



...A United Voice for the Santa Ana Watershed

NOTICE AND AGENDA

Steering Committee Members

Ron Sullivan
SAWPA

Don Galleano
SAWPA

Shawn Nelson
Orange County

1. Welcome and Introductions

2. Public Comments

Marion Ashley
Riverside County

Members of the public may address the Commission on any item that is within the jurisdiction of the Commission; however, no action may be taken on any item not appearing on the agenda unless the action is otherwise authorized by Subdivision (b) Section 54954.2 of the Government Code.

3. "Water 360, A Commitment to Action" (SC#21).....3

Presenter: Celeste Cantú

Recommendation:

1. Continue to engage in the conversation and look for common ground
2. Be open to and support change
3. Help identify constraints and share ideas for how to improve
4. Receive and file staff's report

Pat Morris
City of San Bernardino

4. OWOW 2.0 Plan Schedule/ Proposition 84 Round 3 IRWM Implementation Schedule.....19

Presenter: Mark Norton

Recommendation: Approve the schedule.

Ali Sahabi
Optimum Group

5. DRAFT OWOW 2.0 Plan Executive Summary.....21

Presenter: Mark Norton

Recommendation: Review, discuss, and provide comments.

Garry Brown
Orange County
CoastKeeper

6. Prioritization of OWOW 2.0 Plan Broad Watershed Planning/Management Guidance Strategies (SC#20).....47

Presenter: Celeste Cantú

Recommendation: Review the recommendation of the Pillars (who will convene the morning of September 26), and approve the Draft Broad Watershed Planning/Management Guidance Strategies.

Linda Ackerman
Regional Water
Quality Control Board

7. Status of OWOW Proposition 84, Round 1 and Round 2 Projects..........51

Presenter: Mark Norton

Recommendation: Receive and file.

8. California Water Bonds Update (SC#22)..........57

- Update on CA Water Bond Status
- CA Statewide Voter Survey

Presenter: Celeste Cantú

Recommendation: Review and provide comments.

9. Consent Calendar

All matters listed under the Consent Calendar are considered to be routine and non-controversial and will be acted upon by the Committee by one motion in the form listed below. There will be no separate discussion on these items prior to the time the Committee votes, unless any Committee members, staff, or the public requests specific items be discussed and/or removed from the Consent Calendar for separate action.

A. Approval of the Minutes from the Meeting held on 3-28-13..........65

Recommendation: Approve as mailed.

10. Announcements

- Introducing Ian Achimore, Senior Watershed Manager
- Next Meeting – Thursday, November 21 - 3 p.m. at SAWPA, 11615 Sterling Avenue, Riverside

11. Adjournment

Any person with a disability who requires accommodation in order to participate in this meeting should telephone the Clerk of the Board, Patti Bonowitz at 951-354-4230, at least 48 hours prior to the meeting in order to make a request for a disability-related modification or accommodation.

PLEASE NOTE

Materials related to any items on this agenda submitted to the Steering Committee after distribution of the agenda packet are available for public inspection in SAWPA's office at 11615 Sterling Ave., Riverside, during normal business hours. Also, such documents are available on SAWPA's website at www.sawpa.org, subject to staff's ability to post documents before the meeting.

Declaration of Posting

I, Patti Bonowitz, Clerk of the Board of the Santa Ana Watershed Project Authority/OWOW Steering Committee certify that a copy of this notice has been posted in the Agency's office at 11615 Sterling Ave., Riverside, CA at 5:30 p.m. on Friday, September 20, 2013.



Patti Bonowitz

OWOW STEERING COMMITTEE MEMORANDUM NO. 21

DATE: September 26, 2013
TO: OWOW Steering Committee
SUBJECT: "Water 360, A Commitment to Action"
PREPARED BY: Celeste Cantú, General Manager

RECOMMENDATION

It is recommended that the Steering Committee:

1. Continue to engage in the conversation and look for common ground
2. Be open to and support change
3. Help identify constraints and share ideas for how to improve
4. Receive and file staff's report

DISCUSSION

OWOW: The Watershed Approach. While it is known by different names, Integrated Regional Water Management, Water 360, Total Water Management, it is One Water One Watershed or OWOW to us.

Most agree that the water management approaches of the past several decades are no longer sustainable in today's environment and economic climate. And, most agree that a more integrated and collaborative approach to water resource management will show tremendous promise to water resources everywhere. But in the Santa Ana River Watershed, this approach is not new; it has been our practice and legacy since the first plan was approved by the SAWPA Commission in 1998.

In a nutshell, the goal of yesteryear was cheap water for a growing economy. But over time, the goal has changed to become a more complicated balancing act of environmental sustainability, quality of life, and economic growth in a changing environment dominated by water and financial scarcity. The strategy to achieve this goal is integrated water management. This means the various silos of water supply, flood management, water quality, ecosystem restoration, and recreation are brought together and managed as one. Another way to think about it is that while the drop of water may at different times be characterized by different elements, it is still the same drop of water.

As the rest of California struggles to move from the old way of doing business, diffuse and disparate governance structures and institutions with single purpose focus, the Santa Ana River Watershed continues to progress with a commitment to take to scale the many "bright spots" and pilot projects accomplished to date. We have many multi-benefit, multi-purpose, long-range fiscally responsible solutions. This and the use of sophisticated "big data" analytics continue to set us apart, resulting in a more robust watershed and a very competitive position to compete for State and Federal funds.

In the final analysis, the prescription for success is clear; we need to "double down" on integrated water management, strengthen the alignment among all government agencies, and invest in innovation and infrastructure.

SC#21
September 26, 2013
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Please review the attached “*Water 360, A Commitment to Action*” by California’s Department of Water Resources. As a member of the OWOW Steering Committee, you are well positioned to answer the DWR’s Call to Action.

WHAT YOU CAN DO:

1. Continue to engage in the conversation and look for common ground
2. Be open to and support change
3. Help identify constraints and share ideas for how to improve

CC:pb

Attachments:

1. Water 360, A Commitment to Action
2. Integrated Water Management in Action Schematic

SC 21 Water 360



A Commitment to Action

PERSPECTIVES FROM CALIFORNIA'S FIRST
INTEGRATED WATER MANAGEMENT SUMMIT

APRIL 2013





"The great hope today is that we are moving past that period of conflict towards a period of sustainable resources management that implicitly considers environmental values and factors and the associated risk and economic consequences of the investment decisions we make."

Mark Cowin,
Director,
California Department of
Water Resources



PERSPECTIVES FROM CALIFORNIA'S FIRST INTEGRATED WATER MANAGEMENT SUMMIT

This document highlights the key perspectives and recommendations that emerged during the Integrated Water Management Summit held in Sacramento on April 3, 2013. The California Department of Water Resources (DWR) hosted the event in partnership with the Water Education Foundation and the California Water Commission, and would like to thank the 200+ attendees and guest speakers who participated in the Summit.

The goal of the Summit was to bring together water leaders from myriad agencies and organizations to share experiences and ideas on how we can effectively align to provide sustainable water resources services in the State, in the face of an uncertain future. Most agree that the water management approaches we have been relying on for several decades are no longer sustainable given today's economic climate, our changing environment and the need to supply safe drinking water, agricultural water and flood protection for a growing population, while also protecting and enhancing valuable environmental resources. The thoughtful presentations and informative discussions at the Summit served as an important milestone in the movement to shape a more cooperative and effective approach to water management in California.

The Summit launched a new campaign called "Water 360" to help refocus and strengthen the collective efforts of California's water management community by advancing integrated water management. Integrated water management is a framework for planning and implementation that melds the objectives of improving public safety, fostering environmental stewardship and supporting economic stability to lead to sustainable water resource management. Integrated water management is not a new concept in California, and great strides have been made in the last decade to utilize the approach, particularly at the regional level. The Water 360 Campaign builds on these early successes and calls for broader application across the entire state. DWR is prepared and committed to lead this effort in close partnership with other water leaders, particularly State, federal, and local agencies; and in collaboration with all stakeholders.



"Today's Summit lays the groundwork for moving integrated water management forward..."

Rita Schmidt Sudman,
Executive Director,
Water Education Foundation



A NEW VISION FOR THE FUTURE

Two central themes were heard throughout the Summit:

- **recognition** that the 20th century approach to managing water resources in California must change
- **optimism** that more integrated and collaborative approaches to water resource management show tremendous promise

Several of the speakers spoke with conviction that the “old way of doing business” is no longer a viable option. They referenced the tremendous challenges involved with managing watersheds in California today along with the need to respond to changing societal values. Tim Quinn, Executive Director of the Association of California Water Agencies, summed up this point by saying:

The balancing act has changed over time. A half century ago... the policy goal of the day was cheap water for a growing economy. When that was the clear instruction coming from the political apparatus, balancing was relatively simple, and it was done by engineers...

Over time...there's been a continual evolution in that policy goal. In 2009 we put it on a bumper sticker. We called it “co-equal goals,” which oversimplifies it. It’s a much better set of policy goals than we had before, but it’s much more complicated and diverse and a simple set of tools won’t solve that problem anymore. That’s what’s forcing this drive towards integrated water management: We’ve changed those policy goals and so we have to change the strategies to accomplish those goals.

Maintaining and improving the natural and human systems necessary to provide water supplies, protect water quality, support a sustainable and thriving ecosystem, safeguard against floods and provide other water-related services will require more effective planning and management supported by significant investments over the next few decades. The Summit speakers asserted that no single level of government, resource management agency, or group of water customers has the authority, expertise, or funding to address all of these needs alone. The evolving societal demands, the complexity of water-related interactions, and the level of uncertainty related to managing water resources in a sustainable way requires broad participation across multiple professional disciplines and perspectives to find workable solutions.

One of the primary hallmarks of the “old way of doing business” is the diffuse and disparate governance structure and institutions with single-purpose focus that has dominated the management of water resources since the mid-1800s. Lester Snow, Director of the California Water Foundation, described how these approaches used to make sense in light of the societal emphasis of resource extraction (like gold mining), reclaiming swamps and wetlands, and “taming the West” that was prevalent at the time. He emphasized: “We’ve been very thoughtful about setting up water management and regulatory silos.”



“For so many years, things were done in planning and water where supply was in a silo, ecosystem restoration was in a silo, recreation...in another silo...integrated water management is a way to bring it all together in changing times.”

John Laird,
Secretary,
California Natural Resources Agency



“A half century ago...the policy goal of the day was cheap water for a growing economy. Over time...there's been a continual evolution in that policy goal...it's much more complicated and diverse and a simple set of tools won’t solve that problem anymore.”

Tim Quinn,
Executive Director,
Association of
California Water Agencies



"There is no silver bullet. We have to have much more integrated, much more diverse strategies. It means tearing down some of the silos... We need to...manage water as a natural resource."

Lester Snow,
Director,
California Water Foundation

Mr. Snow described how the Federal Swamp and Overflow Act of 1850 and the intentionally designed narrow-channel leveed flood system, put in place to erode hydraulic mining debris, were mainly responsible for the loss of 95% of our wetlands and riparian habitat in the Central Valley. He reminded participants that both of these examples were "thought-out State and federal policy" at the time. Mr. Snow went on to say that as we respond to current challenges: "There is no silver bullet. We have to have much more integrated, much more diverse strategies. It means tearing down some of the silos... We need to actually remember and then manage water as a natural resource."



"It's not just about water quantity anymore. It's about land use and the common footprint...about balancing the needs of our multiple policy goals where they tend to collide in the real world."

Gary Bardini,
Deputy Director,
California Department
of Water Resources

Mark Cowin, DWR Director, also spoke about changed societal goals over time and how DWR has responded. He described the evolution of water resource management through three primary phases: a period of resource extraction, a period of intense resource management conflicts, and the current transition to sustainable management. Recognizing this evolution has motivated DWR and the California Water Plan to promote a modern, holistic approach to water management which calls for:

- Improving cooperation among public agencies at all levels of government
- Moving beyond single-objective projects and alignment to multi-benefit, long-range and fiscally responsible solutions
- Promoting a comprehensive "360-degree" view for managing water resources and measuring success

This more holistic approach is referred to as integrated water management, with "Water 360" as the campaign intended to advance understanding and acceptance, promote adoption and strengthen this practice statewide.

DWR Deputy Director Gary Bardini explained that DWR views integrated water management as the framework for planning and implementation that melds the objectives of *improving public safety, fostering environmental stewardship, and supporting economic stability* to deliver multi-benefit programs and projects across watershed and jurisdictional boundaries. This is based on the observation that designing and implementing multi-benefit projects within the context of a big-picture view will lead to improved performance and resiliency of the entire water management system.

A CALL FOR COOPERATION AND ALIGNMENT

As a community of water leaders and resource managers, we can find innovative solutions by acknowledging that we are working with different goals than in the past. Specific examples exist at all levels of government that demonstrate an increasing alignment toward integrated water management; here are a few that were discussed at the Summit:

- **Federal**—Steve Stockton of the U.S. Army Corps of Engineers talked about the U.S. Council on Environmental Quality's updated *Principles and Requirements for Federal Investments in Water Resources* (March 2013), which provides a common framework for federal agencies' funding decisions and promotes investment in integrated, multi-benefit solutions.
- **State**—DWR partnered with the U.S. Army Corps of Engineers to publish *California's Flood Future* (Draft, March 2013) to provide the first look at statewide exposure to flood risk and to identify and address the barriers to improved flood management.
- **Local**—Terri Grant of Los Angeles County reported that the 2012 Los Angeles stormwater permit issued by the Regional Water Board allows 80+ local agency permittees to approach water quality protection in a more holistic manner. The new rules aim to treat stormwater runoff as a resource, instead of a waste stream, by allowing integrated solutions for retention and infiltration.

At the Summit, we heard encouraging examples of how several agencies have been engaging in more integrated approaches to managing water, in many cases with financial incentives from State government. Some of the speakers reported that they have found integrated water management more difficult and time-consuming than traditional approaches, but most agree it is worth the investment and will lead to better outcomes.



"I want to speak to the notion of integration across the regulatory agencies... a lot of times while we will meet and coordinate, we are not sharing resources. We are not sharing work. And therefore we are duplicating efforts and therefore adding years onto decisions that need to be made today."

Caren Trgovcich,
Chief Deputy Director,
State Water Resources Control Board



"Even though the governance structure needs modification, there are opportunities to reach out and work together."

Rick Johnson,
Executive Director,
Sacramento Area
Flood Control Agency



"We ask people to check their identities at the door when they come to an OWOW meeting, and think about what's best for the entire watershed in the aggregate first and distribute benefits to others second. This contradicts what has been our practice historically."

Celeste Cantú,
General Manager,
Santa Ana Watershed Project Authority



"The problem is, every time we try to get on the on-ramp for a multi-benefit project, we spend endless amounts of time analyzing...whether it's safe enough...We need to get to a point where we articulate specific measurable objectives up front, and routinely employ analytical tools designed to measure whether a proposed multi-benefit project actually advances the objectives. So this becomes the new normal."

John Cain,
Director of Conservation for
California Flood Management,
American Rivers

A CALL TO CHANGE THE WAY WE THINK

Difficulties arise as agencies and organizations start the process of coming together to develop a shared vision for what should be done. Celeste Cantú, General Manager of the Santa Ana Watershed Project Authority, described it this way:

Water is very simple. We understand the natural processes of water really well. But people are really complex, and that's where we run into challenges. The water industry is dominated by smart people, most of whom have had little training in conflict management or collaboration...those very skills we now find central to what we need today. We have operated with a frontier ethic "I'll take care of my own...and I won't impose on my neighbor, and my neighbor should not impose on me either." But this no longer fits.

Our ethic needs to be "Hey guys, we're all in the same boat and we're either going to drown together or be high or dry together." We have to work collaboratively. This is challenging, we need to develop a whole new way of working together.

This and similar experiences from around the state suggest that we need to reevaluate the skills and competencies necessary for successful water managers in the 21st century and take steps to help future leaders develop those skills and competencies.

This challenge reflects the fundamental need for us to change the way we think about managing water and associated resources. Given the diversity of perspectives and often competing ideas about what we should do, the need to articulate a clear and measurable way of defining success is more important now than ever before. If we are not able to express clear objectives that are measurable and understandable by all involved in the process, then it will be impossible to identify and implement solutions that will satisfy the broad set of needs.

In addition to clear objectives, we need quantitative performance measures that can help us evaluate how investments in the water resource management system can and has provided public safety, fostered environmental stewardship, and supported a stable economy. With better cooperation and collaboration, agencies and organizations with responsibility in some aspect of water resources protection and management will start to look at their roles from the perspective of these three fundamental goals, and agree on specific quantitative measures to evaluate the merits of potential investments.

Several of the speakers at the Summit acknowledged that adopting a more integrated approach to managing water resources makes good sense, but they recognized that we still have a long way to go and must overcome many tough challenges to do it well.

A CALL TO CHANGE THE WAY WE GOVERN AND INVEST

DWR Director Cowin stated that perhaps the biggest challenge we face is:

Overcoming the fractured, diffuse system of water governance that we have in California that evolved over time...We have agencies at all different levels of government that have different types of responsibilities that tend to be siloed. Integrated water management approaches can provide a system for managing those different authorities towards common purposes.

Part of the difficulty with our current governance model is that most agencies were established to focus on a few objectives (e.g., supplying water, protecting/regulating water quality, or protecting/enhancing fish and wildlife habitat). With this type of narrow focus, other objectives outside of an agency's area of responsibility or window of authority are either assumed by a different agency or not addressed.

Some water resource managers cite limitations within their current authorities and organizational missions that prevent or hinder them from engaging with others to collectively address broader water management objectives. Also, in some cases, certain sources of funding can only be used to satisfy specific (and sometimes narrowly defined) objectives. This concern about agency authorities and restrictions on funding that could inhibit collaboration and cooperation warrants further exploration. More innovative and flexible governance structures, institutions and funding mechanisms are needed moving forward to support a more cooperative and watershed-based approach to sustainable water management.

Several proposals related to governance and financing of water management in California have been put forward in recent years by organizations such as the Public Policy Institute of California, the Little Hoover Commission (an independent state oversight agency) and the Association of California Water Agencies. It will take time to consider and evaluate such proposals, and some would require new legislation and sweeping reforms to implement. In the mean time, State, federal, tribal and local water leaders need to work together to consider incremental, yet effective improvements possible within the current structure and authority of the various governing agencies.

Ellen Hanak, Co-Director of Research of the Public Policy Institute of California, described potential types of near-term actions that would not require significant legislative changes:

Financial incentives are a good way to help integration...that's the carrot side. I do think that there's a real role for the stick side too...people get motivated to do integration when they have a regulatory or a legal problem and it's going to be way more expensive to solve it the old way.

We've heard about the need for smarter and more integrated permitting, and providing permitting incentives, and that's definitely a piece of it, but also sometimes it's implementing laws that are on the books that aren't necessarily being implemented.



"We need a stable funding source. The grants are wonderful, but they are periodic and you can't rely on them all the time. You can find money to build projects, but sometimes I'm hesitant to ask for it because you don't have money to maintain the project...it is a challenge that a lot of agencies have."

Terri Grant,
Principal Engineer,
Los Angeles County Department
of Public Works



"It makes a lot of sense to approach water and land management in an integrated way just from an economic perspective. It's more efficient."

Ellen Hanak,
Co-Director,
Research of the Public Policy
Institute of California



"In small rural communities, we've got broken systems and don't have the technical, managerial, or financial capacity to address them.

For regions like this...we have to be thinking on a parallel track about some basics like how we bring them potable water.

To ask these types of communities to also come together and do integrated water management is a real challenge."

Mark Drew, PhD

Eastern Sierra Regional Manager,
Director, Inyo-Mono IRWM Program

Integrated water management calls for governance structures that allow for meaningful engagement and inclusion of myriad stakeholders in a watershed, such as flood management and land use agencies, environmental groups, water purveyors and agricultural and urban landowners/water users. Institutional and decision-making processes need to support development and implementation of multi-benefit solutions that meet the collective needs and broad concerns of the entire community. As we heard during the Summit, this can be one of the most challenging aspects of integrated water management at the regional and local level. When stakeholders have been invited to collectively consider a very broad set of objectives such as water quality, water supply, energy, recreation, flood management and land use, some managers have reported it difficult to engage in meaningful conversations or reach mutually agreeable outcomes. Without looking to a more long-term outcome and sustainable value, such processes may appear to consume more time and resources with little or no perceived benefit.

Summit speakers such as Mark Drew of the Inyo-Mono IRWM Program and California Trout, Inc., pointed out that some stakeholders (for example disadvantaged rural communities) do not have the technical, managerial, or fiscal capacity to qualify for funding, or plan and conduct integrated projects. Celeste Cantú of SAWPA stated that in some cases, we should be less concerned about getting funding for projects, than for the process and the means to get everyone to the table, including the small voices, the non governmental organizations and the disadvantaged communities. Clearly, future improvements in governance and finance must address the needs of all Californians.



"In the 5-year average, from 2009 to 2013, our average water allocation south of the Delta was 43%. We can't go on that way. The Central Valley is kind of the canary in the coal mine, because every region in California's water supply is at risk."



—Representative Jim Costa, U.S. Congress, speaking on behalf of Central Valley agricultural interests

A CALL FOR LEADERSHIP AND ACTION

John Laird, Secretary of the California Natural Resources Agency, emphasized the importance of working together and bringing diverse forces and resources together in more effective ways. Both Secretary Laird and Director Cowin emphasized how important partnership and adequate resources will be to bring about this important change in water management.

Effective leadership requires a clear vision of what needs to be done. As part of his vision to enhance the long-term performance and resiliency of California's water management systems, Director Cowin outlined four major actions and outcomes he believes are necessary to respond effectively to the water management challenges of the 21st century:

- **Improve planning tools** that can help us evaluate risk and uncertainty, predict and measure system performance and resiliency, and quantify the value of benefits related to ecosystem function and health
- **Improve our understanding** about water management systems (and interactions with natural resources) through strategic investments in science and better integration of science into planning processes
- **Improve financing** by developing a reliable source of funds to support statewide planning and incentives that promote and reward local investments in integrated, multi-benefit projects
- **Improve alignment of agencies, policies and regulatory responsibility** to allow agencies to be more creative in response to changing needs in ways that protect the environment and support the other integrated water management goals of improving public safety and supporting a stable economy

Director Cowin acknowledged that accomplishing these four needed outcomes will not be easy and that achieving them will require bold leadership and cooperation across multiple agencies and organizations. He promised that DWR will do everything it can to lead the way, and invited others to join in these important efforts.



"In working on the 2013 updated California Water Plan, three themes have emerged to guide our future: we need to "double down" on integrated water management, strengthen the alignment among government agencies, and invest in innovation and infrastructure."

Kamyar Guivetchi
Manager, Statewide Integrated Water Management,
California Department of Water Resources



"There's nothing as powerful as an idea whose time has come, and with regard to integrated water management, the time has come."

Steve Stockton,
Director of Civil Works,
U.S. Army Corps of Engineers



"The take away for me is the discovery of new ideas, and new and better ways to do things. How do we stir those creative juices and work together to do things better? We're talking about interaction and integration."

Sue Sims,
Executive Officer,
California Water Commission

The following table summarizes the key outcomes of the Water 360 Summit, including the major water management challenges we face today, messages from some of the Summit participants, and DWR's commitment to action.

California's Water Management Challenges	Selected Perspectives from Summit Participants	DWR's Commitment to Action
The water management community lacks a common vision; clear, tangible goals; and tools for measuring success.	"We need to get to a point where we can spell out what our objectives are in a specific measurable way, and we have tools to actually measure whether a multi-benefit project gets us there quicker." John Cain, American Rivers	Facilitate the progression toward a shared understanding, vision and goals. Advance tools and science to evaluate risk, measure performance, and quantify the value of benefits related to: public safety, environmental stewardship, and economic stability.
Despite changing societal goals, fiscal resources and physical realities (e.g., climate change impacts), old ethics are slow to adjust to a new paradigm.	"It is no longer feasible to build the 20th century-style 'big fixes' that may disregard our neighbors and downstream impacts. The ratepayers are telling us to get together and manage that singular drop of water together." Celeste Cantú, Santa Ana Watershed Project Authority	Provide continued incentives for multi-benefit solutions that address 21st century realities. Identify meaningful ways to develop the skills and competencies needed for future water leaders within and outside of DWR.
State agencies are not aligned towards a common purpose, and regulators are often driven by narrowly focused responsibilities which can result in conflicting or redundant regulation.	"While [the regulatory agencies] will meet together and coordinate, we are not sharing resources. We are not sharing work. And therefore we are duplicating effort and adding years onto decisions that need to be made today." Caren Trgovcich, State Water Board	Practice the integrated water management approach within DWR. Work with other State, federal and local government agencies to innovate governance and streamline regulation.
State government lacks a stable, reliable funding source for planning and long-term management of water resources, especially at the regional and local level. Funding is typically constrained by legislative mandates and tied to narrowly-defined objectives.	"There are some alternatives to bonds, for which we have some good models within California. I'll point to the Metropolitan Water District... they apply a surcharge on the water that they sell, and that money gets used for supporting exactly the kind of [integrated solutions] we're talking about here." Ellen Hanak, Public Policy Institute of California	Set and promote funding priorities that encourage and motivate a statewide transition to integrated water management. Work with State, federal and local agencies and organizations to explore reliable funding sources that incentivize and reward local investments in integrated solutions.

WHAT YOU CAN DO

There was broad agreement that the current manner in which we manage water and associated resources, which we inherited from the past century, needs to change in order to successfully meet the future needs of California citizens and the ecosystem. None of us can bring about these changes alone. DWR is committed to help accomplish these changes, and asks you to:

- **Continue to Engage in the Conversation and Look for Common Ground—** We need to continue to work together to arrive at a shared vision of our preferred future for water management in California. It is not likely that improvements in governance or finance can be made without identifying a broadly shared vision with tangible goals and outcomes.
- **Be Open to and Support Change—**The process of changing the way we think about and implement water resource services in California will not be easy. All know that change can be very uncomfortable and messy. To be successful, we must be willing to take risks, accept change, and stay the course until improvements are realized.
- **Help Identify Constraints and Share Ideas for How to Improve—**The first step in finding new, more effective ways of working together is to speak candidly about how well things are (or are not) working. We must look earnestly at what is supporting (or impeding) progress and stay committed to improving the performance and resiliency of the multi-faceted systems that provide water resource services to all Californians.



CONTINUED ENGAGEMENT: Outcomes from the Integrated Regional Water Management Conference, **April 4-5, 2013** and Strategic Plan Workshops, **April-May 2013**

During the two days following the Summit, DWR and the Water Education Foundation continued the conversation at a conference focused on integrated regional water management. This event brought representatives from water and flood management agencies, city and county governments, regulatory agencies, tribes, environmental groups, agricultural interests, business and academia together. Conference attendees participated in interactive sessions to share their experiences about transforming California's water management culture to improve public safety, foster environmental stewardship and support economic stability on a regional and watershed scale. For more information, see: www.watereducation.org.

Additionally, DWR sponsored a series of Integrated Regional Water Management workshops during April and May to discuss the future of the integrated regional water management program. For more information, see: www.water.ca.gov/irwm/stratplan.

Edmund G. Brown Jr.

Governor

State of California

John Laird

Secretary

California Natural Resources Agency

Mark Cowin

Director

California Department of
Water ResourcesCalifornia Department of
Water Resourceswww.water.ca.gov

Thank you to the speakers and panel members who participated in the Summit, representing the following agencies:

American Rivers

Association of California Water Agencies

California Natural Resources Agency

California Trout, Inc.

California Water Commission

California Water Foundation

Los Angeles County Department of Public Works

Public Policy Institute of California

Sacramento Area Flood Control Agency

Santa Ana Watershed Project Authority

State Water Resources Control Board

U.S. Army Corps of Engineers

U.S. House of Representatives

Water Education Foundation

To view the Summit agenda or watch a video of the event, visit www.watereducation.org

What is Water 360?



Water 360 is a campaign launched by the California Department of Water Resources in April 2013 to help refocus and strengthen the collective efforts of California's water management community by advancing integrated water management. Integrated water management is a framework for planning and implementation that melds the objectives of improving public safety, fostering environmental stewardship and supporting economic stability to lead to sustainable water resource management. Integrated water management is not a new concept in California, and great strides have been made in the last decade to utilize the approach, particularly at the regional level. The Water 360 Campaign builds on these early successes and calls for broader application across the entire state.

Water 360 recognizes that we are all connected by the water cycle. We depend on and affect each other in the use and management of our State's most precious resource. A change to one part of the cycle impacts us all. We are faced with an uncertain future in terms of a changing climate and environment, a volatile economy and an evolving society. Moving forward, we share equally in the responsibility to advance integrated, multi-benefit solutions to meet the challenges. A "360-degree" perspective is needed to measurably improve performance and resiliency of the entire water management system.

DWR is committed to lead this effort in close partnership with all stakeholders, particularly State, federal, and local agencies. Success will require improved cooperation and alignment at all levels of government and stable financing to deliver multi-benefit, long range and fiscally responsible solutions.



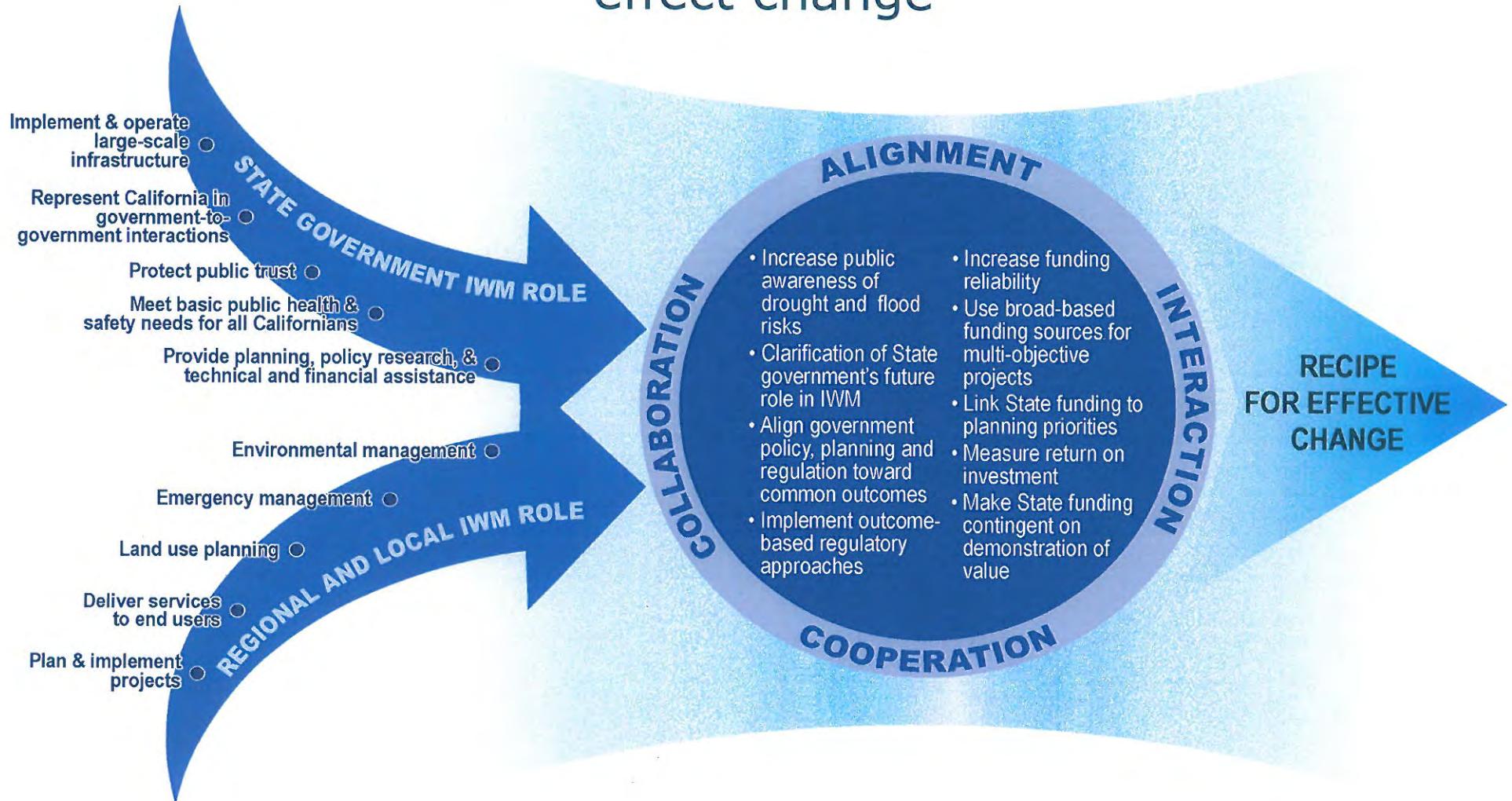
PUBLIC SAFETY

ENVIRONMENTAL STEWARDSHIP

ECONOMIC STABILITY

Integrated Water Management in Action:

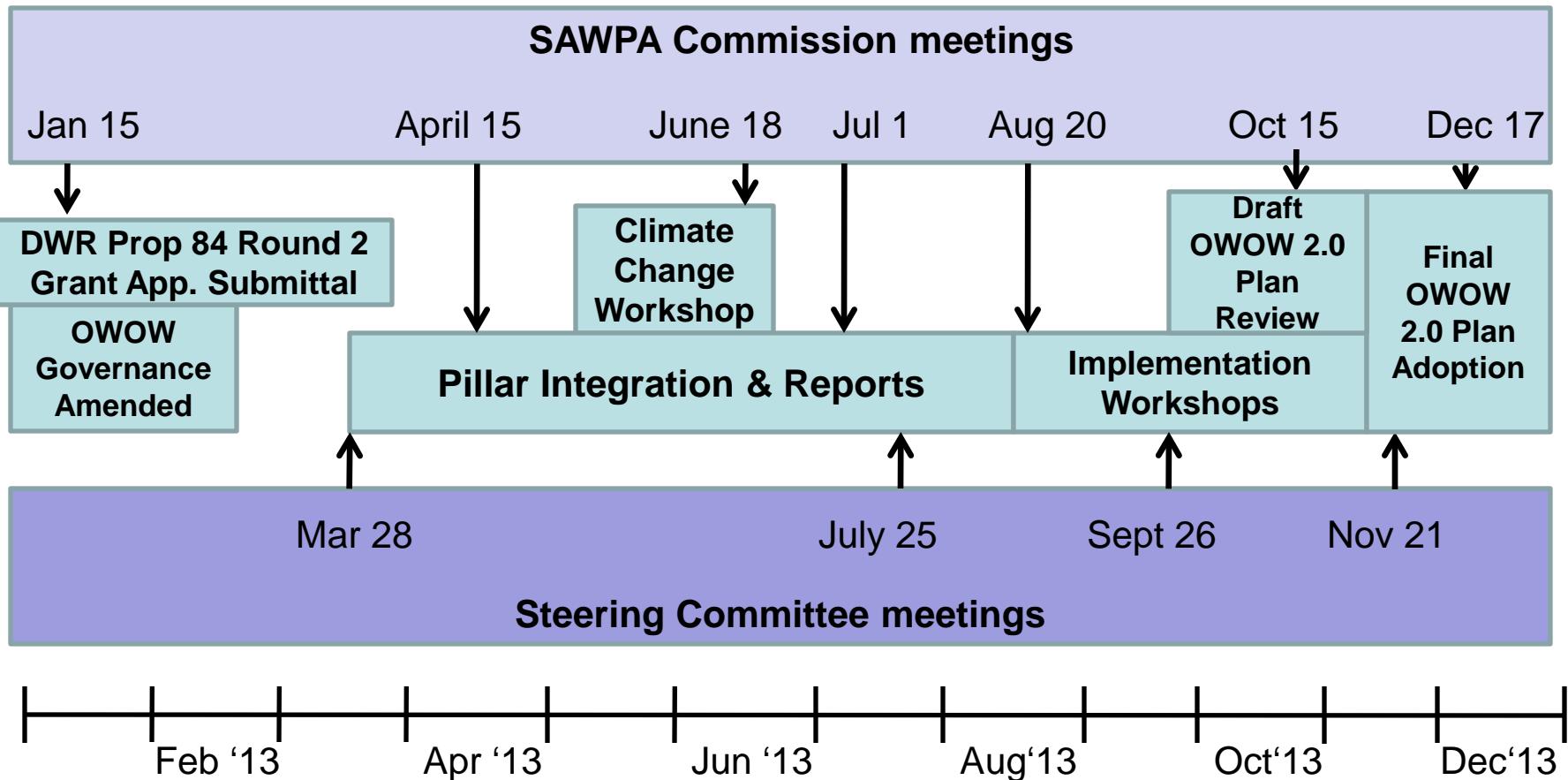
State and regions working together to show value and effect change



Preliminary graphic for Calif Water Plan Update 2013

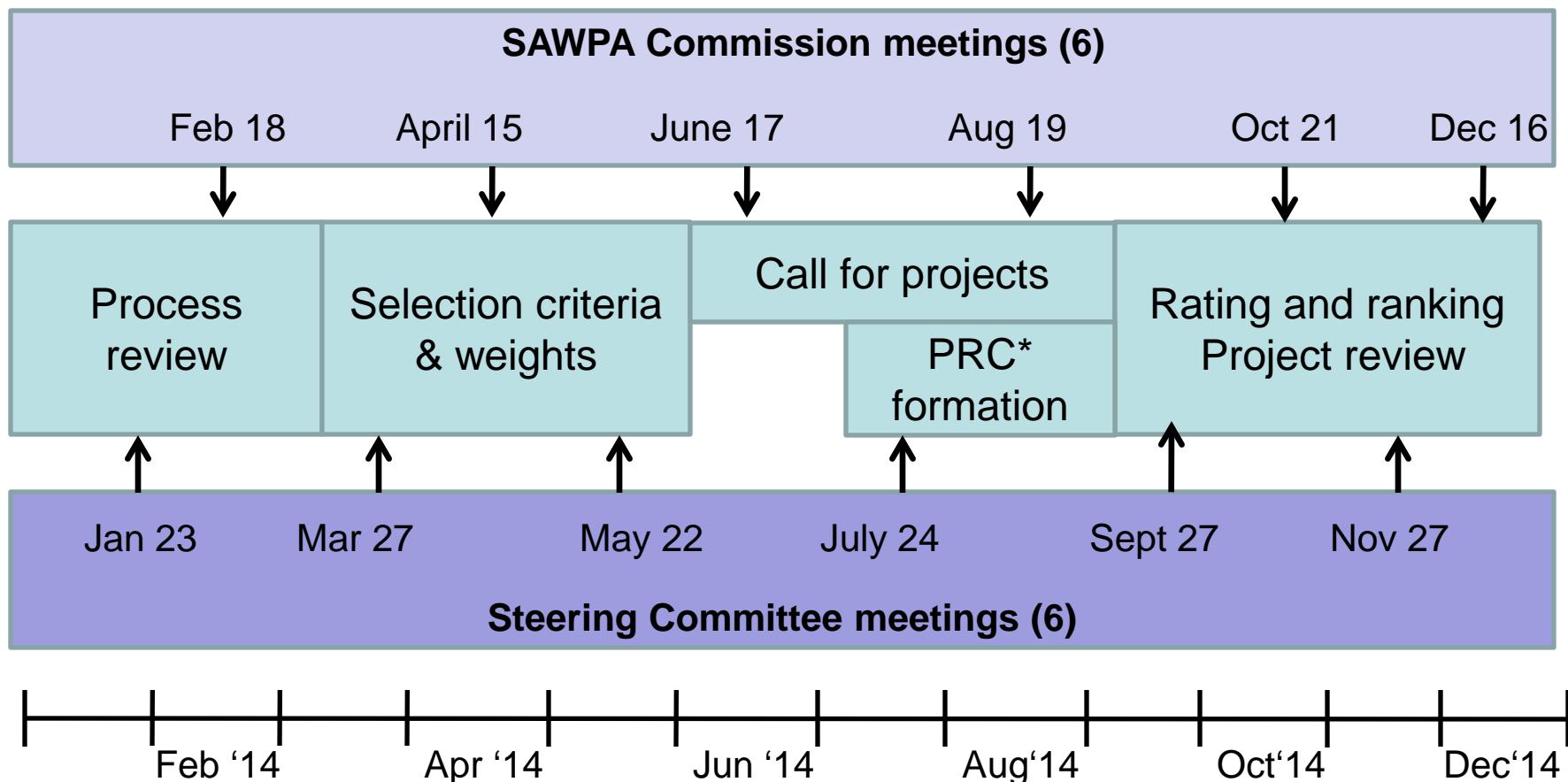
OWOW 2.0 Plan Process

OWOW 2.0 Plan Adoption Deadline – Dec 2013



OWOW Round 3 Funding - \$70 million

DWR Application Due Date – Winter 2014/2015



*PRC: Project Review Committee

Executive Summary



OWOW Implementation Pillar Meeting

Executive Summary

The Santa Ana Watershed faces enormous challenges as it strives to adapt to changing conditions, many of which are at an unprecedented scale in its modern history. The watershed's population, already one of the most densely populated in the State, continues to grow and urbanize increasing demands on water supply reliability, water quality and flood management. Even with its plentiful groundwater resources, several basins are now experiencing declining groundwater levels and overdraft conditions. With the uncertainties of climate change and its impacts, environmental concerns are taking even greater precedence than they have ever in the past, affecting how we manage water for the future.

Most agree that the water management approaches of the past several decades are no longer sustainable in today's environment and economic climate. And most agree that a more integrated and collaborative approach to water resource management will show tremendous promise to water resources everywhere. But in the Santa Ana River Watershed, this approach is not new, it has been our practice and legacy since the first integrated plan was approved by the SAWPA Commission in 1989. For the next four decades thereafter, SAWPA and its member agencies has been on the forefront of effective water management and agreement in the Santa Ana River Watershed that provided innovative solutions and the first brine disposal pipeline in the State to address rising salt levels.

In a nutshell, the goal of yesteryear was cheap water for a growing economy. But over time the goal has changed to become a more complicated balancing act of environmental sustainability, quality of life, economic growth in a changing environment dominated by water and financial scarcity. The strategy to achieve this goal is integrated water management. This means the various silos of water supply, flood management, water quality, ecosystem restoration, and recreation are brought together as one. Another way to think about it is that while the drop of water may at different times be characterized by

different elements, it is still the same drop of water. SAWPA is not alone in Integrated Regional Water Management (IRWM) planning. Integrated water resources management and planning is now adopted statewide and practiced worldwide, particularly by countries of similar Southern California climate such as Australia, Israel, Italy and Spain.

It is SAWPA's legacy as a leader that has allowed us to remain competitive and successfully adapt to changing conditions. The benefits of this approach are better coordination across functions that are often managed separately and across a broader geographic scale larger than the boundaries of individual agencies. Through integration at the watershed scale, economic and environmental performance is more effectively balanced. This water resource planning approach on a watershed basis has even been recognized by independent review, objective and nonpartisan research organizations such as the Public Policy Institute of California which cited

SAWPA as an excellent example of integrated water management in the State.

SAWPA 's approach – coordination, cooperation, and integration of water agencies to pool resources and manage water at the basin scale-is one of California's best models for integrated water management.

Public Policy Institute of California
2011 "Managing California's Water – From Conflict to Reconciliation"

As the rest of California struggles to move from the old way of doing business, diffuse and disparate governance structures and institutions with single purpose focus, the Santa Ana Watershed continues to progress with a commitment to take to scale the many "bright spots" and pilot projects accomplished to date. We have many multi-benefit, multi-purpose long range fiscally responsible solutions. This and the use of sophisticated "big data" analytics continue to set us apart resulting in a more robust watershed and a very competitive position to compete for State and Federal funds.

In the final analysis the prescription for success is clear, we need to "double down" on integrated water management, strengthen the alignment among all government agencies and invest in innovation and infrastructure. For the Santa Ana Watershed, the road map for this success is our IRWM plan known as the "One Water One Watershed" (OWOW) Plan, a name that originated under the first OWOW 1.0 Plan that encourages a comprehensive view of the watershed and water resource issues. It is an integral view encompassing all sub-regions, political jurisdictions, water agencies, and non-governmental stakeholders (private sector, environmental groups, and the public) in the watershed; one in which all types of water (local surface and groundwater, imported, storm water, wastewater effluent and recycled water) are viewed as components of a *single* water resource, inextricably linked to land use and habitat, and that tries to limit impacts to natural hydrology.

The emphasis of this new OWOW 2.0 Plan is that all sectors of our community (water users, water suppliers, storm water managers, parks and recreation providers, environmental stewards, developers, etc.) are encouraged to adopt a water ethic that focuses on understanding where their water comes from, how much they use of it, what they put into water, and where it goes after they finish using it. Rather than focus on approaches that rely heavily on continued imported water deliveries to meet

growing water demands in the region, a new suite of approaches to planning are needed now that lead with a water demand reduction strategy.

The OWOW 2.0 Plan was funded by the SAWPA member agencies with grant funding assistance from the California Department of Water Resources through the Proposition 84 IRWM Planning Grant program, and a funding partnership from the U.S. Bureau of Reclamation (Reclamation) through their Basin Studies program. Work with Reclamation, the State, local and non-profit organizations provided the OWOW 2.0 plan with the necessary resources to expand outreach and support that will ultimately create more cost effective integrated water resource management solutions.

Analysis and Support Tools

To support implementation of the OWOW 2.0 Plan, SAWPA in conjunction with its funding partners, conducted research and analyses on climate change impacts to the watershed and developed a variety of new computer support tools to support our modern water management goals. So often, information is developed locally, regionally and Statewide, but these data are not generally available in a useable format for policymakers, stakeholders and the public at large. Under OWOW 2.0 Plan, new resource tools and analyses were conducted to help water resource managers adapt to changing climate conditions, support project proponents in better integrated solutions, assist analysis of watershed performance over time and provide the public better access to water quality for beneficial use.



Through the work of Reclamation, an interactive climate change modeling tool was developed to provide water planners with information on potential impacts of climate change within the Santa Ana Watershed. This tool provides a simplified modeling framework for evaluating climate change impacts as well as mitigation/adaptation alternatives. The Climate Change tool enables the user to explore, identify and download custom climate change data for various scenarios modeled for the Santa Ana River Watershed. Some of the results of the climate change analysis for the watershed that address common “public” concerns are as follows:

Will I need to water my lawn more?

- Yes, precipitation shows long-term decreasing trends. Temperature will increase, which is likely to cause increased water demand and reservoir evaporation. Transitioning to drought tolerant or CA friendly landscaping is recommended.

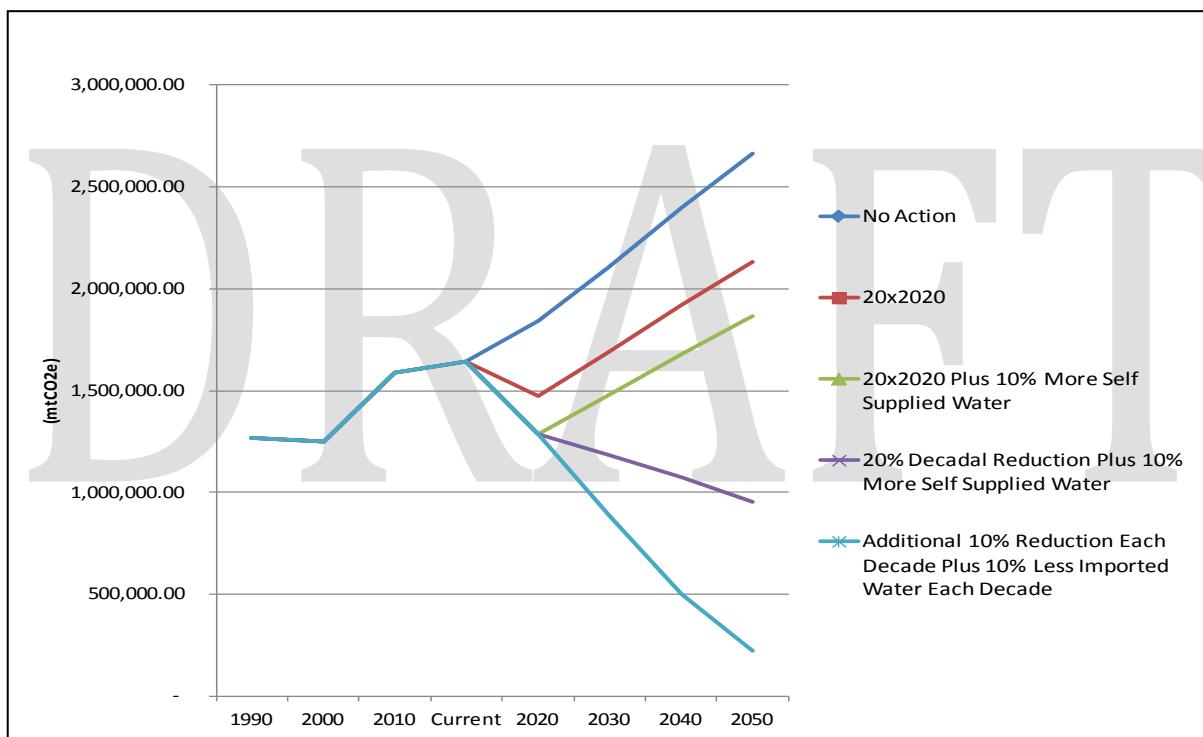
Will I still be able to go skiing at Big Bear Mountain Resorts?

- Warmer temperatures will result in a delayed onset and shortened ski season. Both Big Bear Mountain Resorts lie below 3,000 meters and are projected to experience declining snowpack that could exceed 70% by 2070.

How many more days over 95°F are expected in Anaheim, Riverside and Big Bear City?

- By 2070 it is projected that the number of days above 95°F will quadruple in Anaheim (4 to 16 days) and nearly double in Riverside (43 to 82 days). The number of days above 95°F at Big Bear City is projected to increase from 0 days historically to 4 days in 2070.

Another powerful tool that Reclamation developed under OWOW 2.0 Plan is an interactive green house gas modeling tool to provide water planners and the public about the impacts of green house gases within the Santa Ana Watershed. This tool enables the user to explore, identify and download custom green house gas data for a suite of water technologies modeled for the Santa Ana River Watershed. It will also exhibit energy consumption in the delivery and treatment process with relation to water. In accordance with AB – 32 (Assembly Bill) which requires regions within California to reduce their overall GHG emission, the tool also evaluates both the supply and demand of water in the Santa Ana Watershed. Shown below is a table providing a comparison of GHG emissions resulting from conservation and reduced imported water scenarios for the SAR Watershed.



This tool will prove to be very useful within the watershed because it allows agencies and SAWPA alike to use the calculator for different types of scenarios which can be used to compare each outcome and result. Further, the tool can be adapted to individual projects and is anticipated for use in future GHG emissions calculations by project proponents.

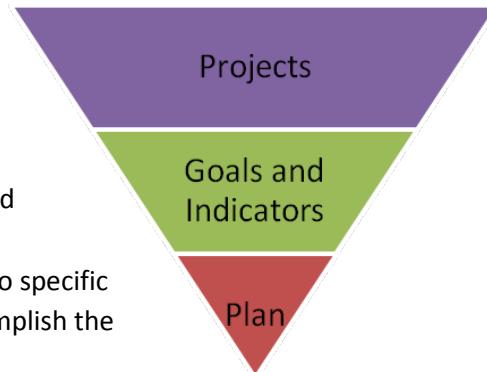
Santa Ana River Watershed Water Quality Tools

SAWPA, partnering with the Santa Ana Regional Water Quality Control Board and local stakeholders, has developed a suite of tools to provide water planners and the public access to water quality information relating to designated beneficial uses, water quality objectives, and water quality data for water bodies and waterways within the Santa Ana River Watershed.

Watershed Assessment Tool, Plan Performance and Monitoring

In order to track progress, SAWPA has developed a system to monitor the implementation of the OWOW Plan and projects implemented under OWOW. The monitoring takes place at two levels, the plan level and project level, to:

- Ensure progress is being made toward meeting the objectives of the Plan.
- Ensure specific projects identified in the Plan are being implemented as planned in terms of schedule, budget, and technical specifications.
- Identify potential necessary modifications to the Plan or to specific projects, in order to more efficiently and effectively accomplish the goals and objectives of the Plan.
- Provide transparency and accountability regarding the disbursement and use of funds for project implementation.



To tie the plan and project monitoring together, SAWPA recognized the need for interface process of measuring progress on meeting the goals and objectives as well as the health of the Santa Ana watershed. SAWPA engaged the services of the Council for Watershed Health, a nonprofit organization, and Dr. Fraser Shilling of UC Davis to develop a watershed assessment framework for the Santa Ana River Watershed. Based on their experience with developing methodology for a Watershed Assessment Framework (WAF) and having applied this framework to the Arroyo Seco Watershed in the Los Angeles County and to a similar project for the State on the California Water Plan 2013 Update, the Council and Dr. Shilling worked with the OWOW Pillars, workgroups of experts and stakeholders organized generally based on water resource management strategies, to update the watershed management goals, establish planning targets or wanted conditions for the watershed and utilize data indicators or metrics from existing datasets or data collection efforts to track progress. With the input of SAWPA staff, a new tracking computer tool was created incorporating this work that will allow managers to evaluate and assess progress and assure actionable results for implementation.

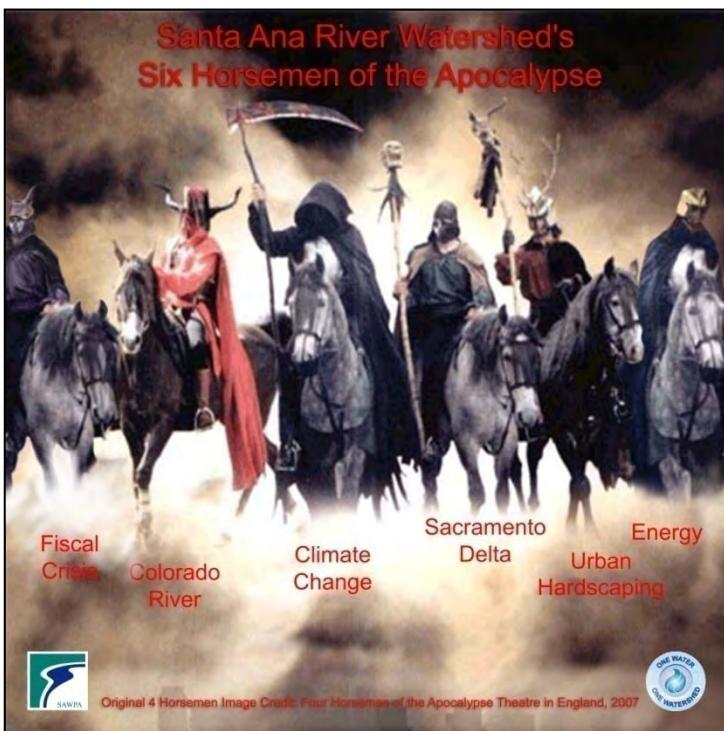
Vision, Mission and Challenges

Under OWOW 1.0, the vision for the watershed was developed and continues under the OWOW 2.0 Plan as follows:

1. A watershed that is sustainable, drought-proofed and salt-balanced by 2030, and in which water resources are protected and water is used efficiently.
2. A watershed that supports economic and environmental viability.
3. A watershed that is adaptable to climate change.
4. A watershed in which environmental justice deficiencies are corrected.
5. A watershed in which the natural hydrology is protected, restored and enhanced.
6. A water ethic is created at the institutional and personal level.

The mission of the OWOW Plan is to create opportunities for smarter collaboration to find sustainable watershed-wide solutions among diverse stakeholders from throughout the Watershed. The 21st century demands that we consider new and innovative approaches to solving the problems facing water resources. “20th century thinking” ways are reactive rather than proactive. Clinging to the path of yesteryear will place us at greater risk of producing results with limited impact and unintended consequences. Our 21st century plan creates a blueprint for more effective water resource management by using data and tools to keep up better informed and allowing us to be more productive in using less energy and less greenhouse gas emissions.

To achieve this vision and mission, stakeholders must address four major threats, which we have dubbed as the Four Horsemen of the Apocalypse: 1) Climate Change resulting in reduced water supplies combined with increased water needs in the region; 2) Colorado River Drought Conditions resulting in pressures on imported supply due to upper basin entitlements and continued long-term drought; 3) San Joaquin-Bay Delta Vulnerability resulting in loss of supply due to catastrophic levee failure or changing



management practices of the Delta; and 4) Population Growth and Development resulting in interruptions in hydrology and groundwater recharge while increasing water needs.

To implement OWOW 2.0 and adjust to current affairs, SAWPA and stakeholders needed to adapt to address challenges, Energy and Fiscal Crises. The Four Horsemen of the Apocalypse herd has grown to six.

Fiscal crisis reflects the impacts of the Great Recession commonly marked by a global economic decline that began in December 2007, and took a particularly sharp downward turn in September 2008. Some say the epicenter was the Inland Empire. By late 2013, the recession

remains a part of our lives resulting in far fewer State and Federal funds, and State Bond funding being deferred each year as the realization that they would not likely be supported by the State electorate.

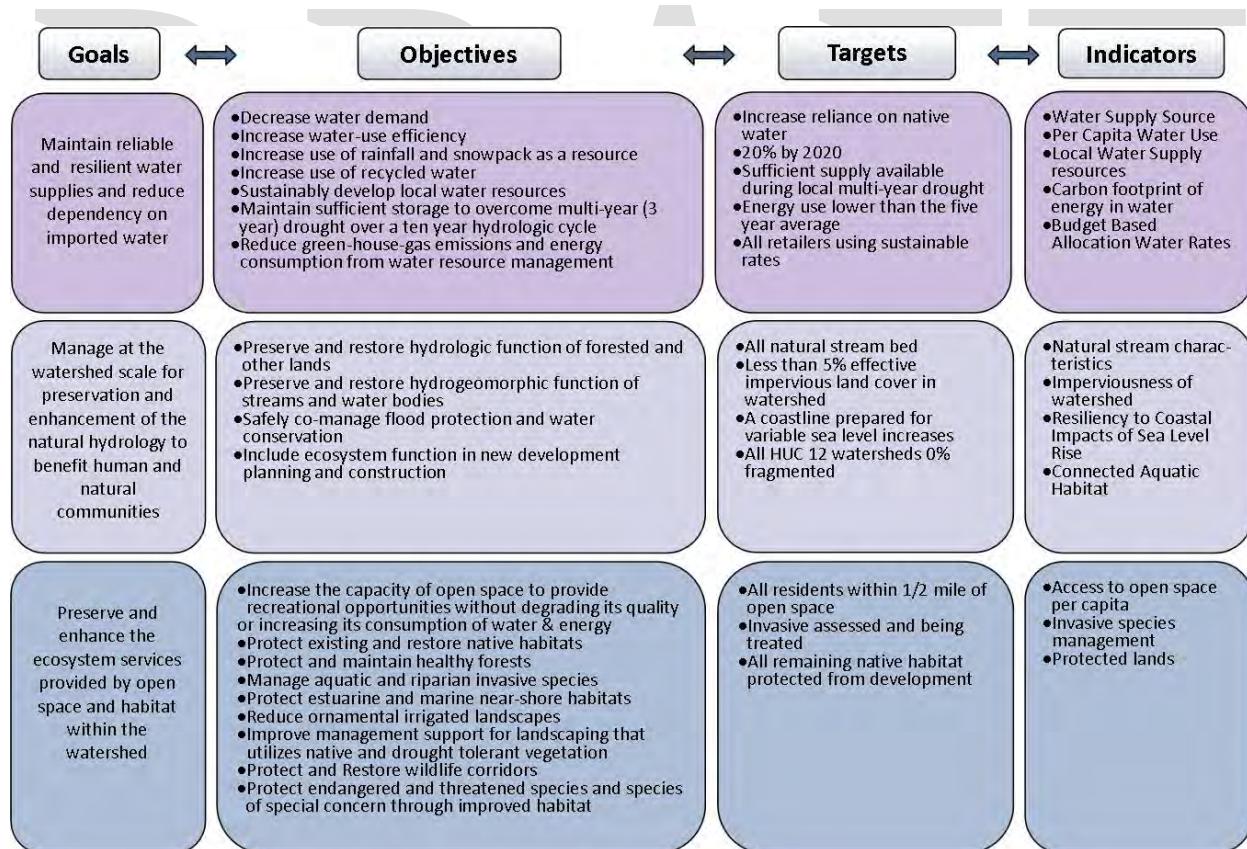
Recent energy development such as the closure of the San Onofre crises have forced us to recognize the water-energy nexus and the need to address our energy needs and escalating costs for delivering energy. By working together through joint incentive programs, energy costs can be reduced by water agencies through energy efficiency measures, while teaching the public that water conservation equates to energy conservation and thus money saved.

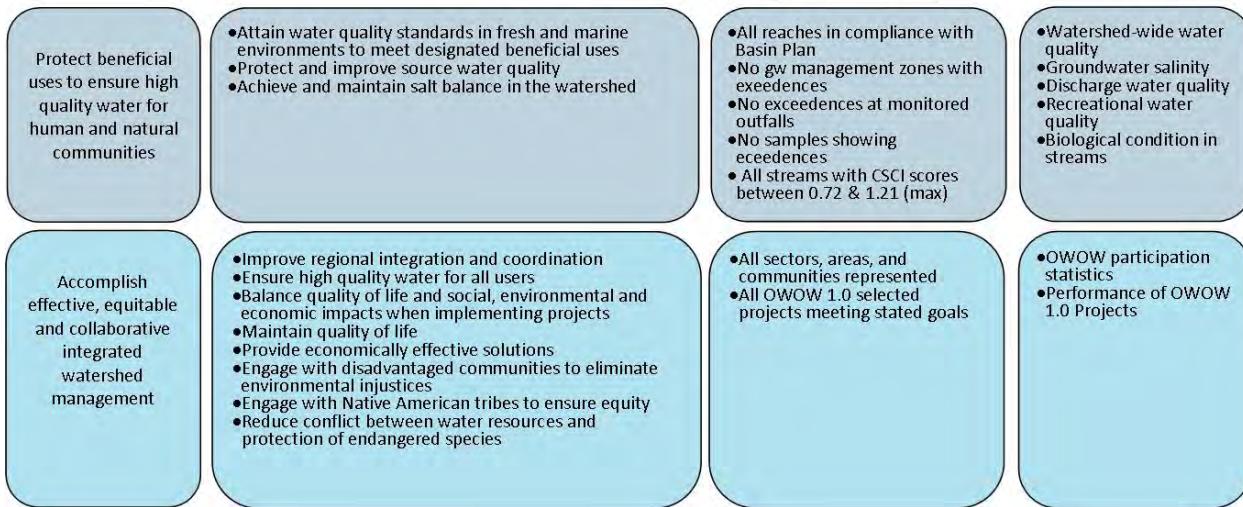
Goals, Objectives, Targets and Indicators

As previously stated, in order to achieve the watershed's vision, the Pillar Groups worked with the Council of Watershed Health on updating the goals and objectives for the OWOW 2.0 Plan as part of the new watershed assessment framework. The value of the assessment was particularly important to the OWOW 2.0 process, as the current guidelines from DWR require inclusion of performance monitoring in all integrated regional water management planning efforts.

Based on the coordination with SAWPA staff, the Pillars and the Council selected five areas for which to update goal definition for OWOW 2.0: water supply, hydrology, open spaces, beneficial uses, and effective and efficient management. Using these newly defined goals and objectives, an assessment process was established that will assure actionable results for implementation.

With the goals and objectives refined, the planning targets also were reviewed and updated as part of the watershed assessment tool. Thereafter the new goals and objectives were shared with the Steering Committee for their acceptance. Planning targets or wanted conditions within the watershed along with data indicators were developed to track progress and allowing measurement of the extent to which the plan objectives are being met. The new goals, objectives, targets and indicators are shown as follows:





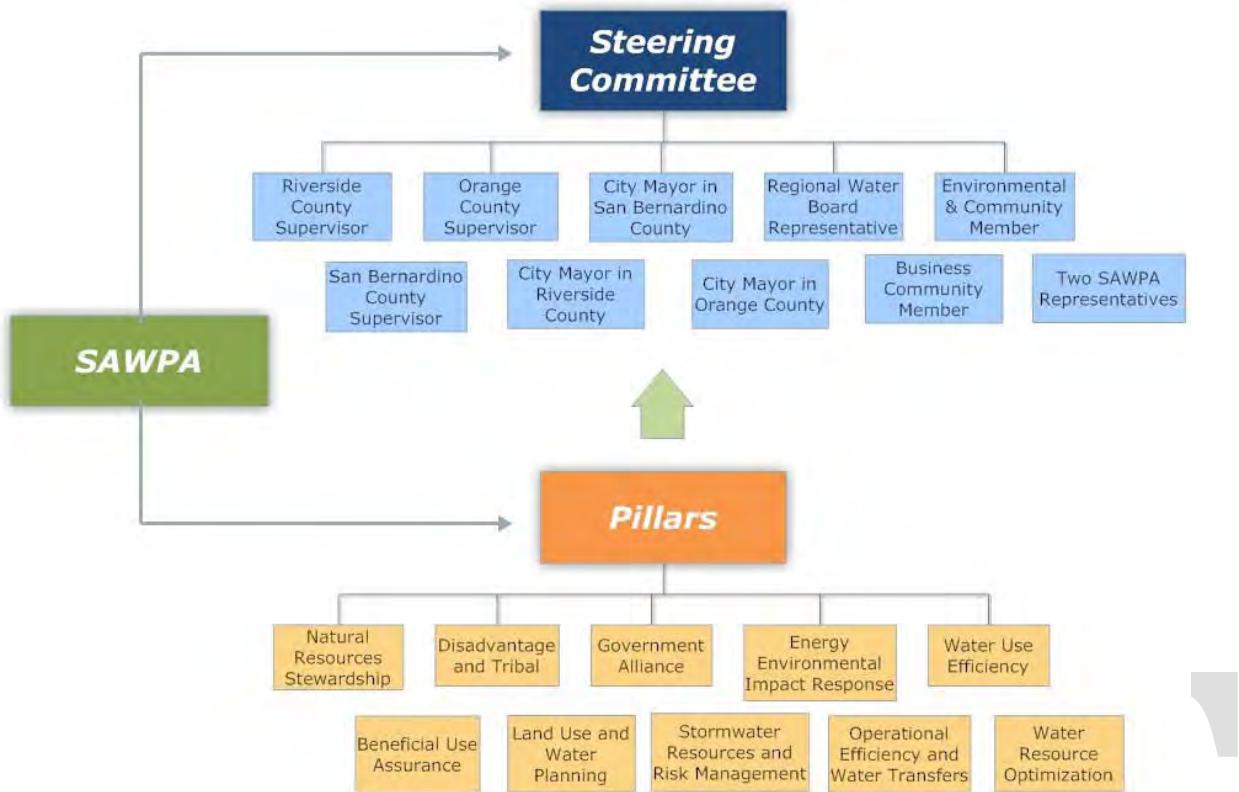
OWOW Planning Process

SAWPA officially launched its OWOW 2.0 planning effort on April 20, 2011, with the signing ceremony of the agreement with the U.S. Bureau of Reclamation. The work commenced in earnest with the first meeting with the Pillar Co-chairs. Regular workshops were held with stakeholders throughout the watershed at workshops with more than 100 agencies and non-profit organizations spanning Riverside, San Bernardino and Orange counties. From the very beginning, the process has been open to and has received the participation of representatives from all geographic regions and political jurisdictions within the watershed, and from diverse representatives of different sectors of the community (governments, water agencies, development and environmental community, and the public).

As with the OWOW 1.0 Plan development, the OWOW 2.0 plan utilized a “bottom up” approach for governance and involvement. Every effort was made to encourage the development of a shared vision and the involvement and participation of all watershed stakeholders in key discussions of major water resource issues, concerns, problems, goals and objectives, with a particular focus on supporting multi-beneficial system-wide implementation. By expanding the involvement and collaboration to the *on-the-ground* level, greater buy-in and support were realized for this planning development process.

OWOW 2.0 Governance

As with OWOW 1.0, the OWOW 2.0 Plan was led by an 11-member Steering Committee composed of elected officials from counties and cities in the watershed, representatives from the environmental, regulatory, and business communities, and representatives from the Santa Ana Watershed Project Authority (SAWPA). The Steering Committee’s role is to serve as the developer of integrated regional water management goals and objectives for the watershed, and to act as the oversight body that performs strategic decision making, crafts and adopts programmatic suites of project recommendations, and provides program advocacy necessary to optimize water resource protection for all. As part of OWOW 2.0 development, the terms and designation process of Steering Committee representatives were clarified with adoption of an amended governance document.



The Steering Committee was supported by technical experts grouped into ten groupings (known as Pillars), generally aligned along major water resource management strategies, but renamed under OWOW 2.0 Plan to reflect greater integration and synergy.

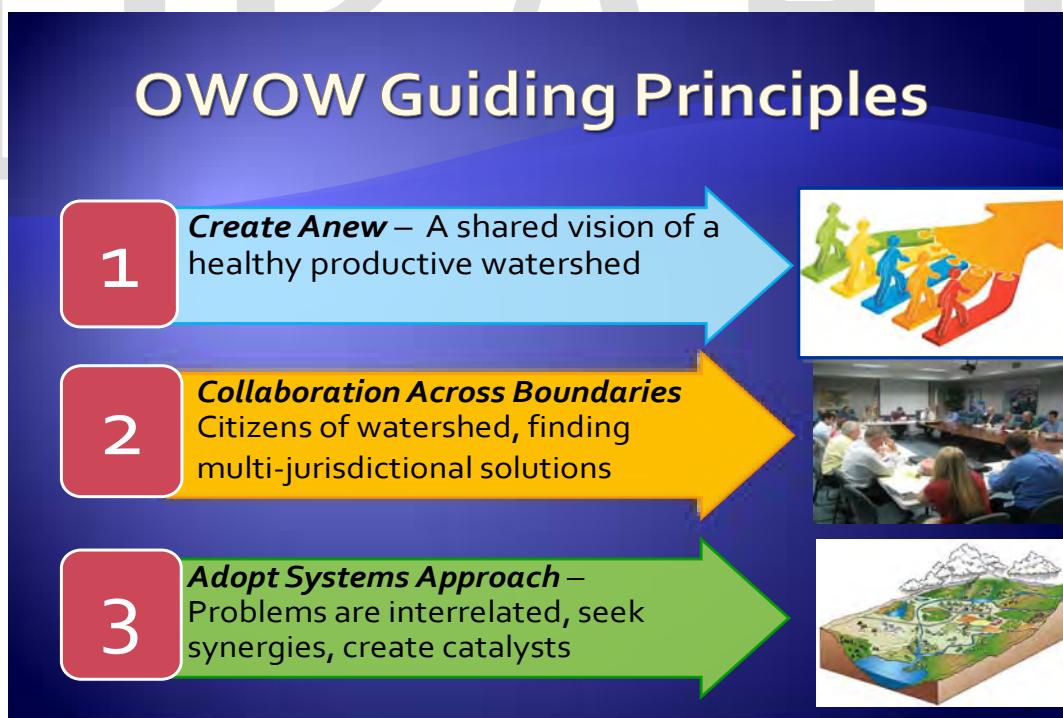
Pillar Groups
Water Resource Optimization
Beneficial Use Assurance
Water Use Efficiency
Land Use and Water Planning
Stormwater Resource and Risk Management
Natural Resources Stewardship
Operational Efficiency and Water Transfer
Disadvantaged and Tribal Communities
Government Alliance
Energy and Environmental Impact Response

SAWPA acts as the Regional Water Management Group (RWMG) for the process. While SAWPA facilitates the planning process and provides technical input and support through its staff and consultants, the development of the goals and strategies of the Plan, as well as the decision making process, are under the purview of the Steering Committee and the SAWPA Commission, with support of the Pillars and with consideration to comments from the public.

SAWPA Governance provides for a collaborative, transparent, and watershed-wide view embraced by the OWOW planning process from the onset, builds upon previous planning efforts in the watershed, and seeks to improve the way in which water and other environmental resources are managed in the watershed.

Pillar Work and Key Findings

Development of integrated watershed planning has been done for years but under OWOW 2.0 we are bringing emphasis to the watershed scale and adding more tools such as data management and analysis tools to advance multi-benefit, multi-purpose solutions. Multi-beneficial projects and greater diversification of water management approaches are achieved through greater collaboration and cooperation, building trust among stakeholders, viewing the watershed as a hydrologic whole, working in concert with nature, and seeing each problem as interrelated that provides opportunities for synergy and efficiencies. These OWOW guiding principles were shared with the Pillar workgroups as well as the watershed stakeholders on multiple occasions.



In preparation for the next phase of OWOW 2.0 planning, SAWPA provided direction and planning guidance to the newly re-formed OWOW Pillar Co-chairs. As under the OWOW 1.0 Plan, the Pillars were responsible for writing each Pillar chapter for the new plan. Direction was provided that OWOW 2.0 Plan

was not intended to be merely an update of previous planning data from OWOW 1.0 Plan, but rather would focus on identifying integrated and watershed-wide implementation projects and programs. To advance this concept of a watershed-based and integrated approach under OWOW 2.0, SAWPA conducted innovative brainstorming processes with the pillar chapter authors 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.

Starting in September of 2011, a group of three well known water resource experts - Jerry King, Wyatt Troxel, and Richard Meyerhoff - dubbed the “Master Craftsmen”, were tasked work closely with the Pillar Co-chairs to develop a list of conceptual project concepts and 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. From these Master Craftsmen meetings, a white paper was developed that identifies 13 key examples of watershed-based water resource management concepts that, when implemented throughout the watershed as a single project or series of interconnected projects, would 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.

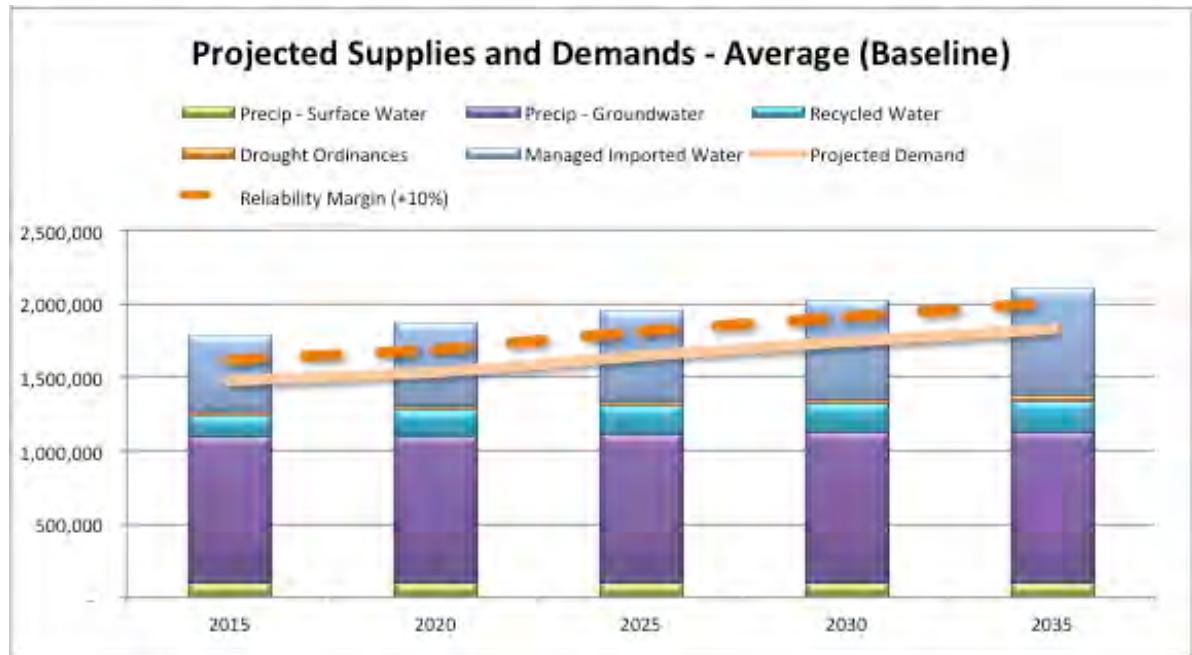
After these ideas and concepts were recorded, they were shared with the Steering Committee and the SAWPA Commission for their approval. Thereafter, the Pillar workgroups commenced their respective meetings over the following 18 months of the OWOW 2.0 planning. They investigated new regional implementation projects/programs within their pillar workgroup that could lead to multiple, integrated benefits that, in turn, could be linked and integrated with other Pillar projects/programs concepts. Key findings of each of the pillar workgroups are described as follows:

Water Use Efficiency Pillar – Key Findings

- Water use efficiency practices remain the number one water resource management priority for the watershed.
- Agencies and their partnerships with each other and private industry will continue to collaborate and develop new programs promoting water use efficiency.
- The ultimate goal will be to get water customers to automatically base decisions on what is the most water efficient way to plan, implement, and maintain devices and landscapes. This will require customer education and continued incentives to promote water use efficiency.
- The sector that demonstrates the greatest potential for water savings is the landscape. Therefore, the Water Use Efficiency Pillar will move forward with collaborative projects that primarily emphasize outdoor efficient use of water.

Water Resource Optimization Pillar - Key Findings

Based on the work of the water resource optimization pillar, the projected supplies and demands for the average year are as follows:



- Note: This table will be updated by the Pillar Co-Chair, Bob Tincher

A key finding from this pillar's analysis is that with implementation of the 20% water demand reductions by 2020 as well as a reliability margin of 10%, water supplies will be adequate to meet demands through the 20 year planning horizon or Year 2035. This evaluation was also conducted for the Single Year, the historical year that received the lowest amount of imported water and the Multi-Year Drought, three year period that received the lowest amount of imported water. Their findings show that the watershed in the aggregate will be able to meet its demands in a single year drought with a reliability margin of 11% in 2035 and for a multi-year drought of 13% in 2035. The watershed is able to make it through these drought years by relying on the native water and imported water storage programs that store water when it is available during wet periods for use during drought periods and on recycled water which is not impacted by weather.

Though the overall projections based on the Urban Water Management Plan (UWMP) data are positive, they are based on the following assumptions which now come into question based on the OWOW pillar work:

1. Future local precipitation patterns will be the same as past precipitation patterns *The OWOW climate change pillar indicate that these patterns will likely change within the planning horizon.*
2. Imported water projections include possible effects of climate change
3. Imported water will be managed to store wet year supply for use during dry years
4. The watershed will invest over \$4 billion in water conservation and infrastructure projects
5. "Drought Ordinances" include landscape ordinances and other water use efficiency

In review of these assumptions, the water resource optimization pillar indicates that much more needs to be done to ensure water supply reliability for the future. This is particularly true in the face of climate change that may impact local precipitation patterns, the need for intra-basin transfers to maintain groundwater levels, the State defined mandate for regions to become less dependent on Delta imported water and significant funding requirement of water use efficiency and infrastructure to meet future demands.

Beneficial Use Assurance Pillar - Key Findings

- Surface water quality monitoring is not coordinated within the watershed leading to duplicative sampling in some areas and inadequate sampling in others. In some cases this may lead to 303(d) listings that do not reflect real impairments. Assess surface water quality monitoring in watershed. Work on plan to improve coordination and development of regional approach to monitoring that will generate better information and be less expensive.
- New statewide regulations setting biological objectives and nutrient objectives for surface water are being developed and will be a compliance challenge for wastewater agencies. Participate in rule making process to support development of policies and regulations that are effective and efficient.
- A small number of small water systems may be in operation within the watershed that do not have resources for monitoring and proper operations and maintenance, which may result in drinking water provided to customers that are in violation of drinking water standards. Work with CDPH and county health departments to identify small system water providers, if any, which need assistance with providing safe drinking water. Develop plan to address any small system water providers that need assistance.
- Sediment deposition in some areas creates water quality impairments, reduces aquatic habitat, and reduces water conservation storage. Reduced sediment flow downstream of dams causes armoring of river/creek beds resulting in reduction in percolation capacity, aquatic habitat, and beach replenishment. Support USACE/OCWD Prado Basin Sediment Management Demonstration Project and Newport Bay Stakeholders to reduce sediment load into Upper Newport Bay.

Land Use and Water Planning Pillar – Key Findings

- Water supply agencies should be consulted early in the land use decision-making process regarding technology, demographics and growth projections.
- City and county officials, the watershed stakeholders, LAFCO, special districts and other stakeholders sharing watersheds should collaborate to take advantage of the benefits and synergies of water resource planning at a watershed level.
- Plans, programs, projects and policies affecting land use and water should be monitored and evaluated to determine if the expected results are achieved and to improve future practices.

Stormwater: Resource and Risk Management Pillar – Key Findings

- Comprehensive and integrated stormwater management projects driven by a multi-stakeholder project paradigm can more effectively and efficiently address watershed needs. Such projects can assist stakeholders to achieve compliance with the Municipal Stormwater NPDES Permits

(MS4 Permits), while providing increased stormwater capture and groundwater recharge using favorable cost benefit approaches.

- Reducing the risk of loss of life and property damage due to flooding remains a high priority within the Santa Ana River Watershed. The completion of the Santa Ana River Mainstem Project will reduce the risk of a catastrophic flood event in the Santa Ana River Watershed. However, there remains significant flood risk related to tributary watercourses within the watershed, compounded by potential impacts of wildfires and earthquakes.

Natural Resources Stewardship Pillar – Key Findings

- A plan for sustainable management of conservation areas with targeted restoration efforts is essential for preventing further deterioration of habitat. Consideration for characteristics of each of the main habitat types: Alluvial fan; Riparian, Wetland and Coastal and their specific ecosystems, will require habitat specific management plans and restoration criteria.
- Creating sustainable wildlife corridors will require land use planning coordinated across jurisdictional boundaries. Cooperation must also take place among all of the current regional conservation plans, mitigation providers, resource conservation districts and non-profit conservation organizations.
- Consensus among all agencies and organizations with ownership/stewardship over areas of the Santa Ana River Mainstem and tributaries should be sought that provides for long-term protection of areas where habitat restoration efforts are occurring or need to occur. This kind of cooperative agreement will be critical to the ability of governmental and non-profit organizations to secure mitigation funding to do the necessary habitat restoration work needed in the watershed.
- Grant and bond funding in the watershed have funded the removal of thousands of acres of invasive plants, initial and ongoing restoration of habitat areas, biological monitoring of sensitive species, and conservation of habitat areas. All of these sources and more should continue to support restoration and ongoing maintenance.
- Much of the remaining invasive plant biomass and areas that could benefit from re-establishment activities (removal of invasive species followed by long-term, active planting and biological monitoring) in the watershed is on land owned by federal, state, and local governments for purposes other than water-oriented habitat conservation. These are prime lands for future habitat restoration projects with multi-use and benefit.

Operational Efficiency and Water Transfers Pillar – Key Findings

- Expand compliance with the SBx7-7 and implement projects that reduce per capita water usage by more than 20 percent by the year 2020.
- Create/ Expand supply and system reliability during drought, emergency, and peak demand situations.
- Create/Expand coordination with other agencies in the area and develop regional water management strategies that would increase conservation and local water supplies.
- Create/Expand local recycled water reuse program(s) in the area.

- Develop/Implement projects that protect groundwater resources, the environment and consider storage and transfers. In the aggregate, the SAR watershed has enough water to meet our needs including population and economic growth. But water availability is governed by time and space; it is not always in the right place when we need it. This can be overcome with storage and transfers.

Disadvantaged and Tribal Communities Pillar – Key Findings

- Engaging Disadvantage Communities (DACs) and Tribes in water and related resources planning through effective outreach is good for both the community and the water sector itself. There are distinct differences due to cultural and historic context; however, the two groups have much in common. Both need their voices heard during proposed project development.
- Today, DACs and some Tribes face critical and serious water and related resources challenges, such as failing septic systems, isolation, language barriers, flood risk, and lack of funding and or resources to name a few. It is imperative that the water sector and its key stakeholders recognize proposed DAC and Tribe water project needs, and engage these communities early in the process. The OWOW 2.0 process recognizes the various funding needs for DACs and Tribes, and the Federal and State funding programs available to them.
- After engaging and speaking with DAC residents and listening to their issues and tribal council meetings, we see that there is a need for continuous networking resulting in consensus based development and implementation of project solutions.

Government Alliance Pillar – Key Findings

- Ensure that federal and state agencies effectively partner in the management of water and other resources within the watershed, and consider other Pillar's perspectives in their support of OWOW goals and objectives.
- Periodically publish updates of the *Resource Guide* and post them on SAWPA's website;
- Leverage the *Resource Guide*'s agency contacts, and assure that steps are taken to keep all information current; and
- Continue coordination with various governmental agencies, as appropriate, for all proposed projects, initiatives, and integrated water and related resources activities to help identify necessary environmental compliance requirements and or potential areas of conflict.

Energy and Environmental Impact Response Pillar – Key Findings

- Annual surface water is likely to decrease over future periods with precipitation showing somewhat long-term decreasing trends. Temperature will increase, which is likely to cause increased water demand and reservoir evaporation. Projected decreases in precipitation and increases in temperature will decrease natural recharge throughout the basin.
- Management actions such as reducing municipal and industrial water demands or increasing trans-basin water imports within the watershed may be required to maintain current groundwater levels.

- Warmer temperatures will likely cause Jeffrey pines to move to higher elevations and may decrease their total habitat. Forest health may also be influenced by changes in the magnitude and frequency of wildfires or infestations. Alpine ecosystems are vulnerable to climate change because they have little ability to expand to higher elevations.
- Increasing temperatures will result in a greater number of days above 95°F in the future. The number of days above 95°F gets progressively larger for all cities advancing into the future.
- Simulations indicate a significant increase in flow for 200-year storm events in the future. The likelihood of experiencing what was historically a 200-year event will nearly double (i.e. the 200-year historical event is likely to be closer to a 100-year event in the future). Findings indicate an increased risk of severe floods in the future, though there is large variability between climate simulations.
- Sea level rise is likely to inundate beaches and coastal wetlands and may increase coastal erosion. Effects on local beaches depend on changes in coastal ocean currents and storm intensity, which are highly uncertain at this time. Sea level rise will increase the area at risk of inundation due to a 100-year flood event.
- Existing barriers are sufficient to deter seawater intrusion at Talbert and Alamitos gaps under a 3-foot rise in sea levels. However, operation of barriers under sea level rise may be constrained by shallow groundwater concerns.

To further enhance the integration and linkages among the recommended conceptual implementation projects and programs suggested by the Pillars, Pillar integration workshops were held conducted by SAWPA with the Pillars throughout the OWOW 2.0 plan development period. The integration workshops included discussion of system-wide regional or watershed scale projects, addressing different components of the hydrologic cycle, evaluating linkages among proposed projects/programs, and developing and identifying synergy among projects and programs to create anew.

OWOW 2.0 Plan – Future Implementation

During the last two years, water resource managers from every water related sector have been working together to write the next integrated water plan, OWOW 2.0. The Broad Planning/Management Guidance Strategies were distilled from that work and will serve to guide future planning and management in the watershed. The Strategies, listed in the recommended priority, reflect a change in thinking about water resource management. Historically, water activities were organized into different silos and managers worked to achieve separate and individual goals that were thought to be unrelated. The water supplier's goal was to divert water for a growing population and economy without regard its impact on the environment. The flood control manager's goal was to channelize stormwater to get it out of the community before it could harm people and property or sink into the ground. The waste water manager's goal was to highly treat and dump waste into the river or ocean to be carried away. The environmentalists were isolated and recreation was left to its own devices. Managing the watershed and water resources as done in the past realized narrow singular goals but did so with tremendous

unintended consequences. The list of endangered species only grew longer, as did the list of impaired water bodies. Societal values have changed, water and funds are scarcer, and together we have realized that the old way is no longer viable. SAWPA adopted its first Integrated Water Plan in 1998 and has been committed to this kind of watershed or system thinking ever since.

These Broad Planning/Management Guidance Strategies are not projects or programs themselves; they are distinguished from prioritizing and/or funding actual projects competing for funding. That work will be done in advance of the Call for Projects for Round 3.

These watershed planning and management strategies are separate and distinct from priorities assigned to evaluate projects for funding that are often dependent on the grant sponsoring agency criteria. These Planning/Management Strategies are meant to guide planning efforts.

1. Demand Reduction and Water Use Efficiency

Studies have shown that the most cost effective and efficient method for dealing with tight water supplies is through increased water use efficiency. This is reflected through a reduced per capita water use as well as potentially reduced commercial and industrial water use. Though significant progress is anticipated with mandated reductions through 20% by 2020 legislation, more can be done. Many water use efficiency actions have been implemented locally but these can be scaled watershed-wide. These include water budget based rates, Garden Friendly landscaping and landscape ordinance application, smart controllers and irrigation nozzles, and turf buy-back programs, to name a few. The last acre foot of water is often the most expensive, avoiding that cost goes far to keep water rates stable.

Monitoring data shows wasteful irrigation runs off yards down streets and culverts collecting pet waste and pollution until it hits the receiving water with a toxic slug causing beach closures and fish kills. At great expense cities have been tasked to clean up this dry weather urban runoff pollution. This cost can be avoided with successful water use efficiency.

It is understood too that there is a direct link of water use efficiency with energy efficiency and GHG emission reduction.

These considerations make a strong case for demand reduction and water use efficiency to be our number one priority planning/management strategy.

2. Watershed Hydrology and Ecosystem

Protect and restore our watershed's ecosystem and hydrologic system so that it will sustainably produce the array of services including water resources. Recognizing that the SAR Watershed has multiple interrelated parts, a holistic approach to solving issues of supply, quality, flood and ecosystem management is necessary. This approach recognizes that in order to achieve a healthy productive watershed, improvements starting at the top of the watershed with a healthy and managed forest effectively support downstream stormwater attenuation and runoff capture and water quality improvement. The emphasis is on source control rather than end-of-pipe treatment as a best management practice. Implementation actions under this priority include forest management, pollution prevention, low impact development, stormwater capture

and flood management, and MS4 stormwater implementation.

3. Operational Efficiency and Transfers

Cooperative agreements that result in water transfers, exchanges, and banking have resulted in better use of water resources. With the rich groundwater storage opportunities available in the SAR Watershed, expanding the groundwater storage with a variety of available water sources can be more much more cost effective than new surface storage. Such agreements will result in our ability to stretch available supplies and replace the storage lost by a shrinking snowpack.

Projects under this category occur by collaboration and cooperation among the multitude agencies and entities in the watershed, expanding on the many past successful water agreements within the SAR Watershed. New banking agreements can represent both habitat mitigation banking as well as groundwater banking. These agreements can only occur by entities working together and opening doors to improved efficiency and increased water supply reliance.

4. Reliable Supply

The fourth priority recognizes the need for more progress in a portfolio approach with expansion of innovative and effective 21st century technology for water production, recycling, pumping, and desalinization. Traditionally these projects serve as an important component to achieving water supply reliability. Moving forward, a broader range of tools are now available to us to serve both economic and environmental objectives. Projects under this category expand projects to provide multiple benefits and thus can be mutually reinforcing.

5. Remediation and Clean up.

Implementing TMDLs and pollution remediation is the fifth priority. Projects under this category must reflect projects that have region wide benefit, are integrated and have multiple benefits without a focus only on local or single purpose needs. The reason the above priorities were listed before this one is that they reflect the management strategies that will in themselves prevent pollution. This reflects a desire to duplicate the successes already established in the watershed as the first strategy to prevent pollution and second to remediate pollution. If we continue operating in ways that cause pollution, degrading the watershed, the list of TMDLs will continue to grow.

Shown below is a list of Pillar Recommended Implementation Actions were prepared based on the pillar work and other stakeholder input. These regional implementation actions are not listed in priority or are in any particular order. They represent the integrated work of the pillars that resulted from their collaboration internally and with other Pillars and are the solutions to the challenges that they identified in each of their pillar chapters. This list does not represent a list of projects that been rated and ranked projects under the more formal Project Review Process defined under the OWOW 2.0 Plan. However, they are recommended implementation actions that reflect an emphasis on integration and system-wide solutions to the watershed challenges and include the 13 watershed wide framework concepts previously discuss.

Each the pillar recommended watershed wide implementation actions could eventually become projects once they are more fully investigated and analyzed. Multi-agency project proponents for these implementation actions have not have been identified yet. It is anticipated that these recommended actions may best help fulfill the vision of OWOW 2.0 Plan.

Pillar Recommended Implementation Actions (In no particular order)

Title	Description
Water Budget Based Tiered Water Rates	Create incentive programs for retail water agencies in the watershed to adopt water budget-based tiered water rates.
Water Use Efficiency Incentive Program	Create an incentive program for expanded water use efficiency programs including cash for grass, landscape retrofit support, and California-friendly plant discounts. Utilize IEUA Residential Landscape Transformation Program and MWDOC Comprehensive Landscape Water Use Efficiency Programs as template.
Watershed Exchange Program	<ul style="list-style-type: none"> - Upper Watershed foregoes development of more water recycling and provides future treated wastewater to the Lower Watershed via SAR - Lower watershed provides “replacement” water to upper/middle watershed
Wet Year Imported Water Storage Program	<ul style="list-style-type: none"> - Upper watershed and MWDSC would implement this strategy - Goal: change MWDSC place of storage from Central Valley to Santa Ana River watershed - Develop MWDSC pricing structure to encourage more storage in watershed - Water stored in wet years for a reduced price. Water pumped in dry years for remaining Tier 1 price
Enhanced Water Conservation at Prado Dam	<ul style="list-style-type: none"> - Corps & OCWD currently studying 505 ft year-round - Enhanced Project - Cannot start until Mainstem project complete - Would increase water storage elevation to: 510 ft or 514 ft
Enhanced Santa Ana River stormwater capture below Seven Oaks Dam	Additional stormwater detained by Seven Oaks Dam could enable the diversion of up to 500 cfs and up to 80,000 acre-feet per year. This may require execution of new water rights agreement among SAR Watermaster parties.
Off River Storage and Supply Credits	Additional stormwater capture along the SAR tributaries could enhance capture/ recharge. Specific locations in the watershed would need to be defined. New recharge projects could allow for purchase of “MS4 Credits” by cities and counties as part of new development as a regional MS4 compliant

Re-Operate Flood Control Facilities	Working with flood control agencies re-operate flood control facilities with the goal of increasing stormwater capture increasing flood get away capacity and revising decades old storage curves. Without any impending storms, the flood control agencies may be able to release stormwater at a slower rate. This relatively minor operational change would make stormwater flows easier to capture and put to use. It also would result in impounding the water longer, which would increase artificial recharge during the “holding period”. This strategy has already been successfully implemented in some portions of the watershed
Watershed-wide Recycled Water Optimization System	This project would change the place of delivery for some of the imported water that OCWD is planning to import from the OCWD service area to the upper watershed. In exchange for delivery of imported water to the upper watershed, the upper watershed would deliver recycled water to OCWD via the Santa Ana River. This concept would eliminate the need for over \$350 million in recycled water infrastructure in the Upper Watershed and would result in multiple uses of this portion of OCWD’s imported water. <i>-Comparable reliability</i> – Recycled water is 100% reliable and imported water is about 60% reliable. This concept would mitigate the reduced reliability to the Upper Watershed by storing imported water in the Upper Watershed, or some other water bank, during wet years for later use in dry years. Ideal locations for the recharge include the Bunker Hill and Chino Basin based on their surplus storage capacity.
Increase Surface Water Storage	Helps offset drought and climate change while also increasing watershed sustainability and less dependence on imported water. This project would supplement but not replace existing or proposed groundwater storage.
Increase Groundwater Storage	Helps offset drought and climate change while also increasing watershed sustainability and less dependence on imported water
Inland Empire Garden Friendly Demonstration and LID Project	Using the Inland Empire Garden Friendly Program as a template, a demonstration project is proposed to quantify the benefits of installing Inland Empire garden friendly products and further demonstrate Low Impact Development features in a DAC neighborhood. The project would be modeled in part after the successful City of Santa Monica Garden-Friendly Project, as well as the Elmer Ave. Neighborhood Retrofit project in the LA Basin.
DAC Water Supply or Water Quality Improvement Projects	Provide funding support to assure drinking water standards are met such as in the County Water Company of Riverside near Wildomar. Construct new sewer system for the areas that have failing septic systems/undersized treatment facilities like Beaumont Cherry Valley.
Wetlands Expansion Watershed wide	Create new wetlands along the tributaries of Santa Ana River to provide for natural water quality improvement, ecosystem restoration and recreational opportunities. Water supply for such wetlands would be dry weather urban runoff and available recycled water and would be patterned after the Mill Creek Wetlands in Chino Basin.
Watershed wide Multi-Use Corridor Program	Create multi-use corridors along SAR and its tributaries and Upper Newport Bay tributaries in all three counties in watershed to provide for sustainable wildlife corridors, stormwater attenuation and capture, flood control, sediment reduction and erosion restoration, enhanced NPS pollution treatment, removal

	of non-native species, and creation of recreational trails,. In Riverside County, along Temescal Wash, in San Bernardino in San Timoteo Wash, in Orange County along Borrego Canyon Wash between Irvine Blvd and Town Center Drive.
Multi-Species Habitat Plan for Gap areas of Watershed	Create multi-species habitat plan for San Bernardino County and portions of Orange County. Though work is underway on the Upper Santa Ana Wash Land Management and Habitat Conservation Plan, there is no MSHCP covering the growing areas of southwestern San Bernardino County. Western Orange County is also not covered by an MSHCP.
Water conservation recharge optimization program	Establish a water conservation-recharge optimization plan for existing and potential future flood control facilities, using the example work of the Chino Basin Recharge Master Plan and implementation projects as a template.
Watershed wide geodatabase access	Connect existing county or program-specific geodatabases to create a comprehensive watershed geodatabase that provides access to appropriate stakeholders, and set up a data quality control and maintenance program. The main component County MS4 geodatabases are well under way.
Forest Restoration Projects	Expand forest restoration through fuels reduction, meadow and chaparral restoration projects to strategic areas above major stormwater recharge basins for flood control, water supply and water quality benefits.
Residential Self-Regenerating Water Softener Removal Rebate Program	Removal of self regenerating water softeners has been proven as an effective strategy to reduce TDS levels at WWTP and assure future salt discharge requirements. The project provides watershed-wide rebates and would be a joint program among water agencies in the watershed.
Salt removal projects to achieve Salt Balance	Expand groundwater desalination to key groundwater basins where TDS and Nitrate concentrations are approaching discharge limits. Locations may include Elsinore Basin, Perris Basins in EMWD and Riverside Basins.
Enhanced stormwater capture from the tributaries of the Santa Ana River	Develop additional stormwater capture projects along the SAR tributaries that support key groundwater management zones identified by SB, RV, OC Geodatabases. Early estimates indicated a capture potential of 12,000 AFY.
Conjunctive Use Storage and Water Transfer Project using Wet Year and Dry Year Allocation	This project concept proposes a purchase by OCWD of up to 45,000 AF of imported water to be recharged by the IEUA member agencies during wet years. Water would be purchased at a reduced imported water rate from MWD reflecting the savings of not storing the SWP water at one of MWD's own storage programs such as the Semi-Tropic Water Storage District and/or Kern County Water Bank. In dry years, OCWD member agencies could request IEUA member agencies to increase their groundwater production for three years by up to 15,000 AF per year in-lieu of direct deliveries from MWD, while MWD increases deliveries in the Orange County area by an equal amount. Under this scenario, the net MWD deliveries during dry years (years that Water Supply Allocation Plan is implemented) will remain unchanged, without the need for MWD to produce water from its storage accounts. At the same time, having the imported water stored in the SAR watershed will increase local supply reliability, and provide some financial incentive to both IEUA and OCWD member agencies.

Salt Assimilative Capacity Building and Recycled Water Transfer Project	EMWD has the capability to discharge 15,000 AFY of recycled water into Temescal Creek. The recycled water discharge will be dependent on surplus recycled water available and not used within EMWD particularly during wet seasons. With the approval of the SAR Watermaster, this flow can be contractually added to OCWD's SAR base flow allocation at Prado. The water quality of EMWD's discharged recycled water may require some salinity mitigation by OCWD to meet the RWQCB Basin Plan Objective in Orange County. The GWRS will be used to provide the required mitigation for the discharged water, and EMWD will pay OCWD for the cost of that mitigation. As part of this project, OCWD will credit EMWD for the purified water that is recharged into the Orange County groundwater basin, and compensate EMWD when that water is produced by OCWD member agencies. To increase water supply reliability in the SAR Watershed, EMWD could use the revenues from this water transfer project for imported water banking during wet years in the San Jacinto Watershed groundwater basins.
Riverside Basin Aquifer Storage and Recovery Project	Riverside Public utilities, in partnership with Valley District and others are developing a design for a rubber dam that would cross the Santa Ana River and be used to divert flows while mitigating environment impacts. Creates, 28,000 AFY into off-stream recharge basins.
Watershed Invasive Plant Removal Project	The Santa Ana Watershed Association, the Front Country District Ranger on the San Bernardino National Forest and Southern California Edison had proposed a major an invasive plant eradication project for the Mill Creek Watershed. This project area covers the front (southern slopes) of the San Bernardino Mountains from Highway 18 through Waterman Canyon on the west to Highway 38 from the Mill Creek Ranger Station to Angelus Oaks, an area of approximately 172,773 acres. The proposed future 3-year work area in this proposal covers the Mill Creek Watershed from the Forest boundary to the headwaters. This project proposes to expand the San Bernardino Mountains Front Range Invasive Plant Removal Project to an invasive plant removal and restoration project in the Santa Ana River Watershed that has many partners and stakeholders extending from the coast to the headwaters.
Regional BMPs to manage municipal stormwater discharges	Develop regional BMPs including infiltration, harvest & reuse, and biotreatment as proposed under current MS4 Permits. Initial phase would be located in MSAR Pathogen TMDL area and expand into other areas of the watershed under future phases to address pathogen treatment.
Watershed-wide coordinated surface water monitoring program	Surface water quality monitoring is not coordinated within the watershed leading to duplicative sampling in some areas and inadequate sampling in others. In some cases this may lead to 303(d) listings that do not reflect real impairments. A new program to coordinate surface water quality monitoring to enhance efficiency and reduce costs is proposed. Sources of monitoring data would come from MSAR Watershed TMDL, SWQSTF, MS4 Stormwater Permits, and SCCWRP Bioassessment Program.
Watershed Urban Runoff Management Fund	Establishing a Watershed Based Urban Runoff Management Fund to support the 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.
Santa Ana River Sediment Transport	Building upon a OCWD demonstration project, implementation of a full scale project that allows for the appropriate transfer of sediment to maximize recharge operations, restore habitat, and reduce operation costs.
Transportation Corridor Stormwater Capture and Treatment	New uses of the current transportation right of ways can be expanded to for capturing rain runoff and replenishing groundwater basins.
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 green house gas emissions.
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.

From Concept to Reality – Next Steps for OWOW Implementation

Implementation of the Watershed-based Concepts just described requires a collaborative multi-jurisdictional effort to be successful. Two types of efforts are envisioned: (1) implementation of Water Resources Infrastructural Conceptual Projects, and (2) Watershed Sustainability Guidance and Programs. Implementation of infrastructural conceptual projects has elements that are both institutional (regulatory, jurisdictional, economic) and technical (planning, design and construction). The biggest challenge to successful implementation is not the technical issues, but the institutional issues that will be associated with any project. We have the technical skills to build the infrastructure; however, developing the institutional support across the watershed, which is required to actually build the infrastructure, requires substantial work. Developments of Watershed-based Guidance and Programs have similar challenges.

Preliminary design and feasibility analysis of the projects will improve eligibility for future IRWM grant funding rounds. As project development occurs and regional multi-benefits are more clearly defined, it is likely such projects will be highly rated under future funding rounds through Prop 84 IRWM grant program. With the lion's share of Prop 84 Chapter 2 called out for the Santa Ana River Watershed occurring under the next and final round of Prop 84 amounting to \$70 million, greater funding support will be available to support regional implementation projects and projects that benefit larger geographic areas of the watershed. Disadvantage communities and Native American Tribes will be provided special consideration and attention particularly to find adjoining agencies, cities, counties or NGOs that may serve as the sponsoring entity for new water supply or water quality improvement projects.

Past OWOW Round 2 Projects and Benefits

Under previous grant funding rounds through Proposition 84 Integrated Regional Water Management program, SAWPA was awarded approximately \$28 million for implementation of integrated projects in the Santa Ana River Watershed, using a project evaluation and rating and ranking process that incentivized integration and collaboration for watershed management.

It is the intent of the OWOW planning process to transcend specific funding cycles. Projects are included in the OWOW Plan and ranked based on their merit to address the watershed's strategic needs, regardless of available funding opportunities at any given time. As funding programs become available, projects included in the OWOW Plan will be selected for funding.

Shown below is a list of the Round 1 and 2 projects and the benefits that will ultimately be realized once all these projects are fully constructed.

OWOW Proposition 84, Round 1 Projects

Project	Project Sponsor	Total Local Cost	Grant Amount	Other State Funds Being Used	Total Cost
Groundwater Replenishment System - Flow Equalization	OCWD	\$14,399,680	\$1,000,000	\$0	\$15,399,680
Sludge Dewatering, Odor Control, and Primary Sludge Thickening	OCSD	\$137,115,600	\$1,000,000	\$0	\$138,115,600
Vireo Monitoring	SAWA	\$269,207	\$600,000	\$0	\$869,207
Mill Creek Wetlands	City of Ontario	\$14,355,000	\$1,000,000	\$5,000,000	\$20,355,000
Cactus Basin	SBCFCD	\$8,250,752	\$1,000,000	\$0	\$9,250,752
Inland Empire Brine Line Rehabilitation and Enhancement	SAWPA	\$698,153	\$1,000,000	\$5,234,576	\$6,932,729
Arlington Desalter Interconnection Project	City of Corona	\$948,049	\$400,000	\$0	\$1,348,049
Perris II Desalination Facility	EMWD	\$1,335,752	\$1,000,000	\$0	\$2,335,752
Perchlorate Wellhead Treatment System Pipelines	WVWD	\$419,000	\$1,000,000	\$0	\$1,419,000
Chino Creek Wellfield	WMWD	\$5,331,118	\$1,000,000	\$0	\$6,331,118
Impaired Groundwater Recovery	IRWD	\$36,321,970	\$1,000,000	\$0	\$37,321,970
Alamitos Barrier Improvement Project	OCWD	\$10,571,600	\$1,000,000	\$0	\$11,571,600
Arlington Basin Water Quality Improvement Project	WMWD	\$3,443,636	\$1,000,000	\$0	\$4,443,636
Grant Total		\$233,459,517	\$12,000,000	\$10,234,576	\$256,354,097

- Reduces water demand by 20,000 AF/YR
- Captures 137,000 AFY of stormwater for recharge
- Produces 53,000 AFY of desalinated groundwater while removing 28,000 tons of salt
- Creates 92,000 AFY of new water recycling
- Creates 27,000 AF of new storage
- Improves water quality to 37,000 AFY
- Creates or restores 400 acres of habitat
- Leverages \$11.7 million in grants funds with \$240 million on local funds
- Creates about 3900 construction related jobs for region

OWOW Proposition 84, Round 2 Projects

Project	Project Sponsor	Total Local Cost	Grant Amount	Other State Funds Being Used	Total Cost
Perris Desalination Program - Brackish Water Wells 94, 95 and 96	EMWD	\$9,238,280	\$1,041,690	\$0	\$10,279,970
Quail Valley Subarea 9 Phase 1 Sewer System Project	EMWD	\$3,670,000	\$2,010,460	\$0	\$5,680,460
Forest First - Increase Stormwater Capture and Decrease Sediment Loading through Forest Ecological Restoration	US Forest Service	\$3,981,040	\$1,041,690	\$250,000	\$5,272,730
Wineville Regional Recycled Water Pipeline and Groundwater Recharge System Upgrades	IEUA	\$21,000,000	\$1,041,690	\$0	\$22,041,690
Plunge Creek Water Recharge and Habitat Improvement	SBWWCD	\$210,500	\$520,840	\$0	\$731,340
Prado Basin Sediment Management Demonstration Project	OCWD	\$7,115,000	\$781,270	\$0	\$7,896,270
San Sevaine Ground Water Recharge Basin	IEUA	\$1,750,000	\$781,270	\$0	\$2,531,270
Corona/Home Gardens Well Rehabilitation and Multi-Jurisdictional Water Transmission Line Project	City of Corona	\$4,720,400	\$1,354,180	\$0	\$6,074,580
Enhanced Stormwater Capture and Recharge along the Santa Ana River	SBVMWD	\$30,300,000	\$1,041,690	\$0	\$31,341,690
Regional Residential Landscape Retrofit Program	IEUA	\$500,000	\$520,840	\$0	\$1,020,840
Canyon Lake Hybrid Treatment Process	LESJWA	\$385,500	\$520,840	\$0	\$906,340
14th Street Groundwater Recharge and Storm Water Quality Treatment Integration Facility	City of Upland	\$5,219,187	\$520,840	\$0	\$5,740,027
Customer Handbook to Using Water Efficiently in the Landscape	WMWD	\$40,000	\$125,000	\$0	\$165,000
Vulcan Pit Flood Control and Aquifer Recharge Project	City of Fontana	\$12,703,000	\$1,041,690	\$9,950,000	\$23,694,690
Francis Street Storm Drain and Ely Basin Flood Control and Aquifer Recharge Project	City of Ontario	\$8,070,000	\$781,270	\$7,820,000	\$16,671,270
Commercial/Industrial/Institutional Performance-Based Water Use Efficiency Program	MWDOC	\$1,927,512	\$520,840	\$0	\$2,448,352
Peters Canyon Channel Water Capture and Reuse Pipeline	City of Irvine	\$7,691,112	\$1,041,690	\$0	\$8,732,802
Soboba Band of Luiseño Indians Wastewater Project	Soboba Tribe	\$0	\$156,250	\$0	\$156,250
Recycled Water Project Phase I (Arlington-Central Avenue Pipeline)	City of Riverside	\$28,869,800	\$1,041,690	\$0	\$29,911,490
Wilson III Basins Project and Wilson Basins/Spreading Grounds	City of Yucaipa	\$12,292,721	\$781,270	\$0	\$13,073,991
Grant Total		\$159,684,052	\$16,000,000	\$18,020,000	\$194,371,052

- Reduces water demand by 17,000 AFY
- Captures 27,000 AFY of stormwater for recharge
- Produces 3,000 AFY of desalinated groundwater while removing 1600 tons of salt
- Creates 19,000 AFY of new water recycling
- Improves water quality to 15,000 AFY
- Creates or restores 2500 acres of habitat
- Leverages \$16.7 million in grants funds with \$160 million on local funds
- Creates about 2800 construction related jobs for region

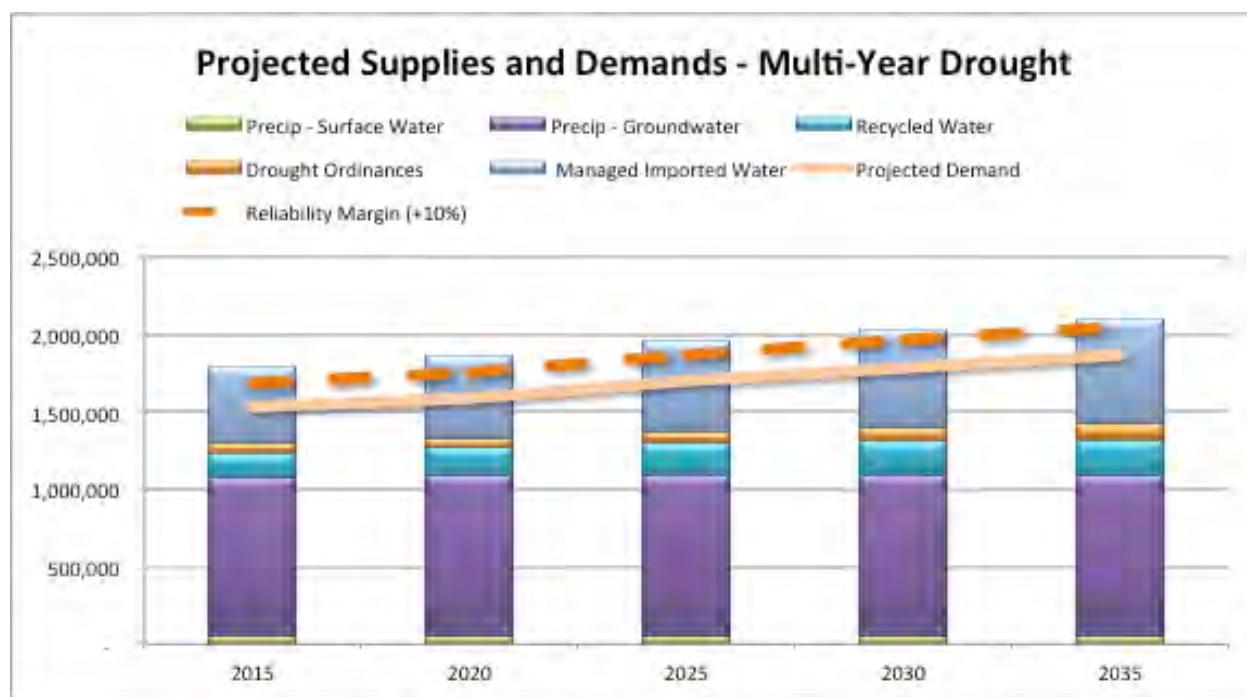
Adaptive Management

The dynamic nature of projects and plans in the watershed will result in the need for regular updates to the OWOW Plan. It is also recognized that the overall success of the OWOW Plan is dependent upon stakeholder input and local water planning documents from resource agencies across the watershed, including GWMP's, UMWP's, County Flood Controls and Water Conservation Districts, and regional government agencies throughout the watershed. The OWOW 2.0 Plan does not replace or supersede local planning; rather the OWOW 2.0 Plan as a regional plan appropriately incorporates local planning

elements. As the watershed integrated plan, OWOW 2.0 will be used by stakeholders in the watershed to help integrate individual plans and to focus funding opportunities on projects that are most effective. Consequently, the information contained in the Plan must remain current to be effective.

In recognition of the ever changing aspects of the planning process, SAWPA will update and refine this Plan every three to five years. The Plan update will take into consideration recent development in the watershed, such as projects implemented since the last review, and new understanding of the watershed issues. Furthermore, the results of the bi-annual performance review will be used to identify potential modification to the watershed strategy. OWOW Plan will become a major resource to water resource managers to assure that progress is being made to the watershed goals.

As evidenced by the chart below, if implementation of the regional projects and programs recommended do not occur that assures the reliability margin is met and water supply reliability is attained, we may very well see projected watershed demands outstrip available supplies particularly as we approach our 20 year planning horizon.



- Graph will be updated by Pillar Co-chair, Bob Tincher

SAWPA will continue to work with stakeholders to pursue these opportunities. With the support of local, State and Federal agencies, further progress can be made in meeting long-term goals of water sustainability for the region and the State. Ultimately, it will be by working together and collaborating across boundaries that the OWOW vision of a thriving and sustainable watershed will be realized.

OWOW STEERING COMMITTEE MEMORANDUM NO. 20

DATE: September 26, 2013

TO: OWOW Steering Committee

SUBJECT: Prioritization of OWOW 2.0 Broad Watershed Planning/Management Guidance Strategies

PREPARED BY: Celeste Cantú, General Manager

RECOMMENDATION

It is recommended that the Steering Committee review the recommendation of the Pillars (who will convene the morning of September 26), and approve the Draft Broad Watershed Planning/Management Guidance Strategies.

DISCUSSION

The draft OWOW2.0 Pillar Chapters will be circulated for comment on September 30. The Chapters are the work of water resource managers who were convened to address long-range water related planning challenges facing the Santa Ana River Watershed. Their task was to build on the OWOW Plan adopted in 2010 by the OWOW Steering Committee, the SAWPA Commission, and approved by the Department of Water Resources. The chapters were updated to include the most current information regarding the challenges facing the water resources in this watershed, but more importantly, they were expanded to include many additional recommended actions and programmatic concepts that exemplify system thinking. These ideas integrate storm water, water reliability, water quality, the environment, and the economy, and are multi-benefit, multi-purpose and multi-jurisdictional from a watershed-wide perspective. They reflect what is called 21st Century Watershed Thinking. These concepts generally can be grouped together in larger categories called OWOW 2.0 Broad Watershed Planning/Management Guidance Strategies.

The Strategies, listed in the recommended priority, reflect a change in thinking about water resource management. Historically, water activities were organized into different silos and managers worked to achieve separate and individual goals that were thought to be unrelated. The water supplier's goal was to divert water for a growing population and economy without regard to its impact on the environment. The flood control manager's goal was to channelize stormwater to get it out of the community before it could harm people and property or sink into the ground. The waste water manager's goal was to highly treat and dump waste into the river or ocean to be carried away. The environmentalists were isolated and recreation was left to its own devices. Managing the watershed and water resources as done in the past realized narrow singular goals, but did so with tremendous unintended consequences. The list of endangered species only grew longer, as did the list of impaired water bodies. Societal values have changed, water and funds are scarcer, and together we have realized that the old way is no longer viable. SAWPA adopted its first Integrated Water Plan in 1998, and has been committed to this kind of watershed or system thinking ever since.

During the last two years, water resource managers from every water related sector have been working together to write the next integrated water plan, OWOW 2.0. That work is voluminous, over 600 pages. The Broad Planning/Management Guidance Strategies were distilled from that work and will serve to guide future planning and management in the watershed. They are not projects or programs themselves;

they are distinguished from prioritizing and/or funding actual projects competing for funding. That work will be done in advance of the Call for Projects for Round 3.

Broad Planning/Management Guidance Strategies

1. Demand Reduction and Water Use Efficiency

Studies have shown that the most cost effective and efficient method for dealing with tight water supplies is through increased water use efficiency. This is reflected through a reduced per capita water use, as well as potentially reduced commercial and industrial water use. Although significant progress is anticipated with mandated reductions through 20% by 2020 legislation, more can be done. Many water use efficiency actions have been implemented locally, but these can be scaled watershed-wide. These include water budget based rates, Garden Friendly landscaping and landscape ordinance application, smart controllers and irrigation nozzles, and turf buy-back programs, to name a few. The last acre foot of water often is the most expensive; avoiding that cost goes far to keep water rates stable.

Monitoring data shows wasteful irrigation runs off yards, down streets and culverts collecting pet waste and pollution until it hits the receiving water with a toxic slug, causing beach closures and fish kills. At great expense, cities have been tasked to clean up this dry weather urban runoff pollution. This cost can be avoided with successful water use efficiency.

It is understood too that there is a direct link of water use efficiency with energy efficiency and GHG emission reduction. These considerations make a strong case for demand reduction and water use efficiency to be our number one priority planning/management strategy.

2. Watershed Ecosystem and Hydrologic System

Protect and restore our watershed's ecosystem and hydrologic system so that it will sustainably produce water resources. Recognizing that the SAR Watershed has multiple interrelated parts, a holistic approach is necessary to solve issues of supply, quality, flood and ecosystem management. This approach recognizes that in order to achieve a healthy productive watershed, improvements starting at the top of the watershed with a healthy and managed forest, effectively support downstream stormwater runoff capture and water quality improvement. The emphasis is on source control rather than end-of-pipe treatment as a best management practice. Implementation actions under this priority include pollution prevention, low impact development, stormwater capture and flood management, and MS4 stormwater implementation. Approximately 60% of the water supplies used in the watershed come from groundwater. Groundwater is always at risk of over draft if it is not constantly being replenished. Replenishment results from many natural and constructed activities. This watershed often is identified as having the best managed groundwater basins in the State. But development and hardscaping with impermeable surfaces interrupt natural hydrology resulting in less water replenishment. This is why protecting and restoring a healthy hydrology and watershed ecosystem is the second priority.

3. Operational Efficiency and Transfers

Cooperative agreements that result in water transfers, exchanges, and banking have resulted in better use of water resources. In the aggregate, the SAR watershed has enough water to meet our needs including population and economic growth. But water availability is governed by time and space; it is not always in the right place when we need it. This can be overcome with storage and transfers. With the rich groundwater storage opportunities available in the SAR Watershed, expanding the groundwater storage with a variety of available water sources can be much more cost effective than new surface storage. Such agreements will result in our ability to stretch available supplies and replace the storage lost by a shrinking snowpack. Projects under this category occur by collaboration and cooperation among the multitude of agencies and entities in the watershed, expanding on the many past successful water agreements within the SAR Watershed. New banking agreements can represent both habitat mitigation banking as well as groundwater banking. These agreements can only occur by entities working together and opening doors to improved efficiency and increased water supply reliance. This is recommended to be the third priority because it can be relatively less expensive than securing additional water.

4. Reliable Supply

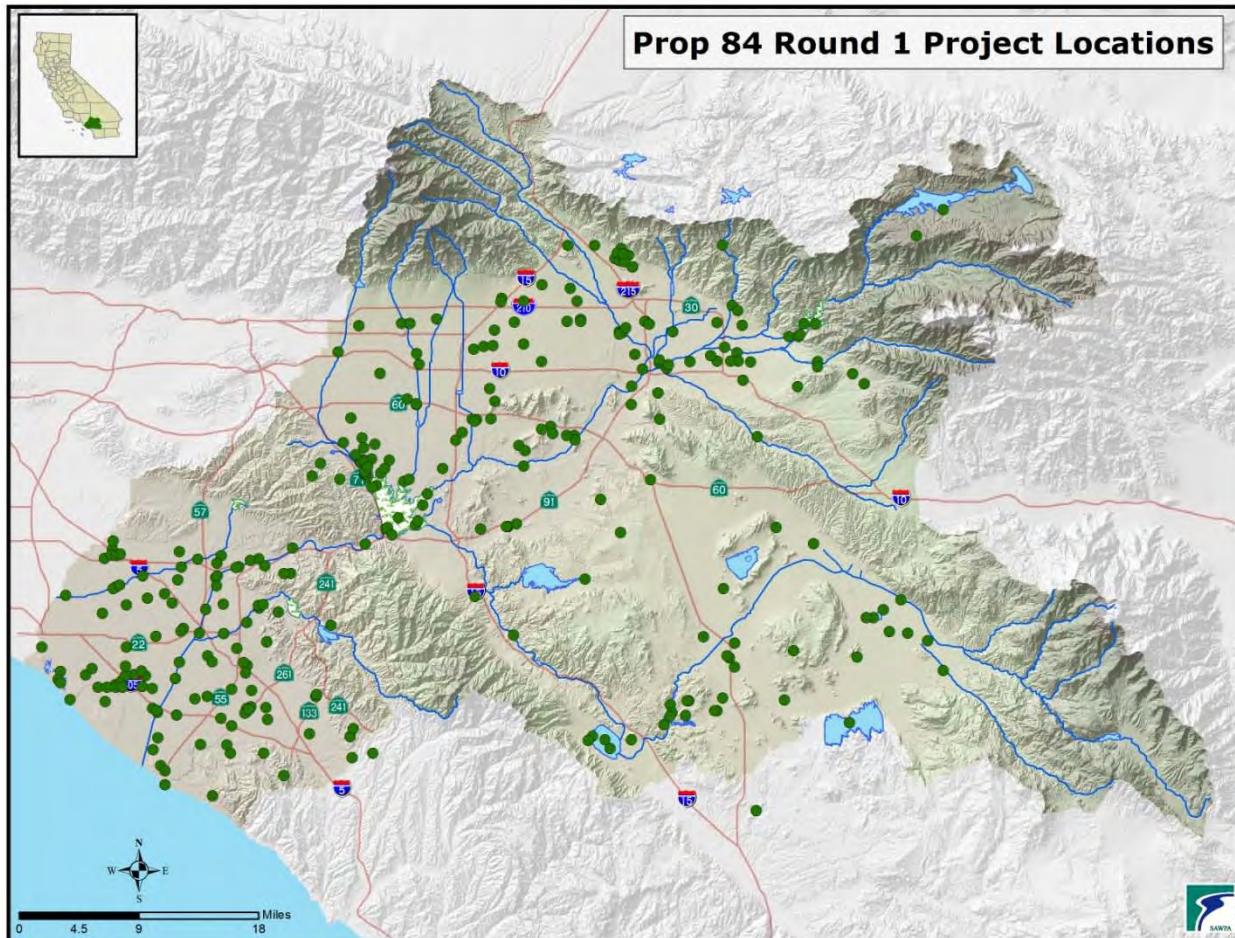
The fourth priority recognizes the need for more progress in a portfolio approach with expansion of innovative and effective 21st Century technology for water production, recycling, pumping, and desalination. Traditionally these projects serve as an important component to achieving water supply reliability. Moving forward, a broader range of tools are now available to us to serve both economic and environmental objectives. Projects under this category expand projects to provide multiple benefits, and thus can be mutually reinforcing. This is an expensive but necessary strategy.

5. Remediation and Clean-up

Implementing TMDLs and pollution remediation is the fifth priority. Projects under this category must reflect projects that have region-wide benefit, are integrated, and have multiple benefits without a focus only on local or single purpose needs. The reason the above priorities were listed before this one is that they reflect the management strategies that will in themselves prevent pollution, and they reflect a desire to duplicate the successes already established in the watershed, first to prevent and second to remediate pollution. No matter how high we prioritize remediation and clean-up, if we continue operating in ways that cause pollution, degrading the watershed, the list of impaired water bodies will continue to outrun our ability to clean them up. The first four priorities reflect a commitment to operate in a way that does not cause pollution; a reordering of priorities to achieve pollution prevention. And finally, the polluter should pay for remediation, not the tax payer.

CC:pb

SC#20 Prioritization Broad Watershed Planning.doc



The following 13 Round 1 projects:

- Reduces water demand by 20,000 AFY
- Captures 137,000 AFY of stormwater for recharge
- Produces 53,000 AFY of desalinated groundwater while removing 28,000 tons of salt
- Creates 92,000 AFY of new water recycling
- Creates 27,000 AF of new storage
- Improves water quality to 37,000 AFY
- Creates or restores 400 acres of habitat
- Leverages \$12.7M in grant funds with \$240M in local funds
- Creates about 3,900 construction related jobs for the region

Summary of OWOW Proposition 84, Round 1 Projects

Project	Project Sponsor	Total Local Cost	Grant Amount	Other State Funds Being Used	Total Cost	Percent Complete
Groundwater Replenishment System – Flow Equalization	OCWD	\$ 1,180,760	\$ 1,000,000	\$ 13,218,920	\$ 15,399,680	5%
Sludge Dewatering, Odor Control, and Primary Sludge Thickening	OCSD	\$ 139,916,223	\$ 1,000,000	\$ 0	\$ 140,916,223	4%
Vireo Monitoring	SAWA	\$ 269,207	\$ 600,000	\$ 0	\$ 869,207	76%
Mill Creek Wetlands	City of Ontario	\$ 14,355,000	\$ 1,000,000	\$ 5,000,000	\$ 20,355,000	70%
Cactus Basin	SBCFCD	\$ 8,250,752	\$ 1,000,000	\$ 0	\$ 9,250,752	0%
Inland Empire Brine Line Rehabilitation and Enhancement	SAWPA	\$ 698,153	\$ 1,000,000	\$ 5,234,576	\$ 6,932,729	100%
Arlington Desalter Interconnection Project	City of Corona	\$ 948,049	\$ 400,000	\$ 0	\$ 1,348,049	100%
Perris II Desalination Facility	EMWD	\$ 1,335,752	\$ 1,000,000	\$ 0	\$ 2,335,752	0%
Perchlorate Wellhead Treatment System Pipelines	WVWD	\$ 419,000	\$ 1,000,000	\$ 0	\$ 1,419,000	100%
Chino Creek Wellfield	WMWD	\$ 5,331,118	\$ 1,000,000	\$ 0	\$ 6,331,118	45%
Impaired Groundwater Recovery	IRWD	\$ 36,321,970	\$ 1,000,000	\$ 0	\$ 37,321,970	100%
Alamitos Barrier Improvement Project	OCWD	\$ 615,600	\$ 1,000,000	\$ 9,956,000	\$ 11,571,600	0%
Arlington Basin Water Quality Improvement Project	WMWD	\$ 6,861,350	\$ 1,000,000	\$ 0	\$ 7,861,350	0%
Grand Total		\$ 216,502,934	\$ 12,000,000	\$ 33,409,496	\$ 261,912,430	

Groundwater Replenishment System – Flow Equalization

- Analysis of soil samples taken from the project site showed pesticide concentrations that exceeded environmental threshold levels.
- The disposal of contaminated soil began in April.
- Approximately 3,081 tons of contaminated material was hauled to a landfill in Yuma, AZ.

Sludge Dewatering, Odor Control, and Primary Sludge Thickening

- Construction of Sludge Dewatering and Odor Control at Plant 1 began in June.

Vireo Monitoring

- Monitoring continues on the least Bell's vireo.
- More than 600 pairs among approximately 1,300 individuals have been counted
- 2012 Annual Vireo Monitoring and Cowbird Management Report was completed.
- Cowbird management is done concurrently with the vireo monitoring.
- 50 cowbird traps were placed in early March throughout the Watershed.

Mill Creek Wetlands

- Project was waiting on the relocation of SCE transmission poles.
- Once the transmission poles have been relocated, grading of the ponds can be completed.

Cactus Basin

- A SEIR was approved by the Board of Supervisors.
- The project has not been advertised for bid yet. It is anticipated to occur in January.

Inland Empire Brine Line Rehabilitation and Enhancement

- The project is complete.

Arlington Desalter Interconnection Project

- The project is complete.

Perris II Desalination Facility

- An award letter was issued to Schuler Engineering in August.

Perchlorate Wellhead Treatment System Pipelines

- Project is complete.

Chino Creek Wellfield

- Well 3 has been abandoned due to extremely poor production.
- Alternate sites are being investigated; a study is expected to be complete in October.
- 100% design submittal for Wells 1 and 2 are complete.

Impaired Groundwater Recovery

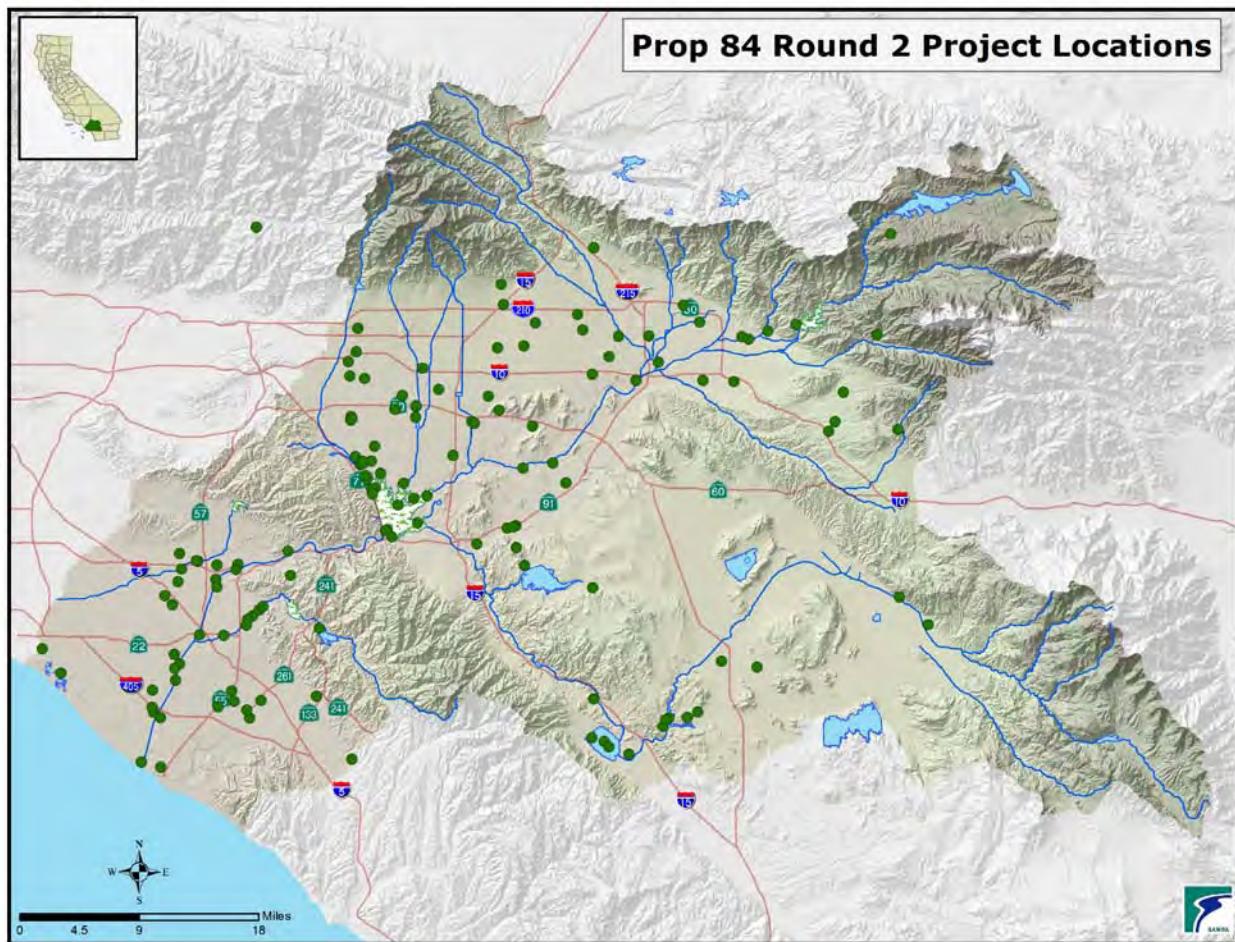
- Project is complete.

Alamitos Barrier Improvement Project

- This project is in the process of being added to Round 1 through an Amendment with DWR.

Arlington Basin Water Quality Improvement Project

- This project is in the process of being added to Round 1 through an Amendment with DWR.



The following 20 Round 2 projects:

- Reduces water demand by 17,000 AFY
- Captures 27,000 AFY of stormwater for recharge
- Produces 3,000 AFY of desalinated groundwater while removing 1600 tons of salt
- Creates 19,000 AFY of new water recycling
- Improves water quality of 15,000 AFY
- Creates or restores 2500 acres of habitat
- Leverages \$16.7M in grants funds with \$160M on local funds
- Creates about 2,800 construction related jobs for region

Summary of OWOW Proposition 84, Round 2 Projects

Project	Project Sponsor	Total Local Cost	Grant Amount	Other State Funds Being Used	Total Cost
Perris Desalination Program – Brackish Water Wells 94, 95, and 96	EMWD	\$ 9,238,280	\$ 1,041,690	\$ 0	\$ 10,279,970
Quail Valley Subarea 9 Phase 1 Sewer System Project	EMWD	\$ 3,670,000	\$ 2,010,460	\$ 0	\$ 5,680,460
Forest First – Increase Stormwater Capture and Decrease Sediment Loading through Forest Ecological Restoration	US Forest Service	\$ 3,981,040	\$ 1,041,690	\$ 250,000	\$ 5,272,730
Wineville Regional Recycled Water Pipeline and Groundwater Recharge System Upgrades	IEUA	\$ 21,000,000	\$ 1,041,690	\$ 0	\$ 22,041,690
Plunge Creek Water Recharge and Habitat Improvement	SBVWCD	\$ 210,500	\$ 520,840	\$ 0	\$ 731,340
Prado Basin Sediment Management Demonstration Project	OCWD	\$ 7,115,000	\$ 781,270	\$ 0	\$ 7,896,270
San Sevaine Ground Water Recharge Basin	IEUA	\$ 1,750,000	\$ 781,270	\$ 0	\$ 2,531,270
Corona/Home Gardens Well Rehabilitation and Multi-Jurisdictional Water Transmission Line Project	City of Corona	\$ 4,720,400	\$ 1,354,180	\$ 0	\$ 6,074,580
Enhanced Stormwater Capture and Recharge along the Santa Ana River	SBVMWD	\$ 30,300,000	\$ 1,041,690	\$ 0	\$ 31,341,690
Regional Residential Landscape Retrofit Program	IEUA	\$ 500,000	\$ 520,840	\$ 0	\$ 1,020,840
Canyon Lake Hybrid Treatment Process	LESJWA	\$ 385,500	\$ 520,840	\$ 0	\$ 906,340

Project	Project Sponsor	Total Local Cost	Grant Amount	Other State Funds Being Used	Total Cost
14 th Street Groundwater Recharge and Storm Water Quality Treatment Integration Facility	City of Upland	\$ 5,219,187	\$ 520,840	\$ 0	\$ 5,740,027
Customer Handbook to Using Water Efficiently in the Landscape	WMWD	\$ 40,000	\$ 125,000	\$ 0	\$ 165,000
Vulcan Pit Flood Control and Aquifer Recharge Project	City of Fontana	\$ 12,703,000	\$ 1,041,690	\$ 9,950,000	\$ 23,694,690
Francis Street Storm Drain and Ely Basin Flood Control and Aquifer Recharge Project	City of Ontario	\$ 8,070,000	\$ 781,270	\$ 7,820,000	\$ 16,671,270
Commercial/Industrial/Institutional Performance-Based Water Use Efficiency Program	MWDOC	\$ 1,927,512	\$ 520,840	\$ 0	\$ 2,448,352
Peters Canyon Channel Water Capture and Reuse Pipeline	City of Irvine	\$ 7,691,112	\$ 1,041,690	\$ 0	\$ 8,732,802
Soboba Band of Luiseño Indians Wastewater Project	Soboba Tribe	\$ 0	\$ 156,250	\$ 0	\$ 156,250
Recycled Water Project Phase I (Arlington-Central Avenue Pipeline)	City of Riverside	\$ 28,869,800	\$ 1,041,690	\$ 0	\$ 29,911,490
Wilson III Basins Project and Wilson Basins/Spreading Grounds	City of Yucaipa	\$ 12,292,721	\$ 781,270	\$ 0	\$ 13,073,991
Grand Total		\$ 159,684,052	\$ 16,667,000	\$ 18,020,000	\$ 194,371,052

OWOW STEERING COMMITTEE MEMORANDUM NO. 22

DATE: September 26, 2013
TO: OWOW Steering Committee
SUBJECT: California Water Bonds Update
PREPARED BY: Celeste Cantú, General Manager

RECOMMENDATION

It is recommended that the Steering Committee review and provide comments.

DISCUSSION

The Safe, Clean and Reliable Drinking Water Supply Act of 2014 is an \$11.14 billion general obligation bond proposal that would provide funding for California's aging water infrastructure and for projects and programs to address the ecosystem and water supply issues in California.

The 2014 water bond is the product of a comprehensive legislative package crafted in 2009 by Governor Schwarzenegger and state lawmakers to meet California's growing water challenges. This package represented a major step toward ensuring a reliable water supply for future generations, as well as restoring the Sacramento-San Joaquin Delta and other ecologically sensitive areas. The water bond measure originally was set to be on the S and was later moved to the 2012 ballot. The California State Legislature, on July 5, 2012, approved a bill to take the measure off the 2012 ballot and put it on the 2014 ballot to provide a public cost share for elements of the package that benefit the public. While California's water infrastructure needs substantially more investment to improve its current grade of "C" granted by the American Society of Civil Engineers, the 2014 Bond is widely thought to be too large. The legislature could pull back the bond and/or replace it with another.

In the meantime, the State Legislature produced two new competing Water Bonds during the last few months. From the Assembly came the AB 1331 (Rendon) **Clean Drinking Water & Climate Change Response Act of 2014**, with \$1 billion each for Water Quality, Protecting Rivers, Lakes and Streams and Watersheds, Climate Change Preparedness and Regional Self-Reliance for Water, the San Joaquin Delta Sustainability, and Climate Change.

In the Senate is SB 42 (Wolk), **The Safe Drinking Water, Water Quality & Flood Protection Act of 2014**, \$6.5 billion, provides funding for projects that provide safe drinking water to those Californians that still do not have access to this basic service, improve water supply reliability while decreasing demand on California's most stressed watershed, advance community support ecosystem restoration, and levee improvements in the Delta. From a Southern California point of view, this bond is very Delta centered and does not go far to meet our projected needs.

Probolsky Research has prepared the attached summary of ACWA's recent statewide polling that was conducted in mid-August. The poll was conducted among 1,000 voters statewide. The

SC#22
September 26, 2013
Page 2

purpose of the poll was to assess initial support for a modified water bond. The premise for the bond was the \$8.2 billion proposal developed by ACWA members and approved by the Association's board earlier this year. This is the first statewide poll that has shown enough support to pass a water bond.

CC:pb

Attachments: 1. Proposed Principles; 2. Strategic Memorandum dated 8-22-13

SC22 CA Water Bonds

Strategic Memorandum

TO: Clean Water & Jobs for California

FROM: Adam D. Probolsky
Probolsky Research LLC

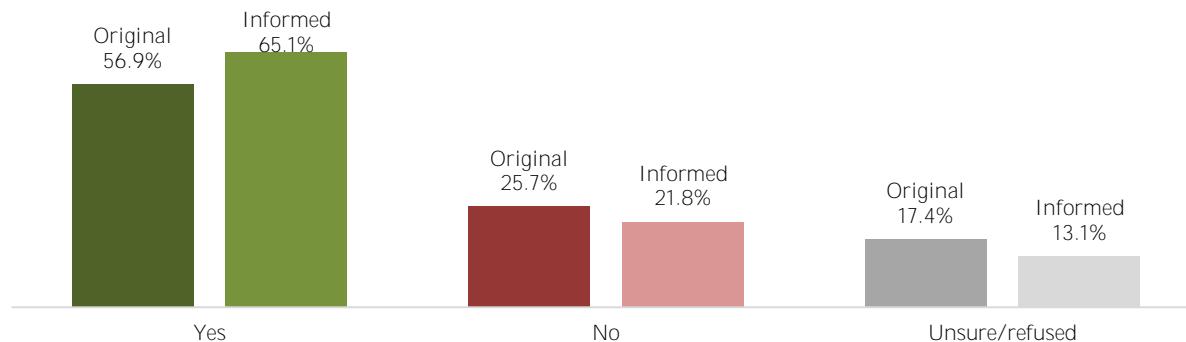
SUBJECT: California Statewide Voter Survey – Report on Results

DATE: August 22, 2013

From Thursday, August 15, through Sunday, August 18, 2013, Probolsky Research conducted a telephone survey of 1,000 voters within California (yielding a margin of error of +/-3.1%). The purpose of the project was to assess initial voter appetite for a modified California water bond. Additional research is planned.

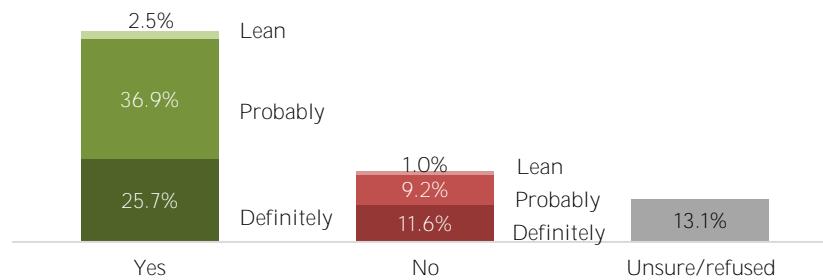
California Voter Support for an \$8 Billion Water Bond is Strong

California's voters appear to provide fertile soil for an \$8 Billion Water Bond package to improve water supply throughout California and to protect and restore native fisheries and habitats. Informed voter support to the project rises sharply, reflecting a voting population receptive to the key elements of the proposed bond, as well as the strength of initial support¹:



This is underlined by the fact that the intensity of *informed* support is more than double that of the opposition (25.7% say they would *definitely* vote yes, compared to 11.6% who say they would *definitely* vote no):

Intensity of Informed Voter Support

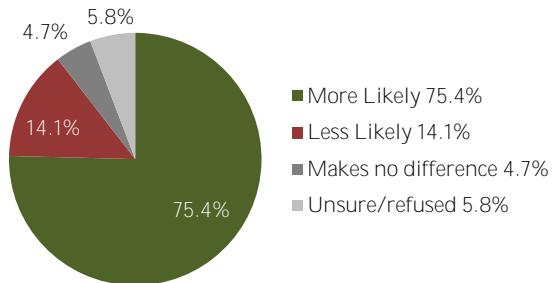


¹**Question:** “California voters may have the opportunity to vote on a water bond in 2014 that invests eight billion dollars to improve water supply throughout California, and to protect and restore native fisheries and habitats. Local water agencies throughout California have worked together to reduce the water bond from eleven billion dollars to eight billion dollars by removing earmarks for special projects and focusing on key, statewide water priority areas. Would you vote Yes to approve or No to reject this initiative?”

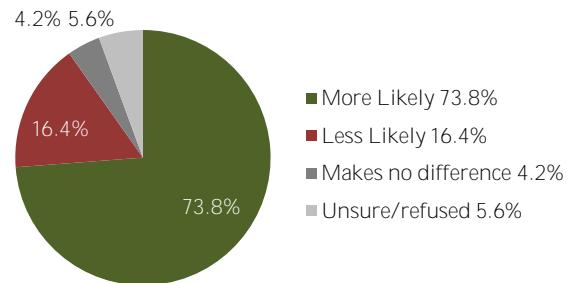
Key Elements of the Bond Enjoy Majority to Supermajority Voter Support

We tested core elements of the \$8 Billion bond package to evaluate voter receptivity to specific goals, projects and issues, and found that each key element compels at least one-half of California voters to become more likely to support the bond, with certain components influencing over three-quarters to become more likely to vote in favor of the bond.

Helping Farmers, Crops and Ag. Jobs

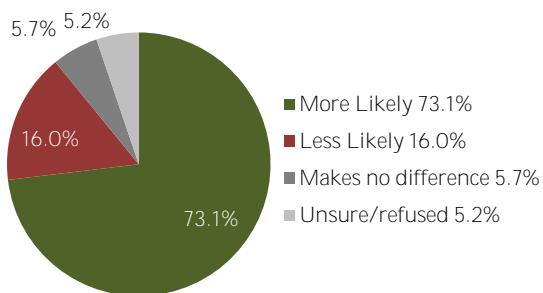


Cleaning and Protecting Water Supply

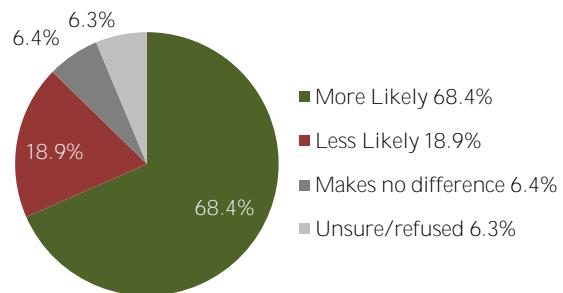


Question: "More than 60% of rivers and streams tested in California fail to meet federal clean water standards. The water bond will help clean up and protect California's water supply from toxic pollution, ensuring clean, reliable local water supplies. Does knowing this make you more likely or less likely to vote for the water bond?"

Creates New Jobs

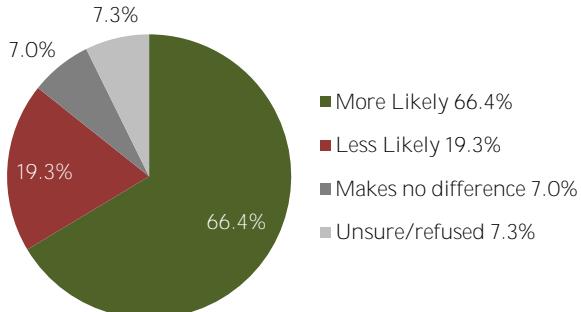


Upgrades Infrastructure

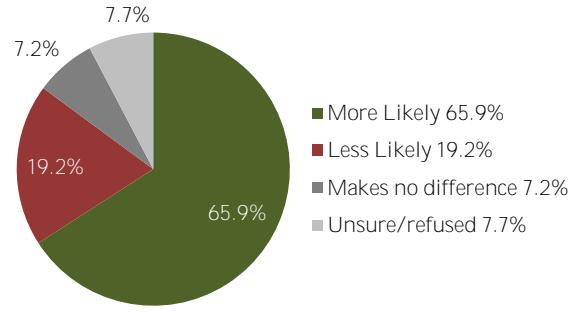


Question: "California's water supply infrastructure was designed decades ago, and our state cannot store and deliver enough water to meet the needs of homes, farms and businesses. Water conservation is critical but can't solve our water problems. California faces continued water rationing and cutbacks. The water bond will upgrade our water system to ensure sufficient, reliable local water supplies. Does knowing this make you more likely or less likely to vote for the water bond?"

Funding for Habitats

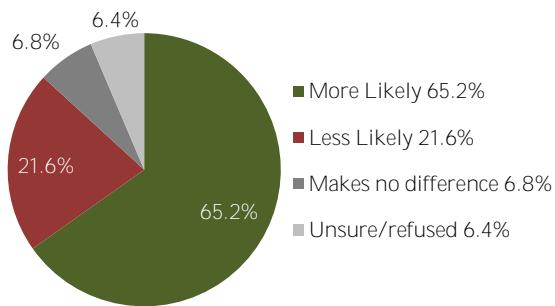


Funding for Water Storage



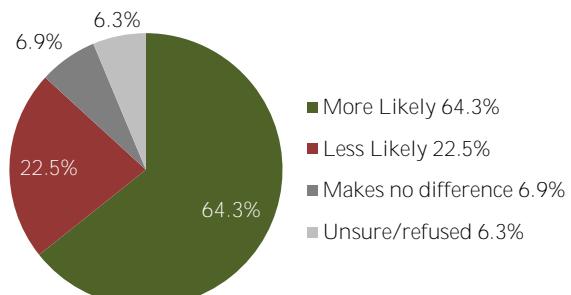
Question: "The water bond provides significant funding for surface water storage reservoirs to improve statewide water reliability. Does knowing this make you more likely or less likely to vote for the water bond?"

Funding for Disadvantaged Communities



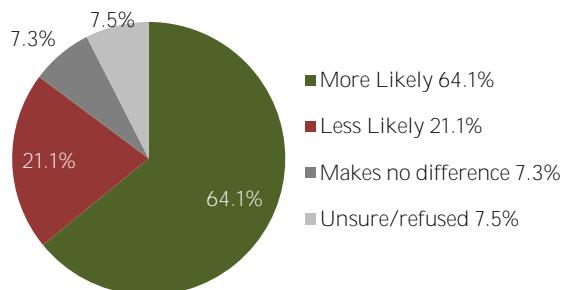
Question: "The water bond provides funding for clean drinking water supplies for economically disadvantaged communities. Does knowing this make you more likely or less likely to vote for the water bond?"

Funding for Local Government



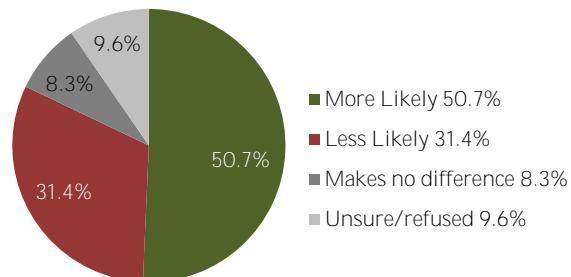
Question: "The water bond will provide matching funds to local governments throughout California, empowering local communities to come up with water supply solutions that meet their own, unique needs to improve their local water reliability and water quality. Does knowing this make you more likely or less likely to vote for the water bond?"

New Water Storage Projects



Question: "California's changing climate has put our water supplies in ever greater jeopardy. With less water stored in mountain snow, we need to invest more in new surface water reservoirs and groundwater storage projects to meet our current and future needs. Does knowing this make you more likely or less likely to vote for the water bond?"

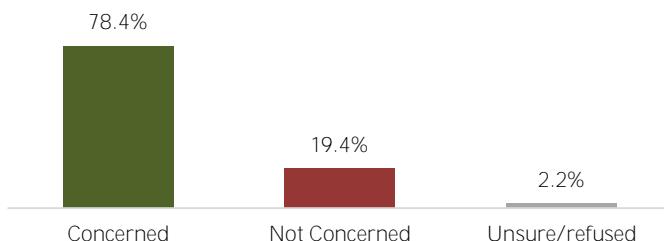
Eliminating Earmarks



Question: "The water bond eliminates "earmarks" that allocate funds for specific projects without a competitive bidding process. Does knowing this make you more likely or less likely to vote for the water bond?"

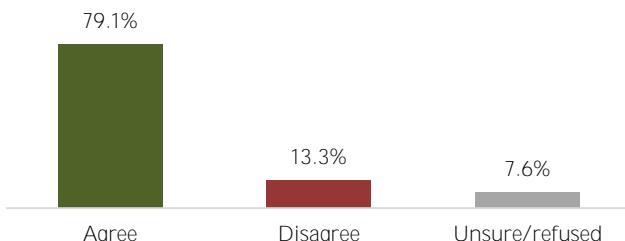
Support for the Water Bond Driven by Voter Recognition of California's Water Problems

78.4% are concerned about California's water supply



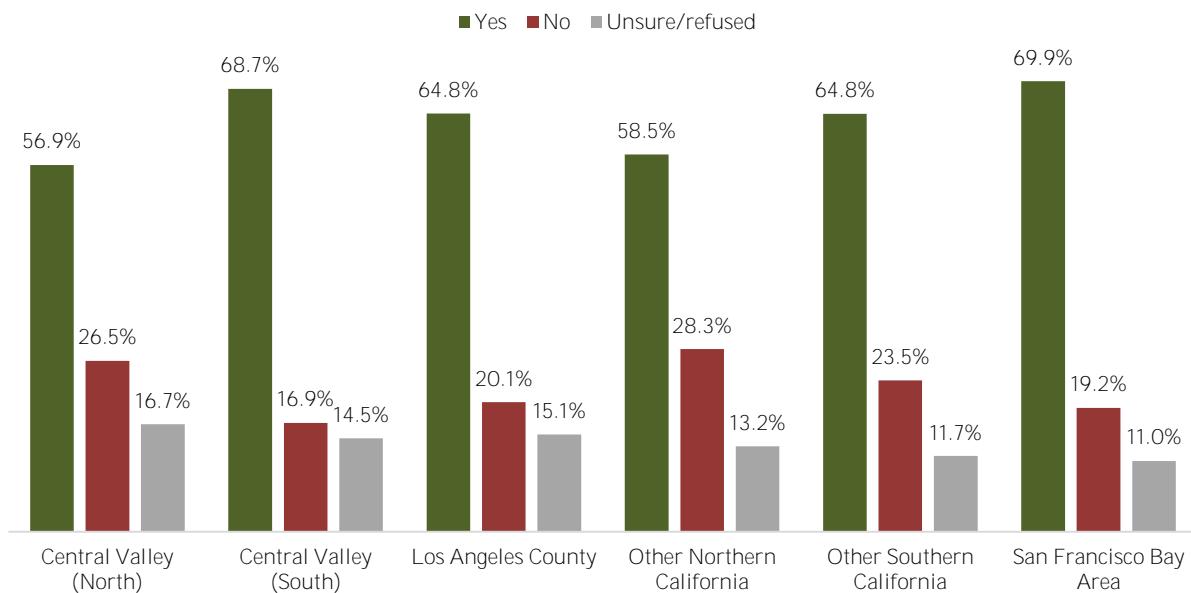
Question: "How concerned are you about California's water supply? Would you say that you are extremely concerned, somewhat concerned, not too concerned or not at all concerned?"

79.1% agree that California needs to make major investments in our water infrastructure

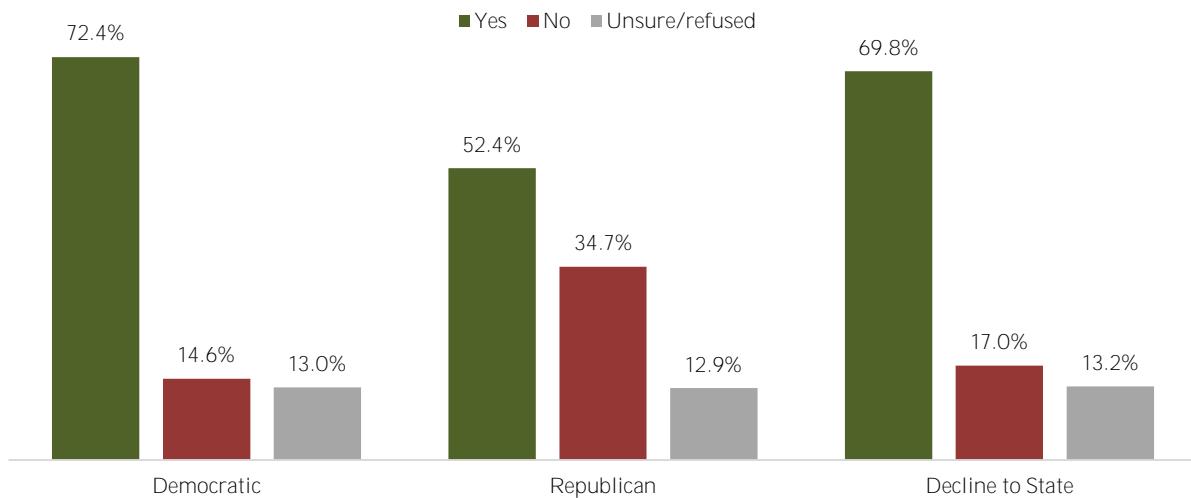


Question: "Now, please tell me if you agree or disagree with the following statement: While water supply is always an issue in drought-prone & California, the state also has major problems with our water system as well - such as aging infrastructure and insufficient storage capacity - and we need to make major investments to modernize and upgrade our water infrastructure to ensure reliable water now and in future years."

Profiles of Support: Support is Consistent Across California's Diverse Regions



Profiles of Support: A Supermajority of Democratic and Independent Voters Support the Bond, joined by a Majority of Republicans



A total of 1,000 surveys were collected. A survey of this size yields a margin of error of +/- 3.1% with a 95% degree of confidence. Interviews were conducted with voters on both landline and cell phones and were offered in English and Spanish languages.

Probolsky Research LLC specializes in opinion research on behalf of government, business, political, special interest and media clients.



Proposed Principles for Developing a Water Bond

July 2, 2013

- 1) Authorize bond funding for future state investment that accomplishes critical statewide water policy priorities, including:
 - a. Protect the Sacramento-San Joaquin Delta.
 - b. Increase regional self-reliance and diversification for water supply, and reduce reliance on water imported from other watersheds, using Integrated Regional Water Management as the instrument for achieving regional self-reliance.
 - c. Ensure that all Californians, especially disadvantaged communities, have access to clean and safe drinking water.
 - d. Restore the health of California's watersheds, to protect our important coastal and inland waterways, especially for salmon that depend on both.
 - e. Promote development of new water technology to support greater water conservation and water reuse.
 - f. Expand California water storage options, including surface storage, groundwater cleanup, and stormwater capture.
 - g. Strike a fair, intelligent balance between improvements and maintenance of existing infrastructure and construction of new infrastructure.
- 2) Increase accountability for spending of State water bond funding, including:
 - a. Prohibit earmarks to specific water projects, and establish competitive processes for awarding water bond funding.
 - b. Make water investment decisions on a regional basis, through the Integrated Regional Water Management Program.
 - c. Set standards and performance indicators to demonstrate progress on water bond investments.
 - d. Leverage State bond funding with federal, regional and local funding sources.
 - e. Require beneficiaries to pay for their benefits, while the public pays for public benefits.
 - f. Repurpose currently authorized, but unspent water bond funding from past voter-approved water bond measures.
 - g. Acknowledge all California's needs for infrastructure bond funding, including funding needs for education and transportation, in developing a bond that authorizes a reasonable amount of funding for water needs.
- 3) Respect existing California water rights, including area-of-origin protections.
- 4) Retain policy prohibiting use of water bond funding for construction or mitigation of new water conveyance facilities in the Delta.

MEETING MINUTES

OWOW STEERING COMMITTEE

March 28, 2013

PARTICIPANTS PRESENT

Ron Sullivan, Convener	SAWPA
Don Galleano	SAWPA
Beth Krom	City of Irvine
Ron Loveridge	City of Riverside
Linda Ackerman	Regional Water Quality Control Board
Garry Brown	Orange County Coast Keeper

OTHERS PRESENT

Paul Brown	University of South Florida
Joe Grindstaff	Inland Empire Utilities Agency
Diane Bucka	City of Irvine
Danny Whaley	March JPA
Erin Gilhuly	CV Strategies
Bob Page	County of San Bernardino
Celeste Cantú	SAWPA
Mark Norton	SAWPA
Jeff Beehler	SAWPA
Dean Unger	SAWPA
Dawna Munson	SAWPA

The Steering Committee Meeting was called to order at 3:05 p.m. by Convener Ron Sullivan at SAWPA, 11615 Sterling Avenue, Riverside, CA 92503. A quorum was present. Convener Sullivan asked for public comments; however, no comments were received.

Welcome and Introductions

Convener Sullivan and Celeste Cantú welcomed two of the newer members to the Steering Committee, Linda Ackerman and Don Galleano.

Celeste Cantú introduced Paul Brown, noting that he has been a strong proponent of integrated regional water management and the work that SAWPA is doing.

The Power of Integrated Water Resources Management: A Global Scale

Paul Brown, President of Paul Redvers Brown, Inc., and visiting professor at Patel College of Global Sustainability, University of South Florida, presented the history of civil engineering and integrated water resources management and how far we've come as a culture.

Considering all the agencies and collaboration represented here today, the methodology that OWOW brings to the integrated process has gone beyond theoretical studies, which serves us well as we move into the future. This system of systems is so interconnected that there's constant concern about something going wrong, and we must be adaptive within this tight network. These collaborating organizations are seen as the future of decision making when it comes to the infrastructure and the environment. They are figuring out small-scale investments and letting the natural systems around us do a lot of the work for us, while still making investments in the technology that allows us to integrate it within the natural systems.

Paul Brown noted that the book, Antifragile by Nassim Nicholas Taleb, focuses more on the resilience of our systems, rather than simply reliability. The author observes how some systems actually get stronger in the face of chaos. California most likely will be faced with an increasing number of crises, and groups like this OWOW Steering Committee are the first responders to those events. When faced with it, these types of groups often perform heroically. The first responders are usually the best in a crisis, and the working experience we have and continue to gain in this collaborative process will enable us to face magnificently the challenges and crises ahead.

Integrated Regional Water Management is Good Business

Joe Grindstaff, General Manager of Inland Empire Utilities Agency and past Executive Officer for the Delta Stewardship Council, discussed integrated regional water management from the State's perspective. He commented that he is in complete agreement with Paul Brown on what must be done collaboratively, and believes that the State would agree as well. The Department of Water Resources' viewpoint is guided by what they've done over the years, and within that institution, the Bay-Delta Conservation Plan (BDCP) is all-consuming, but it ultimately is likely to prove resilient. Building the BDCP will make a huge difference for California; however, it won't solve the problems for the entire State. He highlighted some of the major issues; discussed the biggest flood risk cities—particularly the city of Sacramento; the costs to deal with the issues, which probably are higher than costs to implement the BDCP; and the flood risk in the Delta, which is a major issue with incredible potential damage, and the State is not yet prepared for it.

He also discussed the State's needs and costs for ecosystem restoration, and the collaborative efforts that must be implemented to move forward. Discussions with State officials have indicated that they are optimistic that the integrated regional water management and the collaborative efforts we're doing are the best hope for water supply in the State, as well as the way to strengthen the State's economy. Of course, it will take some time, but they believe that with the next water bond, the key to moving ahead is fostering that kind of collaboration.

He discussed working on the BDCP and the challenges within its controversial nature, and the trends examined that helped determine the direction to take. Ultimately, their conclusion was that there is enough water for the State if managed properly and if we're willing to make the tough decisions. There is enough water for the economy to grow and enough to support the ecosystem. It will take a lot of money; however, it's also going to take institutional change, and solid collaboration in order for us to get there. He added that it's important not to become discouraged when there are battles. It's necessary for institutions to fight to preserve their own integrity and ability to take care of themselves, and to grow. It will cause disagreements and some discomfort, but it's inevitable and acceptable as long as everyone is committed to working together. The State as a whole believes it can get there, but it will take real change and growth for everyone while we each do our parts.

OWOW: Past, Present, and Future

Jeff Beehler presented on the formation and evolution of OWOW, noting that the watershed is the largest coastal watershed in California, with four counties and six million people, and it has grown faster than expected. He discussed the flood issues, the Santa Ana River's functional recharge system, and some of the complexities of the system and associated habitat issues. Through the years of California's extensive growth, we've developed several issues in managing water. There are all these groups and agencies managing habitat, and 62 cities in the watershed with their own General Plans and land use visions, which include how that stormwater gets into the Santa Ana River, and each is working hard to manage resources within their own service areas. In the non-integrated practice of "piecemeal management," the resource management decisions were based on permit, jurisdiction, and functional area. That works to a certain degree, but we still need to continue to cohesively merge the resource management decisions. He reviewed the region's challenges of limited funding, the changing climate, rapid population growth, the uncertainty in the Delta, limits to Colorado River water, and the difficulties of trying to manage water for the maximum benefit of the ratepayers when everything is so tightly interconnected.

He next discussed the components of the OWOW program watershed thinking. The current thinking is focused on what we should strive to accomplish next and what new business models could be developed. He reviewed the integrated approach components such as improving water reliability, water quality, salt balance, and managing flood waters, as well as the performance measures used. He provided some examples of potential projects, and what already has been done including maintaining some of the best vireo habitat in the world, desalting/water supply projects, and basin clean-ups, to name a few. He quickly reviewed the accomplishments in OWOW Round 1 and the \$12 million that leveraged \$256 million in construction activity. Round 2 recently was submitted with 20 projects representing \$16 million of bond funds, which was leveraged up to about \$194 million. Again, when adding up the benefits, that amount of money incentivized a tremendous amount of integrated benefits that help the entire watershed.

Jeff Beehler discussed some of the recent efforts such as the Forest First Task Force. He noted that 33% of our watershed is managed by the U.S. Forest Service (USFS), and 90% of rain falls on forest lands first, so it's imperative to work with the USFS to address the resource values provided by forest management. Also on the horizon is looking at the water and energy nexus, and the vastly intensive process of wheeling and treating water. In order to manage the water portfolio of the region, we need to analyze how much carbon and energy are used, study the models, and consider where the cost and carbon efficiencies lie. The best approach is through water use efficiency.

The next round of Proposition 84 funding is slated for 2014, and the amount is expected to be \$70 million of grant funds. We will integrate water supply, flood control, and land use projects to leverage that money to provide as many regional benefits as possible. This Steering Committee will approve the rating and ranking, the criteria, the policy decisions related to allocating the money, and how we can move closer to our goals and objectives.

Letter of Support for an IRWM Component in the Upcoming Water Bond

Celeste Cantú said that the 2012, now 2014 water bond is going to be reviewed soon, and there are questions of whether it merely will be trimmed or if it will be radically changed; it currently is at \$11.4 billion. Many feel it has to be under a certain dollar amount to be approved by the voters, but other analyses that look at projects in today's dollars would indicate that even more money will be needed to accomplish all that needs to be done.

There will be a hearing on Tuesday, April 2 at Water, Parks and Wildlife. Staff has prepared a letter of support for moving forward with the Integrated Regional Water Management component of the bond, and recommends that the Steering Committee consider supporting the letter. Michael Boccadoro will be at the hearing to present the Steering Committee's position.

Upon motion by Don Galleano, seconded by Linda Ackerman, the motion unanimously carried:

SC/13-03-01

MOVED, approval to sign the letter of support for the Integrated Regional Water Management component of the 2014 water bond.

CONSENT CALENDAR

Upon motion by Beth Krom, seconded by Garry Brown, the motion unanimously carried:

SC/13-03-02

MOVED, approval of the Minutes from the meeting held on December 13, 2012.

Conference Invitation

Celeste Cantú distributed some complimentary tickets to the April 11 OWOW Conference that Steering Committee members could use to invite others who may be interested.

The next Steering Committee meeting is scheduled for Thursday, May 23, 2013.

Convener Sullivan adjourned the meeting at 4:27 p.m.

APPROVED:

September 26, 2013

Ron Sullivan, Convener

3-28-13 SC Min

OWOW STEERING COMMITTEE MEMORANDUM NO. 23

DATE: September 26, 2013
TO: OWOW Steering Committee
SUBJECT: Ian Achimore, Senior Watershed Manager
PREPARED BY: Celeste Cantú, General Manager

RECOMMENDATION

It is recommended that the Steering Committee receive and file staff's report.

DISCUSSION



We are very happy to introduce Ian Achimore, Senior Watershed Manager, who will begin working at SAWPA on September 30, and will replace Jeff Beehler.

Ian, originally from California, has worked in DC at the EPA, Office of Water for the past several years. He has a BA in the History of Public Policy, Environmental Studies Emphasis from UCSB, and a Masters of Public Policy from Georgetown University. His thesis was *Public Funding and Water Coalitions: Do They Improve Water Quality?* where he included SAWPA in his study.

Ian is very familiar with California water, as he previously interned at the State Water Board, ACWA in DC, the National Water Resources Association, and for Congressman George Miller among others.

We welcome Ian and are happy he will be joining SAWPA.

CC:pb

SC 23 Ian Introduction