

## 1.3 OWOW Plan 2.0 Moving into Implementation



Santa Ana River

### Moving into Implementation

Building upon its statewide leadership role in integrated water resources planning since 1998, SAWPA and its stakeholders have worked hard to ensure that the integrated water resources planning for the Santa Ana River Watershed program not only meets the California Department of Water Resources (DWR) Integrated Regional Water Management (IRWM) Guidelines, but also actually raises the bar of what an Integrated Regional Water Management Plan (IRWMP) can achieve. By the OWOW 1.0 Plan and our previously approved and successful salt/nutrient management plan, SAWPA also has expanded its collaboration and stakeholder involvement to a broader and more effective level. The integrated regional water resource management approaches conducted in the past have set the framework to address needs for years to come.

However, as the next OWOW update was contemplated, rather than working harder on the old model, SAWPA resolved to create a new model so that stakeholders were not creating the same problems that we still are working to resolve. Instead, a new level in IRWMP planning was envisioned, which brings the process to an even higher and more effective model using a *system-wide approach* that creates a new template for collaboration and water management. Past IRWM plans have focused on the water supply professional, often with a focus on water supply reliability and assuring that additional imported water could be brought to regions to address ever growing demands. However, in light of the ongoing water scarcity challenges facing the State and our watershed, SAWPA recognized the need to establish a new planning approach that creates the catalyst for change that could potentially apply to all regions across the State.

This approach is different in that all sectors of our community (water suppliers, water consumers, stormwater managers, parks and recreation providers, environmental stewards, developers, etc.) would be encouraged to adopt a water ethic that focuses on living within our means and living in the

environment that nature has given us. It also is recognizing that excessive irrigation water use and waste creates downstream pollution. Often the problem in achieving solutions is not data gathering, but rather the sharing of existing water information so that water consumers can become the true stewards of water. That information is made available to all levels of the public to better understand where their water comes from, how it is used, what impacts we have on it, and where it goes after it is used. New or expanded existing Web-based tools would be developed to answer this need.

## Creating Anew

SAWPA, under OWOW 2.0 planning, sought to expand collaboration across multiple jurisdictional and institutional boundaries so that natural hydrology is restored, aquifers are protected, ecosystems are enhanced and improved, landscapes are developed appropriate to the arid environment in which we reside, and where people are not using water for waste transport downstream. The work addresses and recognizes the upstream and downstream dynamic. Through these efforts, we sought to resolve conflicts that will arise when more and more stormwater and recycled water is captured and stored upstream as a result of low-impact development and recharge and reuse activities, resulting in less water flowing downstream for their capture and reuse. Water quality challenges would be addressed resulting from nonpoint source pollution carried by stormwater, which is often captured and then recharged into our groundwater basins and aquifers for later use as a drinking water supply. Furthermore, this plan would create effective outreach and liaisons with disadvantaged communities, environmental justice communities, Native American Tribes, and land use planning sectors that would be key to implementing this new paradigm in integrated water resource planning.

## Highlights of New Model in IRWM Planning

As a first step, SAWPA developed a work plan that proposed to raise the bar so that all IRWM Plan Standards are met, all DWR IRWM program preferences are addressed, and the vision for the region is achieved. To accomplish this end and still achieve the OWOW Plan goals and objectives, a new integrated water management plan for the Santa Ana Region was proposed to focus on the following areas.



### Water Demand Reduction Strategies

Developing education and outreach actions that encourage implementation of tier-based allocated water conservation rates for not just some, but all retail water agencies in the watershed. This encourages programs such as “Cash for Grass” and indoor water efficient appliance rebates, outdoor irrigation efficiency measures, and implementation of new programs where landscaping and irrigation experts are hired to educate homeowners,

homeowner associations and businesses in better methods. It also provides incentives to retrofit high water use lawns and greenways into California Friendly and Water Smart landscaping. This education process would be supported by the development of new or expanded Web-based interactive tools that reach down not only to the water professional, but also to the public, increasing awareness of the full water cycle and water quality impacts to quality of life issues. These tools also would allow the public to continue to enjoy a high quality of life with less per capita water use.

## Water Quality Improvement and Awareness

Creating processes to assure that water sources used to replenish local supplies are safe and clean for public and environmental uses. With increased capture and collection of rainwater with subsequent recharge to local groundwater, assurance must be achieved that nonpoint source pollutants are addressed. Web-based tools would be developed or expanded upon so that the public has full access and an awareness of local water quality conditions of their lakes, streams, and beaches that they may be used for recreation throughout the region.

## Targeted and Expanded Community Outreach

Conducting outreach actions that reach deeply into disadvantaged communities, environmental justice communities, and Native American Tribal communities to support their needs for clean, safe, and reliable water supplies; using trusted facilitators with native language skills that connect with communities rather than relying on surveys or mailers that often are poorly translated and fail to address the water related needs of these communities.



## Restore Natural Systems and Hydrology

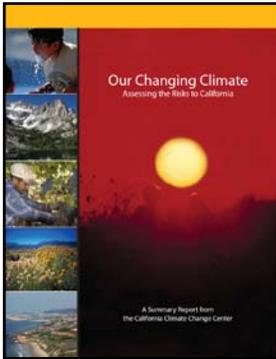
Establishing systems where hydrology is restored to its natural paths while preserving environmental habitat, parks and recreation opportunities. Exploring opportunities where mutual benefit projects can be identified that capture, store, and infiltrate rainwater with the assurances that the water is clean and safe for people and wildlife. Continuing the planning and removal of non-native, water-thirsty plants will restore the region's habitat and save water as well.



## Expand Collaboration

Build upon past successful collaboration models to create bridges to key U.S. and State landholders in the region such as the U.S.D.A. Forest Service, U.S. Bureau of Land Management, March Air Reserve Base, California State Parks, and Natural Resources Conservation Service. As a large percentage of the region and the headwaters are on Federal lands, collaboration with Federal entities is critical to the health of the watershed. Furthermore, with a recent MOU with the Bureau of Reclamation, Federal funding support became available to assist the

planning process. Working with these Federal partners, our shared goals could be addressed to attend to water supply and water quality compliance issues, while protecting and enhancing the land.



## Climate Change and Energy Impacts

Evaluate complete system impacts of climate change drilling down to the water infrastructure operation and building level to determine greenhouse gas emissions, the sea level rise impacts to Orange County coastal areas, new policies that can assist water managers in providing the flexibility to adapt management actions to respond to changing hydrologic conditions, as well as the chain effects that climate change impacts have on other systems. For example, with less water conveyed to wastewater treatment plants based on water efficiency implementation, the impacts that need to be considered are

more highly concentrated wastewater being conveyed to wastewater treatment plants that may result in possible increased treatment processing needs and energy usage. These energy impacts also may translate into other cost impacts associated with water recycling delivery and water quality compliance and protection.

## System-Wide Approaches and Leadership

Seeking to encourage water demand reduction for a region covering 2,650 square miles, six million people and over 65 water agencies is a daunting task. SAWPA and its member agencies and other water agencies in the watershed, are steadily making progress in encouraging water to be used wisely, especially outdoors. However, more must be done to achieve our vision of a high-functioning sustainable watershed. Consequently, new methods to spur change and to be the catalyst for new actions are needed on a watershed-wide, system-wide basis. New models must be developed that inspire behavior change to accomplish plan goals, create synergies, and develop inter-jurisdictional solutions. Using new system approaches developed under this plan for the Santa Ana River Region, a new template then can be shared with other Regional Water Management Groups and be incorporated into their IRWM plans. This would provide the leadership for their respective regions, similar to how LEED certification through the U.S. Green Building Council has caught on nationwide becoming synonymous with “green” building. The IRWM plans can and should become the guidepost for the water ethic and meeting “sustainability” goals for regions across the State.



To implement the work plan and adjust to current affairs, SAWPA and stakeholders needed to adapt to even greater challenges recognizing not only the Four Horsemen of the Apocalypse, but that the herd was growing. At the end of the first decade of the new century, Fiscal Crisis and Energy were identified as two additional Horsemen of the Apocalypse.

## Fiscal Crisis

Budget limitations are changing how we fulfill our goals. Because of the fiscal crisis faced by the Nation, the State, and the Watershed, funding for large scale projects is much less certain. Federal earmarks largely have vanished and future State Bond funding is shaky. Due to these financial limitations, we increasingly have called upon citizens and stakeholder to help craft responsible, sustainable solutions. Many challenges facing the water community today cannot be solved by technology, infrastructure, or engineering alone. Solutions popular in the 20<sup>th</sup> Century are too expensive today and have too large of a

carbon footprint. We hope to solve our problems and meet our needs through collaboration and cooperative agreements in addition to engineering regional projects.

For the 21<sup>st</sup> Century, the solutions to water resources lie in developing multi-beneficial and collaborative regional solutions. Such projects allow minimal resources to be leveraged providing more “bang for the buck” and multi-needs are addressed through integration. Moreover, we need to look to our rates to support our investments, and this means we need to include our consumers as key stakeholders. We need to engender a water ethic and by this awareness of the water cycle, residents of the watershed will be more mindful of what they spend on water and seek ways to save water and save money.

## Energy

Nearly all water resources infrastructure requires energy, from wastewater treatment plants to groundwater wells; we need energy not only to maintain, but also to harvest this valuable resource. Approximately 19% of all energy in California is used to transport, treat, and heat water. It is clear that water infrastructure is highly energy intensive.

However, this also is true the other way. Water is a valuable aspect of the energy production process from cooling towers to mining for oil and minerals.

In fact, air-cooled energy production actually is less efficient than water-cooled energy production. We cannot have one without the other. We must realize this vital connection and work toward creating sustainable solutions. Many water agencies in the Santa Ana River Watershed have begun to turn to “greener” sustainable energy sources, such as solar arrays and turbines, alongside existing water infrastructure. Several agencies are researching new, innovative sources of alternative energy from mini-turbines in water conveyance pipelines to capturing energy produced during the wastewater treatment process. Moving the water industry in the watershed toward renewable sources of energy will ease the burden of water resource infrastructure.



Solar Panels at Western Municipal Water District

Early adopters in the watershed include the Inland Empire Utilities Agency (IEUA), which is pursuing a progressive energy management strategy to be self-sufficient or “Gridless” by the year 2020. In 2008, IEUA installed 3.5 megawatts of solar power and a 2.8 MW fuel cell system. In 2012, IEUA installed 1 megawatt of wind energy at their northern water recycling plant. Western Municipal Water District (WMWD), which manages the Western Riverside County Regional Wastewater Authority, has installed more than 5,000 solar panels at their wastewater treatment plant that will provide up to 1 megawatt of energy during peak energy use hours. Eastern Municipal Water District has completed a 500 kilowatt solar photovoltaic renewable energy facility at its Administrative Campus, and has installed digester gas driven fuel cells at two of their water reclamation fuel cells providing energy during peak hours virtually free of charge, with no toxic emissions, and cutting greenhouse gases by more than 10,600 tons annually. San Bernardino Municipal Water District has installed a co-generation facility that uses the methane gas produced during the treatment processes to fuel two 750-watt generators that supply electricity to the San Bernardino Water Reclamation Plant. Solar arrays also have been installed at the

City of Redlands Wastewater Treatment Plant, Irvine Ranch Water District, Cucamonga Valley Water District, and Elsinore Valley Municipal Water District, which are all located in the watershed.

Due to this link between water and energy, to conserve water is to conserve energy. Unfortunately, we generally need a lot of hydro-electrical power and as river flows and dam levels shrink, so does our ability to generate electricity. Thus the path to sustainability not only relies on renewable and innovative energy sources, but also on reducing the amount of water that needs to be treated and pumped throughout the watershed.

With the addition of these two new Horsemen of the Apocalypse and a new workplan in place, OWOW 2.0 kicked off its IRWM planning with the execution of the DWR IRWM Planning Grant in September 2011 and started with the review and collection of past and current local and sub-regional water planning documents.