

5.3 Preliminary Integration and Systems Approach



As indicated in Department of Water Resources (DWR) Integrated Regional Water Management Plan (IRWMP) Guidelines, one of the primary purposes of the inclusion of an integration standard is to ensure that the region intentionally creates a system where integration can occur. Integration is at the heart of Santa Ana Watershed Project Authority's (SAWPA) IRWM as reflected in the genesis of its regional plan name, One Water One Watershed Plan (OWOW Plan) where stakeholders across the watershed work collaboratively to develop an integrated water resource plan, where all types of water (local surface and groundwater, imported water, stormwater, and treated wastewater effluent) are viewed in a comprehensive, integrated manner as a "single" water resource.

The achievements of a "grass roots" but integrated regional planning approach as defined under the previous OWOW 1.0 Plan were a testament to innovation. In fact, on May 2, 2011, Harvard University's Kennedy School of Government selected the program as one of the 25 most innovative programs in the country representing the best in creative problem solving of local, state, and federal municipalities around the Country.

Building upon the framework of integration from the OWOW 1.0 plan, SAWPA under OWOW 2.0 planning sought to raise the bar further with an emphasis on integration and implementation at a regional and holistic scale. To promote this concept of watershed based and integrated approach under OWOW, SAWPA conducted innovative brainstorming processes utilizing the experience and skills of local experts to inspire and promote integrated system-wide projects and programs that address water resource challenges in the Santa Ana River Watershed. The first brainstorming process conducted under OWOW 1.0 planning involved gathering a group of 11 watershed experts that SAWPA termed the "Dream Team." The second brainstorming group convened under OWOW 2.0 planning was termed the

“Master Craftsmen.” These two groups consisted of some of the best and brightest experts in the water resources field, who were familiar with the Santa Ana River watershed and willing to set aside their local agency thinking to brainstorm ideas and describe new regional projects and programs.

Some of the regional projects and programs proposed by the Dream Team and Master Craftsmen are not entirely new, but may not have been ready to be implemented in the past due to historical regulatory, institutional, or financial barriers. As with any project or program, timing plays a key role toward implementation. After these ideas and concepts were shared by the experts and recorded, they were shared with the Pillar co-chairs, the Steering Committee, and the SAWPA Commission to serve as sounding boards and contributors to these early visioning and brainstorming meetings. The purpose of these early screening processes was to provide templates and examples of integrated regional solutions for the Pillars to consider as they developed more specific regional implementation projects and programs affecting their respective water resource, or a combination of other water resources in the watershed.

Dream Team

In early 2010, SAWPA recognized the need to encourage a stronger systems approach and motivate development of new multi-jurisdiction, multi-benefit solutions that weren’t as readily apparent in the previous Proposition 84 Round 1 OWOW Call for Projects. Thus, SAWPA assembled a “Dream Team” of high level water resource visionaries to brainstorm new cross-jurisdictional proposals to achieve a shared vision of a multi-benefit, integrated, multipurpose, highly-functioning Santa Ana River Watershed. The Dream Team included the following individuals:

- Joe Grindstaff, Past Executive Director, Delta Stewardship Council and CA Bay Delta Authority
- Wyatt Troxel, Past IEUA Director and SAWPA Director
- Mark Wildermuth, President Wildermuth Environmental, Inc.
- Gerard Thibeault, Past Exec. Officer, Santa Ana RWQCB
- Tim Moore, Risk Sciences
- Jerry King, Vice President , Michael Brandman Associates
- Larry McKenney, Past Vice President, RBF
- Don Schroeder, Vice President, CDM Smith
- Steve PonTell, Past Board member, Santa Ana RWQCB
- Pete Dangermond, Dangermond Group President
- Jeff Mosher, Exec. Director National Water Research Institute; Dream Team Chair



The Dream Team was convened in a one-day workshop with the direction to think big and broadly. Water resources maps were made available to the Team to reference as they considered conceptual projects. The first half of the workshop focused on background issues and discussion of watershed sustainability goals from the OWOW 1.0 plan, and then

subgroups were formed generally based on multiple water resource strategies. The latter part of the day reconvened the subgroups for reporting to the combined larger group.

The following is a listing of the early results.

Stormwater is a local supply

- Water District and Flood District projects key
- Rubber dams, retrofit of basins, alluvial fan park projects
- Local control needed for system of dams

Recycled water is underutilized

- Develop storage in-ground
- Serve water down-gradient

Existing storage under-used

- Lake Perris
- Connection system between reservoirs and recycled plants needed (includes Met to OC connection)
- Ground water basins have capacity

Local water is dependent on Federal Lands

- Comprehensive overhaul of management needed
- Forest First program

Regional entity needed for support

- Expand SAWPA Commission to include County Supervisors
- Develop “marketplace” to link groundwater recharge with MS-4 compliance

IE Brine Line (SARI) is source of new water

- Can provide 32,000 AF to OC basins by gravity
- Recycling and groundwater desalting will depend on IE Brine Line for foreseeable future

State Water Project is important, but somewhat unreliable

- Dependent on decisions in Delta
- Link SWP entitlements to conservation compliance multipliers
- Infiltrate water when available, including from alternate sources

Connect the “waste water” system to the supply system

- GWRS prime example
- Additional groundwater injection, desalting of waste water, development of storage capacity for recycled water needed
- Desalting can support basin clean up and regional salt management across the watershed
- IE Brine Line (SARI) critical infrastructure link

Better connect flood control system to groundwater system

- Alluvial fan recharge to improve groundwater quality
- Re-purpose retention and detention basins
- Recharge within system requires revised management strategies
- MS-4 Permit compliance may encourage increased stormwater capture

Overall, the Dream Team encouraged researching processes, such as sponsorship of key agencies in the watershed that may spur large scale actions, leverage available resources and reflect major institutional and/or behavioral changes.

The second exercise implemented by SAWPA under OWOW 2.0 planning to inspire and motivate system-wide solutions, was the creation of a three-person group of well-respected experts in water policy and project implementation. These experts were affectionately labeled the “Master Craftsmen”, continuing the theme of constructing better 21st century solutions. Brief biographies of each of the Master Craftsmen are listed as follows:



Jerry A. King

Former Vice President, Michael Brandman Associates (MBA)

Jerry King brings over 25 years of professional experience in [water resources](#) planning, management, and regulation with an emphasis on [water quality](#), wetlands treatments and urban [runoff](#) management. Mr. King has drafted guidelines for [Storm Water Pollution Prevention](#) Plans and developed a number of basin master plans. Mr. King's expertise includes governmental relations, planning coordination, land use analysis, [land development](#) processing, project management, and public utility policy development. He also is well versed in agricultural regulations and permitting, wetlands creation and restoration, development of storm [water regulations](#), and regulatory policy oversight and permitting.



Richard Meyerhoff

Associate at CDM Smith- Greater Denver

Richard Meyerhoff has more than 19 years of experience involving developing, evaluating and implementing programs for the protection of surface water resources. Mr. Meyerhoff assisted numerous clients with federal and state Clean Water Act -related activities, including development and/or implementation of water quality studies, TMDL implementation plans, and the technical basis of water quality standards regulations, bio-assessments, and water quality permitting.



Wyatt Troxel

Former Vice Chair, Santa Ana Watershed Project Authority

Wyatt Troxel was a former vice chair of the Santa Ana Watershed Project Authority and is former president of the board of directors of the Inland Empire Utilities Agency, representing the City of Rancho Cucamonga since 1992. Mr. Troxel has more than 36 years of experience in municipal water and wastewater activities in both the public and private sectors, and is an independent consultant in the field of wastewater treatment. Mr. Troxel has the highest certifications in wastewater treatment plant operations in both California and Hawaii, and holds a lifetime teaching credential from the California Board of Education.

The Master Craftsmen acted as facilitators and worked closely with the OWOW Pillar co-chairs to describe the spatial, temporal, regulatory, economic, political, and physical barriers that impair the ability to implement watershed-based concepts supporting a regional approach to water resource management that support the vision articulated in the OWOW Plan. These impairments are well known and acknowledged by water resource practitioners. The OWOW process provides a mechanism to overcome these barriers when stakeholders in a watershed-based project can clearly identify the tangible benefits that will be received through participation in such a project. Pillar leader engagement was critical to the success of any project. Thereafter, efforts began to take this vision to the next level by initiating a series of meetings that provided opportunity for the Pillar Leaders to focus in on the key water resource management needs in the watershed, and to identify high-level watershed concepts for further development. This effort started with identification of six watershed-based or system-wide strategies as follows:

- Increase Water Use Efficiency
- Regional Water Quality Enhancement
- Water Banking and Intra-Regional Transfer
- Salt Export & Groundwater Management
- Stormwater Capture and Off-River Storage
- Disadvantaged Community Infrastructure Enhancement
- Water Recycling
- Land Use Practice

From these Master Craftsmen meetings, a white paper was developed that identifies key examples of watershed-based water resource management concepts that, when implemented throughout the watershed as a single project or series of interconnected projects, can provide tangible and measurable benefits by removing impairments. These watershed-based concepts are ideas vetted by the Pillar groups that target a particular water resource management need, and in addressing that need, provide significant additional benefits, e.g. habitat restoration and increased habitat connectivity, and improvements to the environment. Two types of concepts were included: (1) those that require implementation of capital projects, and (2) those that are programmatic and focus on establishment of regional management practices or policies that increase sustainability of existing resources.



The product of the Master Craftsmen’s work is reflected in the document “OWOW Santa Ana River Watershed Planning Framework” as shown in [Appendix B](#). This document includes 13 concepts that target a particular water resource management need, and at the same time provides significant corollary benefits, e.g., water supply, water quality, stormwater attenuation, habitat restoration, increased habitat connectivity, increased open/green space, and provides an improved quality of life for citizens in the watershed. A brief description of each of the 13 watershed-wide concepts is shown on the following pages.



Water Budget Based Rate - Incentive to our water retailers to implement sustainable water rate systems resulting in a stable revenue stream to the water agency, a significant water demand reduction by all water users, and reduced runoff pollution in TMDLs.



Efficient Water Use Guidebook - Developing an outreach tool or guidebook that is a well-designed, appealing, and easy to understand that provides information on how to use landscape water more efficiently and landscape appropriately for the Santa Ana River Watershed with simple easy-to-use tools, and establishes a water ethic that becomes the new norm for the next generation.



Forest First Program Incentives - Working with the U.S. Forest Service to support programs and projects that provide downstream water supply and water quality benefits including: Hazardous Fuels Reduction; 2) Meadow Restoration; 3) Chaparral Restoration on the front country above recharge areas; 4) Run-off reduction on roads that cross forestlands; and 5) Removal of invasive vegetative species.



Watershed Land Use Planning Tool Kit - Developing a tool kit that translates water principles to support watershed planning decisions and implements a jurisdictional outreach effort for relevant regional, county, and city planning agencies that encourages adoption of the guidance ideology into General Plans and zoning codes at the local level.



Multi-Use Flood Control Corridor - Expanding the use of existing flood control retention or detention facilities along streams and tributaries of the Santa Ana River for water supply augmentation through stormwater capture and recharge while maintaining greenways, habitat, and recreational use.



Water Banking and Transfer - Constructing facilities and developing agreements to allow water to be stored in one part of the watershed in groundwater basins for later use and purchase by water agencies in other locations.



Off-River Storage and Supply Credits - Under a capture and replenishment program, a city or county could provide a “water credit” as part of new development that allows reconstituted or restored wetlands off river, providing opportunities to capture storm runoff and valued natural habitat.



Watershed Urban Runoff Management Fund - Establishing a watershed-based Urban Runoff Fund to support implementation of stormwater management programs. Components of this program could include the regulatory basis for a watershed-based program, the legal basis and authority for the fund, the agreements, and programmatic elements.



Transportation Corridor Stormwater Capture and Treatment - New uses of wide transportation right-of-way areas can be expanded for capturing rain runoff and replenishing groundwater basins.



Santa Ana River Sediment Transport - Implementing measures to assure that sediment is appropriately transferred along the entire Santa Ana River system to maximize recharge operations, restore habitat, and reduce operation costs.



Modified Watershed Brine Management System - Optimizing the water used to transport brine so that less water is lost to the ocean through increased concentrating of brine or delivery to the Salton Sea for beneficial use.



Water Industry Energy Use Reduction Incentive Program - Supporting regional purchase and installation programs of water resource related greener energy projects that reduce capital costs and reduce greenhouse gas emissions.



Watershed Habitat Conservation Gap Planning - Developing regional habitat conservation planning that covers areas that are not currently covered by existing conservation programs, and that allows implementation of land use decisions consistent with a plan without project-by-project review and permitting by the resource agencies, that also results in greater economic development certainty and provides for and maintains biological diversity by creating a network of interconnected Conservation Areas.

With the OWOW Santa Ana River Watershed Planning Framework document release in April 2012, the Pillars commenced their respective meetings over the following 18 months of the OWOW 2.0 planning. They investigated new regional implementation projects/programs that could lead to multiple, integrated benefits that in turn support other projects/programs concepts.

The following chapters represent the work of each stakeholder pillar as written by the Pillars, centered on a water resource strategy or need. The implementation projects and programs of each Pillar typically are shown at the end of each chapter. In many situations, the Pillars held joint meetings with other Pillars to improve synergy and integration, and to reflect a better final regional implementation project or program. **Chapter 5.14 Integration and Implementation** covers integration and implementation support to the Pillars under multiple workshops.