

OWOW 2015 IMPLEMENTATION PROJECTS STATUS

OWOW Steering Committee January 28, 2016 Final Awards Integrated Regional Water Management Proposition 84 - 2015 Implementation Grant Solicitation January 13, 2016



Grant Announcement

Total Grant Funding: \$64,267,686

Total Local Cost Share: \$173 million

Total Project Cost: \$237 million

Raising the Bar for Integration

- Agencies analyzed the natural hydrology and pre-existing infrastructure to identify how the water flows from one system to the other and
- Identified the problems this watershed faces, per the OWOW 2.0 Plan, and evaluated why water is not being utilized to the extent possible



Watershed Level Thinking



Vertical & Horizontal Integration



Horizontal

OWOW 2.0 Plan

- Santa Ana River Watershed's Integrated Regional Water Management (IRWM) Plan
- OWOW Stakeholders
 - 63 cities
 - 120 agencies associated with water
 - 5 tribes
 - Federal and State Agency partners
- OWOW Pillars
- OWOW Steering Committee
- SAWPA Commission



Portfolio of Projects under Prop 84 IRWM 2015 grant

- \$55 million grant funding for SARCCUP,
- \$5,054,302 grant funding for the Riverside County Flood for Integrated Watershed Protection Program; and
- \$1 million grant funding for the Newhope-Placentia Trunk Replacement.

SANTA ANA RIVER CONSERVATION & CONJUNCTIVE USE PROGRAM PHASE 1

SARCCUP

"Drought Proof Strategy---Integrated Regional Strategies for Groundwater Storage of Stormwater, Recycled and Imported Supplies"



Key Goals for Proposition 84 IRWMP Grant Accomplished by Project Proposal

- Provides watershed-wide regional collaboration
- Creates new water supply/demand management:
 - 2,400 AFY from Arundo Donax Removal
 - 60,000 AFY dry-year yield capacity
 - 7,236 AFY of demand reduction
- Increases resiliency of water supply
- Improves natural environment
- Implements "One Water One Watershed" (OWOW)
 Santa Ana River watershed IRWMP
 - Exceeds IRWMP 2035 Target: 58,000 afy Conjunctive Use

SARCCUP Elements

- Habitat Improvement: Arundo Removal & Santa Ana Sucker fish habitat restoration
- Water Use Efficiency: Conservation-Based Rates Support, Water-use Efficient Landscaping Design
- Groundwater Banking: "Put and Take" Conjunctive Use Facilities



Habitat Improvement

640 acres of Arundo removal

- 1 acre uses 3.75+ acre-feet of water per year more water than native habitat
- 2,400 afy of water conserved
- Removal to be completed within 5 years







Santa Ana Sucker Habitat Restoration/Creation



Location of Aquatic Resources Restoration Sites in the Upper Santa Ana River HCP Study Area

Habitat Improvement – Hole Creek (cont.)



Habitat Improvement (cont.)

Santa Ana Sucker Habitat Restoration

- Create 3.5 miles of stream habitat for Santa Ana sucker spawning, foraging, and refugia
- Restore 41 acres of native riparian habitat
- Restore hydrology to maintain exposed gravel/cobble and flow conditions adverse to nonnative fishes
- Restore connection to Santa Ana River at the floodplain for access to tributary habitat



Santa Ana Sucker Habitat Creation

Site	Total Cost - Project Construction	Length of Created Sucker Channel (feet)	Cost per Linear Foot	Riparian Habitat Created (acre)	Cost per Acre
Anza Drain	\$2,972,661	6,850	\$434	14.1	\$210,827
Old Farm Road	\$3,532,005	5,900	\$599	14.3	\$246,821
Lower Hole Creek	\$1,229,923	2,180	\$564	5.5	\$224,030
Hidden Valley Wetlands	\$2,310,066	3,320	\$696	6.6	\$350,541
Total Prop 84 Package	\$10,044,656	18,250	\$550	40.5	\$248,077

Stream Miles Created/Enhanced	3.46	
Cost per Stream Mile	\$2,906,070	
ncrease in Suitable Santa Ana Sucker		
Spawning Habitat (Stream Miles)	100%	



Water Recharge & Diversion

Potentially affecting the Santa Ana Sucker



Water Use Efficiency – SmartScape Program Partnership

- Resource Efficient Landscaping -"Learn, Save, Grow"
- Water-efficient landscape design and installation
- Sustainable landscaping and irrigation maintenance practices
- Education and training for Residents – businesses – landscape professionals





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Water Use Efficiency - Technical Support for Conservation-based Rates

- Provide support for five agencies to implement conservation-based rates
- Includes consultant support for rate design, public outreach, allocation development.
- Builds on existing regional program providing GIS/digital Aerial Infrared

imagery for outdoor allocations.



Estimated Water Savings from Conservation-based Rate Program Implementation is 7,236 afy

SARCCUP Groundwater Banking

 1,000,000 AF <u>potential</u> storage capacity in SAR GW Basins



- Phase 1 of SARCCUP Water Bank: 180,000 af
- Build recharge and extraction infrastructure to take advantage of wet year extraordinary supply
- Storage on "use-side" of major earthquake faults
- All five agencies share equally in dry year yield

Groundwater Bank – Phase 1

Groundwater Basin	Storage (AF)	DYY (AFY)		
SBBA Basin	60,000	20,000		
Chino Basin	96,000	32,000		
San Jacinto	19,500	6,500		
Elsinore Basin	4,500	1,500		
Orange County	0	0		
lotals	180,000	60,000		
(Equiv Storage Volume to both Lake Mathews and Pyramid Lake)				

Water Bank Storage Volumes – Phase 1

Chino Basin (96,000 af) San Bernardino Basin (60,000 af)

> San Jacinto Basin (19,500 af)

Elsinore Basin (4,500 af)



Chino Basin Bank



Features

- 96,000 AF Storage Capacity
- 32,000 AFY New Dry-Year Yield Production and exchanges

Construct

- 48-in. Baseline Feeder Extension Turnout & Interties at San Sevaine Crk
 - Devil Canyon-Azusa PL dual use turnout near San Antonio Crk
- Extraction wells into South Pressure Zone of RW system (for OCWD take)

Chino Basin Proposed Phase 1

- Chino Basin exchanges can be in-lieu SWP exchanges, wet water put and takes, or exchanges through CDA.
- Institutional agreements will be required for puts & takes.



San Bernardino Basin Bank

Features

- 60,000 AF Storage Capacity
- 20,000 AFY New Dry-Year Yield

Construct

5 Extraction Wells Transmission pipeline Expand Redlands PS (add 20 cfs pump)

San Bernardino Basin Facilities



Construct 5 wells and Pipeline Extension

Expand Redlands PS

San Jacinto Basin Bank



Features

- 19,500 AF Storage Capacity
- 6,500 AFY New Dry-Year Yield

Construct

Mountain Ave. West Recharge Basin 3 Extraction Wells

San Jacinto Basin Facilities



Elsinore Basin Bank



Features

- 4,500 AF Storage
- 1,500 AFY New Dry-Year Yield

Construct 2 Dual Use Wells (Injection and Extraction)



Supply Cost Comparison



- SARCCUP Phase 1 Dry-Year Yield: \$940/af
- 2015 Spot Market: \$1,500/af
- MWD with allocation surcharge: \$2,500/af



SARCCUP Side Benefit: Cascading Effect

- Banked supplies in upper watershed can be reused as recycled water is added back to river/ basin.
- Effectively a 30% Increase in Supply



Cost Effectiveness/Cost Comparisons









- SARCCUP Storage = <u>\$84M for 180,000 AF</u>
- Proposed Sites Reservoir
 - \$2.3B to \$3.2B/1.8 MAF → Equivalent: 180,000 AF would cost \$230M-\$320M (3-4 times greater)
- Diamond Valley Reservoir
 - \$1.9B / 800,000 AF Equivalent: 180,000 AF would cost \$430M (5 times greater)

Cost Sharing

Total SARCCUP Project Cost = \$100 million


Collaboration Provides Multiple Benefits and a New Level of Watershed Integration

- Takes regional cooperation to the next level 2,464 square mile watershed-wide multi-benefit project
- Improves environmental resources and creates endangered species habitat
- Reduces water demands
- Creates additional new dry year water supply
- Supported by five agencies as equal partnership



Riverside County Flood Control and Water Conservation District's Integrated Watershed Protection Program



aor



BAUTISTA AQUIFER RECHARGE PROJECT

Riverside County Flood Control and Water Conservation District AND Lake Hemet Municipal Water District

Existing Recharge Facilities



Proposed Project



Lake Hemet Groundwater Basin



BEAUMONT MDP-LINE 16

Riverside County Flood Control and Water Conservation District AND Beaumont Cherry Valley Water District



BCVWD's Noble Creek Recharge Facility

- The Beaumont MDP-Line 16 project will capture stormwater from the upper part of the watershed
- Project will facilitate recharge by directing a portion of the runoff to the BCVWD Noble Creek Recharge facility



Beaumont MDP-Line 16 Project



Beaumont MDP-Line 16 Drainage Boundary



- The multi-benefit project will provide stormwater protection:
 - by collecting runoff from, 505 acres, up to a 10year frequency storm
 - by reducing nuisance stormwater flows
 - to a 250-acre area downstream of Beaumont MDP-Line 16.

Beaumont Groundwater Management Zone

the multi-benefit facility which will provide for both flood management and recharge of the Beaumont Groundwater Management Zone.





SAN JACINTO RIVER LEVEE, STAGE 4 AND CORRIDOR EXPANSION PROJECT

Riverside County Flood Control and Water Conservation District AND City of San Jacinto



San Jacinto River



Flooding Due to Breach in Levee on February 21, 1980 Vicinity of State Street and Ramona Expressway

Storms in 2005





Project Location



Construction Footprint



Project Mitigation & Benefits



Existing 100-YR Floodplain



Post Project 100-YR Floodplain



Orange County Sanitation District Newhope-Placentia Trunk Sewer Replacement







OCSD Service Area



Reclamation Plant No. 1 Fountain Valley

Treatment Plant No. 2 Huntington Beach



Newhope-Placentia Trunk Sewer Replacement Project

- Increase capacity to accommodate future flows and prevent sewer spills.
- Abandon the Yorba Linda Pump Station and rely on gravity flow.
- Divert reclaimed wastewater out of the SARI line to OCSD's Plant 1 and flow to the GWRS.

Newhope-Placentia Trunk Sewer Replacement Project



Newhope-Placentia Trunk Sewer Replacement Project – Water Supply Benefits

- Augment dry year yield and route more flows to OCWD / GWRS.
- New water supply of 6,300 AFY.
- Increases local supply and reduces imported water demand.

Newhope-Placentia Trunk Sewer Replacement Project – Pollution Management Benefit

- Aquifer Salt Reduction = 4,170 tons/year
- GHG Reduction = 78 metric tons CO2e/year
- Electricity Reduction = 251,300 kwh/year
- Ocean Effluent Reduction = 6 MGD
- Potential for more capacity into the SARI line (22,800 TPY/MG salt)

Watershed-Wide Benefits of all three OWOW Prop 84 IRWM 2015 projects

- Water Supply 36, 283 AFY
- Recreation 40 acres open space, 1 mile trail
- Riparian Habitat 40.5 acres
- Arundo Removal 800 acres
- Salt Management 8,346,820 pounds/year
- NPS Pollution 29,302 pounds/year
- Flood Risk Reduction \$91M
- Population Benefit 5.6M
- Benefit Zone 2,500 square miles

Current Status



- DWR and SAWPA has requested updated work plan, schedule budget, and environmental documentation from each project proponent
- SARCCUP parties setting up project administration and system modeling tool
- SARCCUP parties will execute multilateral long-term conjunctive use operating agreement;
- SARCCUP parties will complete a study of the effectiveness of the proposed arunda donax removal and maintenance efforts

Project Benefit Area in Watershed



OWOW Grant Funding

Project Name	Lead Agency	Grant Amount	Local Share						
Santa Ana River Conservation and Conjunctive Use Project	SAWPA Project Agreement Committee	\$55 million	\$49,890,000						
Integrated Watershed Protection Program	RCFCWCD	\$ 5,054,302	\$24,175,698						
Newhope- Placentia Trunk Sewer Replacement	OCSD	\$ 1,000,000	\$103,890,000						

SARCCUP Project Schedule – 5 yr

SARCCUP Program Schedule

		Jan	uar	'y 20	016																				
Description		2015			2016				2017			2018					20	19		2020					
		(Quarter)			(Quarter)			•)	(Quarter)				(Quarter)			r)	(Quarter)				(Quarter)				
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
PROP 84 GRANT ADMINISTRATION, REPORTING AND INVOICING PROC	ES																								
DWR Selection																									
Contract with DWR																									
Establish Project Agreement Committee																									
SARCCUP Operating Agreement																									
Water Exchange Agreement with MWD																									
Grant Admin, Reporting & Invoicing																									
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WATERSHED MASTER PLAN							-												\square		\square				
Optimization using a Decision-Support Model																					\square				
Prepare Watershed Long Term Facilities Plan																									
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WATER USE EFFICIENCY				1																					
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HABITAT RESTORATION			<u> </u>					<u> </u>						<u>.</u>	<u> </u>						\square				
Consultant Selection - Mitigation Bank/Design																					\square				
Establish mitigation bank																			\square		\square				
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ARUNDO REMOVAL																									
CONJUNCTIVE USE WATER BANK FACILITIES - CHINO BASIN (IEUA)														•											
CONJUNCTIVE USE WATER BANK FACILITIES - ELSINORE BASIN (WMWD)													<u></u>			1	<u></u>							
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Update on the Emergency Drought Grant Program



OWOW Steering Committee January 28, 2016



Program Background

- DWR-SAWPA Grant Agreement Executed July, 2015
- Grant Funding = \$12,860,110
- Local Match = \$10,645,000
- Total Project Cost = \$23,505,110





Program Background

Project 1 Conservation Programs

- Conservation-based Water Rates
- Aerial Mapping
- Technology



Project 2 Turf Removal




Agencies Involved



Agencies Involved





























Project 1





Project 1: Rates

- 1. East Valley Water District
- 2. Hemet City
- 3. Chino City
- 4. Chino Hills City
- 5. Redlands City
- 6. Rialto City
- 7. Riverside City
- 8. San Jacinto City
- 9. Tustin City
- 10. West Valley Water District







THOMAS EVANS Board Member Western Municipal Water District

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Project 1: Rates

Vendor Rate Model Analysis

A & N Technical Services

Raftelis Financial Consultants

RDN

Valor Water Analytics



- Analysis sent to retail water agencies in watershed
- Includes information on pricing, the type of models used, data needed from retailers, etc.



Project 1: Aerial Mapping

- 3 inch color; 4 band infrared; 1 foot contours for 2:1 slopes
- Will assist with water resources planning, water rates, billing under budget based rates







Project 1: Technology

Tool Provides for Single-Family Residential:
Indoor & Outdoor Water Budget by Parcel
Sq. Footage of Irrigated Area by Parcel
Automatic identification of difference between budget and actual usage

Training & support



ropcountry your water, right now



Project 1: TechnologyOmniEarth

- Outdoor budgets based on imagery, either aerial or satellite (accuracy to within 5%), and ET
- Indoor budgets based on agency data, customer onboarding, agency specific GPCD values
- Customer performance based on metered usage







Project 1: Technology

- Dropcountr mobile app for 25% of most inefficient customers
- For those without email: Two postcard mailers, OR One detailed budget/usage report
- Water agencies can reach out to customers in addition to Dropcountr



Project 2





Project 2: Implementation









Project 2: Implementation

1,821,745 square feet of turf removed (as of Nov 2015)
37% of the Program's goal of 4,950,000 square feet





In Closing



Benefits

Project 1 Conservation Programs
 Conservation-based Water Rates
 4.8K acre feet over 3 years
 Technology
 3.2K acre feet over 3 years
 Aerial Mapping







Project 2 Turf Removal
 670 acre feet over 3 years

Questions

Recommendation: Receive and file this summary.



Proposition 1 IRWM Grant Program



OWOW Steering Committee January 28, 2016

Prop 1 Programs Administered by DWR CHAPTER 7 REGIONAL WATER RELIABILITY \$510M INTEGRATED REGIONAL WATER MANAGEMENT (IRWM) \$100M WATER CONSERVATION & WATER USE EFFICIENCY (WUE)

CHAPTER 9 WATER RECYCLING

\$100M DESALINATION & ADVANCED TREATMENT TECHNOLOGY CHAPTER 10 GROUNDWATER SUSTAINABILITY

> \$100M LOCAL PLANS & PROJECTS TO MANAGE GROUNDWATER GRANTS)

CHAPTER 11 FLOOD MANAGEMENT

\$295M REDUCE RISK OF LEVEE FAILURE & FLOODING IN THE DELTA

\$100M STATEWIDE FLOOD MANAGEMENT

Proposition 1 IRWM Grant Program

- \$510M for Proposition 1 IRWM Grant Programs
 - \$5M Planning Grant Program
 - \$51M DAC Involvement Program (10%)
 - Ensure involvement of disadvantaged community, economically distressed areas, or underrepresented communities within regions
 - Either direct expenditure or noncompetitive grants
 - \$51M Disadvantaged Community Projects Program (10%)
 - \$367.3M Implementation Program
 - \$35.7M Program delivery & bond administration cost



Prop 1 IRWM Continues OWOW Focus – Program Preferences

- Leverage Funds Gives priority to projects that leverage local funding to produce the greatest public benefit.
- Employ New and Innovative Technology or Practices – Supports projects that employ new or innovative technology or practices such as decision support tools that support the integration of multiple jurisdictions.



- Implement IRWM Plans with Greater Watershed Coverage – Gives priority to projects in IRWM Plans that cover the greater portion of the watershed.
- Multiple Benefits Gives special consideration to projects that achieve multiple benefits.



Anticipated Order of Solicitations

Fiscal Year	IRWM Program	Funding	
FY 15-16	Planning	\$5M	
FY 15-16	DAC Involvement	\$51M	
FY16-17	DAC Projects	\$51M	
FY17-18	Implementation	\$183.65M	
FY 19-20	Implementation	\$183.65M	

Available Funding

Funding Areas	P1 Allocation	2% Bond Admin	5% Program Delivery	10% DAC Involvement	10% DAC Projects	Remaining*
North Coast	\$26,500,000	\$530,000	\$1,325,000	\$2,650,000	\$2,650,000	\$19,345,000
San Francisco Bay						
Area	\$65,000,000	\$1,300,000	\$3,250,000	\$6,500,000	\$6,500,000	\$47,450,000
Central Coast	\$43,000,000	\$860,000	\$2,150,000	\$4,300,000	\$4,300,000	\$31,390,000
Los Angeles	\$98,000,000	\$1,960,000	\$4,900,000	\$9,800,000	\$9,800,000	\$71,540,000
Santa Ana	\$63,000,000	\$1,260,000	\$3,150,000	\$6,300,000	\$6,300,000	\$45,990,000
San Diego	\$52,500,000	\$1,050,000	\$2,625,000	\$5,250,000	\$5,250,000	\$38,325,000
Sacramento River	\$37,000,000	\$740,000	\$1,850,000	\$3,700,000	\$3,700,000	\$27,010,000
San Joaquin River	\$31,000,000	\$620,000	\$1,550,000	\$3,100,000	\$3,100,000	\$22,630,000
Tulare/Kern	\$34,000,000	\$680,000	\$1,700,000	\$3,400,000	\$3,400,000	\$24,820,000
North/South						
Lahontan	\$24,500,000	\$490,000	\$1,225,000	\$2,450,000	\$2,450,000	\$17,885,000
Colorado River	\$22,500,000	\$450,000	\$1,125,000	\$2,250,000	\$2,250,000	\$16,425,000
Mountain Counties	\$13,000,000	\$260,000	\$650,000	\$1,300,000	\$1,300,000	\$9,490,000
Total	\$510,000,000	\$10,200,000	\$25,500,000	\$51,000,000	\$51,000,000	\$372,300,000

*Remaining Statewide Funding	
Planning Solicitation	\$5,000,000
Implementation Solicitations	\$367,300,000
TOTAL	\$372,300,000

Other Considerations





 50% Local Funding Match Required for IRWM projects
 No local match required for DAC Involvement

Encourage grantees to use California Conservation Corps.

No changes to IRWM Plan Standards.

IRWM PLANNING GRANT PROGRAM

- \$5,000,000 total available funds Statewide
- Statewide competition; one application per IRWM region
- \$50,000 \$250,000 grant possible for OWOW Update in 2017
- No changes to the IRWM Plan Standards in Proposition 1
- Need to address recent legislation



Recent State Legislation affecting OWOW Plan

- SB 985 Stormwater resource plans
- AB 1249- Nitrate, arsenic, perchlorate, or hexavalent chromium contamination
 - (1) Location and extent of that contamination in the region,
 - (2) Impacts caused by the contamination to communities within the region,
 - (3) Existing efforts being undertaken in the region to address the impacts,
 - (4) Any additional efforts needed to address the impacts





OWOW Process to accept Stormwater plans

- SAWPA will receive various Stormwater Resource Plans
- Submittal to SAWPA by plan preparer is deemed by SWRCB as incorporation in IRWM plan and acceptable for separate Prop 1 stormwater grant funding
- SAWPA staff will review and bring all Stormwater Resource Plans to the OWOW Governance for consideration and possible inclusion in OWOW plan
- More integration when OWO W Plan is undated in 2017

Storm Water Resource Plan

Guidelines



December 15, 2015 STATE WATER RESOURCES CONTROL BOARD CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY



Disadvantaged Community (DAC) Involvement Grant Program

- \$51,000,000 total available funds Statewide
- Purpose Ensure involvement of disadvantaged community, economically distressed areas, or underrepresented communities within regions
- Existing OWOW Plan conducted outreach and evaluation of DAC water supply and quality issues in watershed
- DAC Involvement Grant will allow continuance and expansion of OWOW DAC outreach
- \$6.3 million grant program for Santa Ana Watershed
- No local match required



Eligible DAC Involvement Activities under Prop 1 IRWM Grant

- Technical, financial or managerial assistance
- Needs assessments
- Project development
- Site assessment
- Engagement in IRWM efforts
- Governance Structure
- Community outreach
- Education
- Facilitation
- Enhancement of DAC aspects in IRWM Plans



2016 OWOW Prop 1 Grants Schedule



Questions?