact water quality in the MS4 and receiving waters.

County of San Diego

The JRMP and WPO establish minimum BMPs for all land use types. Inspections ensure minimum BMPs are implemented in areas of existing development. A mobile tracking application was developed in FY15 and continued to be used during the reporting period. The application allows inspectors to quickly access parcel GIS data to assist with routine inspections. The enhanced inventory prioritization approach that previously implemented for industrial, commercial, municipal, and residential facilities continued to be used in FY23.

In FY23, 100% of golf courses were inspected for nutrient pollution prevention within the Upper San Marcos Hydrologic Area. Golf courses inspected included The Links at Lakehouse and The Executive at Lakehouse, which both had no violations.

MS4 Inspections/Cleaning

HA: ☒ Loma Alta ☒ Buena Vista ☒ Agua Hedionda ☒ San Marcos ☒ Encinas ☒ Escondido Creek
Jurisdiction/Area for Implementation: ALL

Strategy Description:

Operating and maintaining the MS4 infrastructure, which includes storm drainpipes, catch basins, inlets, open channels, etc., encompasses a large variety of activities performed by the RAs' municipal or contract staff. Each Responsible Agency implements a schedule of inspection and maintenance activities for the MS4 and MS4 facilities. The maintenance activities that may be conducted include:

- Inventory and prioritization
- Inspection
- Cleaning and proper disposal of any wastes removed
- Recordkeeping of maintenance and cleaning, including amounts removed.

Additionally, each Responsible Agency implements controls and measures to prevent and eliminate infiltration of seepage from municipal sanitary sewers to MS4s through thorough, routine preventive maintenance of the MS4 and sanitary sewer collection systems.

Each jurisdiction's MS4 inventory and MS4 inspection and cleaning details are included in their Jurisdictional Runoff Management Program.

The MS4 inspection and cleaning program's implementation can provide knowledge and awareness, and behavior changes through municipal staff implementing the MS4 inspection and cleaning at the proper frequency and within the appropriate cleaning guidelines. MS4 cleaning can also achieve source load reductions when the amount of debris removed from the MS4 and MS4 facility cleaning is measured.

FY23 Implementation:

WMA-wide Efforts

The RAs performed 10,437 MS4 inspections throughout the WMA and cleaned 5,494 MS4 facilities eliminating over 3,017 tons of trash, sediment, and leaf litter debris from entering the receiving water during the reporting period.

Street Sweeping

HA: ☒ Loma Alta ☒ Buena Vista ☒ Agua Hedionda ☒ San Marcos ☒ Encinas ☒ Escondido Creek
Jurisdiction/Area for Implementation: ALL

Strategy Description:

Street sweeping is conducted to remove debris, trash, or particles from improved municipal roads (possessing a curb and gutter), streets, highways, and parking facilities. Street sweeping can be effective in removing trash, debris, and other constituents of concern, such as metals and plastics, from roadways and parking facilities before entering the storm drain system and potentially reaching receiving waters. Also, street sweeping helps prevent blockages in storm drains caused by trash and debris that can create flooding issues during heavy rainfall periods.

Street sweeping implementation will vary by jurisdiction and may vary based on location in the watershed. Street sweeping program information is contained in each JRMP. The measurement of the amount of trash, debris, and constituents of concern removed through street sweeping provides information on the source load reduction.

FY23 Implementation:

WMA-wide Efforts

Throughout the WMA, the RAs swept 59,238 miles of municipal roads, streets, highways, and parking facilities, which effectively eliminated over 5,291 tons of debris and pollutants from entering the MS4 during the reporting period.

General Education and Outreach

HA: ☒ Loma Alta ☒ Buena Vista ☒ Agua Hedionda ☒ San Marcos ☒ Encinas ☒ Escondido Creek
Jurisdiction/Area for Implementation: ALL

Strategy Description:

Education and outreach activities are Core Strategies conducted to increase the knowledge and awareness of a target community regarding stormwater, change the target community's behavior, and/or ultimately reduce pollutants and runoff into the MS4 and receiving waters. In general, an education and outreach strategy is developed, and the programs typically address high-priority pollutants, pollutant-generating activities, and the following target communities, as applicable and appropriate:

- Municipal departments and personnel (described in employee training);
- Construction site owners and developers;
- Industrial owners and operators;
- Commercial owners and operators; and
- Residential community.

Methods used for education and outreach vary and may include training, mass media, mailers, door hangers, booths at public events, workshops, focus groups, classroom education, field trips, hands-on experiences, clean-up events, websites, etc. Education and outreach can be conducted by one or several RAs, and they may combine funds and efforts to conduct activities or develop materials. Education and outreach activities are included in each JRMP.

FY23 Implementation:

WMA-wide Efforts

During the reporting period, the RAs conducted 104 educational events to increase knowledge and awareness of water quality issues and solutions.

Regional Efforts

Outreach Events

The San Diego County Copermittees continued to sponsor and participate in community outreach and clean up events with region-wide appeal through the Project Clean Water Workgroup during this reporting period. In FY23, Project Clean Water outreach efforts at events reached a total of 161,000 people. Events through the workgroup include:

- **2022 Coastal Cleanup Day**: On September 17, 2022, the Copermittees sponsored I Love A Clean San Diego's 38th Annual Coastal Cleanup Day, which is the official cleanup for the San Diego Region. The event is a major part of International Coastal Cleanup Day facilitated by The Ocean Conservancy. The regional totals for the event included 70 cleanup locations and 3,609 volunteers who removed a total of 22,727 pounds of trash, 2,160 pounds of recyclables, and 7,180 pounds of green waste. Within the Carlsbad WMA, volunteers removed 2281.5 pounds of trash and 451 pounds of recyclables.
- **2023 Creek to Bay Cleanup:** On April 22, 2023, the Copermittees sponsored I Love A Clean San Diego's 21st Annual Creek to Bay Cleanup. The regional totals for the event included 90 cleanup locations and 4,000 volunteers who removed a total of 50,306 pounds of trash, 1,787 pounds of recyclables, and 35,302 pounds of green waste. Within the CWMA, volunteers removed 11,873.5 pounds of trash and 339 pounds of recyclables.
- **2023 EarthFest:** On April 22, 2023, Project Clean Water sponsored a booth at EarthFest in Balboa Park. EarthFest draws around 50,000 visitors each year looking for ways to live more sustainably and support a clean, healthy, prosperous environment. The Project Clean Water booth featured a spin-and-win interactive game and an opportunity for patrons to learn more about stormwater issues impacting the San Diego region. In addition, 200 people took the 52 Ways to Love Your Water Pledge.
- **2023 Walk for Animals:** On May 6, 2023, Project Clean Water sponsored a booth at the San Diego Humane Society Walk for Animals. There were over 4,000 walkers who participated in the event, and 148 people took the 52 Ways to Love Your Water Pledge at the Project Clean Water booth. Since the event drew in mainly dog owners, it was a great opportunity to spread awareness of the "Keep San Diego Doody Free" campaign aimed at reducing the amount of pollutants associated with pet waste entering waterways in the San Diego region.
- **2023 San Diego County Fair:** The San Diego County Fair theme was "Get Out There." The Fair is a major draw for San Diego County residents and saw **nearly 1 million** visitors in 2023. The Project Clean Water booth featured a spin-and-win interactive game and educational materials pertaining to the "Keep San Diego Doody Free" campaign. In addition, 263 people took the 52 Ways to Love Your Water Pledge.
- **Movies in the Park:** Copermittees sponsored three Movies in the Park events and hosted a Project Clean Water booth with coalition partners at each event in June, August, and October 2022. Copermittees interacted with the public to educate them on stormwater pollution prevention and encourage participation in the 52 Ways to Love Your Water Pledge run through the Stormwater Behavior Change Marketing Campaign. Before the movies began, there was a screening of the "Love Your Water" video created in collaboration with local spoken word artist, Gill Sotu, to highlight the importance of water in our lives, stormwater pollution issues, and pollution prevention messaging.

Project Clean Water Website (Regional Clearinghouse) Updates

The Project Clean Water[1] website is a web-based portal that provides a centralized point to access water quality information and resources. The website serves as the San Diego County Copermittees' Regional Clearinghouse and provides the public and regulators with access to documents and data, organized by

[1] https://www.projectcleanwater.org/

watershed. The site is continuously maintained and refreshed while retaining an archive for previous iterations of watershed plans and documents. The Project Clean Water website is central to the Stormwater Behavior Change Marketing Campaign and all educational resources are either on the landing page or accessible from the top navigation menu on all pages of the website. The Copermittees continued the expansion of the website in FY23 with the addition of new web pages for new campaigns and their associated resources. During this reporting period, Project Clean Water is revamping the document library user experience to simplify searching for a particular document.

Importantly, Project Clean Water also serves as a regional pollution reporting hotline. Users may report stormwater pollution, illegal dumping, and other environmental concerns through the web portal. The reports are then directed to the appropriate Copermittee contact. Project Clean Water also promotes regional and Copermittee educational events, including long-term outreach strategies like the "52 Ways to Love Your Water" Pledge campaign.

Stormwater Behavior Change Marketing Campaign

Project Clean Water's Stormwater Behavior Change Marketing Campaign is a 5-year regional public education and outreach initiative dedicated to protecting water quality in San Diego County. The campaign was created in FY 19-20 in response to regional surveys reflecting a decline in public awareness that stormwater entering our storm drains is not treated before reaching our rivers, lagoons, and the ocean. The initiative fosters greater awareness of everyday actions people can take to reduce runoff and stormwater pollution and engages with local partners via a coalition of regional groups, nonprofits, businesses, and individuals. In addition to dispersed outreach, Project Clean Water offers a centralized point-of-access for water quality information, resources, and water management plans.

The multi-year educational campaign starts with increasing awareness that stormwater entering our storm drains is not treated before it reaches our waterways. It focuses on three areas to reduce the impacts of polluted stormwater:

1. Reduce stormwater runoff and use of garden chemicals
2. Properly dispose of trash, hazardous waste, bulky items, and pet waste
3. Capture and reuse stormwater

In FY23, Copermittees garnered over 32 million impressions through promoting Project Clean Water campaigns via sponsored events (described in section above), social media, advertising, and earned media. FY23 activities included:

- 52 Ways to Love Your Water Pledge**:** Starting in March 2021, the Pledge focuses on building foundational awareness of stormwater and pollution issues. The Pledge, renewed in FY23, provides weekly small actions that everyone can take to help protect our waterways. Each week a new action is provided through Project Clean Water's social media and newsletter while providing additional context on the Project Clean Water website. These actions are aligned with wet and dry weather messaging, with the goal of solidifying basic stormwater understanding in the community from which to build upon over duration of the campaign. In FY23, Project Clean Water received an additional 630 pledges.
- **Project Clean Water's Youth Microgrant Program**, Youth 4 Clean Water, awards grants to high-school student-led teams that use science and/or engineering to address water quality in their local watershed. The selected teams are awarded $500 for pollution prevention-themed projects addressing polluted runoff reduction, proper trash and pet waste disposal, or stormwater capture and reuse. The program aims to engage K-12 students and their families in stormwater pollution prevention and provide educators with resource toolkits for incorporating stormwater education into lesson plans. In FY23, the program awarded one grant to a team from e3 Civic High School in San Diego. The team's project was the design and development of a prototype for a Virtual Reality application that guides users through the intricate journey of stormwater as it navigates its course to the ocean. The project also includes an impactful campaign to raise awareness about the pervasive issue of plastic pollution in the San Diego region.

- Illegal Dumping Campaign**:** The "Dude! Be Cool. Don't Dump." campaign launched in FY23 aims to raise awareness of improper disposal of unwanted items such as mattresses, furniture, tires, trash bags, hazardous waste, and electronic waste. The campaign provided resources and guidance to the community on properly disposing of unwanted bulky items and how to report illegally dumped bulky items. Additionally, in partnership with the State's Clean California initiative and the City of San Diego's Think Blue, Project Clean Water organized Dump Day events throughout the county for the community to safely and properly dispose of their household hazardous waste, electronic waste, and bulky items. Project Clean Water worked closely with Think Blue to designate the month of March 2023 as Spring Cleaning Month, encouraging residents in the San Diego region to participate in organized clean-up efforts and prevent litter from entering water bodies and storm drains.
- **Advertising:** Project Clean Water campaigns garnered over 26 million impressions in FY23 through advertising efforts that included advertising in movie theaters, digital and programmatic advertising, paid social media, transit bus shelters, geofencing digital marketing, and radio campaigns.
- **Media Relations:** Copermittees secured earned media in all major news outlets with contributed stories in the San Diego Union-Tribune, which resulted in over nine million impressions with a value of $700,373. There was extensive press coverage for "Project Clean Water Launches Campaign on Properly Disposing of Unwanted Items," "Keeping the 4th of July Trash Free," and "America Recycles Day."

County of San Diego

Outreach Events

- **Earth Day Event:** On April 21st, 2023, the AWM Organic Program hosted a booth at the County of San Diego Earth Day event at the County Operations Center (COC). They presented valuable information on organic system plans, including implementation of tillage and cultivation practices that maintain or improve the physical, chemical and biological condition of the soil, minimize soil erosion, and does not contribute to the contamination of soil or water. With more than 300 organic operations throughout San Diego County, the organic standard practices implemented by these operations represent sustainable agriculture practices that positively contribute to the protection of regional water quality. Several county employees across multiple departments attended the COC Earth Day event.

Cleanup/Collection Events

- **Sponsored Trash Cleanup Events**: The County facilitated and sponsored several additional cleanup events to remove trash and debris from waterways, including Creek to Bay Cleanup, Coastal Cleanup Day and Watershed Warrior local community events. Staff and I Love A Clean San Diego (ILACSD) coordinated trash cleanup events in conjunction with high school and middle school outreach. The ILACSD trash cleanup events sponsored by the County in FY23 resulted in the removal of 14,155 pounds of trash and 790 pounds of recyclables from the Carlsbad WMA.

- **Pesticide Container Recycling Events**: The County partnered with EDCO Waste Disposal to host three Free Pesticide Container Recycling events, which provided commercial pesticide users opportunities to legally recycle their used pesticide containers. A total of 568 pounds of containers were recycled and were later repurposed by the Agricultural Container Recycling Council into many useful products. AWM also held two unwanted pesticide disposal events for agricultural growers. Unwanted pesticide disposal events benefit the environment by safely removing potentially hazardous, unwanted, and outdated pesticides from agricultural operations. Changes in regulatory requirements have led to the accumulation of unwanted or obsolete pesticides, and over time, even with proper storage, the degradation of pesticide containers can lead to unusable or unsafe containers for long term storage. A total of 1,440 emails and 1,485 letters with applications for participation were sent to agricultural growers in order to encourage a high level of participation, and the events were free of charge for agricultural growers. In total, 18 agricultural growers safely disposed of 3,085 lbs. of pesticides at the events.
- **Used Oil Filter Exchange**: The County, in partnership with ILACSD, and funded through a grant from CalRecycle, held used oil filter exchange events at five O'Reilly Auto Parts stores in the unincorporated areas of San Diego County. This event promoted the recyclability and proper disposal of used oil and filters by encouraging residents to drop off their used oil filter for recycling, and in exchange, received a new oil filter free of charge. During the event, 257 filters were collected and recycled from residents.

Outreach Programs

- **University of California Cooperative Extension (UCCE) Presentations, Workshops, and Trainings.** From August 2022 through June 2023, UCCE hosted a variety of presentations, workshops, and trainings for agricultural landowners, homeowners, farm producers, and growers. A total of 15 outreach events and 20 days at the Carlsbad Flower Fields were held, which reached an estimated 285,000 people. These outreach events discussed pollution prevention practices, best practices for agricultural water quality management and runoff control, and treatment options for agricultural water.
- **I Love A Clean San Diego Outreach**: County contractor, I Love A Clean San Diego (ILACSD), provided 59 presentations to elementary and middle school students (1,691 students total) regarding recycling and proper disposal of household hazardous waste as well as two in-person used oil recycling presentations delivered to 22 English as a second language classes attendees.
- **Waste Reduction Assistance**: In FY23, County staff and contractor conducted 182 commercial inspections, implemented 123 commercial recycling programs, and distributed 28 recycling containers for businesses county-wide. They also completed 18 multi-family residence inspections county-wide.

Employee Training/Focused Training

HA: ☒ Loma Alta ☒ Buena Vista ☒ Agua Hedionda ☒ San Marcos ☒ Encinas ☒ Escondido Creek
Jurisdiction/Area for Implementation: ALL

Strategy Description:

Municipal employee, contractor, or consultant stormwater training is conducted to increase the target audience's knowledge regarding laws, regulations, permits, and requirements; BMPs; general urban runoff concepts; and any other relevant topics, as deemed appropriate. Training may be job-specific (i.e., MS4 cleaning procedures), or they may be more general, but ultimately, they provide a mechanism to communicate jurisdictional requirements to the appropriate employees. Training methods that may be used could be computer-based interactive tutorials, classroom-style training, audiovisual methods (i.e., DVD), or on-the-job training (i.e., training on how to use a street sweeper to maximize material removal). Employee training may vary by jurisdiction. Training details are included in each JRMP.

Municipal employee training can provide important information on whether conducted training effectively increases employees' general and/or job-specific knowledge regarding stormwater. This type of assessment is often measured and assessed using pre-and post-test questionnaires/surveys. In addition, BMP implementation or changes in behavior may be assessed through employee activity. For example, if general stormwater training was conducted for municipal staff to provide them with the tools to identify potential illegal discharges, and then the program received an increase in the municipal staff reporting of potential illegal discharges, it would indicate that there was a change in behavior based upon the training provided.

FY23 Implementation:

WMA-wide Efforts

Approximately 92 municipal employees, contractors, or consultant stormwater trainings were provided to increase knowledge regarding laws, regulations, permits, and requirements; BMPs; general urban runoff concepts; and other relevant topics, as deemed appropriate.

County of San Diego

Pesticide Application Technician Training

The AWM Integrated Pest Control (IPC) program is comprised of technicians that proactively maintain all county right of ways to control the spread of weeds and ensure the proper flow of stormwater. Part of the IPC program includes the requirement for all technicians to complete annual training to ensure the proper use and application of pesticides in order to ensure the environment and people are protected. In FY23, a total of 9 technicians completed annual training to maintain their Qualified Applicators Certificate. Additionally, all 9 technicians completed the DPW Annual Stormwater Implementer Training that focused on BMPs related to proper spraying techniques, personal protective equipment, and safety. As a result, technicians received valuable training that helps protect regional water quality through the avoidance of non-target sites, runoff and drift prevention, and spill contingency plans.

Stormwater Training Video

Since FY15, the Department of Human Resources assigns all new regular County employees the "Preventing Stormwater Pollution" video training at time of hire. In FY23, 2,276 new employees completed the training.

Enforcement

HA: ☒ Loma Alta ☒ Buena Vista ☒ Agua Hedionda ☒ San Marcos ☒ Encinas ☒ Escondido Creek
Jurisdiction/Area for Implementation: ALL

Strategy Description:

Each jurisdiction implements and enforces its ordinances, codes, or other legal authority to prevent illegal discharges and connections to its MS4. Enforcement methods are used to affect a return to compliance at either a construction, municipal, industrial, commercial, or residential area. Some enforcement methods used include verbal warning, letters, educational materials, citations, notices of violation, stop-work orders, or civil penalties. Each jurisdiction also implements all follow-up actions necessary to achieve the return to compliance for a particular site. Enforcement procedures vary by jurisdiction and are included in each Jurisdictional Runoff Management Program.

Enforcement is a common tool used to not only return violators to compliance but also to educate and promote compliance. Enforcement is a facilitation activity where the tabulation of enforcement data can be associated with a load reduction. If a site or residence where a pollutant is leaving or has the potential to leave, the site has been stopped or mitigated through enforcement efforts, there is an implied load reduction. The tabulation of enforcement data may also provide information on behavioral changes.

FY23 Implementation:

WMA-wide Efforts

During the reporting period, RAs issued 3,047 enforcement actions and 400 escalated enforcement actions to address identified violations/deficiencies across the existing development, construction management, development planning, and IDDE programs.

County of San Diego

MS4 outfall drainage areas were delineated for all monitored MS4 outfalls in FY20 are publicly available on the SanGIS data warehouse. Outfall drainage area delineations are continuously updated as needed or as new information becomes available. The County and its contractors conduct IDDE investigations at all Highest Priority Persistently Flowing (HPPF) MS4 outfalls in each WMA. If ICIDs are identified during IDDE investigations, staff conduct outreach andprovide educational materials where possible. Additional follow-up conducted as applicable.

The County responds to SSO reports of sewage entering the County's MS4 as soon as possible, and issues Administrative Citation Warnings and or Cease and Desist Orders to stop discharges, when appropriate. The County has developed a HF-183 Complaint Record for Follow-Up Response Documentation document for investigating reports of any outfall which exceed 10,000 copies of HF-183 per 100 mL.

DEHQ provides emergency response, public notification, and coordination with responsible sewer agencies. During FY23, DEHQ response to complaints of illicit sewage discharge from private sewer laterals that are connected to public sewer mains resulted in 9 justified enforcement actions to restore sewer lateral function.

Wastewater agencies follow the Sewer System Management Plans to conduct routine maintenance and mitigate vulnerabilities. In FY23, the County Sanitation District installed a total of 43 Smart Covers at key maintenance hole locations within the sewer main collection system. The Smart Covers transmit data 24/7 on the elevation of the sewer flow. Alerts and alarms are sent to staff if flow reaches a certain level within the manhole. The goal is to alert the District of a rising trend of the sewer flow to allow a rapid response to eliminate a SSO.

In FY23, a total of 108 agricultural operations were identified county-wide as non-filers and subsequently referred to the SDRWQCB via email.

Partnership Program(s)

HA: ☒ Loma Alta ☒ Buena Vista ☒ Agua Hedionda ☒ San Marcos ☒ Encinas ☒ Escondido Creek
Jurisdiction/Area for Implementation: ALL

Strategy Description:

RAs may partner with entities to coordinate, share, or back projects and programs that have the potential to support overall water quality objectives. These partnerships may come in various forms including, but not limited to:

- Coordination/information sharing meetings
- Review of projects
- Joint grant applications
- Agreements
- Private or joint funding
- Generating letters of support for projects.

It is vital for RAs to partner with outside entities to achieve overarching water quality improvement objectives. Based on the MS4 discharge permit, RAs have direct responsibility for the discharges generated from their MS4s. Outside entities have a significant interest in downstream waterways. Partnerships may offer a synergistic pathway to achieving desired outcomes in both MS4 discharges and in waters.

FY23 Implementation:

Regional Efforts

The 21 San Diego County Copermittees participate in the Regional Stormwater Management Committee and its subcommittees under a regional Memorandum of Understanding. Through these subcommittees, the Copermittees coordinate the development and implementation of the MS4 Permit and other stormwater regulations. Orange County and Riverside County Copermittees participate in workgroups to further collaborate within the San Diego Region. Subcommittees to the Regional Stormwater Management Committee include the Program Planning Subcommittee, the Land Development Workgroup, and the Project Clean Water Workgroup. Workgroup meetings provide a forum for regional discussions and information sharing on topics such as Permit compliance and reissuance, new legislature and regulations, and outreach and education. Below are key activities the workgroups completed during FY23.

Below is a summary of achievements for FY23:

- Submitted a joint comment letter to the Regional Board on the Draft 2024 California §303(d)/305(b) Integrated Report.
- Extensively coordinated to prepare and submit comments on the Tentative Time Schedule Order No. R9-2023-0006, An order requiring designated responsible permittees to comply with bacteria, Project I-Twenty Beaches and Creeks Total Maximum Daily Load requirements prescribed in the Regional Municipal Separate Storm Sewer Systems Permit for the San Diego Region. The Copermittees engaged with Regional Board staff during and after comment development and will continue coordination into FY24.
- Discussed regional responses to Regional Board inquiries and comment letters including streamlining of WQIP Annual Reports.
- Shared information on innovative program implementation and updates.
- Participated in the San Diego Region MS4 Permit reissuance focus meetings and related activities.
- Coordinated with the Regional Board, California Stormwater Quality Association, County of San Diego Department of Environmental Health and Quality, County of San Diego Office of Sustainability and Environmental Justice, Southern California Stormwater Monitoring Coalition (SMC), Southern California Coastal Water Research Project, and the National Municipal Stormwater Alliance.
- Discussed regional water quality items such as Permit Reissuance and Rainfall Data Updates, Jurisdiction-specific items such as the BMP Design Manual interpretations.
- Continued hosting the Model BMP Design Manual Help Desk to provide a platform to submit technical questions regarding the Model BMP Design Manual. In FY23, the Copermittees responded to 10 technical questions. A complete list of questions and answers received via the Help Desk can be found on the Project Clean Water website.

Southern California Coastal Water Research Project Commission's Technical Advisory Group

The Southern California Coastal Water Research Project (SCCWRP) is an aquatic sciences research institute that works to improve the management of aquatic systems in Southern California and beyond. Since its founding as an intergovernmental public agency in 1969, SCCWRP has been key in developing strategies, tools, and technologies that the region's water-quality management community relies on to more effectively protect and enhance the ecological health of Southern California's coastal ocean and the watersheds that drain to it. The County of San Diego and City of San Diego are two of the 14 member agencies of SCCWRP and advocate for the interests of all San Diego Region Copermittees during SCCWRP engagements. Some current examples of projects that SCCWRP is directly involved with include: San Diego River Human Sources of Bacteria Investigative Order, Sanitary Sewer Exfiltration Testing, Use of ddPCR for rapid testing of fecal pollution to monitor beaches for water contact recreation and Southern California Regional Bight studies.

Southern California Stormwater Monitoring Coalition

The Southern California Stormwater Monitoring Coalition (SMC) is a partnership of 16 stormwater regulated, regulatory and other agencies working to develop solutions to regional challenges in stormwater management. Founded in 2001, SMC has been pooling its members' resources and expertise to collaboratively conceptualize, develop and fund stormwater research and monitoring projects and, through this work, has influenced the development of NPDES permits, 303(d) listings and TMDLs, watershed plans, and stormwater monitoring designs. The County of San Diego and the City of San Diego participate in the SMC and advocate for the interests of all San Diego County Copermittees during SMC engagements.

During FY23, SMC focused its efforts on eight projects: (1) implementing a five-year regionally consistent and integrated freshwater stream bioassessment monitoring program, (2) continued development of a communication plan for SMC, (3) linking Indicators of fecal contamination to human health risk, (4) development of a Regional BMP Monitoring Program to, among others, improve BMP selection guidance and support Reasonable Assurance Analysis and Alternative Compliance, (5) development of a non-structural BMP monitoring workplan to initiate effectiveness monitoring of non-structural BMPs, (6) a laboratory intercalibration study, (7) streamlining of annual reporting and (8) improving biological conditions of modified streams.

WMA-wide Efforts

There are numerous strategies within the CWMA that involve partnerships including: HOA and Property Manager Outreach Program, Promote Incentive Programs, Efforts to Address Homelessness, City of San Marcos and VWD FOG Program Collaboration, Incentive and Rebate Programs for Landscape and Landscape Irrigation Retrofits, Water District Coordination, Loma Alta Slough Wetlands Enhancement Project, Garrison Creek Native Habitat Restoration Project, Buena Vista Creek Restoration Project, Implement Preferred Watershed Remedy as Proposed through the Final Corrective Action Plan, Enhancement of Native Habitats in San Elijo Lagoon Ecological Preserve, Buena Vista Lagoon Enhancement Project, San Elijo Lagoon Restoration, San Elijo JPA Dry Weather Diversion, and Integrated Regional Water Management.

City of Solana Beach

The city continued its annual Bulky-Item Cleanup Day in partnership with EDCO. This event also includes other special cleanups such as e-wastes and paper shredding. EDCO also provided free mulch that residents can use to cover exposed dirt and help to control erosion on their property. Public Works also supports trash collection during public events throughout the year.

City of Oceanside

In FY23, the City of Oceanside partnered with its contracted solid waste hauler, Waste Management, to host three "DumpDay" cleanup events across the city. These events were located at city parks, rotated throughout the city each quarter and provided residents an opportunity to haul large bulky items, C&D waste and e-waste for disposal. These events reduce the amount of illegally dumped trash and potentially harmful wastes in alleyways and open space areas, especially in disadvantaged neighborhoods. While the collected waste amounts varied by event, on average each event collected an excess of 400 cubic yards (eight standard 40-cubic yard rolloff bins).

County of San Diego

UCCE Integrated Pest Management

In FY23, the County of San Diego partnered with the San Diego County Office of Education to conduct Green Machine Lab presentations to 2,112 kindergarten through 3rd graders at unincorporated schools on Integrated Pest Management (IPM), soil science, and the water cycle.

City of Escondido

The City of Escondido Recycling Division coordinates distribution of newsletters with Escondido Disposal, Inc. (EDI) that contain environmental messaging and trash pollution prevention topics. The newsletters are mailed to commercial and residential customers. EDI provides a free bulky-item dump coupon to city residents twice a year and also sponsors e-waste and shred events in the city. EDI coordinates with the City's Public Works Department to haul and dispose of bulky items that have been illegally dumped on public property or the right-of-way.

Program for Retrofitting Areas of Existing Development

HA: ☒ Loma Alta ☒ Buena Vista ☒ Agua Hedionda ☒ San Marcos ☒ Encinas ☒ Escondido Creek
Jurisdiction/Area for Implementation: ALL

Strategy Description:

As a new program requirement under the current MS4 Permit, RAs developed retrofit programs in their Jurisdictional Runoff Management Programs. The retrofit programs are intended to implement retrofit projects in jurisdictional areas of existing development (currently unmitigated land uses) to address identified sources of pollutants and/or stressors contributing to the identified Priority Water Quality Conditions and Highest Priority Water Quality Conditions.

Programs include:

- Identification of areas that are candidates for retrofitting,
- Development of a strategy to facilitate the implementation of retrofit projects in the candidate areas,
- Identify areas where development project proponents may use alternative offsite compliance (if allowed by the Responsible Agency[ies]) to implement retrofits, and
- Opportunities to collaborate with other RAs for regional retrofit projects.

FY23 Implementation:

WMA-wide Efforts

Retrofit projects identified by the RAs are specified as individual strategies. Implementation details for specific retrofit projects are presented in the Structural BMP(s), Retrofit, or Restoration Project Strategies section of this appendix.

Program for Stream, Channel, and/or Habitat Restoration in Areas of Existing Development

HA: ☒ Loma Alta ☒ Buena Vista ☒ Agua Hedionda ☒ San Marcos ☒ Encinas ☒ Escondido Creek
Jurisdiction/Area for Implementation: ALL

Strategy Description:

As a new program requirement under the current MS4 Permit, RAs developed rehabilitation and habitat restoration programs in their JRMPs. The rehabilitation programs are intended to implement rehabilitation projects in jurisdictional areas of existing development (presumably currently unmitigated land uses) to address identified sources of pollutants and/or stressors that contribute to the identified PWQCs and HPWQCs.

Programs will include:

- Identification of streams, channels, and/or habitats that are candidates for rehabilitation and restoration;
- Development of a strategy to facilitate the implementation of stream, channel, and/or habitat rehabilitation/restoration projects in the candidate areas;
- Identify areas where development project proponents may use alternative offsite compliance (if allowed by the Responsible Agency([ies]) to implement rehabilitation; and,
- Opportunities to collaborate with other RAs for regional rehabilitation projects.

FY23 Implementation:

City of Escondido

The City of Escondido continued efforts to improve riparian habitat in the lowest earthen section of Reidy Creek just north of SR-78 before it becomes channelized and joins with Escondido Creek. The city supported the Escondido Creek Conservancy in implementing a $380,873 California Department of Fish and Wildlife Proposition 1 grant to remove over 600 non-native trees, including Mexican Fan Palms. The grant was awarded in early 2019, and the grant activities were completed in February 2022. The Reidy Creek Enhancement project included the development of a long-term management plan as part of the City's Landscape Maintenance District program and installing trash capture devices upstream of the project area. In April 2023, city staff partnered with the Escondido Police Department and I Love a Clean San Diego to host Coastal Cleanup Day. Nearly 40 volunteers came together to clean up Reidy Creek.

City of Oceanside

The City of Oceanside's Watershed Protection Program continues to aggressively pursue grant funding for multi-benefit habitat restoration projects, with a priority on stream and wetland restoration and open space conservation. Projects are intended to improve the physical and biological conditions of native aquatic and upland habitats and, when compatible, recreational and wildlife experiences for the public. During the FY23 reporting period, substantial progress was made in readying the Loma Alta Slough Wetland Enhancement Project for construction. In addition to prior committed construction funding of $1M from the US Fish & Wildlife Service, the Ocean Protection Council awarded an additional over $1M in June 2022. The following was achieved in the FY23 reporting period:

- Acquisition of three major agency permits required for construction, including a CDFW Streambed Alteration agreement, RWQCB 401 water quality certification, and Coastal Commission Development Permit;
- Finalized the project's 90% engineering plan set and began the city's internal entitlement process to approve a Discretionary Development Plan for the area;
- Coordinated project construction with three other major CIP projects surrounding the restoration footprint, which includes trail connections to a future extension of the Coastal Rail Trail through south Oceanside; and
- City Council certification of the project's Final CEQA Documentation, including adoption of the Mitigated Negative Declaration, Mitigation Plan and Notice of Determination

The city expects the final Construction Documents to be completed in late 2023. Pending final regulatory approvals and sufficient construction funding, the city expects to put the project out to bid in early 2024, with Phase 1 construction planned for late 2024. Implementation depends entirely on available grant funding, as concerns persist that inflationary and economic pressures have increased the estimated costs for Phase 1.

Education, Outreach, and Incentive Strategies

Education, outreach, and incentive-based strategies aim to increase public awareness and to effect change in public behavior on an individual- or property-level. Awareness and behavior change can have compounding effects on water quality by reducing or eliminating sources of pollution. For example, workshops or programs that expand knowledge or incentivize the use of LID or landscape retrofits (e.g., turf replacement, sprinkler head nozzle replacement, smart irrigation controllers) promote water conservation and dry weather flow reduction, which eliminate the transport mechanism for pollutants into the MS4 or receiving waters. Methods generally used for education, outreach, and incentive programs may include rain barrels, public events, workshops, mailers, door hangers, etc.

Homeowners Association (HOA) and Property Manager Outreach Program

HA: ☐ Loma Alta ☐ Buena Vista ☒ Agua Hedionda ☒ San Marcos ☐ Encinas ☐ Escondido Creek
Jurisdiction/Area for Implementation: City of Vista, City of San Marcos, County of San Diego

Strategy Description:

City of Vista

The City of Vista will implement an education and outreach program that encourages and/or incentivizes HOAs and business property managers to implement measures to reduce dry weather and/or wet weather flows leaving their properties. Education materials will be guided by results from Residential Management Area (RMA) inspections, including enhanced inspections in AH-04. Practices could include proper installation and maintenance of irrigation systems, conversion to drought-tolerant landscaping, downspout connection, etc.

City of San Marcos and County of San Diego

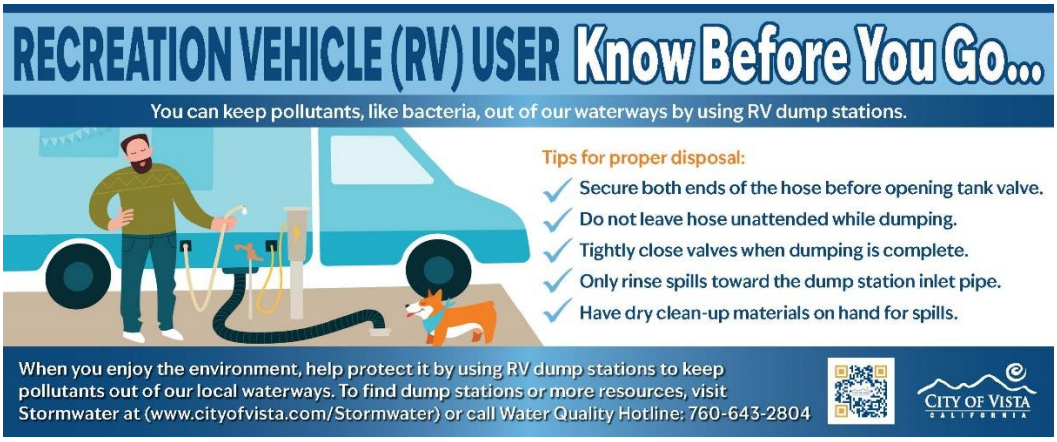
The City of San Marcos and the County of San Diego will implement an education and outreach program that encourages and/or incentivizes HOAs and business property managers to implement measures to reduce dry weather and/or wet weather flows leaving their properties. Practices could include proper installation and maintenance of irrigation systems, conversion to drought-tolerant landscaping, downspout disconnection, LID retrofits, etc.

FY23 Implementation:

City of Vista

Two new educational presentations were created, targeting audiences of Homeowner Associations (HOAs), property managers, and residents. Presentation content was developed considering observations from previously conducted existing development inspections in residential areas. One presentation is focused on residential area inspections, such as how they are conducted and the prevention of commonly observed pollution sources (e.g., irrigation runoff, curb core discharges, trash enclosures, and household hazardous waste). The second presentation provides HOAs and property managers with information about local watersheds and applicable pollution prevention practices (e.g., pet waste, trash enclosures, irrigation runoff, structural BMP maintenance). The videos are available on the city's YouTube channel and in the 'Residential' section of the Stormwater Education webpage at: www.cityofvista.com/stormwater.

Two new infographics were developed for social media distribution, including topics of 'Ditch the Dirt' and 'RV User Know Before You Go.' The 'Ditch the Dirt' infographic targets awareness of exposed soil and prevention of sediment, dirt, and pollutant runoff through use of vegetation or temporary control measures. The 'RV User Know Before You Go' message targets the prevention of wastewater discharges (bacteria) associated with recreational vehicle maintenance. The 'Ditch the Dirt' infographic was installed at a downtown informational kiosk, and in the future both infographics will be shared through the city's social media accounts.



South Vista Communities, a collection of HOAs and residential areas south of CA-78, continued to actively partner with the City of Vista in promoting clean-up events and distributing educational materials. During the reporting period, South Vista Communities shared six pollution prevention infographics in their newsletters, including topics: 'Are You Ready For Rain; Irrigation Runoff; Fats, Oils, and Grease (FOG); Tarp Your Load; Keep it Neat; Shut the Lid; and Pet Waste.' South Vista Communities also shared information about city-hosted events, such as volunteer cleanup events at Buena Vista Trails for Coastal Clean-up Day and Creek to Bay Clean-up Day.

City of San Marcos

Similar to prior years, the City of San Marcos distributed educational outreach to some HOA representatives and property managers. Outreach was performed under different core jurisdictional strategies, the Property-Based/Patrol Inspections and Irrigation Runoff Reduction strategies. Additionally, through coordination with Vallecitos Water District, the city made progress toward implementing a tailored education and outreach program for HOAs and business property managers.

The City of San Marcos' Watershed Program reviewed available existing HOA and property manager information and requested any available information from other city departments. Watershed staff also obtained a list of contacts from VWD recorded. Using this information, staff created an HOA and property manager inventory for residential and industrial-commercial properties. The inventory includes community names and contact information for responsible parties. The current inventory does not encompass all HOAs and property managers jurisdiction-wide. The city plans to continue efforts to update the list through further interdepartmental collaboration, as part of other ongoing strategy implementation, and through GIS analysis.

In future reporting periods, the city plans on exclusively reaching out to HOA and property managers with a focus on outreach regarding available incentive and rebate programs to support the recently approved updated dry weather implementation-based goal regarding HOAs.

County of San Diego

The County of San Diego developed an HOA binder that organizes a collection of outreach and education materials for distribution to HOAs, mobile home parks, and apartment complexes. In FY23, eight HOAs in the Upper San Marcos Hydrologic Area received outreach on the County's Waterscape Rebate Program. Six of the eight are participating in the program's Landscape Optimization Service, where each HOA has committed to converting at least 10,000 square feet of turf grass into sustainable landscaping.

The Fairways HOA agreed to replace approximately 23,000 square feet of turf with sustainable landscaping, including 10,000 square feet with native plants. Construction began in June 2023 and was completed in August 2023. In addition to the turf replacement, five years of water usage data was collected for four dedicated irrigation meters at Fairways from June 2018 to June 2023. Total usage for each meter in 2023 indicates a decrease in usage, roughly 36% less usage in 2023 for each meter than in 2022. During this time, weather-based irrigation controllers, or smart controllers, were installed at Fairways with a verification date of July 13, 2021. Thus, it is not possible to say whether it was the turf replacement or the smart controller installation, but the County's efforts resulted in a decrease in irrigation and the potential for irrigation runoff and dry weather flows to the Upper San Marcos Creek and Lake San Marcos.

Lake San Marcos Mall III HOA - Landscape Optimization Program - Replaced 25,000 sf of turf with low water use landscaping and installed a rock-lined swale.

Promote Incentive Programs

HA: ☒ Loma Alta ☒ Buena Vista ☒ Agua Hedionda ☒ San Marcos ☐ Encinas ☒ Escondido Creek
Jurisdiction/Area for Implementation: Oceanside Jurisdiction, County of San Diego, City of Escondido

Strategy Description:

County of San Diego

Beginning in FY16 and continuing on an ongoing basis, the County promotes incentives for water conservation and landscape retrofits through partner agencies (including MWD, local water districts, and the SDCWA) such as turf replacement, sprinkler head nozzle replacements, smart irrigation controllers, rain barrels, downspout disconnects, etc. In August 2021, the County launched the Waterscape Rebates Program, which offers incentives to private properties in the unincorporated area of San Diego County to motivate them to install water quality improvements on their properties. In May 2022, the Program was awarded a National Association of Counties Achievement Award for County Resiliency. The following improvements are incentivized through the Waterscape Rebate Program: Watersmart Edgescaping, Rain-Friendly Pavement, Rain-Saving BMPs (Rain-Saving to Yard, Rain-Saving to Feature, Rain-Saving to Gutter, Rain-Saving to Container), and Landscape Optimization Service. Watersmart Edgescaping covers the replacement of turf or high-water use plants within 10 feet of a paved area with sustainable landscaping.

City of Escondido

The City of Escondido continued collaborating with SDCWA and MWD rebates during FY23 to all qualifying water utilities customers. In FY23, three Flow Monitor Devices were installed on customer water meters to assist residents in monitoring their water usage and making them aware of any irrigation leaks. Three rain barrels were also purchased to assist homeowners in harvesting rainwater and reducing runoff. The city also provided 14 irrigation controllers to help reduce and eliminate irrigation runoff to the MS4. Further, 25 turf replacements were provided. These residences replaced 41,929 square feet of thirsty grass with a more sustainable landscape. One requirement of this rebate is to incorporate a stormwater retention feature.

City of Oceanside

The City of Oceanside continued to promote SDCWA and MWD rebates during the FY23 period to all qualifying Water Utilities customers. In FY23, 12 rain barrels were supplied to homeowners to capture and harvest rainwater, reducing runoff and potable water demand. Through the regional rebate programs, the city also provided 55 irrigation controllers to help reduce and eliminate irrigation runoff to the MS4. Additionally, approximately 29,440 square feet of landscape turf was replaced with drought-tolerant landscaping at a total rebate amount of $62,422 to Oceanside businesses and residents.

Additionally, the city's new Advanced Metering Infrastructure (AMI) meter conversion has transitioned thousands of accounts over to the WaterSmart online platform. Customers can see their hourly usage and be alerted of excessive usage and/or potential irrigation leaks. This technology will continue to be rolled out in the coming FY and has a dry weather flow reduction benefit through the elimination of over-irrigation discharges from HOA and residential properties.

FY23 Implementation:

County of San Diego

The County's Waterscape Rebate Program sponsored 6 Rainwater Harvesting Workshops in May and June 2023 at various hardware supply stores in the unincorporated areas of the County. Participants who completed the workshop and are unincorporated residents were eligible to receive 1 free 50-gallon rain barrel, limited to 1 rain barrel per household. A total of 11, 50-gallon rain barrels were distributed to unincorporated households within the Carlsbad WMA.

In FY23, the following improvements were incentivized through the Waterscape Rebate Program in the Carlsbad WMA: 3 turf replacement projects of 1,291 square feet total, 4 rain saving to yard projects, 1

rain or rock garden installation, 5 gutter/downspout installations, 12 rain barrel installations, 1 rain cistern installation, 4 sustainable landscaping projects, and 90,140 square feet of turf replaced through the landscape optimization service. In addition to the Waterscape Rebate Program, 35,499 square feet of turf was removed through the SoCal WaterSmart program for a total of 126,930 square feet, or 2.9 acres, of turf, removed in the Carlsbad WMA.

City of Escondido

The City of Escondido continued collaborating with SDCWA and MWD rebates during FY23 to all qualifying water utilities customers. In FY23, three Flow Monitor Devices were installed on customer water meters to assist residents in monitoring their water usage and making them aware of any irrigation leaks. Three rain barrels were also purchased to assist homeowners in harvesting rainwater and reducing runoff. The city also provided 14 irrigation controllers to help reduce and eliminate irrigation runoff to the MS4. Further, 25 turf replacements were provided. These residences replaced 41,929 square feet of thirsty grass with a more sustainable landscape. One requirement of this rebate is to incorporate a stormwater retention feature.

City of Oceanside

During the FY23 period, the City of Oceanside actively promoted the rebates offered by the San Diego County Water Authority (SDCWA) and Metropolitan Water District (MWD) to all Water Utilities customers who qualified. As part of these efforts, 12 rain barrels were provided to homeowners to capture and harvest rainwater, effectively reducing runoff and the demand for potable water. The city also distributed 55 irrigation controllers to help reduce and eliminate irrigation runoff to the MS4. Furthermore, drought-tolerant landscaping replaced approximately 29,440 square feet of landscape turf, benefiting Oceanside businesses and residents with a total rebate amount of $62,422.

The city also implemented Advanced Metering Infrastructure (AMI), which has enabled thousands of accounts to transition to the WaterSmart online platform. Customers can now monitor their hourly water usage and be notified of excessive usage and potential irrigation leaks. The technology will continue to be implemented in the upcoming reporting period and has the added benefit of reducing dry weather flow by eliminating over-irrigation discharges from residential and HOA properties.

LID Outreach and Incentive Programs

HA: ☐ Loma Alta ☐ Buena Vista ☐ Agua Hedionda ☒ San Marcos ☐ Encinas ☒ Escondido Creek
Jurisdiction/Area for Implementation: City of Encinitas

Strategy Description:

To further the public's understanding and knowledge of LID as an effective mechanism for water conservation, incentives will be promoted through the program and via partnerships with the San Dieguito Water District and the Olivenhain Municipal Water District. Incentives include rebates for turf removal and installation of drip irrigation, both of which reduce overall water use and irrigation runoff. Other incentives may include rebates for construction of small-scale structural LID features. Complimentary water use evaluations will also be made available in addition to rebates to promote water conservation. The program also includes partnering with residents within the target area to implement small-scale LID features on their property to serve as demonstration projects for planned neighborhood workshops. The city will also organize and put on workshops in coordination with residents, offering a tour of the retrofitted property open to other homeowners in the area. Through this hands-on workshop, homeowners will get ideas for retrofits they could implement at their own properties, learn how to install LID retrofits, and ask questions of LID and water conservation experts.

The initial stage of this strategy has focused on the neighborhoods along Pacific View Lane and Sea View Court within the Cottonwood Creek Drainage Basin. This neighborhood was targeted due to observed

presence of irrigation runoff. Based on lessons learned from the pilot project, Encinitas is expanding the program to cover additional neighborhoods within the Cottonwood Creek Drainage Area.

Encinitas will continue the LID outreach and incentive program in the Cottonwood Creek Basin focus area. The program educates and motivates homeowners to reduce irrigation runoff and/or wet weather flows by implementing the following structural improvements to their properties:

- Landscape water conservation practices (drip irrigation, turf reduction, etc.)
- Small-scale LID features (downspout disconnects, bioretention "rain gardens", etc.)

Existing water conservation incentives will be promoted through the program through partnerships with the San Dieguito Water District and the Olivenhain Municipal Water District. Existing incentives include rebates for turf removal and installation of drip irrigation, both of which reduce overall water use and irrigation runoff. Free water use evaluations are also available in addition to rebates to promote water conservation. The program also includes partnering with a resident within the target area to implement small-scale LID features on their property to serve as a demonstration project. The city will also organize and put on, along with the resident, a tour of the retrofitted property for community members, during which they can get ideas for retrofits at their own properties, learn how to implement retrofits, and ask questions of experts. This program may be expanded through preparing more in-depth how-to-guides for residents or allocating additional resources for incentives.

FY23 Implementation:

Competing staff and budget resources constrained implementation of this strategy within the defined reporting period of this report. It is anticipated that this program will be revisited in future reporting years as funding for water conservation incentives is reviewed based upon emergent conditions and water resource supply.

Enhanced Education Program

HA: ☐ Loma Alta ☒ Buena Vista ☒ Agua Hedionda ☒ San Marcos ☐ Encinas ☒ Escondido Creek
Jurisdiction/Area for Implementation: City of Carlsbad, City of Escondido, City of Oceanside, City of San Marcos, City of Solana Beach, City of Vista, County of San Diego

Strategy Description:

City of Carlsbad

Enhancements to education program to include:

1) Priority pollutant/source specific education and outreach program to be conducted for residents and commercial facilities related to priority pollutants within the HA. The materials will have an emphasis on discharges to the city's MS4 and the receiving waters impacts.
2) Developing and implementing a training/seminar for property managers and others that have direct responsibility for common areas within HOAs and commercial properties. Educational materials and information will be developed and provided to the managers for them to distribute to their residents and tenants.
3) The city will develop outreach materials for residential and commercial property managers as well as commercial and industrial business including materials for property managers.
4) As part of the residential outreach program, the City of Carlsbad will work with residents and property owners to educate through various means, which may include school programs, block parties or one-on-one meetings.

City of Escondido

The City of Escondido provides an enhanced education program through a dedicated staff member who does outreach on stormwater and water conservation issues at schools. Presentations are provided to elementary-aged school children on topics consistent with the Common Core Standards. The city supplements this with the provision of "Splash Lab" visits, field trips, and presentations to Junior High and High school classes as requested. Outreach to adults includes the provision of landscaping workshops and

online resources for residents interested in converting their gardens to California-friendly gardens. An annual landscaping competition is organized to acknowledge the accomplishments of those who have installed California-friendly gardens and to raise awareness of the overall issue. City staff also provide education at community events, neighborhood group meetings, special interest groups (i.e., Kiwanis), and community education events (e.g., library seminars). Education is also provided as needed in response to observations made during residential management area inspections and will be tailored specifically to the need (in-person conversation, provision of brochures, presentations to community groups, and HOAs). These in-person interactions are supplemented by the city webpage and Facebook page.

City of Oceanside

In FY23 The City's Watershed Protection Program created three new educational brochures for residents, those who work in agriculture, and managers of PDP sites to provide information on stormwater pollution prevention, compliance, and best management BMPs. The brochures will be passed out during inspections, and public outreach events to better connect with the community on issues of pollution prevention.

San Diego Region Agricultural Orders

The City of Oceanside strives to maintain clean water in its rivers, creeks and ocean for the health and safety of residents, visitors and wildlife. Water released from agricultural operations can collect sediment, pesticides, nutrients and pathogens before flowing into storm drains. This polluted water, called agricultural runoff, is NOT filtered or treated before it reaches our waterways and is a major source of pollution in our local rivers, creeks and the Pacific Ocean.

The Best Management Practices (BMPs) outlined in this guide will not only help you comply with federal, state and local laws, they will also protect our waterways and the resiliency of your operation.

In order to reduce agricultural runoff, improve water quality and protect California watersheds, the San Diego Regional Water Quality Control Board issued the General Agriculture Orders No. R9-2016-0004 and No. R9-2016-0005 (or Ag Orders, for short), which set forth water quality requirements for agricultural operations and created the Commercial Agriculture Regulatory Program.

Enrollment in the Commercial Agriculture Regulatory Program is mandatory for all commercial agricultural operations in the San Diego Water Board's jurisdiction. This includes farms, nurseries, orchards and vineyards that produce crops or ornamentals with the intent to make a profit.

Growers can enroll as individuals or as members of a Third-Party Group. Growers that join a Third-Party Group will have reduced annual permit fees and share costs of sampling and reporting. Individual enrollers will be responsible for all sampling and reporting. For more information and to enroll: https://www.waterboards.ca.gov/sandiego/water_issues/programs/commercial_agriculture/

Scan for Info & to Enroll

City of Oceanside Business License Requirements: All businesses operating in the City of Oceanside (including home-based businesses) are required to have a business license. For information on how to apply for a business license, please visit our website at www.ci.oceanside.ca.us or call our Business License staff at 760-435-3878.

2

Examples of Effective SBMPs

Below are some common examples of SBMPs found in Southern California and required by the City of Oceanside for applicable development projects:

Scan for City's Stormwater Management Plan requirements

Bioretention/Detention Basins: Bioretention basins use vegetation, layers of soil, sand and gravel to remove pollutants from stormwater runoff. Detention basins also reduce flooding by storing stormwater runoff before it flows into the storm drain system.

Drain Inserts: Drain inserts are found in storm drain inlets. Metal baskets filter out trash and other debris. Some inserts include a filter media to capture other pollutants.

Vegetated Swales: A vegetated swale is a channel that collects and carries stormwater from impervious areas prior to entering a storm drain. The vegetation in the swale helps to slow the runoff and remove pollutants in stormwater.

Tree Wells: Tree wells combine runoff storage and treatment with urban greening to enhance the streetscape. They reduce the volume of runoff entering the storm drain system while also improving urban aesthetics, air quality and reducing the heat island effect.

4

Protecting Oceanside's Watersheds

The City of Oceanside strives to maintain clean water in its rivers, creeks and ocean for the health and safety of residents, visitors and wildlife. As members of a coastal community, Oceanside residents need to work together to prevent pollutants from entering the storm drain system that leads to the ocean. It's not only the right thing to do, it's the law.

What is Stormwater Pollution & Urban Runoff?

When rainwater runs off residential properties, it can pick up and transport pollutants to storm drains. Once in the storm drain system, this runoff is NOT treated before it reaches rivers, creeks and beaches. With our waterways in our own backyard, it's imperative Oceanside residents be stewards of their environment by *preventing stormwater pollution*.

Only Rain in the Storm Drain

Storm drains come in many shapes and sizes, including street gutters, curb inlets, ditches and basins.

All pollutants that flow into a storm drain will flow to the ocean.

3

City of San Marcos

Nutrients and other priority pollutant specific education and outreach program to be conducted in the Upper San Marcos HA Focus Areas for target sources identified above. The materials will focus on results obtained through the various program components such as property-based inspections and will have an emphasis on discharges to the City of San Marcos' MS4 and the receiving water impacts.

City of Solana Beach

As applicable, the City of Solana Beach implements an enhanced education program as applicable to address pollutants or sources.

City of Vista

The City of Vista implements a baseline education program and makes enhancements to the program when deemed appropriate to address specific pollutants, BMPs, or target specific areas/audiences within the city. The enhancements will be guided by results from existing development inspections, notably inspections conducted in focus basin BV-06. Outreach opportunities may include production and distribution of educational materials, outreach events, trainings or seminars, and individual educational encounters (one-on-one meetings).

County of San Diego

The County of San Diego implements a baseline education program and makes enhancements programs when deemed appropriate to address specific pollutants, BMPs, or to target specific areas/audiences within the jurisdiction. The County will continue to sponsor workshops and enhance education for specific target audiences and pollutants of concern with a focus on the Upper San Marcos HA. These efforts include, but are not limited to: manure management and composting for horse owners; HOA outreach, golf course inspections, integrated pest management and gardening workshops, and sustainable landscape practices and rainwater harvesting classes to encourage capturing rain from roofs for landscape use.

FY23 Implementation:

City of Carlsbad

The City of Carlsbad continued to fund educational programs addressing stormwater pollution and trash accumulation. Programs were conducted at seven schools reaching over 1,000 students at Kelly Elementary, Buena Vista Elementary, Jefferson Elementary, Calavera Hills Elementary and Middle School, Sage Creek High School, and Carlsbad High School. The programs were implemented throughout the entire school year. Programs cover:

- SWPPP Internship (focused on stormwater pollution prevention)
- Trash Amendment Action Plan (focused on eliminating litter)
- Dry Weather Runoff Action Plan (focused on eliminating dry weather runoff).
- Presentations - Sharing findings and suggestions to the community at large
    - Students from Kelly Elementary, Calavera Hills Middle School, and Sage Creek High School presented their results and findings at an in-person meeting with the City of Carlsbad staff and CUSD staff.

City of Escondido

In FY23, Environmental Programs completed 24 classroom presentations on water conservation and pollution prevention to elementary school students throughout Escondido. The City's Environmental Programs continued a multi-year effort to re-design and update a suite of outreach brochures and translate English versions into Spanish. Further, multiple training opportunities were held for city staff, including:

- Two new employee orientations;
- Qualified Water Efficient Landscape training;
- Qualified Stormwater Practioner training;
- Two agricultural trainings;
- Construction General Permit training

In this reporting period, the Environmental Programs teams participated in 21 events throughout the Carlsbad Watershed. Staff provided outreach materials promoting resources for water efficiency and pollution prevention in our waterways. Additionally, the City collaborated with SDCWA to promote landscape workshops that encourage residents to install sustainable landscapes with a stormwater retention feature.

The city continued providing focused messaging regarding pollution prevention practices through social media platforms, the City's website, the City Recreational Guide, and the Environmental Times, which are distributed quarterly.

Lastly, in September 2022, staff sent rainy season letters to owners, contractors, and developers of construction sites listed in the city's construction inventory, informing them of their obligations to comply with the State Construction Permit and the City's Municipal Code.

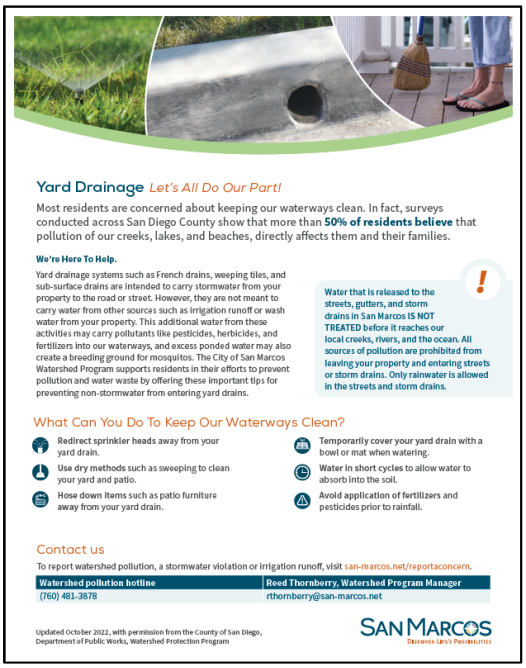
City of San Marcos

In this reporting period, the City's Watershed program broadened its collaboration with the city's communications team, published a total of ten new educational materials, updated/facilitated

stormwater compliance training presentations, enabled an avenue for residents to receive stormwater updates, and became a member of the Regional TIGER team.

Educational Flyers

The city has updated its stormwater educational material and created new ones based on the current community needs. The newly created flyers were modeled after the San Diego County Watershed Program's educational flyer templates. The Watershed staff coordinated with the County staff to get permission to use their material as templates. The city's communications team updated the templates with city-specific information and branding.



Yard Drainage *Let's All Do Our Part!*

Most residents are concerned about keeping our waterways clean. In fact, surveys conducted across San Diego County show that more than **50% of residents believe** that pollution of our creeks, lakes, and beaches, directly affects them and their families.

We're Here To Help.

Yard drainage systems such as French drains, weeping tiles, and sub-surface drains are intended to carry stormwater from your property to the road or street. However, they are not meant to carry water from other sources such as irrigation runoff or wash water from your property. This additional water from these activities may carry pollutants like pesticides, herbicides, and fertilizers into our waterways, and excess ponded water may also create a breeding ground for mosquitos. The City of San Marcos Watershed Program supports residents in their efforts to prevent pollution and water waste by offering these important tips for preventing non-stormwater from entering yard drains.

Water that is released to the streets, gutters, and storm drains in San Marcos IS NOT TREATED before it reaches our local creeks, rivers, and the ocean. All sources of pollution are prohibited from leaving your property and entering streets or storm drains. Only rainwater is allowed in the streets and storm drains.

What Can You Do To Keep Our Waterways Clean?

- Redirect sprinkler heads away from your yard drain.
- Use dry methods such as sweeping to clean your yard and patio.
- Hose down items such as patio furniture away from your yard drain.
- Temporarily cover your yard drain with a bowl or mat when watering.
- Water in short cycles to allow water to absorb into the soil.
- Avoid application of fertilizers and pesticides prior to rainfall.

Contact us

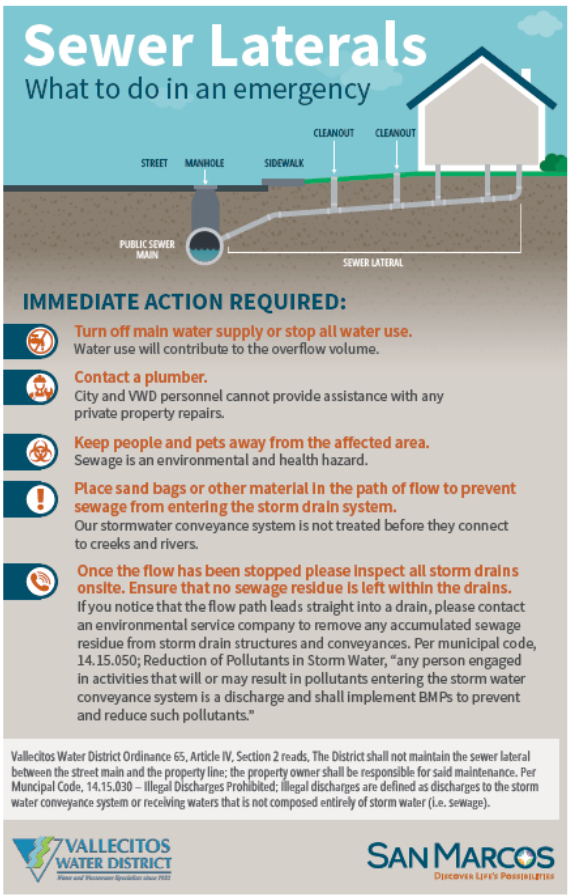
To report watershed pollution, a stormwater violation or irrigation runoff, visit san-marcos.net/reportaconcern.

Watershed pollution hotline	Reed Thornberry, Watershed Program Manager
(760) 481-3878	rthornberry@san-marcos.net

Updated October 2022, with permission from the County of San Diego, Department of Public Works, Watershed Protection Program

SAN MARCOS Discover Life's Possibilities

During the reporting period, a total of ten educational flyers were published. Nine of these flyers were based on the templates provided by the County of San Diego. The remaining flyer, titled "What to do in an Emergency," was an original creation by the City of San Marcos. The creation of the flyer was a collaborative effort between the VWD and the city's Communications and Watershed teams.



Sewer Laterals

What to do in an emergency

STREET MANHOLE SIDEWALK CLEANOUT CLEANOUT PUBLIC SEWER MAIN SEWER LATERAL

IMMEDIATE ACTION REQUIRED:

Turn off main water supply or stop all water use.
Water use will contribute to the overflow volume.

Contact a plumber.
City and VWD personnel cannot provide assistance with any private property repairs.

Keep people and pets away from the affected area.
Sewage is an environmental and health hazard.

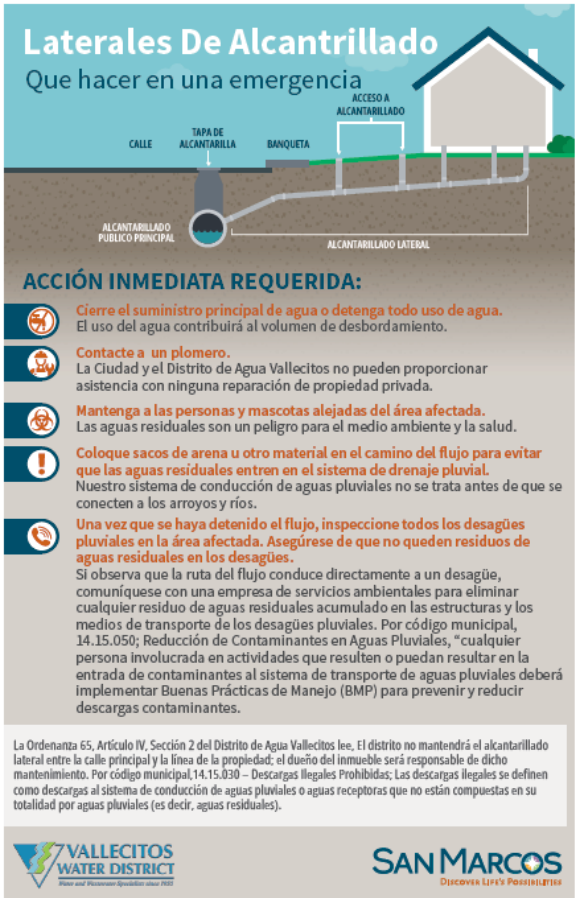
Place sand bags or other material in the path of flow to prevent sewage from entering the storm drain system.
Our stormwater conveyance system is not treated before they connect to creeks and rivers.

Once the flow has been stopped please inspect all storm drains onsite. Ensure that no sewage residue is left within the drains.
If you notice that the flow path leads straight into a drain, please contact an environmental service company to remove any accumulated sewage residue from storm drain structures and conveyances. Per municipal code, 14.15.050; Reduction of Pollutants in Storm Water, "any person engaged in activities that will or may result in pollutants entering the storm water conveyance system is a discharge and shall implement BMPs to prevent and reduce such pollutants."

Vallecitos Water District Ordinance 65, Article IV, Section 2 reads, The District shall not maintain the sewer lateral between the street main and the property line; the property owner shall be responsible for said maintenance. Per Muncipal Code, 14.15.030 – Illegal Discharges Prohibited; Illegal discharges are defined as discharges to the storm water conveyance system or receiving waters that is not composed entirely of storm water (i.e. sewage).

VALLECITOS WATER DISTRICT

SAN MARCOS Discover Life's Possibilities



Laterales De Alcantrillado

Que hacer en una emergencia

ACCESO A ALCANTARILLADO CALLE TAPA DE ALCANTARILLA BANQUETA ALCANTARILLADO PUBLICO PRINCIPAL ALCANTARILLADO LATERAL

ACCIÓN INMEDIATA REQUERIDA:

Cierre el suministro principal de agua o detenga todo uso de agua.
El uso del agua contribuirá al volumen de desbordamiento.

Contacte a un plomero.
La Ciudad y el Distrito de Agua Vallecitos no pueden proporcionar asistencia con ninguna reparación de propiedad privada.

Mantenga a las personas y mascotas alejadas del área afectada.
Las aguas residuales son un peligro para el medio ambiente y la salud.

Coloque sacos de arena u otro material en el camino del flujo para evitar que las aguas residuales entren en el sistema de drenaje pluvial.
Nuestro sistema de conducción de aguas pluviales no se trata antes de que se conecten a los arroyos y ríos.

Una vez que se haya detenido el flujo, inspeccione todos los desagües pluviales en la área afectada. Asegúrese de que no queden residuos de aguas residuales en los desagües.
Si observa que la ruta del flujo conduce directamente a un desagüe, comuníquese con una empresa de servicios ambientales para eliminar cualquier residuo de aguas residuales acumulado en las estructuras y los medios de transporte de los desagües pluviales. Por código municipal, 14.15.050; Reducción de Contaminantes en Aguas Pluviales, "cualquier persona involucrada en actividades que resulten o puedan resultar en la entrada de contaminantes al sistema de transporte de aguas pluviales deberá implementar Buenas Prácticas de Manejo (BMP) para prevenir y reducir descargas contaminantes.

La Ordenanza 65, Artículo IV, Sección 2 del Distrito de Agua Vallecitos lee, El distrito no mantendrá el alcantarillado lateral entre la calle principal y la línea de la propiedad; el dueño del inmueble será responsable de dicho mantenimiento. Por código municipal,14.15.030 – Descargas Ilegales Prohibidas; Las descargas ilegales se definen como descargas al sistema de conducción de aguas pluviales o aguas receptoras que no están compuestas en su totalidad por aguas pluviales (es decir, aguas residuales).

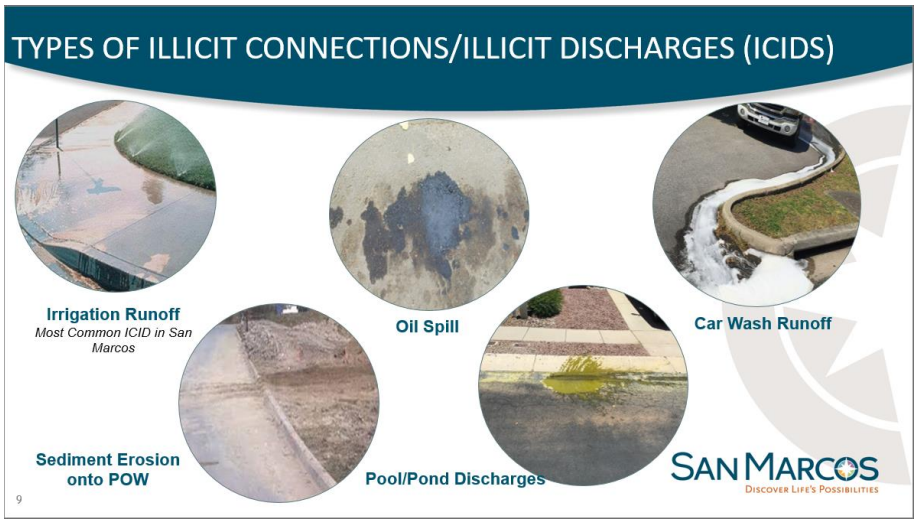
VALLECITOS WATER DISTRICT

SAN MARCOS Discover Life's Possibilities

After assessing the available SSO resources by both the city and VWD, SSO education was determined to be a community need. The flyer was designed to serve as a guide for property owners on how to respond to sanitary sewer overflow (SSO) emergencies. It provided step-by-step guidance based on the municipal code of the City of San Marcos and Ordinance 65 of the Vallecitos Water District (VWD). It was published in November 2022. The City's Watershed Program also updated the SSO standard operating procedures for the staff responsible for responding to such emergencies, including both the Watershed Program and Public Works.

Staff Training

Public Works and Fire Department staff completed annual Stormwater Compliance training during the reporting period. It focused on educating city personnel on the importance of identifying and reporting stormwater pollution concerns, emphasizing illicit connections/illicit discharges (ICIDs). The presentation included resources available for staff to respond and ICIDs, as seen below. A total of 245 staff members completed the training between September 2022 through March 2023. The City's Watershed Program plans to continue to provide up-to-date annual training for Public Works Staff and the Fire Department.



Harvest Festival and Spring Fling

The city hosts the Harvest Festival and Spring Fling annually which various city departments attend. The City's Watershed program has used these events as an avenue for educational outreach. Residents can expect a watershed model demonstration and stormwater info-flyers at the city booth. Residents have provided marketing and communication feedback regarding Watershed program events through these outreach events. The feedback has been consistent in that most feel promotional outreach is not sufficient. In response to feedback, the city's communications team has implemented new methods of event advertising. New methods for promotional outreach include social media, "e-news" alerts, and event posters along the city's main roads. Specific to the Watershed program, the E-News "Sustainability and Watershed Updates" category was created. Residents can sign up for e-news alerts by visiting the City of San Marcos website. The "Sustainability and Watershed Updates" will include educational material, invitations to upcoming outreach events, and "be rain ready" messaging. In the upcoming reporting period, the city anticipates increasing the number of subscribers.

Project Clean Water Tiger Team

Lastly, the City's Watershed Program has joined the Project Clean Water Tiger Team, a San Diego County regional workgroup. The focus of the Tiger Team is to outline and implement campaigns to educate the region on stormwater pollution prevention. Through the membership, the city's watershed programs intend to align regional campaign efforts with local needs.

City of Solana Beach

Rainy Season Notices

Prior to the start of the official rainy season, the City of Solana Beach notified owners, contractors, and developers of active construction sites listed in the city's construction sites inventory to prepare for the upcoming rainy season. In addition to annual reminders, during the rainy season, city staff periodically sent out a Rain Event Notification e-mail, which helped remind onsite contractors to focus on BMPs while waiting for an impending rain storm event.

City of Vista

As detailed in the Home Owner Association (HOA) and Property Manager Outreach Program strategy, results from previous existing development inspections guided development of pollution prevention messaging in two educational presentations available for audiences of HOAs, property managers, and residents. Two new social media infographics were also developed for future distribution, including 'Ditch the Dirt' (sediment/erosion prevention) and 'RV User Know Before You Go' (RV wastewater discharge management).

Staff participated in multiple local events to engage and inform the public about stormwater pollution prevention, including:

- Vista Strawberry Festival (downtown Vista) – With estimated attendance of 100,000 an outreach booth was hosted to distribute pollution prevention educational materials, factsheets, and giveaway items (pet waste bag dispensers, shopping bags, hand sanitizer). An educational trivia wheel was used, allowing participants to spin the wheel and answer questions related to water quality. Wheel topics included household hazardous waste, pet waste, trash management, car washing, and irrigation runoff. Questions were tailored for both children and adults. Giveaway items included imprinting of the city's water quality hotline, providing residents with a resource for reporting of illicit discharges or requesting additional information.
- Summer Fun Festival (Brengle Terrace Park) – Hosted a stormwater pollution prevention educational booth prior to Movies in the Park event. Targeted audience was youth, so staff utilized the EnviroScape three-dimensional hands-on model that demonstrates watersheds and multiple pollution prevention activities.
- Halloween Trick-or-Treat (Civic Center) – Hosted a booth for distribution of youth-oriented environmental awareness coloring books and coloring pencils. Materials included contact information for the city's water quality hotline.
- Pet Waste (city parks) – Hosted booth at two city parks with frequent use by dog walkers, educating residents about picking up pet waste to reduce bacteria and distributing pet waste bag dispensers.
- Volunteer-based Cleanup Events (Buena Vista Trails) – Hosted cleanup events at the Buena Vista Trails for the Coastal Clean-up Day and Creek To Bay Clean-up Day, both led regionally by I Love a Clean San Diego. The events were promoted through social media, Our Vista magazine, the library, and South Vista Communities newsletter. Highlights included:
    - Coastal Clean-up Day (September 2022) – Thirty-four volunteers removed 890 pounds of trash and 120 pounds of recyclables.
    - Creek to Bay Clean-up Day (April 2023) – Forty-five volunteers removed 1,490 pounds of trash and 50 pounds of recyclables.

The San Diego County Office of Education's 'Green Machine' and 'Splash Science Lab' programs facilitated targeted outreach to Vista's youth. The programs provide hands-on education about soil science, watersheds, water chemistry, and pollution prevention. The programs interacted with 672 elementary and middle school students.

As detailed in the On-Site Wastewater Treatment Systems (Septic Systems) strategy, information regarding septic systems was distributed to 485 residents in Vista's portion of the Carlsbad Watershed

Management Area. Properly inspected, maintained, and functioning septic systems can reduce potential sources of bacteria in the environment.

Operators of targeted activities in the city were provided pollution prevention information through the distribution of letters regarding rainy season notification and maintenance of effective erosion/sediment control BMPs to active grading permitted sites, landscape, and irrigation maintenance practices to licensed landscapers, and pool maintenance guidance to licensed contractors.

The city continued distributing infographics and messaging targeting specific pollution prevention activities and practices through social media accounts. city accounts for Twitter, Facebook, Instagram, and Nextdoor were used to share topics, including irrigation runoff, ready-for-rain tips, trash management, pet waste, household hazardous wastes, and landscaping. Each of the three published Our Vista magazines, with a reach of approximately 37,000 homes and businesses, included pollution prevention messaging with topics of 'Are You Ready for Rain,' 'Keep it Neat and Shut the Lid,' and 'Do Your Doody, Scoop the Poop.' Infographics were distributed through Spotlight, the city's employee newsletter, and four pollution prevention posters were installed at public information kiosks in high pedestrian use areas of downtown Vista.

County of San Diego

Enhanced Septics Outreach

The County developed a flyer in English and in five of the eight County threshold languages and a training video in English and Spanish to communicate proper septic system maintenance guidelines and provide resources to assist with proper septic maintenance. These materials are part of the County's approach in reaching out to septic system users to promote BMPs for septic systems maintenance and include a septic tank pumping rebate program. In FY23, the County inventoried and identified 53 residences and businesses that are likely on septic systems within the Upper San Marcos HA. A total of 26 of the 53 (49%) identified residences and businesses received outreach consisting of mailed letters and/or fliers providing septic system maintenance resources.

Enhanced Commercial Agricultural Outreach

The Agricultural Water Quality Program has a focused inspection and outreach program for agricultural facilities in the Upper San Marcos HA that are considered a threat to water quality (TTWQ). 131 on-site and drive-by inspections were conducted at high and medium TTWQ agricultural facilities in the Upper San Marcos HA. During on-site inspections, agriculture operators are provided with stormwater training information and outreach documents with information on the Agriculture Order and other regulatory and water quality info.

In addition to the inspection and outreach program the Agricultural Water Quality Program also partners with UCCE to hold different workshops, seminars, and conferences throughout the fiscal year that are attended by local farmers and agriculture operators in the San Diego County area. Over 12 different events were held by the UCCE during FY23.

Education/Outreach Materials Updates

In FY23, County AWM created a new flyer in response to stakeholder requests for a concise review/handout describing agricultural BMPs to protect water resources, as well as a clear description and comparison of requirements expected by the County and the SDRWQCB commercial agricultural regulatory program. There were many positive comments from stakeholders stating they found the flyer to be very helpful in describing the two regulatory programs. The flyer is posted on the AWM webpage and was provided to stakeholders during outreach events and site inspections.

In FY23, the Watershed Protection Program continued to translate residential, commercial, and industrial education and outreach materials into the County's threshold languages to better meet the needs of underserved communities. The County has translated 100% of our residential, commercial, structural BMP, and industrial education and outreach material into Arabic, Traditional Chinese, Farsi, Korean,

Somali, Spanish, Tagalog, and Vietnamese. The translated outreach materials will be posted to the Watershed Protection Program website during FY 23-24. The County also maintains a webpage dedicated to maintenance of BMPs for property owners which provides educational materials that were updated in FY23.

Collaborative Outreach with UCCE

To further support increasing farmer knowledge of agricultural BMPs, the County Department of Agriculture, Weights and Measures (AWM) collaborated with UCCE to develop the Agricultural Stormwater Training Event that was held at the San Diego Farm Bureau on June 27th, 2023. The Event represents one of the ways AWM collaborates with local resources to effectively convey information to the diverse regional agriculture community on BMPs to protect water resources. AWM coordinated with the San Diego Farm Bureau to host the event, including recording the presentations and ensuring virtual and in-person attendance options. A total of 77 attendees and presenters participated in the event. The event provided a comprehensive stormwater training that met both the Agricultural Water Quality (AWQ) Program annual stormwater training requirements and SDRWQCB Ag Order annual 2-hour continuing education requirements. There were formal presentations from representatives of AWM, SDRWQCB, UCCE, and the Natural Resources Conservation Service and an informal panel discussion with additional representatives from Mission Resource Conservation District, Greater San Diego Resource Conservation District, and the County's Watershed Protection Program. The presentations and outreach materials are available online at the San Diego Farm Bureau and AWQ webpages along with options for translation services.

Pet Waste Bag Dispensers

HA: ☐ Loma Alta ☒ Buena Vista ☒ Agua Hedionda ☒ San Marcos ☒ Encinas ☒ Escondido Creek
Jurisdiction/Area for Implementation: All RAs

Strategy Description:

Pet waste can be a source of bacteria contributing to problematic issues within receiving waters. To promote proper pick-up and disposal, pet waste bag dispensers are provided in various public areas.

FY23 Implementation:

City of Carlsbad

Pet waste bags were available and distributed during the reporting period.

City of Encinitas

City of Encinitas Parks and Recreation continues to service and stock the pet waste dispensers located in and around the parks and trails. In addition, the City's Clean Water Program distributed pet waste bags at events and to residents in Encinitas in the reporting period.

City of Escondido

Pet waste bag dispensers are maintained regularly and distributed throughout city parks and neighborhood groups through Neighborhood Services and Public Works. In December 2022, 10 boxes of pet waste bags were delivered to Neighborhood Services to refill the existing dispensers sponsored by the Environmental Programs group. Additionally, pet waste containers are distributed at all outreach event staff attend.

City of Oceanside

The City of Oceanside Public Works Department installed 45 new pet waste bag dispensers in FY23 at multiple city parks and pedestrian facilities. The City's Public Works Department, along with the Harbor Division, maintains 91 pet waste bag dispensers.

City of San Marcos

City of San Marcos Park Rangers joined the "Keep San Diego Doody Free" campaign efforts of Project Clean Water (PCW). The eye-catching pet waste flyers produced by PCW were posted at all parks and trail

entrance kiosks. Routine signage and pet waste bag dispensers were also maintained throughout the city. In the past fiscal year, the City of San Marcos increased the amount of pet waste bags available for public use at local parks and trails to over 350,000. This is nearly twice the amount made available during the last fiscal year.

City of Solana Beach

During the reporting period, pet waste bag dispensers were provided and maintained throughout the city. Approximately 160,000 wet waste bags were dispensed in FY23.

City of Vista

Citywide, 42 pet waste stations are regularly maintained throughout parks and trails. Two new stations are anticipated in early FY24 with the completion of Pala Vista Park. Approximately 200,000 bags were purchased to replenish these stations during the reporting period.

Staff hosted pet waste educational booths at two city parks with frequent use by dog walkers. The events were promoted through the city's social media outlets and were used to educate residents about picking up pet waste to reduce potential bacteria pollution sources. Portable pet waste bag dispensers were distributed, which included an imprint of the city's water quality hotline to provide residents a resource for asking questions or reporting water pollution concerns.

County of San Diego

Dispensers with pet waste disposal bags are installed and maintained in many County parks.

Efforts to Address Homelessness

HA: ☒ Loma Alta ☒ Buena Vista ☒ Agua Hedionda ☒ San Marcos ☒ Encinas ☒ Escondido Creek
Jurisdiction/Area for Implementation: All RAs

Strategy Description:

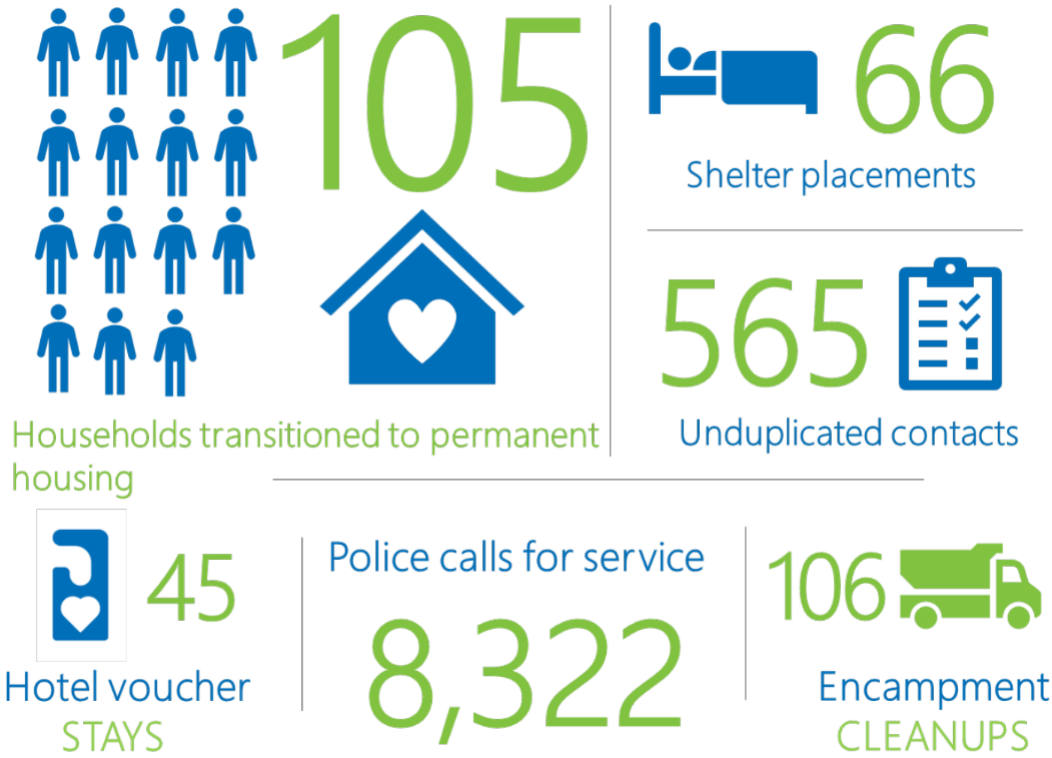
Jurisdictions implement efforts to assist those in need of housing and reduce the impacts of homelessness on the community and environment. Homelessness is a complex matter that typically requires coordination with other agencies and organizations. While jurisdictional stormwater departments/divisions do not lead efforts to address homelessness, the activities implemented by the jurisdiction and in partnership with other organizations will be reported in WQIP Annual Reports. Implementation efforts are dependent upon funding and resources.

FY23 Implementation:

City of Carlsbad

The City of Carlsbad continued the implementation of the Homeless Response Plan, which was approved in 2017 by the City Council.

Implementation highlights for FY23 are illustrated below.



City of Carlsbad FY23 Implmentation Highlights[2]

The city reported information twice annually to the City Council. Those reports can be found on the city's Website. https://www.carlsbadca.gov/departments/police/programs/homeless-outreach

City of Encinitas

The City of Encinitas funds, leads, and participates in many programs to address homelessness within the city. The Opening Doors Encinitas Program began in April 2016, is funded through the city's general fund, and is implemented through the Community Resource Center (CRC). The program is aimed at assisting Persons Experiencing Homelessness to secure permanent housing.

The Homeless Outreach Program for Empowerment (HOPE) commenced in June 2020. The program teams a Sheriff's Deputy with a County HHSA social worker to make direct contact with individuals experiencing homelessness in Encinitas and connect them with various resources to assist them in finding permanent housing.

The City of Encinitas adopted a three-year Homeless Action Plan (HAP) on February 24, 2021. The major components of the HAP include:

- A needs assessment of the existing homeless population in Encinitas;
- Evaluation of current efforts and resources to address homelessness by the city and other non-profits within the city and region;
- Review of best practices from the region and nationally;
- Community outreach that will include public forums and focus groups;
- The Action Plan includes goals, implementable strategies, measurable outcomes, identification of potential partners, and funding opportunities.

Beginning in February 2020, Jewish Family Services (JFS) began operating a Safe Parking Program lot in Encinitas. According to JFS, the program provides a safe environment for unsheltered homeless living out

[2] https://www.carlsbadca.gov/home/showpublisheddocument/15643/638356492476204435

of their vehicles while offering resources and services to help them stabilize and transition back into permanent housing. In June 2022, the lot was moved to the Encinitas Community and Senior, with agreement with JFS that currently runs through June 30, 2025. The lot has the capacity to house up to 25 vehicles/households at any one time.

More information on the city's homeless programs and resources can be found at https://www.encinitasca.gov/government/departments/development-services/policy-planning-housing/housing/homeless-resources

City of Escondido

The City of Escondido works tirelessly to clean the city of trash and debris on public and private property. The Escondido Public Works Department continued efforts to reduce the trash in and around waterways, including service requests to clean up litter and, sometimes, human waste from areas impacted by homelessness and other sources.

The city has a dedicated debris crew that operates seven days per week. They are tasked to patrol over 30 known "hot-spot" areas within and near waterways, on city property, and behind businesses. In FY23, the city responded to 700 calls for service related to encampments or debris and removed 67 tons of trash and other debris from open channels through the encampment cleanup program and MS4 channel maintenance programs.

The City of Escondido Police and Public Works Departments coordinate patrols, enforcement, and regular cleanup of areas impacted by homelessness. The city began its partnership with the new County of San Diego Office of Homeless Solutions and has worked in tandem to offer services and debris cleanup since December 2021. The Escondido COPPS unit implemented a regularly scheduled outreach day with the County and Public Works. This allows individuals to learn about services and potentially secure housing. The City's Impact Team, with representatives of the City Manager's Office, Police Department, Fire Department, Public Works, Park Rangers, Code Compliance, Environmental Programs, Housing and Neighborhood Services, Economic Development, and City Attorney's office, continued to work collaboratively together, and with social service and non-profit agencies, to coordinate efforts to reduce the number of unsheltered individuals. In March of 2023, the mayor formed an ad hoc Homeless Subcommittee that works with other North County cities to increase the availability of services and housing in the community.

Escondido Police Department issued 159 citations in FY23. Vegetation management efforts in natural creek areas, described in the Stream Restoration program, will help the City Police and Public Works departments provide patrol and outreach to individuals to discourage unauthorized camping in sensitive habitat areas.

City of Oceanside

The Oceanside Homeless Outreach Team (HOT) continued to address homelessness in the city. HOT team members routinely contact homeless individuals and connect them with services and aid when possible to reduce the impacts on local waterways. City Code Enforcement conducts sweeps of local waterways at least four days per week and utilizes a contractor to clean up trash and debris during these sweeps and from areas impacted by homelessness. City Code Enforcement and contractor staff conducted 258 days of cleanups during the reporting period and swept approximately 400 miles for trash. The total fiscal impact of these sweeps and cleanups was $432,811.

Additionally, the Watershed Protection Program dedicated significant staff time and provided a $30,000 budget for additional targeted clean-ups of waterways through the Urban Corps of San Diego. In FY23, crews with the Urban Corps of San Diego County swept over 23 acres over 24 days and removed over 74 tons of solid waste from waterways within the City of Oceanside's jurisdiction. The city is also progressing towards the opening of the city's first full-time homeless shelter and resource center, located at the

former Ocean Shores High School on Oceanside Boulevard in the Loma Alta HA. Opening and operation is expected in Fall 2023.

City of San Marcos

The City of San Marcos continued routine Multi-Agency Meetings to address the homeless population within city jurisdiction. The Multi-Agency meetings include, but are not limited to, the Watershed Program, Code Enforcement, Sheriff's Department, Public Works, and San Diego County and are led by Neighborhood Services. During this reporting period, a homeless encampment clean-up procedure was established following state and federal guidelines, approved by the City Attorney. The Public Works division responsible for encampment clean-ups established a contract with Clean Harbors Environmental Services, Inc. Since then, there have been several clean-ups within (or adjacent to) the city's waterways. Moving forward, the city plans to continue to improve clean-up procedures and resources for the homeless population.

City of Solana Beach

Implementation is not triggered.

City of Vista

The City's *Strategic Plan to Address Homelessness* (March 2020) continued to utilize a three-pronged approach, blending services, resources, and enforcement to address the following primary goals: 1) Prevent Homelessness, 2) Improve Quality of Life, and 3) Reduce Homelessness. Since adoption of the Strategic Plan, the city has implemented contracts with multiple non-profit organizations and homeless service providers such as Interfaith Community Services, North County Lifeline, the Alliance for Regional Solutions, Exodus and Alpha Project, to provide emergency shelter, homeless outreach services, case management, and other basic needs.

Since October 2020, the City of Vista has accomplished the following milestones while supporting people experiencing homelessness in our community:

- 128 unsheltered individuals have been placed in emergency shelters for a total of 7,327 nights
- 532 unduplicated unsheltered individuals have been enrolled for continuing services with outreach workers
- 96 households at risk of becoming homeless have received over $334,483 in emergency assistance to prevent homelessness
- Over $3 million dollars have been invested in direct services to support people experiencing homelessness

The Strategic Plan and updated resources regarding people experiencing homelessness can be found on the Housing Division webpage (https://www.cityofvista.com/city-services/housing-homeless-services).

In March 2022, the city received a grant award of $1.8 million from the State of California Interagency Council on Homelessness. The city began planning to allocate resources towards addressing encampments located in a biological preserve overlay area near Buena Vista Creek.

In January 2023, the city initiated a contract for Safe Parking Services. The Safe Parking Program opened in August 2023, which provides onsite, wraparound services focused on basic needs assistance, employment, family wellness, school success, financial education, credit repair, and most importantly, a return to housing.

The city maintained a workgroup consisting of staff from several municipal divisions such as the COPPS Unit of the Sheriff's Department, the San Diego County Department of Homeless Solutions, the Regional Task Force on Homelessness, PATH, Alpha Project, Jewish Family Services, Exodus Recovery, and city staff from the City Manager's Office, Engineering, Code Enforcement, Recreational, City Attorney's Office and Public Works. These representatives met regularly to coordinate activities, align resources, and distribute information within the region. The workgroup seeks to improve internal and external communications on addressing homelessness and has driven enforcement activity to better address homeless encampments

by coordinating efforts with social workers, the COPPS unit, and multiple city divisions. Additionally, the city has engaged in legislative advocacy and is in initial discussions to regionally address legislation supporting identifying resources and streamlining processes to strengthen resources for our unsheltered community.

Strategies and activities to address homelessness in the City of Vista are focused where encampments tend to establish, such as in the vicinity of the urban core and in landscaped open spaces where encampments may be hidden from public view. In addition to services provided by partner agencies to prevent and reduce homelessness, activities occur to reduce potential sources of pollutants from encampments. Since 2020, 777 encampments were removed from public right of ways to abate homelessness and encampment debris, which resulted in the elimination of over 91 tons of trash.

County of San Diego

Efforts to Address Homelessness

- Homeless Encampment Area Cleanups
  - 26.75 cubic yards of solid waste and 12.5 gallons of biohazardous waste were collected during 17 cleanups across the Carlsbad WMA
  - County maintains team of full-time Park Rangers to address homelessness in parks
- Cleanup and Sanitiation Program (CSP)
  - County's CSP team conducted 1,598 assessments and 425 cleanups county-wide
  - CSP coordinates with County Health and Human Services Agency and the Sherriff's Homeless Assistance Resource Team to provide resources to affected individuals

On-Site Wastewater Treatment Systems (Septic Systems)

HA: ☐ Loma Alta ☐ Buena Vista ☒ Agua Hedionda ☐ San Marcos ☐ Encinas ☐ Escondido Creek
Jurisdiction/Area for Implementation: City of Vista, City of Carlsbad, County of San Diego

Strategy Description:

City of Vista and City of Carlsbad

Identify properties in the Agua Hedionda HA with septic systems. Conduct outreach to property owners, focusing on proper servicing and maintenance. Coordinate with the County Department of Environmental Health and Quality (DEHQ) if failing systems are identified.

County of San Diego

The County DEHQ will implement the Local Area Management Plan (LAMP) for OWTS (including those in unincorporated county areas and in incorporated cities) as approved by the San Diego Regional Water Quality Control Board. The LAMP includes permitting new septic system installation and the procedures to respond to reported septic system failures and requiring compliance with the LAMP. The Plan also provides septic system outreach materials and identifies potential incentives for proper system maintenance.

The County's Septic Rebate Program provides education to the public on the importance of maintaining a functioning septic system and ways to mitigate failures. The program offers a $100 rebate towards septic system pumping service to unincorporated residents who certify they have viewed "The Septic System Maintenance" training video and have their system pumped by a DEHQ-approved vendor.

FY23 Implementation:

City of Carlsbad

The City of Carlsbad identified properties with On-site Wastewater Treatment Systems based on records from the County of San Diego and cross-referenced with parcel owner information. The city sent information about maintenance of onsite wastewater treatment systems to the six property owners identified as having on-site wastewater treatment systems in the Agua Hedionda HA.

City of Vista

Outreach materials regarding septic system maintenance were prepared and distributed to properties known, and potentially having, a septic system on site. A total of 485 letters were distributed to properties within Vista's portion of the Carlsbad Watershed Management Area, including sub-watersheds of:

- Agua Hedionda – 165 properties
- Buena Vista – 314 properties
- Loma Alta – 6 properties.

Materials were distributed in both English and Spanish, and are available for download from the 'Residential' section of the Stormwater Education webpage at: www.cityofvista.com/stormwater.

County of San Diego

The County's Septic Rebate Program provides education to the public on the importance of maintaining a functioning septic system and ways to mitigate failures. The program offers a $100 rebate towards septic system pumping service to unincorporated residents who certify they have viewed "The Septic System Maintenance" training video and have their system pumped by a DEHQ-approved vendor. In FY23, the English training video was viewed 930 times on YouTube and a total of 317 rebates were issued within the County's jurisdiction., with 16 of these issued in the Carlsbad WMA.

The Local Agency Management Program (LAMP) implements local standards for the siting, design, installation, and maintenance of new and replacement onsite wastewater treatments systems, also known as septic systems, that have a wastewater flow <10,000 gallons per day, to provide a safe and reliable means of wastewater treatment and disposal for properties not served by a sewer system. In FY 2021-2022, DEHQ conducted an evaluation of the LAMP, which was submitted to the San Diego Water Board. As a result of DEHQ's findings, updates to the current LAMP are being proposed. During FY 2022-2023, the LAMP evaluation and revision process was introduced to the public and the second draft was created based on feedback from stakeholders. The third draft of the LAMP is undergoing final edits and is expected to be presented to the San Diego Water Board in FY 2024-2025.

Existing Development Inspection Strategies

Inspections are used to identify and address dry-weather and wet-weather sources and pollutants. These efforts address an array of pollutants (e.g., nutrients, bacteria, trash, sediment, metals) and often eliminate non-stormwater flows, which collectively reduce impacts to downstream receiving waters and habitats.

Inspection efforts aim to reduce discharges to the MS4 by identifying BMP implementation issues, irrigation runoff sources, and other non-authorized discharges. FOG inspections help to identify and address FOG accumulation in laterals and sewer lines and ineffective or poor maintenance of associated sewer systems that have the potential to contribute to sanitary sewer overflows (SSOs). FOG inspections are proactive measures to reduce and eliminate SSOs, thereby preventing the introduction of bacteria, nutrients, and other pollutants to the MS4 and/or receiving waters.

Property-Based Inspections/Patrol

HA: ☐ Loma Alta ☒ Buena Vista ☒ Agua Hedionda ☒ San Marcos ☐ Encinas ☒ Escondido Creek
Jurisdiction/Area for Implementation: City of Carlsbad, City of Vista, City of San Marcos, City of Escondido, City of Solana Beach

Strategy Description:

The objective of this program is to reduce discharges to the MS4 and provide inspection of existing development in a more cost-efficient and effective manner. The inspections are expected to result in the elimination of dry weather flows but will also affect the wet weather loading potential and provide opportunities for the identification of potential retrofit projects. Features include:

- Developing patrol and inspection protocols
- Developing and conducting staff training
- Conducting property-based/patrol inspections
  - Performing patrols/inspections a minimum of twice per year in this focus area
  - Performing onsite patrols/inspections of each property in the focus area
  - Identification of active dry weather discharges and evidence of historical discharges
  - Identification of pollutant-generating activities and areas that may contribute wet weather stormwater pollutant loading, and
- Performing follow-up with property owner/manager on identified issues to resolve discharges and/or potential pollutant discharges.

In conjunction with the above description, the following jurisdiction-specific details are below.

City of Carlsbad

The inspections are expected to result in the elimination of anthropogenic dry weather flows but will also affect the wet weather loading potential and provide opportunities for the identification of potential retrofit projects. These inspections will include:

- Visual inspection of all public streets
- Inspections of each existing development property:
  - Each commercial/industrial property
  - Each residential property

City of Escondido

Property-based patrols/inspections in industrial/commercial areas outside of the City of Escondido Water Service Area (including San Marcos Creek Watershed) are inspected at least once per year.

City of San Marcos

Property-based/patrol inspections will be performed multiple times per year at various times of the day to capture irrigation runoff and other non-authorized discharges as well as identify BMP issues.

City of Solana Beach

The objective of this program is to reduce discharges to the MS4 and provide inspection of existing development in a more cost-efficient and effective manner. The inspections are expected to result in the elimination of dry weather flows but will also affect the wet weather loading potential and provide opportunities for the identification of potential retrofit projects. Features include:

- Developing patrol and inspection protocols and conducting staff training
- Conducting property-based/patrol inspections
  - Performing patrols/inspections a minimum of twice per year in this focus area
  - Performing onsite patrols/inspections of each property in the focus area
  - Identification of active dry weather discharges and evidence of historical discharges
  - Identification of pollutant generating activities and areas that may contribute to wet weather stormwater pollutant loading, and
  - Performing follow-up with property owner/manager on identified issues to resolve discharges and/or potential pollutant discharges.

FY23 Implementation:

City of Carlsbad

Property-based inspections and patrols were conducted Buena Vista Creek HA during this reporting period. All high priority facilities and patrol areas were inspected at least once during this reporting period. Patrols and inspections focused on eliminating illegal discharges, confirming proper BMP implementation, and general outreach and education to residential and business communities.

- 9 facility inspections
  - 7 follow up inspections
  - 11 violations
  - 6 enforcement actions
  - 1 escalated enforcement actions
- 4 patrol inspections
  - 4 follow up inspections
  - 1 violation
  - 1 enforcement actions
  - 0 escalated enforcement actions

During this reporting period, property-based inspections and patrols were conducted in drainage area 16C-61, in Agua Hedionda HA. Patrols and inspections focused on eliminating illegal discharges, confirming proper BMP implementation, and general outreach and education to residential and business communities.

- 4 facility inspections
  - 1 follow up inspections
  - 4 violations
  - 1 enforcement actions
  - 0 escalated enforcement actions
- 6 patrol inspections covering the drainage area
  - 2 follow up inspections
  - 2 violations
  - 1 enforcement actions
  - 0 escalated enforcement actions

City of Escondido

In FY23, environmental compliance inspectors patrolled commercial areas for their regular inspections throughout the year, and water meter readers were trained to report or leave door hangers for irrigation runoff issues. City staff also inspected three Residential Management Areas and one door hanger was left due to an erosion issue.

City of San Marcos

Property base/patrol inspections continued throughout the reporting period. Routine property-based patrol inspections were conducted at various times of the day. Stormwater pollution concerns were noted and addressed through the Illicit Discharge Detection Elimination program. Additionally, the Property base/patrol inspection program supported the Industrial-Commercial Stormwater Compliance Inspection program. The City's Watershed Program implemented property-based patrols through their contractor, D-Max Engineering Inc. Properties patrolled included businesses that fell under IGP coverage, masonry, or stone cutting.

City of Solana Beach

The City of Solana Beach implemented property-based bimonthly patrols during the reporting period. Patrols were implemented citywide, and the results were collected and entered into an online database. The observed results were then tabulated and used for education and enforcement to address the potential stormwater issues. During the reporting period, 48 potential issues citywide were identified at residential properties. Observations included evidence of irrigation runoff and/or broken sprinklers.

City of Vista

Within the AH-04 focus basin, the three inventoried Residential Management Areas (RMAs) were inspected twice. Within the BV-06 focus area, each of the five RMAs were inspected twice. Inspections resulted in initiating 25 enforcement cases. Commonly observed violations included curb core discharges and irrigation runoff, with fewer instances of observed sediment/erosion from landscaped areas. The cases resulted in 53 enforcement actions (written warnings and/or notices of violation), and one escalated enforcement action (administrative citation). City staff continue to use these inspections to educate residents about prohibited discharges. Resolution of these violations included actions such as corrective action response from property owners (photos, emails, or letters), site visits by city staff, follow-up enforcement letters, and additional follow-up inspections.

A property-based approach to industrial and commercial facility inspections was successfully developed and implemented in the previous fiscal year. In preparation for FY23 inspections, a list of properties (sites) was prepared, identifying sites with businesses that had not previously been inspected during the 5-year permit cycle, beginning July 2018. These sites were included with a list of sites planned for inspection, resulting in 1,097 site inspections completed during the reporting period, inclusive of 2,964 commercial businesses on those inspected sites. Industrial facilities operating in the city that possess a state-issued Industrial General Permit are maintained as their own inventory and inspected. During the reporting period, there were 183 industrial facilities inventoried within the Carlsbad WMA. Of these, 32 industrial facilities were inspected by walkthrough inspections. An additional 32 facilities were included in the property-based approach.

Increased Inspection Frequency for Commercial Sources

HA: ☐ Loma Alta ☐ Buena Vista ☐ Agua Hedionda ☒ San Marcos ☐ Encinas ☐ Escondido Creek
Jurisdiction/Area for Implementation: City of Encinitas

Strategy Description:

All inventoried commercial businesses in the 2nd Street sub-basin will be inspected twice per year. This is 10 times more than the minimum commercial inspection requirements mandated in the Municipal Permit. Most businesses in the 2nd Street sub-basin are restaurants, and inspections will focus on evaluating compliance with bacteria-control BMPs, such as keeping used cooking oil storage containers in covered, contained areas, proper disposal of food waste, keeping dumpster lids closed, and proper disposal of cleaning water. Where BMP deficiencies are noted, the city will require corrections to be made and will take enforcement as needed in accordance with the City's Enforcement Response Plan.

FY23 Implementation:

The City of Encinitas completed this strategy as described and was able to track all inspection actions. All inventoried commercial businesses in the 2nd Street sub-basin were inspected twice during this monitoring period.

94 inspections (drive-by and in-person) were conducted in FY23. Of these, 4 inspections resulted in corrective actions.

Existing Industrial and Commercial Inspections – Trash Enclosures

HA: ☒ Loma Alta ☐ Buena Vista ☐ Agua Hedionda ☐ San Marcos ☐ Encinas ☐ Escondido Creek
Jurisdiction/Area for Implementation: City of Oceanside

Strategy Description:

Trash enclosures have been determined to be a likely source of bacteria during both dry weather and wet weather conditions. Rainwater can travel through the enclosure carrying bacteria, food waste, and trash to the storm drain system and possibly local surface waters. During inspections of existing industrial and commercial facilities, the trash enclosure and waste disposal areas are inspected for any possible illegal discharges and to determine proper management of waste. Enclosures that accept waste from drinking and eating establishments are highly scrutinized due to the type of waste that can be generated from them, including cooking grease storage, food waste, and food packaging.

FY23 Implementation:

Oceanside Watershed Protection Program conducted 337 commercial and industrial inspections during the reporting period. During existing development inspections, staff routinely inspect trash enclosures at the facilities and issue correction orders where source control BMPs are inadequate or out of compliance. Additionally, stormwater inspectors coordinated directly with the City's Solid Waste & Recycling team to notify them of locations with inadequate bin sizes and servicing to contact the business and adjust service to eliminate trash overflows and illegal scavenging. In FY22 the city began development on a brand new, comprehensive Food Service Establishment Environmental Compliance program. Once complete and implemented in 2024, this program includes new training videos, online resources and outreach materials that educate Foodservice workers on BMPs related to stormwater protection, solid waste and food scraps recycling and Fats, Oils & Grease (FOG) compliance. This is referenced below in the FOG Inspection Program.

FOG Inspection Program

HA: ☒ Loma Alta ☒ Buena Vista ☒ Agua Hedionda ☒ San Marcos ☐ Encinas ☒ Escondido Creek
Jurisdiction/Area for Implementation: City of Escondido City of Oceanside, City of San Marcos, City of Solana Beach

Strategy Description:

City of San Marcos

- Continue coordination between the City of San Marcos and Vallecitos Water District (VWD) programs. The City of San Marcos anticipates a collaborative work effort between the City of San Marcos' inspection program and VWD's FOG program to reduce sewer backups and overflows that result from the accumulation of FOG in the sewer system
- VWD established an Ordinance to regulate FOG
- VWD visited all the Food Service Establishments (FSEs) within the City of San Marcos to provide an overview of the program and expectations
- VWD created a guidance manual provided to each FSE that includes BMP information, maintenance requirements, and record-keeping documents. The City of San Marcos is prepared to utilize these documents during independent inspections or investigations
- VWD will inspect all FSEs at least once a year and collaborate with the City of San Marcos to perform dual inspections when needed, and
- Inspection results for both parties will be shared regularly to better identify problem areas more efficiently and to coordinate effective corrective actions.

City of Escondido

Escondido's FOG inspection program addresses businesses with grease traps or separators, including restaurants, automotive repair facilities, and others. As the operator of a Publicly Owned Treatment Works (POTW), Escondido implements an enhanced inspection schedule citywide, inspecting restaurants

on average more than once each year. This enhanced inspection program mitigates the potential for sewer overflows and enforces required stormwater BMPs.

City of Oceanside

To reduce the potential of grease-related sanitary sewer overflows (SSOs) to its waterways, the City of Oceanside continues to track where SSOs have occurred and where sewer line maintenance has identified a build-up of grease in the sewer line. Based on this information, residential areas and restaurants will be identified for focused outreach regarding proper disposal of fats, oils, and grease and enforcement of grease interceptor maintenance per the city's ordinance. The City's Watershed Protection Program staff collaborates with the city sewer division to determine if there is a reduction of SSOs and grease build-up in these targeted areas. This collaboration is enabled by the city's robust sewerline cleaning and reporting program overseen by the Sewer Collections Division. Cleaning, inspection and overflow reports are shared directly with the Watershed Protection Program to geographically target FOG-related education and outreach.

City of Solana Beach

The City of Solana Beach implements inspections at Food Service Establishments (FSEs) to maintain proper control and prevent FOG from entering the sanitary sewer system, which can amass and cause sewage overflows. All FSE inspections are prioritized and conducted by the city based on the facility's potential for discharges of FOG to the sanitary sewer system. Education and outreach is provided during inspections.

FY23 Implementation:

City of Escondido

Environmental Programs continued to perform stormwater compliance inspections in conjunction with pretreatment (Fats, Oil, and Grease or FOG) inspections to protect sanitary and storm sewer systems. Inventoried Food Service Establishments are inspected at least once per year, which is more than the required once every five years. Compliance Inspectors monitor Notices of Correction issued for trash enclosures, and repeat offenders may be required to retrofit trash enclosures.

City of Oceanside

Watershed Protection staff continued to coordinate with the Sewer Collections division and Environmental Compliance Inspector in FY23 to target outreach on proper FOG management to commercial businesses and multifamily residences where warranted when an SSO was determined to be caused by grease blockages. Additionally, the Green Oceanside campaign uses social media to educate the community on proper FOG disposal and to avoid flushing wipes to prevent SSOs. For commercial Food Service Establishments, the city inspected 56 businesses in FY23 to verify proper outdoor stormwater BMPs and that Grease Control Devices were being maintained per city ordinance. The city also began developing a comprehensive Food Service Establishment Environmental Compliance program in FY23. Once complete and implemented in 2024, this program includes new training videos, online resources and outreach materials that educate Foodservice workers on BMPs related to stormwater protection, solid waste and food scraps recycling and Fats, Oils & Grease (FOG) compliance.

City of San Marcos

The collaboration between the City of San Marcos and VWD to reduce discharges from FOG continued this reporting period. Complex FOG issues found during normal inspections, complaint calls, and/or during patrols are coordinated/reported to VWD's Source Control Technician.

After assessing the available sanitary sewer overflow (SSO) resources by both the city and VWD, SSO education was determined to be a community need. The flyer was designed to serve as a guide for property owners on how to respond to sanitary sewer overflow (SSO) emergencies. It provided step-by-step guidance based on the municipal code of the City of San Marcos and Ordinance 65 of the VWD. It was published in November 2022.

City of Solana Beach

In FY23, the city continued to inspect FSEs for FOG management and device maintenance. If applicable, the city enforced the municipal code.

Commercial Agricultural Operations Inspection Program

HA: ☐ Loma Alta ☒ Buena Vista ☒ Agua Hedionda ☒ San Marcos ☐ Encinas ☒ Escondido Creek
Jurisdiction/Area for Implementation: City of Escondido, City of San Marcos, and County of San Diego

Strategy Description:

The County of San Diego, City of Escondido and City of San Marcos inventories and inspects commercial agricultural operations within jurisdictional boundaries as part of the Existing Development commercial inspection program. Agricultural facilities enrolled in the General Agricultural Order, as reflected in GeoTracker, are assessed and inspected at an appropriate frequency for the watershed and the potential threat to water quality. Inspectors address erosion and sediment control and nutrients relevant to agricultural sources.

FY23 Implementation:

City of Escondido

In FY23, the City of Escondido performed one inspection of commercial agricultural facilities as part of the commercial industrial stormwater inspection program.

City of San Marcos

The City's Watershed Program typically conducts inspections for commercial agriculture facilities as part of the industrial/commercial inspection program. Based on recently developed dry weather goal updates, Watershed staff began coordinating with the County of San Diego Agriculture Weights and Measurement staff, responsible for stormwater inspections for agricultural facilities within County jurisdiction. Initially, the city provided County staff with city MS4 GIS Webmap. The map was used to identify commercial growers located in the Couty's jurisdiction that border and/or drain to the City of San Marcos.

Collaboration between agencies continued through joint Stormwater Compliance inspections. They were conducted at Plant Source (519 Cassou Rd, San Marcos, CA 92069); the site is under County jurisdiction and borders the city. Three joint inspections were conducted from January through March of 2023. The third inspection included Regional Water Quality Control Board staff involved with the Agriculture Order program. The joint inspections provided insight into the county's standardized inspection process. Inspections included an overview of education hand-outs, inspection reports, and inspection follow-up protocol. The City's Watershed Program implemented a similar inspection protocol for the Enhanced Agricultural Stormwater Compliance Inspection program.

The Enhanced Agriculture Stormwater Compliance Inspection program began in May 2023 and was completed in early July 2023. Business license records and current aerial views of the city were used to verify active agriculture operations. Five sites were found to be operating without a city-issued business license. In total, 17 sites were confirmed to operate within the City of San Marcos jurisdiction.

All commercial growers were contacted prior to the start of the Enhanced Agriculture Stormwater Compliance inspections. A notification email explaining the program's goal was sent to all owners and/or site managers. The email included an attached Pre-Inspection Checklist and an Employee Training Log.

SAN MARCOS
DISCOVER LIFE'S POSSIBILITIES

Development Services

STORMWATER COMPLIANCE PRE-INSPECTION LIST

In preparation for your upcoming Stormwater Compliance Inspection please review the checklist below. It details areas and practices that will be reviewed during the inspection. Additionally, an Employee Training Log template has been included for your reference. Annual Stormwater Best Management Practices (BMPs) training is required for employees. For questions please contact Watershed Technician, Edith Santana Phone:(760) 685-7047 or Email: esantana@san-marcos.net

Stormwater Compliance Checklist	Completed?
Good Housekeeping Practices • Use dry cleaning methods whenever possible • Required Annual Stormwater Training for all employees • Routinely assess site for loose litter/debris	☐ Yes ☐ No
Erosion Control • Implement management practices to prevent erosion and reduce storm water runoff quantity and velocity	☐ Yes ☐ No
Vehicle Maintenance Areas • Conduct auto repair activities in a covered and contained areas • Fully contain car washing activities • Use drip pans for leaking vehicles	☐ Yes ☐ No
Non-Hazardous Material Storage • Elevate and cover materials stored outside • Provide cover and containment for stockpiles • Ensure dumpster lids are closed when not in use • Provide cover for roll of dumpsters • Replace missing dumpster lids	☐ Yes ☐ No
Hazardous Material Storage • Cover and contain hazardous materials • Properly label containers • Available Spill Kit • Avoid use of fertilizer or pesticide use within three days of forecasted rain event. • Apply the least possible amount of fertilizers, herbicides, algaecides, and pesticides	☐ Yes ☐ No
Effective Irrigation Practices • Verify sprinkler system and/or drip irrigation are working appropriately • Implement BMPs to prevent non-stormwater discharges (i.e. irrigation runoff) from entering onsite stormwater conveyances • Recycle irrigation water when possible	☐ Yes ☐ No
Storm Water Conveyance Systems • Inspect all storm water conveyance systems prior to the start of the wet season (October – April). • Maintain storm water conveyance systems free of accumulated sediment and debris	☐ Yes ☐ No

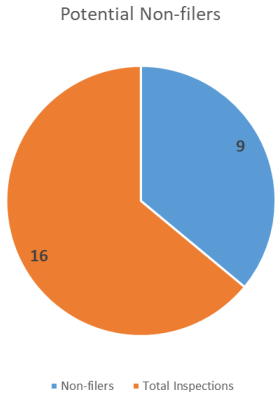
www.san-marcos.net

CITY OF SAN MARCOS, CALIFORNIA | 1 Civic Center Drive | San Marcos, CA 92069 | (760) 744-1050

Last Updated April 2022

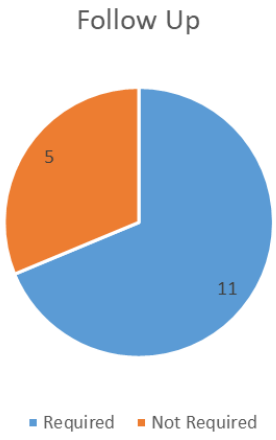
EMPLOYEE TRAINING LOG

Employee Name	Date



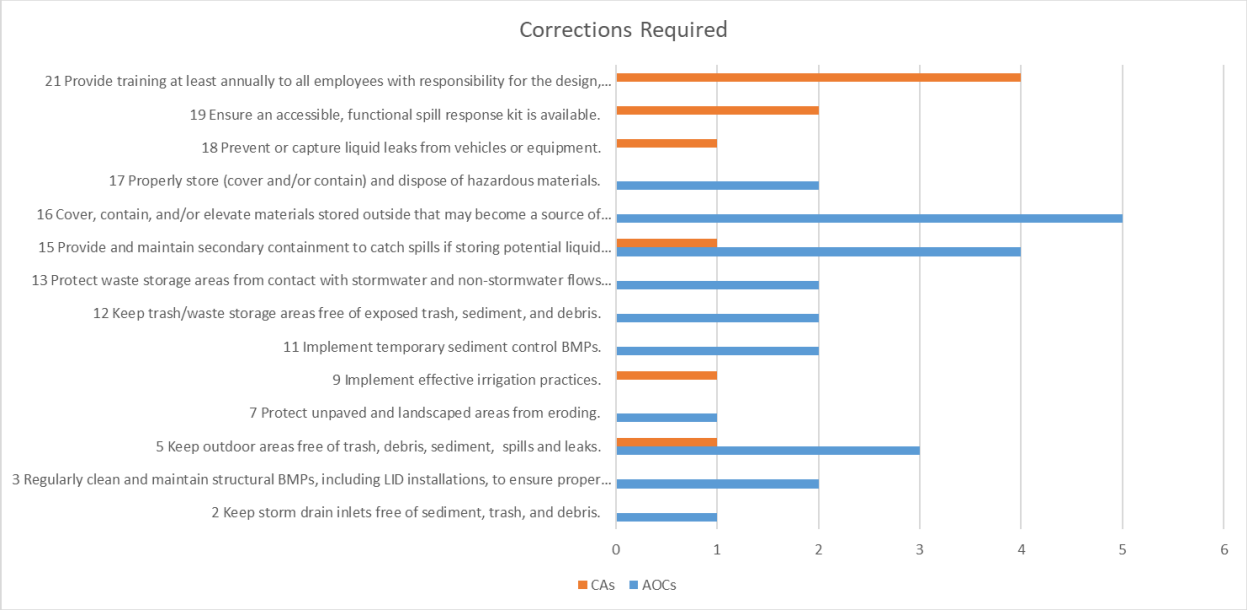
The goal of the attachments was to provide agricultural business owners/managers with a tool to prepare for the stormwater compliance inspections. Additional guidance was provided on an as-needed basis for businesses that requested it. The City's Watershed Program requested businesses reach out to schedule an inspection for the months of May and June. 16 of the 17 agricultural businesses were successfully inspected. Various efforts were made to schedule an inspection for the outstanding business. However, the business owner refused to comply.

At the end of the Enhanced Agriculture Stormwater Compliance Inspection Program, inspection data was quantified to analyze program results. Nine out of the 16 completed inspections identified potential Commercial Agriculture Regulatory Program non-filers.



Potential non-filers were listed on a table, similarly to IGP potential non-filers, and reported to the Groundwater Sustainability and Protection Unit. At the end of each stormwater compliance inspection, businesses that were potential non-filers were provided the RWQCB's Protecting Water Quality brochure.

Corrections required included the following:



Overall, the city recognized that agricultural operations deserved a distinction from industrial and commercial business inspections. Inspection procedures (i.e. inspection forms and educational materials) were revised with the emphasis on compliance with Ag Order No. R9-2016-0004. The city plans to continue to perform Enhanced Agricultural Stormwater Compliance Inspection programs in the upcoming reporting year.

County of San Diego

The Agricultural Water Quality Program conducted a total of 131 on-site and drive-by inspections of high and medium TTWQ agricultural facilities in the Upper San Marcos HA. In FY22, AWM began systematically incorporating all commercial agriculture sites in the unincorporated County that have associated agricultural permits and which meet the Agricultural Order's definition of commercial agriculture into the AWQ regulated inventory. In FY23, there are a total of 66 inventoried agricultural sites within the Upper San Marcos HA, 11 of which were newly inventoried. There are 12 facilities ranked as High TTWQ; all but one of these facilities received on-site inspections in FY23. The remaining High TTWQ facility is scheduled to receive an on-site inspection prior to October 2023. All 66 inventoried facilities in the subwatershed have received at least one on-site or drive-by inspection since July 2021.

The County reviews agriculture permits to determine if sites should be included within the regulated agricultural site inventory. Prior to inspections, staff identified operations that were not enrolled and provided one-on-one outreach and relevant educational materials at the time of the inspection. In FY23, a total of 108 operations were identified county-wide as non-filers and subsequently referred to the SDRWQCB via email.

Dry Weather Flow Reduction Strategies

These strategies aim to reduce or eliminate dry weather runoff from illicit discharges or connections, thereby decreasing pollutant contributions in dry-weather conditions. Irrigation systems are typically set to occur multiple days a week and often operate without oversight. These systems can be over-watering landscapes or become faulty, resulting in runoff leaving the landscaped area, traveling over impervious surfaces, and ultimately reaching the MS4 or receiving waters. Methods implemented to reduce dry weather flows may include assessing flows at outfalls, identifying times to perform observations/inspections in outfall drainage areas, performing site observations, and correspondence with site owners regarding irrigation systems or other findings.

Irrigation Runoff Reduction

HA: ☐ Loma Alta ☒ Buena Vista ☒ Agua Hedionda ☒ San Marcos ☒ Encinas ☒ Escondido Creek
Jurisdiction/Area for Implementation: City of Vista, County of San Diego, City of Carlsbad, City of San Marcos, City of Encinitas, City of Escondido, City of Solana Beach

Strategy Description:

The objective of the Irrigation Runoff Reduction Program (IRRP) is to eliminate or reduce dry weather flow contributions coming from irrigation runoff, regardless of the time of day the discharges occur. Reducing or eliminating runoff from irrigation will reduce non-stormwater flows thereby reducing nutrient and bacterial contributions (as well as other pollutants) in both dry weather and wet weather scenarios. An irrigation runoff program is expected to target such pollutants as heavy metals, oil and grease, sediment, and pesticides, in addition to nutrients and bacteria.

Core elements include:

- Developing municipal codes that prohibit irrigation runoff,
- Developing educational materials and outreach programs specific towards irrigation runoff
- Assessing dry weather flows at outfall(s),
- Identifying key times to perform site observations,
- Perform site observations to identify sources of irrigation runoff,
- Collaboration with the appropriate department/division to address municipal property irrigation systems,
- Initiating contact and correspondence with property managers/owners,
- Periodically assessing flows, and
- Optionally developing and implementing an incentive program to encourage the elimination of irrigation runoff.

FY23 Implementation:

City of Carlsbad

During this reporting period, a total of 19 cases related to irrigation runoff were detected, investigated, and eliminated citywide, through collaborative efforts between the City of Carlsbad and the Carlsbad Municipal Water District.

City of Encinitas

The city addresses irrigation runoff discharges identified through its IDDE program (via staff and citizen notifications). During the reporting period, the city modified its reporting system to more explicitly track irrigation and/or water waste-specific complaints. During the reporting period, seventy-one (71) irrigation runoff sources were identified and eliminated as a result of these investigations via collaboration with the respective water agencies.

City of Escondido

The City of Escondido executes an irrigation runoff reduction program by implementing municipal codes, education, and outreach events, including landscape workshops and training of city staff to report water waste/illicit discharges, amongst other activities listed in the JRMP. During the reporting period, staff

identified and eliminated multiple sources of irrigation runoff to the MS4. These sources were from both commercial and residential areas, and sources were identified through the IDDE program, MS4 dry weather flow investigations, and referrals from city staff or other water districts.

See JRMP Annual Report Supplement (Appendix D) for more information about the city's programs.

The City of Escondido promoted the San Diego County Water Authority programs for water conservation incentives or rebates to commercial and residential sources within the Carlsbad WMA.

City of Escondido Irrigation Runoff Incentive Program Numbers for FY23 Carlsbad WMA

Incentive Program Item	Number
Weather Based Irrigation Controller	14
Residential Rain Barrel	3
Turf Replacements	25

The SoCal WaterSmart Program also offered three WaterSmart Checkups to homeowners of single-family properties and included free, site-specific water-saving recommendations from certified irrigation professionals. In FY23, Escondido participated in 10 Landscape Makeover Series workshop, learning to develop a sustainable landscape plan for their property and how to retain stormwater onsite.

City of San Marcos

During the reporting period, the City of San Marcos successfully launched the Water Smart Landscape Initiative to support irrigation runoff reduction strategy efforts. The initiative was formulated using the 2021 Dry Weather Ms4 Outfall Monitoring and Dry Weather Characterization Special Study Summary, the Illicit Discharge Detection and Elimination Program and Residential Inspection programs FY21-23. It aims to create water conservation awareness and effort engagement, with a special focus on single family residential landscapes. The initiative was spearheaded by the Watershed Program and supported by interdepartmental efforts. Additionally, local Water Districts provided support as well. Notably, Vallecitos Water District (VWD) was a great collaborator toward event planning.

The Water Smart Landscape Initiative was rolled out with a kickoff event, The Smart Splash Summer Bash. Hosted at a local park, Jack's Pond, on June 10th, 2023 from 10am to 1pm. Participating agency's that attended the event included, the City of San Marcos Watershed Program, VWD, Rincon Del Diablo Water District, and Vista Irrigation District. A landscaping vendor was also present, Rain Bird. All guests were welcomed with complimentary ice cream treats and various fun activities. Each participating agency offered water conservation and water quality educational activities that were for all ages. Best of all, they were fun. Overall the event was a great success that brought awareness to the resources available for residents to better their landscaping activities. The reporting period ended with plans to continue the Water Smart Landscape Initiative in the upcoming reporting period.

Simultaneously, yet separate from the initiative, efforts to address commercial-industrial runoff continued. The Watershed Program worked with Action Research and DMax Engineering Inc to create a program focused on preventing runoff from commercial, industrial, and high-density residential properties. The plan is to have the program rolled out by the next reporting period.

City of Solana Beach

As part of the city's bi-monthly patrols, non-stormwater discharges, including overirrigation runoff, are immediately addressed when they are observed during patrols. Notifications received via the City's Urban Runoff Online Reporting Tool are also immediately addressed as soon as a notification is received. Ten instances of over-irrigation were investigated and eliminated in FY23 through the city's patrol and IDDE efforts.

The city continued to improve its program efficiency by leaving informational door hangers on the doors of residential properties where improper BMP implementation was observed. Door hangers were also made available to select Departments, such as Code Enforcement and Public Works, to utilize in the field if they observed stormwater-related issues throughout the city.

City of Vista

Citywide, 57 service requests were received from the public through the on-line 'Report It' tool regarding irrigation runoff. Of 112 enforcement cases initiated for violations observed at residential properties (generated through a combination of program inspection components), 37 were related to irrigation water. Private properties with observed violations of irrigation runoff were sent enforcement letters with targeted outreach materials about irrigation system maintenance, prohibiting irrigation runoff, and identifying corrective actions to be taken. When appropriate, city and Vista Irrigation District (VID) staff coordinate response and/or enforcement to complaints of irrigation runoff.

For service requests related to irrigation line breaks in city parks or city open space, intended response time is one hour from notification. Staff can shut down mainlines, and lateral repairs are completed as soon as possible. There are 54 Calsense controllers deployed throughout the city, providing notification alerts due to abnormal flow conditions and enabling weather-based operation that can interrupt an irrigation cycle based on detection of precipitation.

In May 2023, the Integrated Pest Management (IPM) program was updated, including new documentation and policies to protect human and environmental health, safety, and water quality. The IPM implements a tiered approach to managing pests, where mechanical and physical controls are preferred. Parks, streets adjacent to schools, downtown, and high traffic areas have prescribed approaches to addressing pests. These actions will reduce potential sources for pesticides in stormwater from city-maintained parks and facilities.

County of San Diego

The County seeks to eliminate or reduce dry weather flow contributions through various collaborative efforts including enforcement of municipal codes, assessment of dry weather flows at outfalls, and implementation of incentive programs that target reduction.

During FY23, the County targeted HOAs within the Upper San Marcos HA for landscape optimization outreach, resulting in the removal of 23,000 square feet of turf and a reduction of 36% for irrigation usage at the Fairways HOA. In total, turf removal and landscape optimization service projects throughout the Carlsbad WMA resulted in over 2 acres of turf being removed. This removal of turf reduces the potential irrigation runoff and dry weather flows caused by irrigating large areas of turf. The reduction of dry weather flows from irrigated turf in the Upper San Marcos HA also reduces the amount of nutrients that enter the Upper San Marcos Creek and Lake San Marcos. 3 of the Landscape Optimization Service Projects were completed within the drainage area of a major MS4 outfall within the Upper San Marcos HA as seen below.

County of San Diego Landscape Optimization Projects for FY23 Carlsbad WMA

Associated MS4 Outfall	HOA Name	Turf Area Removed (sf)	Native Plants Added (sf)	HSU
MS4-CAR-068	Mall III	25,000	0	904.52
MS4-CAR-072	Panorama	31,740	14,535	904.52
MS4-CAR-072	Sunrise Pointe	23,400	6,690	904.52

In FY23, a 53 percent reduction in total discharge from the MS4-CAR-072 outfall was observed. This flow reduction was observed during the same fiscal year that over 50,000 square feet of turf was removed from the MS4-CAR-072 outfall drainage area as documented above.

Citywide Landscape Conversion Program

HA: ☐ Loma Alta ☐ Buena Vista ☐ Agua Hedionda ☒ San Marcos ☐ Encinas ☐ Escondido Creek
Jurisdiction/Area for Implementation: City of San Marcos

Strategy Description:

Following the approach of the recently completed City of San Marcos Civic Center Landscape Demonstration Project, the city will implement similar conversions to several medians and other public maintained areas throughout the city and within the Upper San Marcos Creek Watershed. This program will include landscape renovation from mainly turf grass to native drought-tolerant plants/turf, and irrigation systems will be upgraded for better efficiency and to reduce or eliminate irrigation runoff.

FY23 Implementation:

The City of San Marcos completed the following drip conversion projects for medians within the right of way for this reporting period:

Landscape Drip Irrigation Conversions	Square Feet
San Marcos Blvd. center medians	16,075
Mission Road center median	3,320
S. Twin Oaks Valley Rd. center medians	20,800
Total:	**40,195**

The City's Parks Division performed several irrigation controller conversions throughout various sites during the reporting period. The Parks Division has been replacing aging and obsolete irrigation controllers on a one-off basis with new, central cloud-based irrigation controllers manufactured by WeatherTrak. Staff selected these new WeatherTrak controllers because they allow staff to optimize the city's irrigation needs, increasing our water efficiency through real-time visibility. They offer a straightforward web-based user interface that is accessible from any device and can configure multiple points of connection to maximize flow. This project brought a large portion of the remaining aging controllers into alignment with the other new controllers and allowed staff to work more efficiently across multiple sites by only having to manage one type of system.

The areas that were upgraded with these new WeatherTRAK controllers during the reporting period are as follows:

San Elijo Hills Park – replaced 9 outdated controllers, consolidated into 3 new WT controllers
Sunset Park – replaced 7 outdated controllers, consolidated into 5 new WT controllers
Mission Sports Park – replaced 2 outdated controllers with 2 new WT controllers
Buelow Park – replaced 2 outdated controllers with 1 new WT controllers
Corky Smith Gym – replaced 1 outdated controller with 1 new WT controller
Connors Park – replaced 1 outdated controller with 1 new WT controller
San Marcos Senior Center – replaced 1 outdated controller with 1 new WT controller
Helen Bougher Park – replaced 1 outdated controller with 1 new WT controller
Optimist Park – replaced 1 outdated controller with 1 new WT controller
Hollandia Park – replaced 6 outdated controllers, consolidated into 5 new WT controllers
Woodland Park – replaced 1 outdated controller with 1 new WT controller
Knob Hills Park – replaced 1 outdated controller with 1 new WT controller
Public Works Yard – replaced 1 outdated controller with 1 new WT controller
Double Peak Park – replaced 1 outdated controller with 1 new WT controller

Altogether, 25 new WeatherTRAK controllers were installed during FY23.

Implement Program Efficiencies

HA: ☐ Loma Alta ☒ Buena Vista ☒ Agua Hedionda ☐ San Marcos ☐ Encinas ☐ Escondido Creek
Jurisdiction/Area for Implementation: City of Carlsbad

Strategy Description:

The city is implemented a new computer database, compatible with mobile devices, which streamlines response and data collection for Illicit Discharge Detection and Elimination (IDDE) reports, discoveries, complaints, and monitoring investigations. This new computer database will also streamline inspections and allows for the review of previous information in the field. It also speeds up the enforcement process as well as expedites the capture of data for field follow-up. These increases in the speed at which data is collected and assimilated facilitate efficiencies of the city's stormwater program.

FY23 Implementation:

The city continued the use of the automated database for inspections and IDDE investigations. Several reports and processes were updated to improve efficiency. The city also continued to use the Carlsbad Connects App for complaints and the ACTION System for tracking TCBMPs.

Provide Maximum Response Time for Complaints Received via Stormwater Hotline

HA: ☐ Loma Alta ☐ Buena Vista ☒ Agua Hedionda ☐ San Marcos ☐ Encinas ☐ Escondido Creek
Jurisdiction/Area for Implementation: City of Carlsbad

Strategy Description:

Maintain a maximum response time for complaints of active unauthorized discharges received via Stormwater Hotline, or other mechanism. During Regular business hours, the City of Carlsbad will respond and arrive on-site *within* 60 minutes of notification to eliminate any unauthorized discharge, identify the responsible party, and minimize impacts to receiving waters. This response time is expected to eliminate discharges while they are occurring and provide an opportunity to immediately educate, or enforce, as necessary. After-hours response may be delayed based on available resources.

FY23 Implementation:

Reported unauthorized discharges were investigated within 60 minutes of notification. During this reporting period, the City of Carlsbad received 13 reports of active discharges in the Agua Hedionda Hydrologic Area. Staff were onsite within 60 minutes for all 13 reports of non-stormwater discharges.

Active Field Program to Identify and Address Dry Weather Flows

HA: ☐ Loma Alta ☐ Buena Vista ☐ Agua Hedionda ☒ San Marcos ☐ Encinas ☐ Escondido Creek
Jurisdiction/Area for Implementation: County of San Diego (Focus Areas CAR-068, CAR-069, CAR-070, CAR-072)

Strategy Description:

The County will address dry weather flows in focus areas identified through strategic assessments and review of 303(d) listings, monitoring data, and persistent flows. Mechanisms to address dry weather flows include employing a robust education and outreach program, monitoring and investigating non-stormwater flows, and collaborating with water districts in a dry weather flow source study. Through these efforts, new outreach materials will be developed, such as HOA presentations and special events flyers.

FY23 Implementation:

County of San Diego

The County continued efforts to identify sources of non-stormwater flow. In addition to the residential inspections program, which seeks to identify irrigation runoff during the early morning hours, the County performed extensive outreach and enforcement during normal business hours and followed up on identified sources to ensure compliance. Staff successfully identified and eliminated prohibited flows from a number of sources through a comprehensive inspection and public outreach program in residential

neighborhoods known to have persistent dry weather flows. Ongoing efforts to address dry weather flows in the Carlsbad WMA include:

- inspecting residential areas and golf courses,
- inspecting high threat to water quality agricultural facilities,
- conducting outreach to HOAs as well as residences and businesses on septic systems,
- educating unincorporated residents about ways to reduce outdoor water use as appropriate, and
- implementing escalated enforcement as necessary.

The County continued to perform additional after-hour surveys of residential areas within the County's WQIP Focus Areas within the Upper San Marcos HA (i.e., drainage areas to major outfalls MS4-CAR-068, MS4-CAR-069, MS4-CAR-070, and MS4-CAR-072) and within drainage areas to major outfalls MS4-CAR-007 and MS4-CAR-059. In FY23, an additional 21 Residential Management Areas were fully inspected county-wide, and 121 Pollutant Generating Activities were identified. All 121 enforcement activities have been completed and associated Residential Management Areas are back in compliance with the aid of outreach and enforcement tools. Outreach was provided to the residents and businesses in the outfall drainage areas to maintain the successful reduction of dry weather flows.

The County's efforts to reduce dry weather flows in the Upper San Marcos HA during FY23 resulted in a 42 and 53 percent reduction in discharges from the major outfalls MS4-CAR-070 and MS4-CAR-072, respectively. These reductions are in comparison to the 2016-2017 baseline total discharges.

Water District Coordination

HA: ☒Loma Alta ☒Buena Vista ☒Agua Hedionda ☒ San Marcos ☐ Encinas ☒Escondido Creek
Jurisdiction/Area for Implementation: City of Encinitas, City of Escondido, City of Oceanside, City of San Marcos, County of San Diego

Strategy Description:

RAs will coordinate with Water Districts to share information and work collaboratively to reduce dry weather flows.

City of San Marcos

- The City of San Marcos and VWD staff collaborate and communicate regularly to share information regarding reports and complaints
- Public water waster reporting is available on both the City of San Marcos and VWD websites
- The City of San Marcos utilizes VWD developed door hangers for city field staff to distribute if water wasting is reported or observed at a property
- The City of San Marcos developed template response letters identifying both the City of San Marcos and VWD program requirements, and
- This program will be implemented in conjunction with the proposed irrigation runoff reduction program strategy.

FY23 Implementation:

City of Encinitas

The City of Encinitas continued to coordinate with the two water districts operating within the city (San Dieguito Water District and Olivenhain Municipal Water District) to identify and eliminate irrigation runoff and other potable water discharges to the MS4. The city modified its reporting system to earmark cases in which irrigation or other potable water discharges are suspected or identified. Ongoing cases that fall into this category within San Dieguito Water District are automatically reported to Water District staff. The city regularly coordinates with both districts to communicate investigation findings with residents and/or businesses.

City of Escondido

The City of Escondido continued to collaborate with the other water districts within the city (Rincon del Diablo, Vista Irrigation District, and Vallecitos Water District) to identify and eliminate irrigation runoff and other potable water discharges to the MS4.

City of Oceanside

The City of Oceanside operates its own Water Utility. Watershed Protection Program staff routinely coordinate with Water Distribution and Maintenance staff to identify and correct infrastructure issues that may result in a non-stormwater discharge to the city's MS4. Additionally, in an effort to improve the city's leak detection system, enhance aging infrastructure, and improve customer service, the city has begun the installation of new WaterSmart Meters. The WaterSmart customer portal is a free service for City of Oceanside Water Utility account holders that allows them to view their current and historical usage online. Portal users can contact Water Use Efficiency staff when a leak is suspected, enhancing water conservation efforts and saving rate payers money. Staff also work cooperatively to examine customer water records that may relate to excessive landscape irrigation and associated runoff to the MS4 and respond to customer complaints of public service line leaks.

Oceanside Water Utilities also promotes water use efficiency rebates offered through SoCal Watersmart as a member of the San Diego County Water Authority. Rebates to Oceanside customers include turf removal, rain barrel installation and weather-based irrigation controllers. To qualify for rebates, SoCal Watersmart requires customers to install at least one stormwater-related feature as part of their project. Features can include dry creeks, rain gardens, detention basins and vegetated swales.

City of San Marcos

Coordination efforts between the City of San Marcos and Vallecitos Water District were expanded throughout this reporting period. The routine sharing of water wasters/irrigation runoff dischargers continued. Additionally, coordination occurred for certain Illicit Discharge and Illicit Detection program cases.

Most notably coordination occurred in the implementing of the Watersmart Landscape Initiative, highlighted in the Irrigation Runoff Reduction Strategy. Bi-monthly meetings were held by both agencies, communication regarding planning was ongoing for the majority of the reporting period. Especially in preparation for the Smart Splash Summer Bash event that occurred in June 2023. Coordination will continue in future reporting periods.

County of San Diego

The County of San Diego continued to collaborate with water districts within the Carlsbad WMA including the Olivenhain Water District to identify and eliminate irrigation runoff and other potable water discharges to the MS4. The County promotes water conservation and efficient irrigation practices through their collaboration with the Metropolitan Water District of Southern California to provide enhanced rebate opportunities to unincorporated residents on rain barrels, cisterns, weather-based irrigation controllers (WBICs), and turf removal projects.

Dry Weather Flow Abatement Program

HA: ☐ Loma Alta ☐ Buena Vista ☐ Agua Hedionda ☐ San Marcos ☐ Encinas ☒ Escondido Creek
Jurisdiction/Area for Implementation: City of Encinitas, City of Oceanside

Strategy Description:

City of Encinitas

The City of Encinitas monitors outfalls for flow, receives and responds to public reports of discharges, and inspects businesses, construction sites, and residential areas to identify discharges. The city will prioritize inspections of businesses and residential areas in the Cardiff Channel drainage area such that they are completed soon after the approval of the WQIP. This will help Encinitas identify sources of discharges, and

in turn, take actions to eliminate them earlier within the Permit cycle. Because persistent flow has been observed at the Cardiff Channel outfall, the city will also complete a more in-depth investigation to identify sources of non-stormwater flow to the outfall. The study will likely include historical research and chemical testing to differentiate among different flow source types, including anthropogenic and non-anthropogenic sources. Upstream investigations will also be completed as necessary to identify source locations as needed. Identified sources will be required to be eliminated in accordance with the procedures in the City's Enforcement Response Plan.

While the city already has an IDDE program that identifies and eliminates prohibited discharges, the city will prioritize the Cardiff focus area and concentrate its source identification and elimination resources within the Cardiff focus area. Once sources have been identified, the city will work with responsible parties to eliminate the discharges in accordance with the City's Enforcement Response Plan.

City of Oceanside

Since 2016 the City has proactively identified two major sources of pumped nuisance groundwater into its MS4 from private homeowner associations. These locations include the Ocean Hills Country Club in the Agua Hedionda HA and Pacifica homeowners association in the Buena Vista HA. Through its routine dry weather MS4 outfall field screening, the City identified groundwater extraction systems at each of these locations that discharged to the MS4. Both of these diversions were completed in consultation with RWQCB staff and HOA representatives.

The Ocean Hills system is comprised of five wells that intermittently extract nuisance groundwater to protect homeowner properties in the northeast area of the HOA. These wells previously discharged to the MS4 for at least 30 years. In 2019, after issuing a Special Use Discharge Permit, the City required the HOA to construct a sanitary sewer diversion system to permanently eliminate the non-stormwater discharge to the MS4. The Permit requires routine flow monitoring and biannual analysis of the discharge to ensure compliance with the City's sewer local limits policy. The discharge is composed entirely of brackish groundwater with a high TDS content.

The Pacifica-Oceanside Manor groundwater extraction system is located in the Buena Vista HA and previously discharged nuisance water to the City's MS4 and into Buena Vista Creek for at least 25 years. Similar to Ocean Hills, in 2019 the city issued a Special Use Discharge Permit to the HOA and required the pumped flows be diverted to the sanitary sewer for treatment, permanently resolving the non-stormwater discharge of high TDS water to Buena Vista Creek.

FY23 Implementation:

City of Encinitas

Flow source investigations were conducted at all five of the city's highest-priority persistently flowing outfalls (HPPFs). This information helped identify outfalls that were receiving more tap or unnatural sources of runoff versus those that were primarily groundwater/natural flow sources, which will help prioritize/pinpoint locations for further upstream source investigation. Detailed findings of this report are included in Attachment 7 of the CWMA FY23 WQIP Annual Report. There was generally a mix of groundwater and tapwater sources at the city's five HPPF sites in FY23, indicating that some infiltration (likely irrigation runoff) into the MS4 is still occurring at these sites. The city will conduct further upstream investigations at these sites, prioritizing those sites that found a higher percent tapwater in the sampled effluent.

City of Oceanside

From October 1st, 2022, to March 31st, 2023, total diverted flows were estimated at 132,711 gallons.

Groundwater Extraction System at Pacifica HOA
Diverts dry weather flows away from Buena Vista Creek to the sanitary sewer.

Enhanced Major Outfall Investigations

HA: ☐ Loma Alta ☒ Buena Vista ☒ Agua Hedionda ☒ San Marcos ☒ Encinas ☒ Escondido Creek
Jurisdiction/Area for Implementation: City of Carlsbad, City of Vista, County of San Diego

Strategy Description:
Conduct monitoring and investigation of flow sources at major outfalls. In addition to routine monitoring and sample collection, agencies will consider the implementation of targeted investigations to characterize and identify flow sources, such as continuous flow monitoring, increased sampling frequencies, infrastructure investigation, desktop source identification exercises, and targeted analyses (e.g., HF 183, isotopes).

FY23 Implementation:

City of Carlsbad

Highest Priority Persistent Flow Outfall Source Identification Study

A special study was performed during the reporting period to characterize flow sources at the city's three new highest priority persistent flow (HPPF) major MS4 outfalls (Attachment 6 of the CWMA FY23 WQIP Annual Report). This study built upon, and incorporated previous analyses and investigation performed in relation to regular permit required monitoring and special studies. Ion samples were collected at all three new HPPF outfalls (38D-13, 58A-73, and 63A-49) in April 2023. Samples of potable water and groundwater were also collected for comparison. Major ion composition at the three new HPPF outfalls were compared to known water sources using piper diagram analysis. Results indicated groundwater as the main contributing source for all three new HPPF outfalls. Study results will help guide prioritization of HPPF outfalls moving forward. Additionally, upstream investigations were performed for every flowing outfall observed during dry weather major outfall field screening.

City of Vista

Continuous flow monitoring was conducted at high-priority outfall AH-02 in 2019, 2021, and 2022. In both 2021 and 2022, a flow reduction was measured and results were presented in Attachment 4 of the FY 2021-22 Carlsbad WQIP annual report. A targeted investigation of the storm drain upstream of the major

outfall BV-16 was also conducted in September 2022. Having conducted these targeted investigations, routine outfall inspections were conducted during this reporting period.

Two notable discharges were discovered during upstream investigations during 2023 dry weather monitoring. A broken irrigation system at a local business was identified as the flow source at major outfall AH-12, an illicit discharge was identified from a nearby construction site.

County of San Diego

Illicit Discharge Detection and Elimination (IDDE) investigations are conducted at all Highest Priority Persistently Flowing (HPPF) major MS4 outfalls identified in the WQIPs in an effort to identify and eliminate sources of dry weather flows in priority drainage areas. If /when sources are identified, staff immediately conduct outreach to the responsible party when possible or refer to the appropriate group for follow-up. The County also collects continuous flow measurements at selected outfalls during the dry season. This data can be used to understand flow patterns and to schedule inspections during peak flow periods, aiding in the identification and elimination of illegal discharges.

MS4 Outfall Analysis

HA: ☒ Loma Alta ☒ Buena Vista ☒ Agua Hedionda ☐ San Marcos ☐ Encinas ☐ Escondido Creek
Jurisdiction/Area for Implementation: City of Oceanside

Strategy Description:

In addition to the baseline MS4 major outfall field screening and analysis requirements in Provision D.2, the city implements an as-needed approach for intensive non-stormwater analysis and source investigations in its jurisdiction. This strategy is triggered for priority outfalls as staff and budgetary resources allow, beyond the field screening and priority outfall analysis requirements in the Permit. Past outfall investigations have included assessments to determine non-anthropogenic inputs into the MS4 (e.g. groundwater seepage and infiltration) in addition to anthropogenic source investigations. Tools may include water quality test methods such as HF183, closed-circuit television and/or continuous flow monitoring to assess trends and sources of observed non-stormwater discharges.

FY23 Implementation:

No additional outfall monitoring beyond the MS4 Permit requirements in Provision D.2. was conducted at the mentioned outfall due to budgetary restrictions and a lack of staffing resources in FY23. Future strategies, dependent on staffing and funding resources, may include risk assessment of fecal indicator bacteria loads through the use of human marker (HF183) testing and additional source investigations of the upstream drainage area.

During the reporting period, the City of Oceanside conducted investigations in accordance with its Jurisdictional Runoff Management Plan. The city continued to operate its urban runoff hotline, online reporting system, and MyOceanside app. Staff investigated and responded to all reports and requests during the reporting period.

MS4 and City Infrastructure Maintenance Strategies

Operating, inspecting, and maintaining the MS4 and jurisdictional infrastructure are important to control, prevent and eliminate pollutants from entering receiving waters. Methods may include CCTV of sewer lines, increasing maintenance for targeted portions of sanitary sewer collection systems, and targeted street sweeping.

Targeted Street Sweeping

HA: ☐ Loma Alta ☒ Buena Vista ☒ Agua Hedionda ☐ San Marcos ☐ Encinas ☐ Escondido Creek
Jurisdiction/Area for Implementation: City of Carlsbad

Strategy Description:
Targeted street sweeping in the HA will be a minimum frequency of every two weeks.

FY23 Implementation:
Street sweeping was conducted at a minimum frequency of every two weeks to remove bacteria, pathogens, trash, and sediment from the City of Carlsbad's streets and gutters.

Storm Drain Infrastructure

HA: ☐ Loma Alta ☐ Buena Vista ☐ Agua Hedionda ☒ San Marcos ☐ Encinas ☒ Escondido Creek
Jurisdiction/Area for Implementation: City of Escondido, City of Solana Beach

Strategy Description:
On an as-needed basis, Escondido and Solana Beach will use downhole video technology to assess where dry weather flows enter the storm drain system. The objective of the use of video is to identify groundwater intrusion and to facilitate a better understanding of the City of Escondido's and City of Solana Beach's MS4 network through collaboration with the sewer and water utility field staff.

Corrugated metal pipe (CMP) failures can cause public safety concerns (sinkholes) as well as water quality concerns from suspended metal, CMP coatings, and sediment. Proactively rehabilitating or replacing CMP with more durable storm drainpipes will improve water quality and riparian habitat downstream. This strategy includes performing CMP condition surveys, prioritization of repairs, and rehabilitation/replacement of CMP.

FY23 Implementation:

City of Solana Beach

In FY23, the City of Solana Beach completed the lining of 940 linear feet (LF) of storm drains.

During the reporting year, the City of Solana Beach performed an in-house video inspection and assessment of existing CMP storm drains and developed a prioritization list for rehabilitation or replacements. This undertaking allows the city to understand its infrastructures better while reducing potential risks and improving storm conveyance.

City of Escondido

In FY23, the city continued its effort toward Corrugated Metal Pipe (CMP) video, cleaning, repair, and replacement throughout the city. The Storm Drainpipe Lining and Rehabilitation began its phase 3 and awarded a construction contract in March of 2023 to begin work.

The city will continue to identify locations where downhole video technology will provide valuable information for dry weather flow source investigations or groundwater intrusion identification in future fiscal years.

Wastewater System Operation and Maintenance

HA: ☐ Loma Alta ☒ Buena Vista ☒ Agua Hedionda ☒San Marcos ☒ Encinas ☒ Escondido Creek
Jurisdiction/Area for Implementation: City of Carlsbad, City of Encinitas, City of Vista, County of San Diego

Strategy Description:

City of Carlsbad, City of Vista

Each agency's sanitation district(s) will continue the implementation of its wastewater (sanitary sewer) operation and maintenance activities to reduce the potential for human sources of bacteria from entering the environment. Each district is required by the State Water Resources Control Board to manage, operate, and maintain the sanitary sewer system in a manner that prevents a sanitary sewer overflow which can endanger public health and safety. Activities are presented in a Sewer System Management Plan and include, but are not limited to, operation and maintenance activities (such as mapping, preventative maintenance, rehabilitation/replacement), overflow response, Fats Oil and Grease (FOG) activities.

City of Encinitas

Encinitas will evaluate sewer system maintenance frequencies and FOG program policies, including procedures targeted at private laterals, to protect the Moonlight Beach Shoreline. While Encinitas has not had Sanitary Sewer Overflows (SSO)s recently, evaluating Encinitas's Sanitary Sewer Maintenance Plan is important as a proactive step. Based on the findings of the evaluation, Encinitas may make modifications to its maintenance program to prevent SSOs, such as increased maintenance frequency for targeted portions of the sanitary sewer collection system. Eliminating SSOs prevents the introduction of bacteria, nutrients, and other pollutants to Moonlight Beach and Cottonwood Creek.

City of Solana Beach

The City of Solana Beach implements an aggressive annual sewer infrastructure replacement program using CCTV surveys for 20% of the sewer infrastructure, leading to a prioritized list of sewer line replacement projects and upgrades to existing sewer facilities. The City of Solana Beach invests up to $500,000 in sewer replacement projects annually to reduce potential seepage of bacteria from sewer infrastructures into groundwater or the MS4.

County of San Diego

In collaboration with the RAs, the County of San Diego will collaborate with the Buena Sanitation District as needed.

FY23 Implementation:

City of Carlsbad

The city's wastewater collections district continued to implement the operation and maintenance activities.

City of Encinitas

The City of Encinitas has an annual sewer line maintenance schedule. In addition, the city utilizes a "hot-spot" cleaning list for any observed or documented sewer line anomalies such as low-flows, dips, bellies, or historic root problems. The city also maintains a 5-year CCTV inspection cycle on all sewer lines throughout the city. Sewer spill records and a holistic assessment of the city's sewer system maintenance program have concluded that there is no need for a change in maintenance frequency or FOG program policies.

City of Solana Beach

In FY23, the City of Solana Beach completed the lining of 4,183 LF of sewer mains as part of a CIP project. As part of the CIP project, three sewer clean-outs were added, and six service lateral connections were repaired. The project includes other sewer and storm drain repairs.

City of Vista

The City of Vista and Buena Sanitation District operate sewer collection systems within Vista City limits, with activities guided by a sewer system management plan. During the reporting period, revisions were made to the City of Vista and Buena Sanitation District Sewer System Management Plan, including updates to the Spill Emergency Response Plan. Between both districts, more than 33 miles of sanitary sewer was inspected by closed-circuit television and 306 miles of sewer was cleaned.

The inventory of Food Service Establishments (FSEs) within each sanitation district was updated. Of 332 inventoried FSEs, 127 were inspected in the Carlsbad WMA during the reporting period for compliance with Fats Oils and Grease (FOG) requirements. During FOG inspections, FSEs are provided a 'FOG binder' containing materials such as logs for maintenance and training, grease hauler list, and additional resources. These inspections, and adherence to FOG requirements, reduce the potential for blockage and overflow of the city's sanitary sewers.

County of San Diego

In collaboration with the RAs, the County collaborated with the Buena Sanitation District as needed.

Structural BMP(s), Retrofit, or Restoration Project Strategies

This category covers efforts related to development, re-development, habitat restoration, and structural BMP retrofit projects. The shared objective of these strategies is to mitigate the impacts of development by capturing and/or treating stormwater runoff at the site level. Improvements to runoff conditions at the site level will have water quality benefits in receiving waters and collectively result in downstream improvements. Examples of activities identified in these strategies include removal of sediment build-up in waterways, construction of structural BMPs (e.g., detention basins, bioretention cells), removal of invasive plants, planting of native vegetation, and restoration of riparian habitats.

Loma Alta Slough Wetlands Enhancement Project

HA: ☒ Loma Alta ☐ Buena Vista ☐ Agua Hedionda ☐ San Marcos ☐ Encinas ☐ Escondido Creek
Jurisdiction/Area for Implementation: City of Oceanside

Strategy Description:

The Loma Alta Slough Wetlands Enhancement Project addresses the priority eutrophic water quality condition at Loma Alta Slough and aims to achieve multiple benefits through the restoration of ecological functions and protection of infrastructure from future climate-driven impacts. The project has existed in a conceptual phase for years as the City of Oceanside worked to acquire private properties surrounding the Slough beginning in the 1990s. In 2018 the city was awarded a Proposition 1 planning grant from the State Coastal Conservancy to complete the required studies, preliminary design, and environmental documentation for a comprehensive restoration project. The project enhances the hydrologic function and habitat quality of existing coastal salt marsh and brackish freshwater wetlands by removing invasive species, dredging new wetland areas, and removing non-native infill to widen the extents of Loma Alta Slough. The restoration improves the existing habitat by enhancing water circulation and establishing new habitat ecotones to provide refugia for sensitive coastal species. Of the total six-acre project footprint, the restoration creates an additional three acres of new wetlands at the Slough, which will play an important role in nutrient reduction by removing nitrogen and phosphorus while providing infrastructure protection from increased storm intensity and sea-level rise from expected climate change. The project design is taking a multi-benefit approach, balancing the need for water quality improvements with flood risk reduction, coastal infrastructure protection, and recreational opportunities through the inclusion of a trail system.

FY23 Implementation:

During the FY23 reporting period, substantial progress was made in readying the project for construction. In addition to prior committed construction funding of $1M from the US Fish & Wildlife Service, the Ocean Protection Council awarded an additional over $1M in June 2022. The following was achieved in the FY23 reporting period:

- Acquisition of three major agency permits required for construction, including a CDFW Streambed Alteration agreement, RWQCB 401 water quality certification, and Coastal Commission Development Permit;
- Finalized the project's 90% engineering plan set and began the city's internal entitlement process to approve a Discretionary Development Plan for the area;

- Coordinated project construction with three other major CIP projects surrounding the restoration footprint, which includes trail connections to a future extension of the Coastal Rail Trail through south Oceanside; and
- City Council certification of the project's Final CEQA Documentation, including adoption of the Mitigated Negative Declaration, Mitigation Plan and Notice of Determination

The city expects the final Construction Documents to be completed in late 2023. Pending final regulatory approvals and sufficient construction funding, the city expects to put the project out to bid in early 2024, with Phase 1 construction planned for late 2024. Implementation depends entirely on available grant funding, as concerns persist that inflationary and economic pressures have increased the estimated costs for Phase 1.

Graphic rendering of Phase 1 of the Loma Alta Wetlands Enhancement Project (ESA 2023).

Garrison Creek Native Habitat Restoration Project

HA: ☒ Loma Alta ☐ Buena Vista ☐ Agua Hedionda ☐ San Marcos ☐ Encinas ☐ Escondido Creek
Jurisdiction/Area for Implementation: City of Oceanside

Strategy Description:

This project is being implemented as a Supplemental Environmental Project (SEP) to mitigate previous environmental impacts to the Loma Alta watershed from a domestic sewage spill in 2015. The project involves removing and controlling invasive vegetation within a 20-acre open space area of the Garrison Creek drainage in addition to restoring three acres of riparian forest and Diegan Coastal Sage Scrub habitat to benefit sensitive and threatened avian species. Restoration work, coupled with regular volunteer events to maintain the area and remove trash and invasive species, is expected to also provide benefits to water quality in the Garrison Creek drainage to Loma Alta Creek. The project also includes future improvements to an existing public trail system by installing new educational signage to educate the community about the value of riparian habitat, restoration, and connectivity of watersheds and water quality in the Loma Alta Creek watershed. To effectively implement the project and achieve the SEP success criteria, the city has partnered with Nature Collective to oversee the habitat restoration and management, along with a local non-profit organization, Friends of El Corazon, to engage volunteers and help design the new trail signage.

FY23 Implementation:
During FY23, the city worked with its restoration partners, the Nature Collective and Friends of El Corazon, to conduct multiple invasive species treatments, installation of restoration irrigation, native plants, and broadcast seeding. The project is currently in Year 5 of the monitoring period and is near to achieving the success criteria for native habitat establishment and invasives control. As of the last vegetation monitoring event in July/August 2023, the restoration areas have increased to over 80% native species cover, well above the SEP restoration success criteria target of 65% native cover.

Garrison Creek Native Habitat Restoration Project: Before and after photos of restoration area between 2021 and early 2023

Buena Vista Creek Restoration Project

HA: ☐ Loma Alta ☒ Buena Vista ☐ Agua Hedionda ☐ San Marcos ☐ Encinas ☐ Escondido Creek
Jurisdiction/Area for Implementation: City of Oceanside

Strategy Description:
In southeast Oceanside along the CA-78 corridor, the City of Oceanside owns multiple properties encompassing the Buena Vista Creek. These properties, located east of College Blvd. and north of Lake Blvd., are surrounded by private urban development and have historically been impacted by illegal encampments, trash, streambank erosion, flooding, and poor water quality. These properties are located upstream (east) of State-owned ecological preserves, including the Buena Vista Creek Ecological Reserve owned by the CA Department of Fish and Wildlife. Understanding the long history of encampment impacts on water quality and riparian habitat in this area, as well as flooding concerns of nearby businesses and residents, they began to seek funding to plan a comprehensive streambank restoration and community access project at the site. The goal of the project is to develop and implement a community-driven restoration project that will stabilize streambanks, remove invasive species, discourage illegal encampments and reconnect the Buena Vista Creek floodplain where feasible within the confines of existing development. The city is working directly with local non-profit environmental organizations, including the Buena Vista Audubon Society, commercial businesses along the creek and interested residents to develop the project. The project site includes approximately 1,700 linear feet of streambed included in the restoration planning area and 5.3 acres. Included in the restoration design will be a community trail system with educational features to facilitate community interest in the habitat with protective measures to ensure the sensitive riparian habitat and wildlife are adequately protected. The project will directly benefit adjacent Disadvantaged Communities (DAC) identified by the State Department of Water Resources through water quality and habitat improvement, flood risk reduction, and community integration features.

FY23 Implementation:
During this reporting period, the city's consultant, Dudek, prepared a preliminary conceptual restoration design based on baseline biological field surveys and existing condition hydrology and hydraulics

modeling. The conceptual restoration design includes restoration and enhancement opportunities (including some proposed grading) as well as proposed recreational or interpretative features for the public. The city also coordinated meetings with Dudek and CarMax to discuss a potential trail segment within the CarMax mitigation site (adjacent to proposed restoration site). Pending public access discussion with CarMax the city will either move forward with the original design as proposed if public access is not allowed by CarMax and wildlife agencies. If public access is allowed, the city may continue to pursue the public access component through the CarMax mitigation site. The conceptual restoration design will reflect the outcome of this discussion. For the next reporting period, the city anticipates completing the conceptual restoration plan and 30% and 60% design documents in Fall 2023. It is expected that regulatory permits will be submitted in Fall/Winter 2023 to help progress the project to 90% and 100% the following year. The city will also continue to seek additional funding to work though final design approvals and restoration construction funds for the next phase of the project.

Filter Retrofit Program

HA: ☐ Loma Alta ☐ Buena Vista ☐ Agua Hedionda ☒ San Marcos ☐ Encinas ☐ Escondido Creek
Jurisdiction/Area for Implementation: City of San Marcos

Strategy Description:

The City of San Marcos will continue to implement the filter upgrade program provided through an existing grant program. Aging filters located within public facilities in need of repair are retrofitted with new proprietary filters systems that contain media filters to treat dissolvable pollutants, including nutrients and bacteria.

FY23 Implementation:

For this reporting period, grant funding continued to be limited compared to previous years, therefore the city did not pursue installing any new curb inlet filters.

Permanent BMP Requirements for Standard Projects

HA: ☐ Loma Alta ☐ Buena Vista ☐ Agua Hedionda ☒ San Marcos ☐ Encinas ☐ Escondido Creek
Jurisdiction/Area for Implementation: City of Encinitas

Strategy Description:

The City of Encinitas BMP Design Manual became effective on February 16, 2016, and establishes source control, site design, and structural BMP requirements for proposed development and redevelopment projects. The manual outlines requirements for three tiers of projects: Priority, Standard, and Basic. In addition to the minimum source control and site design requirements, Standard Projects within the City of Encinitas must also install structural BMPs based on the following sizing criteria: Minimum BMP Area = 0.03 Σ (Surface Type SF X Surface Type Runoff Factor). This requirement goes above the Permit requirements for development projects and adds a significant number of additional BMPs throughout the city. The city is also in the process of updating its BMP Design Manual to include an option for water capture/re-use in lieu of structural BMP requirements for Standard projects. The goal of this option is to provide an alternative to on-site infiltration that will provide both water conservation and downstream water quality benefits. These updates are incoporated into the City's BMP Design Manual update that has been submitted with this WQIP Annual Report.

FY23 Implementation:

The City of Encinitas BMP Design Manual has been applied to all Standard Development Projects issued a permit by the city since February 16, 2016. While water quality benefits have not been directly quantified, the water quality benefits are implicit through additional and widely distributed facilities designed for runoff capture, infiltration, and reduced pollutant loading. In FY23, 25 Standard Development Projects were granted final occupancy.

Implement San Marcos Creek District 401 Water Quality Certification No. 11C058

HA: ☐ Loma Alta ☐ Buena Vista ☐ Agua Hedionda ☒ San Marcos ☐ Encinas ☐ Escondido Creek
Jurisdiction/Area for Implementation: City of San Marcos

Strategy Description:

In early 2012, Clean Water Act Section 401 Water Quality Certification No. 11C-058 for the San Marcos Specific Plan Project (San Marcos Creek District) was issued by the San Diego RWQCB. The project includes the construction of a raised development pad along the north side of San Marcos Creek and an earthen, vegetated levee along San Marcos Creek between Bent Avenue and Via Vera Cruz to provide the necessary floodway infrastructure. Several roadway improvements are also proposed, including widening Discovery Street from McMahr Road to the Bent Avenue/Craven Road intersection, constructing bridges at Via Vera Cruz and Bent Avenue, and widening San Marcos Boulevard by approximately 20 feet to include an additional through lane. Park land in the project area would include trails, grassy areas for picnicking, and other amenities, as well as access to a pedestrian bridge across San Marcos Creek between McMahr Road and Via Vera Cruz, and sidewalks/public trails along with the new Via Vera Cruz and Bent Avenue bridges.

Compensatory mitigation and management for riparian habitat, including wetlands, will occur on the San Marcos Creek and Los Posas Branch floodplains and will consist of:

Type	Acres	Linear Feet
Establishment	23.56	13,975
Re-establishment	1.76	4,515
Enhancement	17.12	13,425
Preservation	9.92	7,280
Buffers	7.91	13,575

Additionally, there are no structural water quality BMPs presently installed in the proposed 217 acres of the redevelopment area, and runoff flows into San Marcos and Las Posas Branch untreated. With the implementation of the project, non-stormwater flows will be eliminated, and stormwater flows will be

treated with structural BMPs. Proposed water quality BMPs are described in the *Final San Marcos Creek Specific Plan Master Water Quality and Hydromodification Management Plan* (Final Master WQTR), dated December 15, 2011, and in subsequent revisions dated October 16, 2015. The Final Master WQTR will ensure consistency in the application of water quality and hydromodification compliance requirements within each private development project located in the San Marcos Creek Specific Plan area. The Final Master WQTR will also ensure that the Specific Plan area functions in accordance with ongoing watershed planning and pollutant load reduction efforts so that each project takes into consideration its role within the Specific Plan area as well as within the overall Upper San Marcos Creek Watershed.

The combination of riparian habitat mitigation and structural BMP implementation is anticipated to have a positive impact on nutrient reductions and provide overall improved water quality within the project limits and on a larger scale, the Upper San Marcos Creek HA. The 401 Permit for the San Marcos Creek project requires bioassessment monitoring before, during, and after impacts have occurred and been mitigated to assess the biological integrity of San Marcos Creek within the project area. In addition, dry and wet weather water quality monitoring is also required to assess structural BMP effectiveness and demonstrate water quality improvements within the project area.

The first phase of the project includes the construction of the raised development pad, levee, roadway and public infrastructure improvements, park land, pedestrian bridge, sidewalk/public trails, and structural post-construction BMPs designed to mitigate water quality and hydromodification impacts associated with the first phase of project development. It should be noted that an amendment to Water Quality Certification No.11C-058 was recently submitted to the San Diego RWQCB for review. In general, the amendment includes minor adjustments to the acre size for some of the mitigation types. Once approved, this strategy section will be updated to reflect the changes identified in the amendment.

FY23 Implementation:

Construction activities continued throughout the reporting period for the San Marcos Creek Project. Construction activities included continued utility and storm drain installations, structural BMP installation to treat new constructed infrastructure, continued work on the Discovery Street widening, ongoing construction of the Via Vera Cruz bridge, and initiation of wetland habitat mitigation work project wide.

The project was anticipated to be completed prior to the end of the reporting period; however, the project has experienced delays due to the heavy rains experienced during the wet season and from utility conflicts. The project is anticipated to be completed at the end of the 2023 calendar year. Information regarding the project and updates can be viewed at https://www.san-marcos.net/live/capital-improvement-program-cip/creek-district-bridge-project.

Implement Preferred Watershed Remedy as Proposed Through the Final Corrective Action Plan

HA: ☐ Loma Alta ☐ Buena Vista ☐ Agua Hedionda ☒ San Marcos ☐ Encinas ☐ Escondido Creek
Jurisdiction/Area for Implementation: County of San Diego, City of San Marcos, City of Escondido

Strategy Description:

Based on the Remedial Investigation/Feasibility Study (RI/FS), the selected preferred remedy for the Upper San Marcos HA consists of supplementary agricultural BMPs to be implemented through the Agricultural Order and stream restoration/flocculation (phosphorous inactivation).

The RI/FS also describes pilot testing, which simulates full-scale implementation to obtain design data needed to scale up and cost the remedy for complete implementation. Based on the results of pilot tests, a watershed remedial option will be presented in the draft Correction Action Plan for the RWQCB's review and approval.

Depending on the results of the Pilot Study, the City of San Marcos, the City of Escondido, and the County of San Diego will continue stream restoration efforts, as needed and if funds are available. The RAs are

concerned that a long-term funding source for the installation and maintenance of structural best management practices has not been obtained.

FY23 Implementation:

The City of San Marcos, County of San Diego, and the City of Escondido continue to move forward with the remedies recommended in the RI/FS for the Upper San Marcos HA. The table below summarizes activities completed during this reporting period. All data and documentation related to the Lake San Marcos cleanup project can be viewed and obtained at the State of California GeoTracker website https://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T10000003261.

FY23 RI/FS Efforts Conducted

Date	Item and Comments
December 30, 2022	**LSM 2022 Aeration Pilot Study Report** – submitted to San Diego RWQCB.
March14, 2023	**Lake San Marcos Bridge Document Draft2 Mar23** – submitted to San Diego RWQCB.

San Diego RWQCB Communication

As previously reported, on August 6, 2021, the San Diego RWQCB officially terminated Addendum B to the Participation Agreement Among the Lake San Marcos Work Group. Since that timeframe, the San Diego RWQCB has been considering an enforcement action to implement cleanup measures in a more expeditious manner. During the reporting period, San Diego RWQCB staff informed the responsible parties that a Cleanup and Abatement Order (CAO) is being prepared for the project. A draft CAO was not finalized during this reporting year. An update on the status of the CAO will be provided in next year's annual report.

Mitigated Negative Declaration

The Draft Initial Study Mitigated Negative Declaration has been submitted to the San Diego RWQCB and has gone through multiple comment rounds. Comments were addressed and provided back to the San Diego RWQCB in August 2022. There has been no additional feedback since this submittal. Next year's annual report will provide an update on the document's review and status.

Lake and Watershed Corrective Action Plans (CAPs)

As previously reported, the draft Phosphorus Inactivation CAP for the lake was submitted to the San Diego RWQCB on May 14, 2021. Multiple rounds of comments have occurred between the responsible parties and the San Diego RWQCB. The responsible parties provided another round of comment responses and updated the CAP on October 15, 2021. Final approval of the Phosphorus Inactivation CAP from the San Diego RWQCB is pending.

As previously reported, the responsible parties submitted a draft Watershed CAP on September 17, 2021, and had various discussions with the San Diego RWQCB regarding their concerns with the document. The responsible parties and the San Diego RWQCB had a teleconference on November 18, 2021, to review and discuss specific comments provided by the San Diego RWQCB in a formal comment letter dated November 8, 2021. During the teleconference, the San Diego RWQCB requested a Feasibility Analysis to bridge recommendations contained in the RI/FS with actions currently being undertaken to meet the end points of the RI/FS. The responsible parties shared various outline versions of the proposed analysis with the San Diego RWQCB to ensure consistency. Funding issues during the remaining fiscal year 2022 hindered work, however additional funding was secured, and work continued into this reporting period. The Lake San Marcos Bridge Document was submitted to the San Diego RWQCB on March 14, 2023. The purpose of the report is to document the prioritization of specific actions and confirm that the optimized remedial program is consistent with and is expected to meet the nutrient reduction goals of the RI/FS.

The report includes the following:

- A summary of the actions proposed in the 2016 RI/FS

- A description of refinements that have been made to the actions outlined in the RI/FS to arrive at the current implementation plans
- A description of refinements to nutrient reduction projections for the currently proposed actions relative to the 2016 RI/FS projections with quantification of the anticipated nutrient reductions where applicable

Details of the implementation of the actions described in this report will be presented in Corrective Action Plans for Phosphorus Inactivation Actions, Watershed Actions, and Aeration and Selective Withdrawal Actions that are planned. The Corrective Action Plans will describe the actions, anticipated results, implementation steps, and monitoring required to track progress towards water quality goals.

Lake Remedy Activities

Phosphorous Inactivation Pilot Test: No additional applications have been applied to the lake since June 2, 2021. Future applications will likely be determined through the CAP process.

*Aeration and Associated Appurtenances (e.g., Modified Selective Withdraw)***:** On November 3, 2020, the U.S. Army Corps determined that a specific permit was not needed for the aeration pilot study for the lake. The stakeholders moved forward with installing the system; however, startup of the unit was delayed due to lake stratification. The aeration pilot study test commenced in April 2022 and continued to run at different times throughout the fiscal year 2022. Overall testing was successful, and the results of the test was provided in the LSM 2022 Aeration Pilot Study Report dated December 30, 2022to the San Diego RWQCB. The report concluded that the aeration system maintained a thermally mixed condition for the lake throughout the pilot study and prevented nutrient masses from accumulating in the deep portions. Recommendations were provided for opportunities for improvement in system reliability and efficacy.

The stakeholders are coordinating with the San Diego RWQCB regarding the selective withdrawal portion of the pilot study. A time schedule order (TSO) will be utilized as pathway for compliance for groundwater injection into the lake. A preliminary working draft of the tentative TSO was provided to the responsible parties on July 15, 2022. The responsible parties provided suggested comments and edits on the work draft TSO to the San Diego RWQCB on October 19, 2022. Several more correspondences with the San Diego RWQCB regarding the TSO occurred during the reporting period. It is anticipated that a Tentative TSO will be available for comment in next year's reporting period.

The RAs will continue to move forward with RI/FS efforts during the next reporting period and will provide updates in the Annual Report.

Rehabilitation of the Olivenhain Trunk Sewer Line

HA: ☐ Loma Alta ☐ Buena Vista ☐ Agua Hedionda ☐ San Marcos ☐ Encinas ☒ Escondido Creek
Jurisdiction/Area for Implementation: City of Encinitas

Strategy Description:

The Olivenhain Trunk Sewer line is predominately located within the boundaries of the San Elijo Lagoon; as such, the safe operation and maintenance of the facility are of high importance. The trunk line was constructed 39 years ago, and due to its age, all the manholes along the line are in need of either rehabilitation or complete replacement. Current access to the system is limited and to efficiently maintain the facility, access must be improved. Finally, the upstream portion of the trunk sewer will be upsized from the existing 8-inch line to a new 12-inch line to accommodate flows. This capital project reduces the potential for bacteria discharges from sanitary sewer infiltration to the MS4 and from sanitary sewer overflows. The estimated cost of the project is $3,800,000, and the necessary resources have been allocated. Design is mostly complete, and resource agency permitting is in progress. The project will likely go out to bid in March 2016. This date is contingent on the approval of resource agency permits (USACOE

404, Regional Board 401, and CDFW 1602). Construction will likely start six months after going out to bid, and construction may take 1-2 years.

FY23 Implementation:

The Olivenhain Sewer Trunk Rehabilitation Project has been split into phases. Phase One, which included manhole rehabilitation in sections between I-5 and El Camino Real, as well as a portion of Lone Jack Road, began December 2020 and was completed September 2021. Phase 1A, which includes manhole rehabilitations along the remaining sections of Manchester Avenue, is currently underway with anticipated completion in December 2022began in February 2022 and was completed in August 2023. Appraisals and permanent easements are required for Phases 2 and 3 and are currently being pursued.will be pursued upon completion of the current phase.

Recreation Vehicle (RV) Sewage Disposal and Modular Wetland

HA: ☒ Loma Alta ☐ Buena Vista ☐ Agua Hedionda ☐ San Marcos ☐ Encinas ☐ Escondido Creek
Jurisdiction/Area for Implementation: City of Oceanside

Strategy Description:

The City of Oceanside manages the Harbor Beach Campground, which is basically a parking lot in the Oceanside Harbor area that allows for overnight and extended stays for recreation vehicles. There are no hookups available for sewage disposal at each of the designated sites. Nearby the RV campground is a sewage disposal station with two wastewater discharge hook-ups for RVs. Providing this opportunity for proper sewage disposal from RVs prevents RV owners and operators from illegally disposing of wastewater. Since this discharge location is within the harbor area adjacent to high-use recreational waters, the City of Oceanside has installed and maintains a modular wetland system to treat and remove bacteria from wastewater that may not be directed into the sewage-disposal hookup due to drips and accidental spills. To address bacteria, the Modular Wetland is utilizing a proprietary filter media in a lightweight block format that is easy to handle and replace for primary filtration. The wetland is then using a sub-surface flow treatment for biological remediation. Because the harbor is a harsh, salt-water environment, the system uses a hardy, fast-growing plant with large root bundles.

FY23 Implementation:

No changes to the implementation of this strategy occurred. Oceanside continues to maintain the modular wetland system located at the Harbor Beach Campground. City crews and contractors promptly clean the RV dumping station and perform regular cleaning and maintenance of the modular wetland unit 12 times per year. The fiscal impact of maintaining the modular wetland unit is $6,000 annually.

Additionally, Oceanside Harbor maintains 24 storm drain inlet filters throughout the harbor. These filters are inspected and cleaned at least four times annually.

North Cedros Stormwater Treatment Unit

HA: ☐ Loma Alta ☐ Buena Vista ☐ Agua Hedionda ☐ San Marcos ☐ Encinas ☒ Escondido Creek
Jurisdiction/Area for Implementation: City of Solana Beach

Strategy Description:

In 2002, the City of Solana Beach approved plans for improvements along North Cedros Avenue, north of East Cliff Street. These improvements included the installation of a stormwater treatment CDS unit. This unit was installed in 2004 and has been in operation ever since. The CDS unit screens, separates, and traps debris in runoff from a 42” pipe.

FY23 Implementation:

The CDS unit on North Cedros Avenue remains operational. The city may explore the possibility of retrofitting (pending approval) the existing CDS unit in this location to meet the Track 1 Compliance of the Trash Amendment Requirement. The city has also installed a few full trash capture systems, which are

currently fully operational. The city will follow its scheduled trash implementation based on the November 28, 2018 submittal to the Regional Board.

Escondido Country Club Redevelopment and Runoff Treatment Project

HA: ☐ Loma Alta ☐ Buena Vista ☐ Agua Hedionda ☒ San Marcos ☐ Encinas ☐ Escondido Creek
Jurisdiction/Area for Implementation: City of Escondido

Strategy Description:

The Country Club golf course in the City of Escondido was closed, and the area has been re-developed for residential development. This change is beneficial to water quality as many of the drainages within this portion of the HA ran through the former golf course and were therefore vulnerable to potential sources of pollutants from the golf course. Redevelopment of the golf course will occur within the requirements of the BMP Design Manual (2013 design requirements as updated); therefore, there will be a requirement to mitigate for runoff from this redevelopment. The City of Escondido negotiated with the project developers to maximize water quality benefits in this area by treating 103 acres of offsite runoff through treatment BMPs and requiring nutrient sensitive media in biofiltration basins.

FY23 Implementation:

Construction of the Country Club redevelopment project (Canopy Grove) in the Upper San Marcos Creek HA has continued in FY23. Grading is complete and nearly all of the 380 homes are built. Work also continued on the commercial village center. In Villages 1 and 3, the nutrient-sensitive stormwater treatment basins were completed, and the remaining basins have been excavated and are waiting for the media to be placed. Offsite work continued, such as a new signal light being installed at Nutmeg Street and County Club Lane.

Restoration of Spruce Street Channel | Escondido Creek Restoration Project

HA: ☐ Loma Alta ☐ Buena Vista ☐ Agua Hedionda ☐ San Marcos ☐ Encinas ☒ Escondido Creek
Jurisdiction/Area for Implementation: City of Escondido

Strategy Description:

The Spruce Street Channel is an approximately 2,600 linear foot tributary to Escondido Creek with rare portions of the unlined channel. Currently, the unlined portions of the channel (1,400 linear feet) support non-native vegetation, which is unsightly and contributes to the potential for flooding. Other portions of the infrastructure have accumulations of sediment. The goal of the project is to restore this channel to ensure proper function, eliminate vector control and flooding issues, and create riparian/wetland habitat. BMPs will be installed to allow the removal of pollutants before they enter the restored area, and improvements will be made to allow for ease of maintenance. It is anticipated that with the restoration of this channel that there will be multiple water quality benefits for the watershed.

FY23 Implementation:

The Spruce Street Channel Improvement Project completed construction work during FY22, and the project filed a Notice of Termination from the Construction General Permit. Plant establishment and erosion control measures were monitored in FY23. Completing the plant establishment and monitoring period will meet the Escondido Creek HA WQIP final goal ahead of schedule.

A presentation about the project in the format of an ESRI Storymap is posted to the city's website.

Santa Rosita and Santa Florencia Slope Drainage Collection

HA: ☐ Loma Alta ☐ Buena Vista ☐ Agua Hedionda ☐ San Marcos ☐ Encinas ☒ Escondido Creek
Jurisdiction/Area for Implementation: City of Solana Beach

Strategy Description:
In January 2014, the City of Solana Beach approved plans for a slope drain diversion structure that diverts water collected in subdrains along the slopes of Santa Rosita and diverts it in the sewer manhole located at the intersection of Santa Rosita and Santa Florencia. This project was constructed in August 2014 and helped prevent dry weather flows caused by over-irrigation from entering the MS4.

FY23 Implementation:
The Santa Rosita and Santa Florencia slope drain diversion structure continues to be implemented by the City of Solana Beach through the reporting period. City patrols for stormwater issues within this area have not identified any further runoff that may be contributing to non-stormwater runoff to the MS4. Future patrols within the area will confirm that implementation is occurring as planned.

Agua Hedionda Creek Restoration Project

HA: ☐ Loma Alta ☐ Buena Vista ☒ Agua Hedionda ☐ San Marcos ☐ Encinas ☐ Escondido Creek
Jurisdiction/Area for Implementation: City of Carlsbad

Strategy Description:
The Agua Hedionda Creek Restoration Project consists of the construction of a regional flood control detention basin and the creation of wetland habitat with upland habitat buffers. The project is located within the northeast quadrant of the City of Carlsbad along Agua Hedionda Creek. The project will include approximately 2.43 acres of wetland area and 5.5 acres of upland habitat. The goals of the project are to enhance existing wetland habitat and re-establish wetland and upland habitat. The project is expected to improve and increase the receiving water's functions and services (water filtration, sensitive wildlife, and plant habitat, etc.). Once completed, the restored area will be included in the City of Carlsbad's Habitat Management Plan for long-term maintenance and monitoring.

FY23 Implementation:
The city council adopted an agreement for the following services in early FY22 with a not-to-exceed amount of $1,919,294.

- Land use review
- Land surveying
- Preliminary environmental impact and mitigation assessment
- Condemnation, right-of-way verification, and land acquisition
- Preliminary hydraulic and hydrological studies
- Assessment of Local Facilities Management Zone 15 and General Plan compliance
- Preliminary geotechnical engineering investigation
- Preliminary traffic studies
- Preliminary civil engineering plans
- Preliminary structural engineering analysis and bridge design plans
- Preliminary stormwater quality management plan
- Preliminary construction cost estimates
- Community outreach program to get input regarding the stakeholders' concerns and goals for the new College Boulevard segment
- Preliminary construction cost estimates

During FY 22 the city completed the following tasks:

- Traffic Mobility Analysis and preliminary environmental field work
- Preliminary hydraulics study

During FY 23 the city completed the following tasks:

- Completed the permits for the geotechnical work necessary for the engineering design.
- Planning Department utilized preliminary cost estimates in its discussions with relevant developers

Under the City's Growth Management Program, money from residential developer fees helps fund the infrastructure needed to support the corresponding increase in population. In the case of the College Boulevard extension, most of the adjacent properties don't have active development plans, and not all landowners in the area are planning to develop soon, leading to a lack of funding and a delay of the overall project.

Roman Creek Wetland Project

HA: ☐ Loma Alta ☐ Buena Vista ☒ Agua Hedionda ☐ San Marcos ☐ Encinas ☐ Escondido Creek
Jurisdiction/Area for Implementation: City of Vista

Strategy Description:

This proposed wetland project is located along Roman Creek, a tributary to Agua Hedionda Creek, in the southern portion of the City of Vista. The area directly adjacent to Roman Creek is proposed for wetland creation as well as wetland enhancement opportunities in line with the Agua Hedionda WMP, which identified this area as having medium wetland restoration opportunities (Tetra Tech 2008). The proposed project is also identified as a strategy in the Carlsbad WMA WQIP to address hydromodification impacts and as a mitigation strategy to compensate for aquatic resource impacts from other city projects. The wetland opportunities ranking in the Agua Hedionda WMP, combined with the site's present ownership (City of Vista-owned parcels), its contribution towards enhancement of the Agua Hedionda Creek corridor, and the public support for the creek restoration, were the primary reasons for site selection.

The proposed wetland project would serve to create and enhance wetlands along Roman Creek by implementing the following strategies:

1. Obtain environmental permit approvals from key environmental resource agencies (e.g., Fish and Wildlife, Army Corps of Engineers, San Diego Regional Water Quality Control Board)thereby recognizing the project as environmentally beneficial;
2. Remove invasive non-native floral species from jurisdictional areas and revegetating with native wetland species;
3. Construct the wetlands enhancement to improve hydrological function for downstream creekbed and water quality improvement.

FY23 Implementation:

In the previous reporting period, design-build services were solicited for the Roman Creek project. The lone bid received was deemed responsive, however exceeded project budget by over $2,300,000 and the city did not proceed with contracting. Available capital budget for the project was carried forward through FY 2022-23.

During the current reporting period, the project remained on hold while the city initiated a review of conditions and resources related to hydromodification characteristics and conditions in the Agua Hedionda drainage area. This information included the Agua Hedionda Watershed Management Plan and restoration opportunities, multiple Roman Creek project reports and design plans, existing treatment control structure details, and analysis of available GIS datasets (land use, properties, drainages, etc.). The Roman Creek project will remain on hold while review of this information continues in FY 24, with intent to evaluate appropriateness of adjusting current numeric goals or alternative jurisdictional strategies. Previous Carlsbad WMA annual reports provide summaries of completed field studies, project design work, and environmental permitting.

Buena Vista Lagoon Enhancement Project

HA: ☐ Loma Alta ☒ Buena Vista ☐ Agua Hedionda ☐ San Marcos ☐ Encinas ☐ Escondido Creek
Jurisdiction/Area for Implementation: City of Oceanside, City of Carlsbad

Strategy Description:

The Buena Vista Lagoon Enhancement Project is being led by the San Diego Association of Governments (SANDAG) in partnership with the State of California Department of Fish & Wildlife, Caltrans and the cities of Carlsbad and Oceanside. The Buena Vista Lagoon Enhancement Project is a long-term, monumental effort involving multiple agencies that will restore water quality and wetland functions to the lagoon that has suffered sedimentation and degraded habitat. The project includes engineering studies, preparation of an Environmental Impact Report (EIR) and eventually large-scale dredging and wetland restoration activities. The overall purpose of the Buena Vista Lagoon Enhancement Project as noted in the EIR is to "enhance the biological and hydrological functions of the Buena Vista Lagoon to address sedimentation and invasive vegetation encroachment, as well as declining coastal biodiversity, degrading water quality, water circulation restriction, and increased vector concerns". A minimum of four alternatives were proposed for evaluation in the EIR analysis and included:

1) Freshwater enhancement alternative
2) Saltwater enhancement alternative
3) Saltwater/freshwater hybrid regime enhancement alternative; (Modified Saltwater Alternative);
4) No project alternative

The Final EIR was presented to the SANDAG Board of Directors in May 2020 and the modified saltwater alternative was accepted and the final CEQA documentation has been certified. The next steps include development of engineering plans, obtaining regulatory permits, creating master agreement with property owners, and obtaining construction funds for the project.

Circumstances to Trigger the Implementation of the Strategy:

As previously described, SANDAG has certified the project's CEQA documentation (Final EIR) which describes the modified saltwater alternative as the preferred hydrologic regime for the lagoon restoration. SANDAG remains the lead agency on the project and regularly consults with the Cities of Oceanside and Carlsbad through the Buena Vista Lagoon Joint Powers Committee. The circumstances that will trigger the implementation of this strategy revolve primarily around the following factors:

1) Sufficient grant funding, secured by SANDAG, to cover the remaining engineering design costs;
2) Acquisition of the necessary resource agency permits to construct the project, including property agreements between the cities, private property owners and the State of California (CDFW) who owns a majority of the lagoon;
3) Securing a major source of funding to construct the project, currently estimated at $85 million in 2020 dollars. These funds would likely have to be sourced from a State bond measure, a large-scale grant (or combination of grants), and/or a large scale offsite mitigation fund.

Resources Required to Implement Strategy:

Voter/council approval of projects; staffing necessary to implement the planning, design, and construction of such projects; project funding.

Timeline to Secure Resources for Optional Strategy:

While the Final EIR has designated the preferred restoration alternative, SANDAG has aggressively pursued grant opportunities to move the engineering design phase forward. In the past few years, approximately $4 million in State grant funds have been awarded to the project for the design phase under SANDAG's leadership. There is currently no identified funding source for construction.

The Cities of Oceanside and Carlsbad have each contributed funding toward the completion of the required environmental documents.

FY23 Implementation:

Regional (SANDAG)

SANDAG received a $3 million grant from the Wildlife Conservation Board in December 2021 and an additional $1 million from the California Department of Fish and Wildlife in June 2022 for planning the restoration of the Buena Vista Lagoon. The two grants give SANDAG about half the money needed for the engineering and design work. https://www.sandiegouniontribune.com/communities/north-county/oceanside/story/2022-07-24/buena-vista-lagoon-project-gets-1-million-from-state

Wildlife Conservation Board Grant Status

Conceptual design refinement task has been started to prepare coordination with resource agency staff, project area owners, and interested public.

Technical investigations:

- Completed: Geotechnical engineering, topography, bathymetry, and marine sampling.
- On-going: geotechnical engineering analysis
- All investigations are completed, but an analysis of all investigations is expected to be completed by the end of 2023.
    - Task for Engineering and design has initiated support for the 30% design engineering effort.

Prop 1 Grant Status:

The task order for the consultant has been executed. This grant activities includes the following:

- Coordination and Master Agreement Support
- Technical Investigations for Soil and Vegetation (Disposal and/Resue)
- Initiate 65% engineering and design

Implement Offsite Alternative Compliance Program

HA: ☒ Loma Alta ☒ Buena Vista ☒ Agua Hedionda ☐ San Marcos ☐ Encinas ☒ Escondido Creek
Jurisdiction/Area for Implementation: City of Oceanside, County of San Diego, City of Carlsbad, City of San Marcos, City of Encinitas, City of Escondido, City of Solana Beach

Strategy Description:

An alternative compliance program allows development projects to use offsite BMPs or rehabilitation projects to comply with stormwater requirements. These BMPs reduce multiple pollutants, including nutrients. Copermittees have funded a Watershed Management Area Analysis and a water quality equivalency standards development process, which are necessary initial steps if an alternative compliance program is to be developed. The County is currently implementing Phase 1 of the Offsite Alternative Compliance Program as defined in the WPO, Section 67.811(b)(4)(c). This phase allows for an Applicant-Implemented Offsite Alternative Compliance Project (ACP) project. This program became effective on February 26, 2016, and allows for a developer to wholly or partially satisfy their on-site stormwater compliance obligations through the implementation of an ACP that is owned or constructed by the PDP project applicant. RAs may develop an alternative compliance program using the guidelines established in the accepted Water Quality Equivalency Guidance for Region 9 and will incorporate potential candidate project areas identified in the Watershed Management Area Analysis. RAs may also explore the development of an in-lieu fee program.

Circumstances to Trigger the Implementation of the Strategy:

All of the following will need to be satisfied to trigger the strategy:

1) RAs finalize water quality equivalency standards for riparian habitat and submit it to the RWQCB for approval,
2) the RWQCB approves the water quality equivalency standards,
3) an acceptable framework for allocating credits for offsite BMPs is developed by the RAs,

4) the program does not require RAs to take on unfunded long-term maintenance responsibility for BMPs used as a means of compliance by private projects, and
5) adequate staffing resources have been obtained.

Resources Required to Implement Strategy:
Staffing resources are needed to develop and administer the program. The level of staff administration needed will depend on the number of projects that propose to comply via alternative offsite compliance and the complexity of tracking offsite BMP maintenance. Staffing resources are estimated at 0.5 to 1.0 FTE to develop the program initially and 0.5 FTE to administer the program on an ongoing basis.

Timeline to Secure Resources for Optional Strategy:
Following the finalization of water quality equivalency and crediting systems on a regional basis, it is anticipated that another one to three years would be needed to develop and implement the program.

FY23 Implementation:

City of San Marcos

Since the development of this strategy, the City of San Marcos has not implemented an offsite alternative compliance program. The city will continue to explore options to fully develop a program; however, there have been no inquiries by the development community to explore potential alternative compliance opportunities within the city to date.

County of San Diego

Currently applicant-implemented offsite alternative compliance is available for use by the development community. There were no applicants that implemented offsite alternative compliance this fiscal year.

Cities of Carlsbad, San Marcos, Escondido, Solana Beach, Encinitas, and Oceanside

Implementation was not triggered.

Flood Mitigation in Leucadia Drainage Basin

HA: ☐ Loma Alta ☐ Buena Vista ☐ Agua Hedionda ☒ San Marcos ☐ Encinas ☐ Escondido Creek
Jurisdiction/Area for Implementation: City of Encinitas

Strategy Description:
The City of Encinitas is taking a comprehensive approach to addressing flooding conditions that have historically occurred during heavy storms in a portion of North Coast Hwy 101 in Leucadia. The city's permanent BMP program goes beyond the minimum MS4 Permit requirements for post-construction BMPs, requiring permanent treatment and/or retention of stormwater for all projects with greater than 500 square feet of new impervious surface.

Since 2015, a total of thirteen (13) sumps have been installed as part of 2 CIP projects at low points in Leucadia to help alleviate flood conditions during storm events. Two (2) additional CIP projects that will improve infiltration and reduce flooding at two additional low points within the Leucadia Drainage Basin (Jason/Vulcan and Hymettus/Orpheus Intersections) have approved funding and will start construction in July 2020.

The city also anticipates the construction of the Leucadia Streetscape project to begin in 2020. The project is designed to minimize impervious surfaces and maximize water quality treatment, thereby providing the dual benefit of flood control and enhanced water quality. Lastly, a preliminary engineering report has been completed for stormwater infiltration and retention opportunity at Leucadia Roadside Park.

In parallel with the improvements completed and those to be constructed in the near term, as part of the city's long-range strategy, the city has applied for grant funding to perform a citywide watershed flood model, which would be used to identify key flood control projects for priority implementation. While the flood model would be applied citywide, the Leucadia watershed portion may be expedited to identify opportunities for projects that would improve flood mitigation in the Leucadia drainage basin.

Structural BMP(s), Retrofit, or Restoration Project Strategies

Circumstances to Trigger the Implementation of the Strategy:
When resources have been secured, and leadership consensus and community support has been achieved

Resources Required to Implement Strategy:
Voter/council approval of projects; staffing necessary to implement; project funding

Timeline to Secure Resources for Optional Strategy:
Resources secured on an annual basis and are contingent upon annual budget approval by City Council.

FY23 Implementation:
In FY23, the city completed Phases 1-B and 1C of its Streetscape 101 project, which extended mobility improvements to La Costa Avenue. Contracts have been awarded and funding secured for the final phase of Streetscape, which is expected to begin in Winter 2023 and will include drainage and water quality treatment improvements throughout the remaining Highway 101 corridor in Leucadia (from Basil St to La Costa Ave), with completion anticipated in 2026. More information about Leucadia Streetscape can be found at https://www.encinitasca.gov/government/departments/engineering/capital-improvements/north-highway-101-projects.

Implement Structural or Retrofit BMPs

HA: ☐ Loma Alta ☒ Buena Vista ☒ Agua Hedionda ☒ San Marcos ☐ Encinas ☒ Escondido Creek
Jurisdiction/Area for Implementation: City of Vista, County of San Diego, City of Carlsbad, City of San Marcos, City of Escondido, City of Solana Beach, City of Oceanside

Strategy Description:
Implement structural (engineered) BMPs or retrofitting existing structural BMPs to address flow and/or pollutant issues.

Circumstances to Trigger the Implementation of the Strategy:
Interim goals are not met; progress towards numeric goals is not adequate; Staff resources are identified and secured; Adaptive management informs jurisdictions to implement.

Resources Required to Implement Strategy:
Voter/council approval of projects; staffing necessary to implement the planning, design, and construction of such projects; project funding; required permits from state and federal regulatory agencies.

Timeline to Secure Resources for Optional Strategy:
If implemented, structural BMPs will be integrated into the jurisdiction's Capital Improvement Program for planning, design, and construction. Many of the jurisdiction's typical capital projects are funded through dedicated sources, e.g., transportation tax dollars. Structural BMPs will have to identify alternative sources of funding, e.g., grants or partnerships, and therefore may take longer to process than typical capital projects. It is estimated that structure BMP projects may take five years to secure the resources necessary to initiate each project within the strategy.

FY23 Implementation:

County of San Diego

Green Streets Clean Water Plan

The County's Green Streets Clean Water Plan, created in 2022, received a 2023 Achievement Award in the County Resiliency category from the National Association of Counties. The Plan identifies multi-benefit opportunities within unincorporated communities in San Diego County to advance green infrastructure and support progress towards achieving aggressive stormwater quality compliance requirements. The Plan was developed with the involvement of community members and presented the top 30 green street projects with the potential to provide the most environmental and community benefits. The County also received the Outstanding Innovation in Resilient or Sustainable Planning and Design Award from the Association of Environmental Professionals for its Green Streets Clean Water Plan. The award is given to an agency and/or firm that published an outstanding document related to multidisciplinary innovation in green planning and design in 2022.

San Marino Drive Green Streets and Trash Capture Project
San Marino Drive is located upstream of one of the County's highest priority persistently flowing outfalls, MS4-CAR-072, in the community of Lake San Marcos. The project will treat runoff from approximately 27 acres with a full trash capture device and will treat the runoff from approximately 4.5 acres of adjacent surface streets with biofiltration basins. The goal of the project is the reduction of nutrients, sediment, debris, bacteria, and trash found in the County storm drain system. Construction of the project will begin in FY24 and is expected to be completed in FY24.

City of Vista, City of San Marcos, City of Oceanside, City of Escondido, and City of Solana Beach
Implementation was not triggered.

Ultraviolet Bacteria Treatment Facility

HA: ☒ Loma Alta ☐ Buena Vista ☐ Agua Hedionda ☒ San Marcos ☐ Encinas ☐ Escondido Creek
Jurisdiction/Area for Implementation: City of Oceanside

Strategy Description:

City of Encinitas
Encinitas has operated a UV treatment system just upstream of Cottonwood Creek since 2005. Encinitas will continue to operate and maintain the treatment facility during dry weather conditions. The system effectively eliminates 99% of the indicator bacteria passing through the system.

The UV treatment facility, located just upstream of Moonlight Beach on Cottonwood Creek, is currently operated only during the dry season. This strategy, if triggered, would also operate the UV treatment facility during the wet season to help reduce wet weather bacteria loading to Moonlight Beach.

City of Oceanside
The City of Oceanside will continue to operate the ultraviolet (UV) treatment system just upstream of Buccaneer Beach between May and October each year. The system actively eliminates 99% of the indicator bacteria passing through the system.

The treatment facility consists of piping flows from an existing diversion structure by gravity from the Loma Alta Slough through a 2-micron fine screen to a wet well where the flow is pumped into two large sand filters, followed by two UV disinfection units housed in a reinforced concrete building. The treated water is discharged through a pipe extended along the existing section of riprap that runs along the north side of the Loma Alta Creek outlet at Buccaneer Beach. During wet weather months (November through April), with increased flow in the creek and during storm events, the Slough periodically opens naturally to the ocean, and the UV system is bypassed.

FY23 Implementation:

City of Encinitas
The City of Encinitas has an administrative agreement with the San Elijo Joint Powers Authority (SEJPA) to perform preventative and regular maintenance of the UV treatment facility, which includes daily monitoring, inspections, startup, and shutdown of the facility as dictated by rain events. In response to this WQIP Strategy, SEJPA intends to limit, to the extent practicable, the number of days that the facility is non-operational each year and maximize the number of annual operational days. In FY23, the facility was non-operational through continuous rain events beginning late December 2022 through mid-April 2023, as well as for short periods during other rain events throughout the reporting year. In spite of observed winter rainfalls that nearly doubled historical annual averages, the facility was in operation for 214 days during the monitoring period. The daily average volume of water that passes through the UV treatment facility is approximately 144,000 gallons per day, which resulted in the treatment of an estimated 30.8 million gallons of flow during the reporting period.

City of Oceanside

The city continued to operate its UV treatment facility at the La Salina Wastewater Plant located near Loma Alta Slough in the FY23 reporting period. The facility was operated on an as-needed basis through the summer of 2022 (May-October) and 2023. The city spent over $20,000 in operational costs to run the UV system with an additional annual budget of $10,000 for parts replacement and equipment upgrades. There remains a comprehensive CIP plan to rehabilitate the facility with upgraded UV reactors, pumps and sand filter as part of a larger project related to the adjacent La Salina Wastewater Plant decommissioning planned for 2026.

San Elijo JPA Dry Weather Diversion

HA: ☐ Loma Alta ☐ Buena Vista ☐ Agua Hedionda ☐ San Marcos ☐ Encinas ☒ Escondido Creek
Jurisdiction/Area for Implementation: City of Encinitas

Strategy Description:

A dry weather diversion was installed at the San Elijo JPA outfall in Cardiff in FY13. The diversion redirects dry weather flow that would otherwise discharge from the MS4 to San Elijo Lagoon to the sanitary sewer system. This system eliminates discharges of non-stormwater and all pollutants, including bacteria, to San Elijo Lagoon from the San Elijo JPA Outfall Drainage Area. Significant resources, including maintenance staff time and the cost of treating diverted water at the wastewater treatment plant, are necessary to continue operating the dry weather diversion. This diversion is being operated and maintained by the San Elijo JPA, which includes the City of Encinitas. Resources to continue the operation of the diversion have been allocated. A new diversion structure was completed in October 2021 as part of the JPA's construction of a new water campus.

FY23 Implementation:

During FY23, a total of 525,000 gallons of runoff were diverted for recycled water use.

Evaluate Additional Green Infrastructure Opportunities -Including Green Streets, and Implement As-Needed to Achieve Final Goals

HA: ☐ Loma Alta ☐ Buena Vista ☐ Agua Hedionda ☐ San Marcos ☐ Encinas ☒ Escondido Creek
Jurisdiction/Area for Implementation: City of Escondido

Strategy Description:

This will include the identification of projects that could be expanded to include BMPs to treat runoff in existing development.

Circumstances to Trigger the Implementation of the Strategy:

Project opportunities, the feasibility of BMP implementation, funding for construction and maintenance, relevant approvals (City Council, Planning Commission) attained.

Resources Required to Implement Strategy:

The resources required for this strategy include:staff time and budget to administer the program, project opportunities, funding for construction and maintenance. The estimated cost of implementation of this strategy is unknown at this time.

Timeline to Secure Resources for Optional Strategy:

This strategy would be ongoing and require approximately 6-12 months to develop the program.

FY23 Implementation:

In FY22 the City of Escondido completed Phase I of its Grand Avenue Vision Project to reshape the heart of downtown Escondido. The project will permanently narrow Grand Avenue to one lane in each direction from Escondido Boulevard to Juniper Street, widen sidewalks, add diagonal parking, and install new light fixtures and overhead string lighting. A green streets planter was installed at the corner of Maple Street and Grand Ave as part of Phase I. Phase II will install a traffic circle at Grand Avenue and Broadway and

incorporate additional green streets BMPs. Engineering for Phase II was initiated in FY23 but a construction date is still to be determined.

In November 2022, city staff partnered with Greenprint Partners to collaborate and develop a project incorporating green infrastructure that is community-driven. The project aims to connect communities by incorporating green street infrastructure. The project is researching various funding sources for a concept design.

Corporate Yard Improvements

HA: ☐ Loma Alta ☐ Buena Vista ☐ Agua Hedionda ☐ San Marcos ☐ Encinas ☒ Escondido Creek
Jurisdiction/Area for Implementation: City of Escondido

Strategy Description:

In FY2019-20, the City of Escondido initiated a project to make facility improvements at the Western Corporate Yard (Behind 475 Spruce St and adjacent to Reidy Creek flood control channel), which is used by the Public Works Department and Utilities Department, Water Division. Due to the construction of the Membrane Filtration Reverse Osmosis (MFRO) facility in part of the yard, the city must design and construct a new vactor dewatering facility and street sweeper cleaning station, which will drain to the wastewater treatment system and relocate raw materials necessary for city operations to a new paved area. Runoff from the project will be treated by the stormwater structural BMP for the MFRO. The Utilities Environmental Programs Division is leading the project and ensuring that stormwater compliance is considered a top priority in the design.

FY23 Implementation:

In FY20, the city issued a request for proposals, contracted with an engineering firm, and initiated design and preliminary concepts. The project is on hold pending property negotiations with North County Transit District.

Phased Approach Addressing Indicator Bacteria

Indicator bacteria has been identified as a PWQC for the Agua Hedionda Lagoon. The RAs have committed to implementing a phased approach aimed at gathering more data and information and implementing strategies to protect the SHELL and REC-1 beneficial uses in Agua Hedionda Lagoon. With increased awareness and concern of indicator bacteria in the lagoon, the RAs also updated strategies throughout the Agua Hedionda HA to address this PWQC.

Protect SHELL and REC-1 Beneficial Uses in Agua Hedionda Lagoon

HA: ☐ Loma Alta ☐ Buena Vista ☒ Agua Hedionda ☐ San Marcos ☐ Encinas ☒ Escondido Creek
Jurisdiction/Area for Implementation: County of San Diego, City of Carlsbad, City of Vista

Strategy Description:

The objectives of the Strategy to Protect SHELL and REC-1 Beneficial Uses in Agua Hedionda Lagoon are as follows:

- Understand/evaluate current conditions and protect SHELL and REC-1 beneficial uses in the Lagoon.
- If conditions indicate that water quality is declining or impaired, RAs will perform assessments to evaluate potential sources contributing to conditions; and
- If the MS4 is determined to be a significant source causing or contributing to declining water quality conditions, targeted actions will be implemented to address sources that pose the highest risk to consumers of shellfish and/or recreators, as appropriate.

The Strategy will be implemented in three phases as described below. Details are presented in Appendix I of the September 2021 WQIP.

Phase I: The objective of Phase I is to provide a better understanding of current water quality conditions in the Lagoon with respect to SHELL and REC-1 beneficial uses. Phase I will be accomplished by continued implementation of a broad range of actions including WQIP strategies for restoration projects, jurisdictional strategies to address bacteria, strategies that address potential sources of human waste, and tracking of the latest science, policy, and monitoring efforts related to the Lagoon. These strategies will be supported by monitoring to assess conditions related to the SHELL and REC-1 beneficial uses. If data related to SHELL beneficial uses indicates declining conditions or that water quality impairments exist, Phase II will be triggered. If data related to REC-1 beneficial uses indicates that REC-1 beneficial uses are impaired, Phase II will be triggered.

Phase II: The objective of Phase II is to evaluate potential sources of bacteria/pathogens that may be causing impacts to SHELL and/or REC-1 beneficial uses. The objective will be accomplished through a special study to identify potential sources contributing to the conditions in the Lagoon. The special study may leverage existing monitoring programs where possible and/or provide additional data to support decision making. If investigations and monitoring indicate that the MS4 is a significant source of bacteria that may be causing or contributing to declining conditions, Phase III will be triggered for the applicable beneficial use.

Phase III: The objective of Phase III is for MS4s to develop and implement additional strategies to reduce health risks to consumers of shellfish and recreators. Strategies will be focused on investigation and elimination of potential sources of human fecal waste in the hydrologic area based on Phase II findings combined with monitoring for specific human markers. Monitoring of human markers may be used to identify drainage areas where there are potential sources of human waste contributing to water quality problems and prioritize those drainage areas for source identification and abatement, with follow-up monitoring to verify that the sources have been eliminated. Once contributing drainage areas are below thresholds for human markers, RAs will return to Phase I of the overall Strategy to monitor current conditions. Successful strategies will continue to be implemented where necessary.

FY23 Implementation:

SHELL Phased Approach

The objective of Phase I of the SHELL Phased Approach is to determine whether water quality conditions support commercial shellfish harvesting operations in the Lagoon's Outer Basin under open conditions.[3] Attainment of the Phase I objective is supported by continued implementation of strategies that aim to protect and improve water quality in the Lagoon and a monitoring and assessment component that is focused on evaluating available monitoring data within the shellfish growing area. Actions completed under each component of Phase I are described in the following subsections.

Strategy Implementation

The RAs continue to track scientific and regulatory developments relating to the SHELL beneficial use and associated water quality objectives. This includes tracking ongoing work in Newport Bay, where Orange County partnered with the Southern California Coastal Water Research Project (SCCWRP) and the Santa Ana Regional Water Quality Control Board (Santa Ana Regional Board) to investigate the relationship between indicators of fecal contamination and pathogens in shellfish and water under dry season conditions. Data collected under this effort showed no relationship between fecal coliform concentrations in the water column and pathogens in shellfish tissue during dry weather (SCCWRP, 2021). During this study and a similar study conducted by the City of Newport Beach, pathogens were only detected in shellfish tissue following known sewage spills. These findings suggest that fecal coliform may not be the most appropriate indicator for evaluating the SHELL beneficial use.

In addition, staff from the City of Carlsbad and County of San Diego participated in the California Bacteria Summit, hosted by the State Water Resources Control Board from September 14-16 in Sacramento, CA. Goals of the summit included:

- Developing a common understanding of the evolution of the standards and science relevant to defining and achieving waters that are safe to swim and shellfish that are safe to eat;
- Reviewing current source reduction and regulatory tools;
- Identifying what is working well, what may be falling short, and potential improvements or opportunities to effectively reach goals;
- Identifying needed regulatory actions and research for achieving waters that are safe to swim and shellfish that are safe to eat; and
- Discussing a process for implementing those actions.

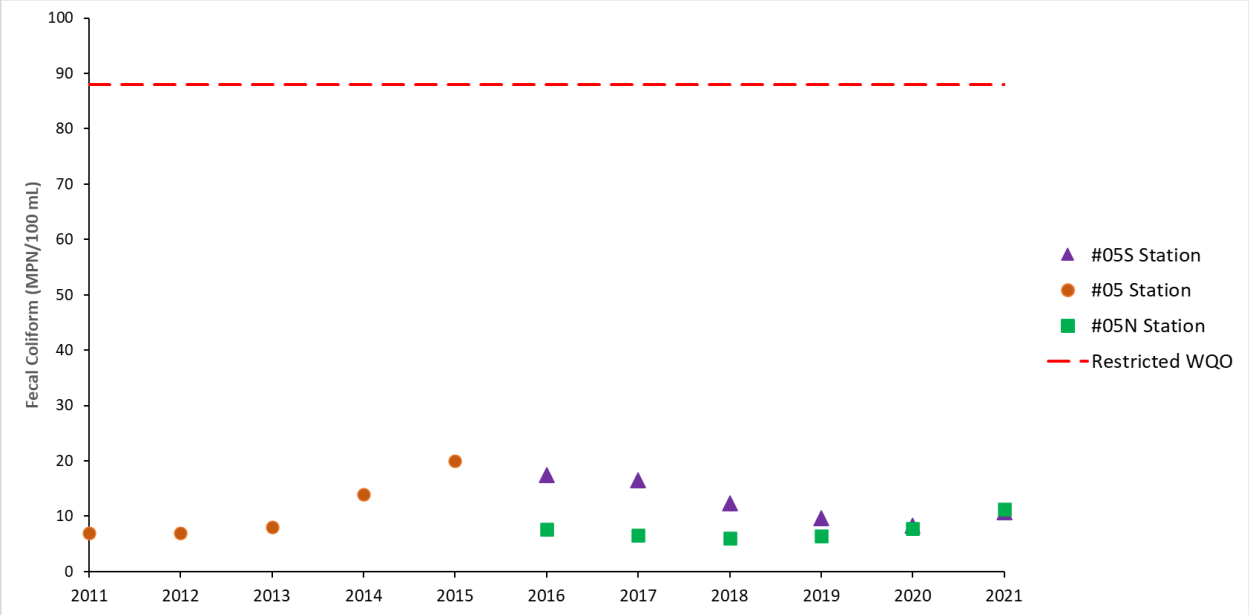
Key takeaways related to SHELL beneficial uses include:

- Acknowledgement that more research is needed to evaluate uses and objectives;
- Desire for California Department of Public Health (CDPH), Food and Drug Administration (FDA), local public health agencies, and Water Board to work together; and
- Interest in a shellfish index to communicate safety to the public.

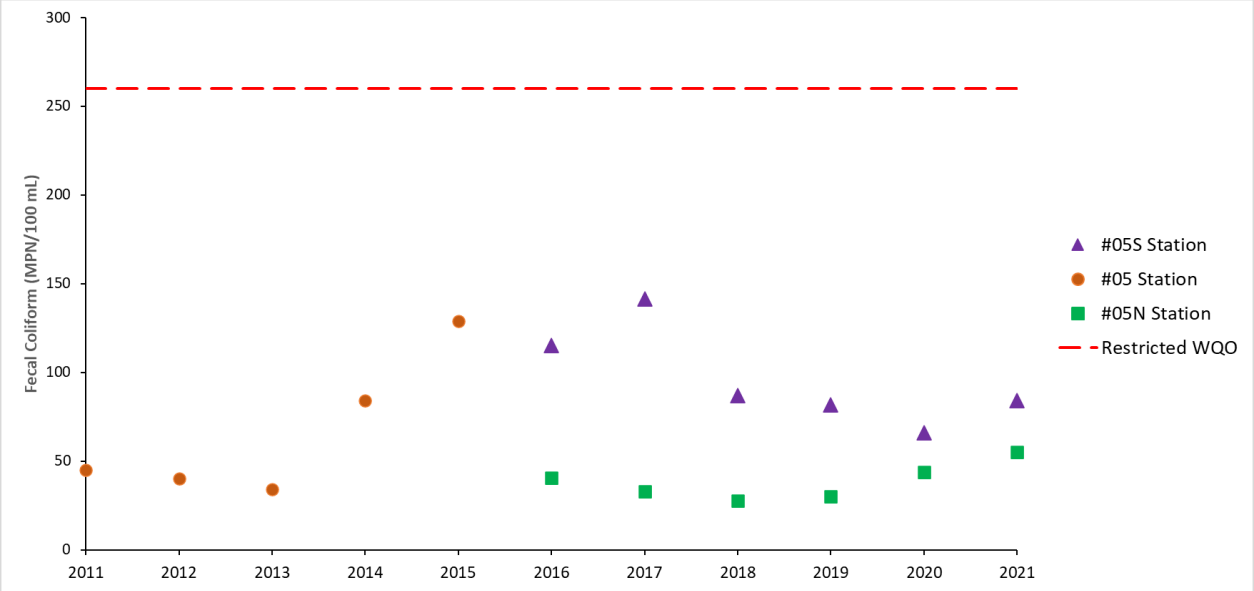
[3] Beneficial uses for commercial shellfish harvesting are monitored and managed by the California Department of Public Health (CDPH). Open condition refers to the time period in which shellfish harvesting is allowed by CDPH. CDPH practice throughout the State is to suspend harvesting operations following rain events. In Agua Hedionda Lagoon the threshold for "closure" is defined as >0.4" over a 24-hour period with a closure length of 72 hours. In the case of extreme weather events, defined as >1.5" over 24 hours or >3.00" over 7 days, harvesting is closed indefinitely until sample results are below thresholds established by the National Shellfish Sanitation Program (NSSP). All harvested shellfish are also subject to a depuration process to ensure that they are safe for consumption. This is common practice due to the filter feeding nature of shellfish and is not indicative of beneficial use impairment, but rather practical management of shellfish harvesting operations to protect public health.

Monitoring and Assessment

Consistent with Phase I of the approach, the RAs compared data collected at primary monitoring stations within the commercial shellfish growing area by Carlsbad Aquafarm, Inc. (CAI) to geomean and 90th-percentile benchmarks established by the National Shellfish Sanitation Program (NSSP) to evaluate whether the SHELL beneficial use continues to be supported. The most recent monitoring results in the shellfish growing area were described in the Triennial Sanitary Survey Update Report: 2019-2022 ("Triennial Report", CDPH Technical Report No. 23-13, 2023). Data in the report demonstrates that fecal coliform concentrations at both primary monitoring stations met the geomean and 90th-percentile benchmarks. The figures below present the geomean and 90th percentile for fecal coliform reported annually since 2011 in relation to the NSSP benchmarks. These figures show that fecal coliform concentrations have consistently been well below NSSP benchmarks. The SHELL beneficial use therefore continues to be supported in the Lagoon. The Triennial Report also continues to recommend that CAI increase its efforts to deter birds from roosting among the growing lines. CPDH previously identified roosting birds as a significant contributor of fecal coliform in shellfish tissue and high densities of roosting birds continue to be reported by CDPH in the shellfish growing area.



Fecal Coliform Data as Compared to National Shellfish Sanitation Program Geometric Mean benchmark for Restricted and Conditionally Restricted Shellfish Harvesting, Agua Hedionda Lagoon (2011 – 2021), CDPH



Fecal Coliform Data as Compared to National Shellfish Sanitation Program 90th Percentile benchmark for Restricted and Conditionally Restricted Shellfish Harvesting, Agua Hedionda Lagoon (2010 – 2021), CDPH

REC-1 Phased Approach

The objective of Phase I of the REC-1 Approach is to determine whether water quality conditions continue to support the REC-1 beneficial uses as indicated in previous studies (MACTEC, 2009; State Water Board, 2010). The RAs continue to implement strategies that will improve water quality in the Lagoon and more effectively communicate potential water quality concerns to the public. Attainment of the Phase I objective was supported by a monitoring and assessment component, completed in September 2022, that consisted of data collection in the Lagoon to characterize conditions and assess beneficial use attainment. Actions completed under Phase I for REC-1 are described in the following subsections.

Strategy Implementation

The RAs continue to implement strategies that will protect and improve water quality. As outlined previously in the SHELL section, these include:

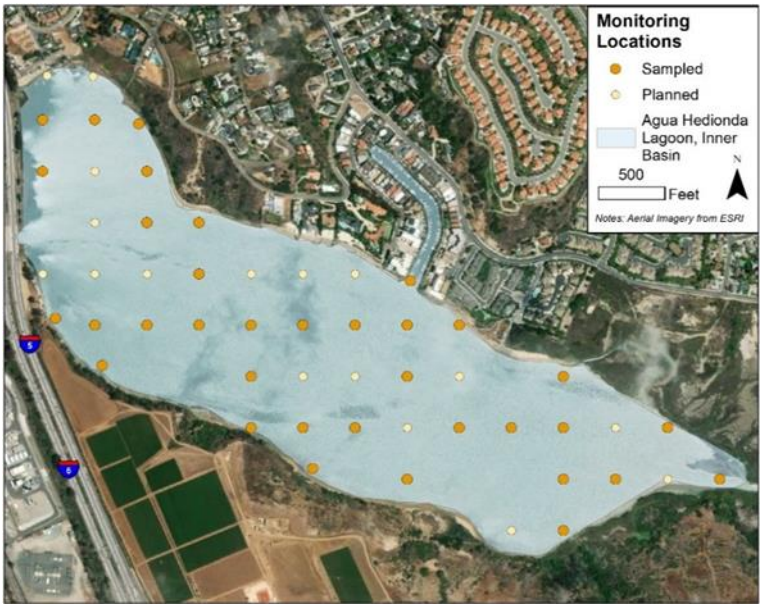
- Restoration in the Agua Hedionda Creek watershed (e.g., Agua Hedionda Creek Restoration, Roman Creek Wetlands Projects)
- Bacteria reduction strategies (e.g., property-based inspections, outreach to homeowners' associations, irrigation runoff reduction)
- Human source reduction strategies (e.g., strategies to address homelessness, Sanitary Sewer Management Plans (SSMPs), Onsite Wastewater Treatment System (OWTS) investigations)

In addition, the RAs improved the signage that is posted at public access points to the Lagoon in FY22. The improved signs include a link or QR code to access a webpage containing updated information for the public about the potential for elevated bacteria in the Lagoon. The signs and webpage primarily focus on dry weather conditions, as this is when REC-1 usage occurs. The webpage summarizes the findings of previous monitoring and discusses potential sources and the RAs strategies for protecting water quality. Regarding wet weather, the RAs will continue to rely on the General Advisories issued by the San Diego Department of Environmental Health and Quality to inform the public of potentially elevated risks following significant rainfall. [4]

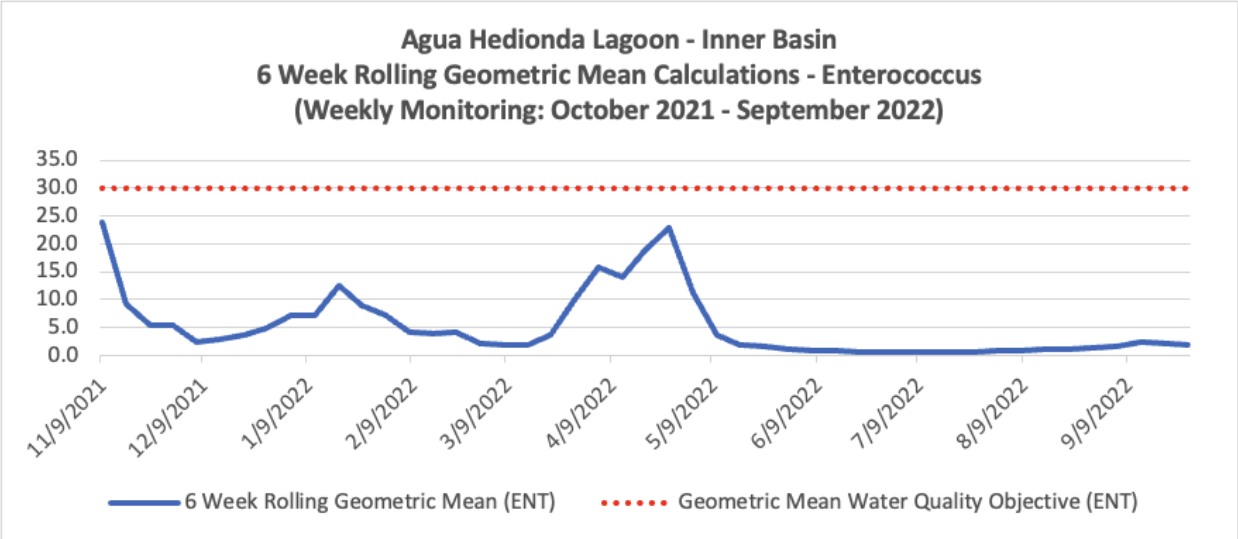
[4] "General (Rain) Advisories are issued when rainfall equal to or greater than 0.2 inch is received in coastal or valley areas of San Diego County. This can lead to elevated bacterial levels in ocean and bay waters, especially those located adjacent to storm drains, creeks, rivers, and lagoon outlets. The Department of Environmental Health and

Monitoring and Assessment

As part of the phased approach, the RAs completed a comprehensive bacteria characterization study during the FY2021-22 reporting year. Under the approved monitoring plan, the RAs collected samples for one year (October 2021 – September 2022) at weekly intervals at randomly selected locations in the Inner Basin of the Lagoon and compared the collected data to the threshold for impairment contained in the State Water Board's 303(d) Listing Policy (Listing Policy; State Water Board, 2004/2015). Water samples were collected throughout the Lagoon as shown in the figure below. Samples represent a variety of locations and conditions, including high and low tides and wet and dry weather conditions throughout the Inner Basin. Results demonstrate that bacteria levels (Enterococcus) in the Lagoon are below state water quality objectives and that the water is safe for a variety of recreational uses. Data is illustrated below, which shows monitoring results relative to the water quality objective for Enterococcus, which is based on the geometric mean over a 6-week period.



Agua Hedionda Lagoon Monitoring Locations



Agua Hedionda Lagoon – Inner Basin. Enterococcus monitoring results (Oct 2021-Sept 2022).

Quality (DEHQ) advises beach users to avoid contact with ocean and bay waters for a period of 72 hours after rainfall ends." (http://www.sdbeachinfo.com/#)

Regulatory-Based Strategies

These strategies typically are source control measures that remove a pollutant or source of a pollutant from entering the MS4 and receiving waters. These efforts can be more effective than trying to remove a pollutant through treatment once it has entered stormwater or urban runoff.

Plastic Bag Ban

HA: ☐ Loma Alta ☐ Buena Vista ☐ Agua Hedionda ☒ San Marcos ☐ Encinas ☒ Escondido Creek
Jurisdiction/Area for Implementation: City of Encinitas, City of Solana Beach, City of San Marcos

Strategy Description:

City of Encinitas and Solana Beach

Encinitas recently passed an ordinance banning distribution of single-use plastic bags throughout the city. The ordinance is a true source control approach to eliminating trash. True source control eliminates the initial introduction of pollutants to the environment and is therefore widely recognized as among the most effective and efficient methods to reduce pollution. The ban applies to large retailers, grocery stores, drug stores, convenience stores, and mini markets in spring 2015 and to farmer's markets and all other retailers in Fall 2015. Removing trash from the MS4 is expected to reduce trash and associated pollutants by preventing the introduction of food wastes and similar materials sometimes found in plastic bags. The ban, along with the proposed ban on expanded polystyrene products, is also expected to help the city comply with the upcoming requirements of the State Trash Amendments. The requirements of the ordinance will be implemented on an ongoing basis.

The City of Solana Beach introduced and adopted a similar ordinance on May 9, 2012.

City of San Marcos

San Marcos introduced the First Phase of their Single Use Plastic Ban Ordinance on June 1, 2022. The ban pertains to the distribution, sale, and use of single use plastic food service ware and other plastic products as specified. It requires that all disposable single-use food ware products be either recyclable or compostable, and that some be made of a non-plastic material. The first phase, lists "Service Requirements" for restaurants that generally limit the amount of single use utensils distributed per food order. The Single Use Plastic Ban, requires that restaurant employees ask customers if they require single-use utensils before they are included with orders.

FY23 Implementation:

City of Encinitas and Solana Beach

The cities'single-use plastic bag bans remains in force and is enforced both by Code Enforcement and through commercial stormwater inspections.

City of San Marcos

San Marcos continues to enforce the First Phase of the Single Use Plastic Ban Ordinance, started on June 1, 2022. The ban pertains to the distribution, sale, and use of single use plastic food service ware and other plastic products as specified. It requires that all disposable single-use foodware products be made of a non-plastic material, either recyclable or compostable. The first phase lists "Service Requirements" for restaurants that generally limit the amount of single use utensils distributed per food order. In addition, it requires that restaurant employees ask customers if they require single-use utensils before they are included with orders.

In the upcoming reporting period, the two final phases will be launched. July 1, 2023, marks the launch of the Second Phase. It will expand the ban to encompass disposable food service ware (i.e. plates, containers, cups). The Third and final phase will come into effect on January 1, 2024, which will include the prohibition of the distribution of Expanded Polystyrene (Styrofoam). Overall, the Single Use Plastic Ban Ordinance was approved to reduce the amount of litter and landfill waste generated throughout the city.

Expanded Polystyrene Ban

HA: ☐ Loma Alta ☐ Buena Vista ☐ Agua Hedionda ☒ San Marcos ☐ Encinas ☒ Escondido Creek
Jurisdiction/Area for Implementation: City of Encinitas, City of Solana Beach

Strategy Description:

Polystyrene products are commonly referred to as Styrofoam. Removing trash from the MS4 through this ban is expected to reduce bacteria by preventing the introduction of food wastes and similar materials sometimes found in polystyrene products and by reducing in-MS4 habitat for bacteria regrowth. The requirements of the ordinance will be implemented on an ongoing basis.

City of Encinitas

The City of Encinitas passed an ordinance prohibiting the use of (EPS) Expanded Polystyrene for To-Go Food Service Ware at all Food related establishments. The Encinitas City Council adopted Ordinance 2016-12, effective December 16, 2016, to prohibit the use of Expanded Polystyrene (EPS) foam food service ware containers in Encinitas. The Ordinance included a six (6) month grace period for all affected establishments to come into compliance with the new regulations, as well as to use up existing EPS inventories. This grace period ended on Friday, June 16, 2017. Restaurant workshops were held and outreach conducted to document how EPS was being used and who was using it. A consultant (Solana Center for Environmental Innovation) was hired to conduct additional outreach and facilitate an alternative vendor list to assist the restaurants in their transition away from foam products.

City of Solana Beach

The City of Solana Beach Council passed, approved, and adopted on September 25th, 2019, Ordinance 504, amending Title 5 of the Municipal Code regarding regulation of food service ware including polysterene materials and plastic bottled beverages which would effectively further increase protection of the environment. The city banned the use of expanded polysterene effective May 1st, 2020.

FY23 Implementation:

City of Encinitas and Solana Beach

The cities' EPS bans remain in force and are enforced both by Code Enforcement and through commercial stormwater inspections.

Training-Based Strategies

Training is an effective method to foster or enhance knowledge and skills related to the management of stormwater and watershed water quality. The objective of these strategies is to enhance the training of municipal staff with direct stormwater-related responsibilities or those who are likely to observe stormwater violations in the field. These strategies enhance staff's ability to implement stormwater-related duties effectively and efficiently, which ultimately have an indirect impact on improved water quality.

Annual Focused Training for County Field Staff

HA: ☒ Loma Alta ☒ Buena Vista ☒ Agua Hedionda ☒ San Marcos ☐ Encinas ☒ Escondido Creek
Jurisdiction/Area for Implementation: County of San Diego

Strategy Description:

Stormwater training is an important aspect of watershed protection for municipal staff with defined responsibilities in developing, administering, and implementing the various elements of the County's Jurisdictional Runoff Management Program (JRMP). Training is determined and prioritized by the County to address the watershed's highest priority water quality conditions identified in the jurisdiction of the Water Quality Improvement Plan (WQIP). County employees with direct stormwater implementation responsibilities include employees who work outdoors and may implement BMPs, those who perform stormwater self-inspections and maintenance, and those employees who create or review Stormwater Management Plans (SWMPs), stormwater pollution prevention plans (SWPPPs), Facility Pollution Prevention Plans (F3Ps), or inspect/enforce for stormwater regulations. As applicable to their job responsibilities, employees may be provided training on topics such as federal, state, and local water quality laws and regulations; general requirements of National Pollutant Discharge Elimination System (NPDES) Order No. R9-2013-0001; the County's Watershed Protection Ordinance (WPO) and other relevant authorities; enforcement response plan; and penalties and liability associated with non-compliance. Additionally, County employees who are likely to observe stormwater violations receive awareness training focused specifically on recognizing and reporting potential stormwater violations.

FY23 Implementation:

The County continues to provide internal training to County Departments that implement BMP Design Manual requirements, annual construction and industrial stormwater training for inspectors, and general training for new County employees.

Watershed Management Area Strategies

The RAs have designated WMA strategies for the watershed. These strategies are optional regional or multi-jurisdictional BMPs, incentives, or programs that may be implemented to effectively prohibit non-stormwater discharges to the MS4, reduce pollutants in stormwater discharges from the MS4 to the MEP, protect the beneficial uses of receiving waters from MS4 discharges, and/or achieve the interim and final numeric goals. The WMA strategies that are planned do not include additional detail on circumstances that would trigger implementation as RAs have committed to implementing them and have already secured funding and resources.

Integrated Regional Water Management (IRWM)

HA: ☒ Loma Alta ☒ Buena Vista ☒ Agua Hedionda ☒ San Marcos ☒ Encinas ☒ Escondido Creek
Jurisdiction/Area for Implementation: WMA-wide

Strategy Description:

Sustainable water management is a key focus in the San Diego region, requiring coordination across multiple agencies and stakeholders. IRWM planning in the San Diego Region is aimed at developing long-term water supply reliability, improving water quality, and protecting natural resources (www.sdirwmp.org). The IRWM philosophy closely aligns with the Carlsbad WMA WQIP's desired outcome and goals. As part of this regional effort, RAs are committed to integrated water resource planning and sustainability to improve water quality and protect the natural resources that exist within the WMA.

Circumstances to Trigger the Implementation of the Strategy:

Implementation of this strategy will be triggered if all the necessary resources have been secured.

Resources Required to Implement Strategy:

- Staff Resources
- Grant Funding
- Partnerships
- Community support

Timeline to Secure Resources for Optional Strategy:

Strategy is ongoing as resources and partnerships allow.

FY23 Implementation:

The Integrated Regional Water Management (IRWM) Program is a planning initiative developed by the State of California's Regional Management Planning Act in 2002 and is supported by bond funding provided by the California Department of Water Resources (DWR) to fund competitive grants for projects that improve water resources management. IRWM brings together water supply agencies, wastewater and stormwater agencies, tribes, and other environmental stakeholders to establish regional water management goals and to resolve potential conflicts that may arise through implementation of multiple water-related programs.

The San Diego IRWM Program is administered by the San Diego Regional Water Management Group (RWMG), which includes the County of San Diego and the City of San Diego, who advocate for programs benefitting all Copermittees and regional stakeholders.

The San Diego RWMG is supported by a 40-member Regional Advisory Committee (RAC) which provides diverse representation from various functional areas related to water management including water retail agencies, water quality and natural resources managers, non-government organizations. Disadvantaged Communities, Tribal representatives, and additional seats for other entities, such as the development industry, interested in water management and quality. The RAC plays a critical role in advising the RWMG to shape and develop the IRWM Plan goals and objectives, IRWM governance structure, and project prioritization for grant-funded projects.

During the reporting period, the San Diego IRWM Program successfully competed for $16.1 million from the second round of the Proposition 1, Implementation Grant Program. Six high-priority and regional projects focusing on water-use efficiency, stormwater improvements, recycled water and water supply

reliability were awarded funding, including 3 projects that provide benefits to disadvantaged communities. In addition, the San Diego IRWM Program $5 million grant through the Budget Act 2021's Urban and Multi-benefit Drought Relief Program. The projects will provide water quality and supply benefits to disadvantaged and tribal communities in the region.

IRWM or SWRP Projects within Carlsbad WMA

Project (Agency)	Description	Project Benefits					Status
		Water Quality	Water Supply	Flood Management	Environmental	Community	
Spruce Street Channel Improvement Project (City of Escondido)	Project to stabilize the earth-lined channel, including clearing, excavation to restore gradient, and bank stabilization of the earth-lined channel between Escondido Creek and West Valley Parkway. The project also includes the removal of deposited sediment from the concrete-lined channel, installation of an additional box culvert, and the construction of new concrete wingwall structures to improve the water flow in the remaining channelized portions to further improve the overall health of the waterway. The project offers an opportunity to replace the existing vegetation with a native habitat composition that would provide significant benefits to this urbanized channel, including a more structurally diverse habitat, improved wildlife habitat, aesthetic improvements, improved floodwater conveyance, public education opportunities, and an improved effect on adjacent and downstream habitats.	✓	✓	✓	✓	✓	Construction was completed in FY22. Plant establishment and monitoring continued through 2023.
Paseo Santa Fe Streetscape (green streets) Improvement Project (City of Vista)	The Paseo Santa Fe Streetscape (green streets) Improvement Project consists of three phases and will reduce a four-lane roadway to two lanes and feature a variety of stormwater treatment devices. Phase 1 (from Main Street to Ocean View Drive) was completed in April 2016. The remaining two phases extended improvements an additional 0.4 miles, from Ocean View Drive to Civic Center Drive.	✓	✓	✓	✓	✓	All three phases of the Paseo Santa Fe Streetscape project have been completed.
San Marino Drive Green Streets and Trash Capture Project (County of San Diego)	The San Marino Drive Green Streets and Trash Capture Project is located within the community of Lake San Marcos upstream of one of the County's highest priority persistently flowing outfalls (MS4-CAR-072). The project will treat runoff from approximately 27 acres with a full trash capture device and runoff from approximately 4.5 acres of adjacent surface streets with biofiltration basins. Land uses surrounding the project area consist of single-family residential, multi-family residential, and recreational/park space (golf course). The project has completed 100% design and was approved by the Board of Supervisors in April 2020. The total project construction cost is projected at $2.5 million. Construction is anticipated to start in FY24 and completed in FY24.	✓	✓	✓	✓	✓	Included in IRWM Plan project list. Project design is nearing 100% completion, and construction is anticipated to start in FY24.
Loma Alta Slough Wetlands Enhancement Project (City of Oceanside)	Project objective is to revive the coastal estuary ecosystem of the creek by naturally improving the water quality, expanding habitat, and providing community value through education, outdoor recreation, and linkage with nearby transportation corridors.	✓	-	-	✓	✓	The project is anticipated to secure the required permits in late 2023, with construction expected in 2024 .

Project (Agency)	Description	Project Benefits					Status
		Water Quality	Water Supply	Flood Management	Environmental	Community	
North County Potable Reuse Project – Pure Water Oceanside (City of Oceanside)	Design and construction of Advanced Water Treatment Facility conveyances and injection wells for indirect potable reuse. Highly treated reclaimed water will be injected into the Mission Basin aquifer to increase local water supply, reduce flows to the city's ocean outfall, increase recycled water production/distribution and provide a drought-proof source of local water. The project includes substantial public outreach component.	✓	✓		✓	✓	Construction complete and operational. While the facility is in San Luis Rey Watershed, the benefits will be realized citywide.
Leucadia Roadside Park Stormwater Capture/Reuse Project (City of Encinitas)	This project proposes to mitigate localized flooding with the construction of an underground stormwater capture/reuse facility at Leucadia Roadside Park in the City of Encinitas.	-	✓	✓	✓	✓	Not triggered
Alternative Compliance Retrofit Project Avenida Del Diablo Park (City of Escondido)	Design and construction of a project that diverts runoff from four 54-inch storm drainpipes into a best management practice structure at a future city-owned park. Treatment of the runoff could be bioretention or underground storage and infiltration.	✓	-	-	-	✓	Not triggered
Alternative Compliance Retrofit Project Mountain View Park (City of Escondido)	Design and construction of a project that diverts runoff from a 36-inch storm drain into a best management practice structure at a city-owned park. Treatment of the runoff could be bioretention, underground storage, and infiltration, or storage and use of water for irrigation.	✓	✓	✓	✓	✓	Not triggered

Sources: 2013 Final San Diego Integrated Regional Water Management Plan, An Update of the 2007 IRWM Plan (Regional Water Management Group in collaboration with the Regional Advisory Committee, The City of San Diego, County of San Diego, and San Diego County Water Authority; 2017 San Diego Region Stormwater Resource Plan (San Diego Region Copermittees and County of San Diego Public Works, 2017)