South Orange County Watershed Management Area Highlight

Amanda Carr
Deputy Director
OC Public Works/OC Environmental Resources
www.ocwatersheds.com
MISSION
Protect and enrich the community through efficient delivery and maintenance of public works infrastructure, planning, and development services

VISION
Provide excellent, innovative, and professional public works projects and services to our community

VALUES
Integrity, Accountability, Service and Trust
OC ENVIRONMENTAL RESOURCES manages the OC Watersheds and OC Agricultural Commissioner /Sealer of Weights and Measures programs, which protect public health and safety, promote environmental quality, certify consumer weights and measures, and sustain business competitiveness through education, regulation and collaborative regional programs.
What is the South OC Watershed Management Area?

The OC Environmental Resources Service Area of OC Public Works has reorganized its OC Watersheds function to align with the North and South Watershed Management Areas (WMAs) of Orange County. South OC WMA Staff will focus on leading collaborative water resource management efforts in the watersheds of South Orange County, which encompass a large portion of the 496 square mile San Juan Hydrologic Unit.
Integration of 3 formerly separate functions

- Watershed Management (Integrated Regional Water Management Plan)
- Monitoring and Assessment (Data-driven decision making)
- Stormwater Management (Water Quality Improvement Plan)

**WHO:**

| South OC Watershed Management | Jenna Voss | Jenna.Voss@ocpw.ocgov.com |
| South OC Stormwater | Cindy Rivers | Cindy.Rivers@ocpw.ocgov.com |
| South OC Monitoring & Assessment | Bryan Pastor | Bryan.Pastor@ocpw.ocgov.com |
| Manager | Grant Sharp | Grant.Sharp@ocpw.ocgov.com |
Stormwater
Stormwater Management Overview

Lead Co-Permittee
Which include OCFCSD, Cities of Aliso Viejo, Dana Point, Laguna Beach, Laguna Hills, Laguna Niguel, Laguna Woods, Lake Forest, Mission Viejo, Rancho Santa Margarita, San Clemente, and San Juan Capistrano

Regulatory Compliance
Identifies MS4 Permit and TMDL environmental regulatory compliance program needs within the South OC WMA.

Program Development and Implementation
Prioritizes data acquisition and assessments; develops policies and procedures to inclusive of the WQIP; and administers programs.
Adopt A Channel

Initiated in 2016 to improve the physical appearance of channels, enhance the environment by removing trash and debris, and to increase awareness and commitment to keep our channels, creeks, bays and ocean clean.

Current Adopters in South OC:

- Wyland Foundation
  - Laguna Canyon Channel
- The Sharp Family
  - Segunda Deshecha Channel
- The Ranch at Laguna Beach
  - Aliso Creek Channel
Regional MS4 Permit
Shift from prescribe activities to water quality outcomes

Stakeholders
Involved stakeholders through the entire development process

Prioritize Strategy
Focus on highest priority water quality conditions to optimize available resource in improving water quality

Practical Vision
Healthy Waters, Healthy People

Data Driven
Assessed historical data to identify priority water quality conditions

WQIP Approach
South OC Water Quality Improvement Plan

The South OC WQIP identifies 3 high priority water quality conditions:

1. Pathogen Health Risk (Rec Waters)
2. Unnatural Water Balance/Flow Regime
3. Channel Erosion/Geomorphic Impacts

An important premise: efforts to improve riparian biological communities are likely to be most successful if supporting foundational layers are in place.
Next Steps

WQIP Implementation

Develop supporting plans and implement projects to meet WQIP milestone. Such plans and projects include:

- Identifying and eliminating Human Waste Sources
- Channel Erosion Rehabilitation
- Flow regime characterization
- Asset Inventory Tool

Stakeholder

Continue the involvement of stakeholders to assist with WQIP implementation which include:

- Executing an Urban Runoff MOU
- Incorporate MNWD Urban Drool Tool
- Seek partnership (public and private) to increase local water supplies

Adaptive Management

To ensure management decisions of available resources are focused on addressing priority water quality conditions to ultimately improve and protect water quality
Monitoring & Assessment
Hydrologic/Water Quality Data Networks

- Public Health and Safety
  - Real-Time Flood Warning
- Hydraulic Data
  - Stream Discharge, Rainfall Summaries
- Water Quality
  - Pollutant Loading Calculations
South Orange County Watershed Management Area: Water Quality Monitoring Sites

Water Quality Monitoring Locations
- SDR Aliso Creek Bacteria TMDL
- SDR Ambient Coastal Receiving Waters Monitoring Program
- SDR Mass Emissions Monitoring Program
- SDR San Juan Creek Bacteria TMDL
- SDR Transitional Monitoring Program
- SDR Urban Stream Bioassessment
- Transitional Monitoring
- Unified Beach Monitoring Program
- South Orange County Watershed Management Area

- Cities
- Waterways
- Waterbodies
An prioritization approach was developed to more effectively screen outfalls for restoring natural water regimes, and the appropriate strategies for each outfall.
Outfall Prioritization Inspection and Data Collection

[Images of inspection and data collection processes]
Approximately 75% of the known flow and one-quarter of the outfalls scored above 60 in the outfall prioritization. The cumulative flow in outfalls above this threshold is 5.42 cfs.
Outfall Inspection Dashboard

Available on the OC Environmental Resources GIS Data Portal:
https://www.arcgis.com/apps/opsdashboard/index.html#/f754decba2e54b87bbb6109de26e607b
ALERT - Hydrologic Data Network
Automated Local Evaluation in Real Time

Newport Coast Weather Station
Lower Salt Creek Stream Gage
Watershed Management
Integrated Regional Water Management (IRWM) is a collaborative effort to manage all aspects of water resources in a region. IRWM crosses jurisdictional, watershed, and political boundaries; involves multiple agencies, stakeholders, individuals, and groups; and attempts to address the issues and differing perspectives of all the entities involved through mutually beneficial solutions.
IRWM Plan Implementation: Project Prioritization

**Goals**
Represent the bedrock of the IRWM Plan and overarching priorities of the WMA; drive project prioritization to meet multiple benefits

**Objectives**
Quantifiable realization of the IRWM Goals as they apply to real-world projects; measurable

**Strategies**
Measurable; applicable to project metrics & utilized in project ranking and design
Water Planning in South OC: Goals

Natural Resources
Benefit aquatic and riparian ecosystems with consideration for climate change on water availability; benefit terrestrial ecosystems; benefit air, climate and energy resources with consideration for reducing GHG emissions; research, evaluation, monitoring, planning, recreation and education.

Water Quality
Control anthropogenic pollutants over developed area of WMA; control anthropogenic dry weather flows; control wet weather flows to meet NPDES MS4 Permit criteria, with consideration for climate change impacts to flow regimes; improve water quality regulatory framework, knowledge and/or awareness of issues.

Water Supply Reliability & Efficiency
Increase potable and non-potable supplies; improve reliability of supplies with consideration for climate change on local and external sources; reduce consumption from outdoor/indoor uses and through water utility operations; research, evaluation, planning & education.

Flood Risk Management
Improvement of conveyance, remove property from FEMA 100-yr floodplain, consider climate change on flow regimes; reduce scour and erosion; preserve or return floodplains as open space; planning, studies and research to acquire data for planning and identification of potential climate change impacts.

Integrated Water Resource Management & Project Priorities to Maximize Benefits
## Accomplishments: Projects

<table>
<thead>
<tr>
<th>IRWM Grant Program</th>
<th>Total Grant Award</th>
<th>Local Match Amount</th>
<th>Total Local Investment</th>
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</thead>
<tbody>
<tr>
<td>Proposition 50</td>
<td>$25,000,000</td>
<td>$44,981,994</td>
<td>$69,981,994</td>
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<td>Proposition 84 - Planning</td>
<td>$457,416</td>
<td>$447,244</td>
<td>$904,660</td>
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<td>Proposition 84 - Round 1</td>
<td>$2,316,780</td>
<td>$2,833,560</td>
<td>$5,150,340</td>
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<td>Proposition 84 - Round 2</td>
<td>$1,708,647</td>
<td>$106,206,903</td>
<td>$107,915,550</td>
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<td>Proposition 84 - Drought</td>
<td>$1,500,000</td>
<td>$5,725,000</td>
<td>$7,225,000</td>
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<td>2015 Proposition 84</td>
<td>$4,949,368</td>
<td>$19,584,138</td>
<td>$24,533,506</td>
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<tr>
<td><strong>GRAND TOTALS</strong></td>
<td><strong>$35,932,211</strong></td>
<td><strong>$179,778,839</strong></td>
<td><strong>$215,711,050</strong></td>
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Accomplishments: Dairy Fork Wetlands

Project Description:
Identified need to address a high concentration of pollutants in urban runoff from 1,500 acre catchment & invasive *Arundo donax*; project accomplished the following:

- Two-pond wetland system designed to reduce pollutant load by up to 99% (bacteria, metals, nutrients, oil) from 1,500 acres
- Removal of Arundo and replacement with native plants
- Aids in preserving beneficial uses of Aliso Creek by reducing pollutant loading

Financing (Total cost: $1,374,000):

- OCTA, M2 Tier 2: $568,100
- 2015 Prop 84 IRWM: $500,000 ($100k habitat)
- Match from Cities: $305,900
- 20-year O&M: $200,000
Accomplishments: Crown Valley Park

Project Description:
Documented localized flooding impacting use, need for water use efficiency enhancements and potable water offset; project accomplished the following:
- Treatment wetlands, bioswales and trash controls improving dry & wet weather runoff quality from 1,197 acre drainage
- Riparian habitat restoration replacing 1.54 acres of hardened channel bed
- Replacement of 2.3 acres of turf
- Culvert crossing to provide park access
- Reduce potable water demand by 7 AFY and consumption by 32 AFY

Financing (Total cost: $10,898,825):
- OCTA, M2 Tier 2: $1,621,962
- 2015 Prop 84 IRWM: $700,000
- Moulton Niguel WD: $300,000
- City CIP: $8,276,863
Accomplishments: Team Arundo

- **January 2005:** Team Arundo inaugural meeting; SOCWA, RWV, Caltrans, CDFW, City of SJCC and County
- **July 2006:** Receipt of CDFW Grant for Arundo Removal Activities/Implementation Plan Development
- **July 2007:** Completion of invasive plant mapping by DENDRA, Inc.
- **April 2008:** South Orange County Team Arundo Implementation & Program Management Plan
- **September 2009:** Notice of Determination – Negative Declaration for CEQA
- **September 2009:** Fish and Wildlife 1600 Streambed Alteration Agreement Signed
- **September 2011:** County mitigation for Alton Parkway initiated Arundo removal in Aliso Creek (headwaters)
- **September 2012:** Team Arundo utilizes permits in Aliso Creek – awarded funds through IRWM Prop 50 Grant
- **2012-Present:** Arundo Removal Activities throughout Aliso Creek Watershed; OCTA, OCCC, The Ranch
- **2016:** Dairy Fork Sub-watershed Arundo Removal through Prop 84 IRWM Grant
- **2016-18:** Prop 1 Grant Award for Arundo Removal with Mission Resource Conservation District
- **January 2009:** Received Regional General Permit (RGP 41) from US Army Corps of Engineers
Accomplishments:
Team Arundo

WCB Grant: Southern CA

- Arundo: Grant funded 36 acres, hand cut and treated
- Grant funded 62 acres, mowed and treated
- Match: 49 acres
- Completed (or initiated/funded/committed)

San Diego Hydrologic Unit
San Luis Rey Watershed
San Diego River Watershed
Santa Margarita Watershed
San Juan Hydrologic Unit

Aliso Creek Watershed Restoration
Watershed-scale Map Depicting Multiple Coordinated Invasive Species Removals and Native Habitat Restorations

Watersheds:
- Southern CA

Prop 50 Invasive Removal Project
- 32 acres
- $1,100,000 Funding
- Prop 50 funding from County/OC WCB Grant: March 2012
- Non-Mitigation Credit Project: Start Date: September 2012
- Status: Completed and in maintenance

Dairy Farm Urban Runoff Wetlands
- 2 acres
- $675,000 Funding
- Awarded funding by OCTA M2: December 2016
- Non-Mitigation Credit Project: Start Date: September 2015
- Status: Completed and in maintenance

The Ranch Invasive Removal Project
- 10 acres
- $100,000 Funding
- Private Landowner Funded
- Non-Mitigation Credit Project: Start Date: September 2015
- Status: Completed and in maintenance

Aliso Creek Pecan Road Habitat Restoration
- 25 acres
- $700,000 Funding
- Awarded funding by CA Prop 84
- Status: In progress

Conservation Corps Invasive Removal
- 14.55 acres
- $700,000 Funding
- Awarded funding by CA Prop 84
- Status: Completed and in maintenance

County of Orange Invasive Removal
- 25 acres
- $600,000 Funding
- Awarded funding by OCTA M2: December 2017
- Status: Completed and in maintenance

Measure M Habitat Restoration
- 55 acres
- $1,575,000 Funding
- Awarded funding by OCTA M2: December 2012
- Status: In progress
Collaboration Tools: Data Management System

- Online One-Stop Shop
- Geospatial Database for Watershed Planning
- Habitat Restoration Mapping
## Next Steps

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<tr>
<th>IRWM Plan Update</th>
<th>DAC Needs Assessment</th>
<th>Project Planning &amp; Data Management</th>
<th>Proposition 1 IRWM Grant</th>
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<td>IRWM Plan update process to meet 2016 IRWM Plan Standards included a public comment period in March and was approved by the Executive Committee May 3rd. The updated plan will be submitted to the State Department of Water Resources (DWR) in late summer.</td>
<td>San Diego Funding Area Tri-FACC started process in late 2017, will continue through 2018. Goals are to identify the most critical issues for disadvantaged communities (DACs) and other stakeholders, conduct outreach to determine the highest priority water-related issues.</td>
<td>Continue to build the Data Management System (DMS) to best fulfill regional planning needs; provide data for regional planning and collaborate with stakeholders to determine which projects best meet the goals of the WMA.</td>
<td>Conduct a call for projects in late summer, early fall 2018 to develop a slate for DWR consideration; conduct workshops and prepare presentation of projects to DWR and stakeholders. Anticipate grant application due late 2018.</td>
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Questions?

Website: www.ocwatersheds.com


South OC WMA IRWM Data Management System: https://arcg.is/1e5aSm