



## MEETING SUMMARY

### CALIFORNIA WATER PLAN UPDATE 2013

#### PUBLIC ADVISORY COMMITTEE

9:00 A.M. – 12:30 P.M.

CALIFORNIA DEPARTMENT OF PUBLIC HEALTH

1500 CAPITOL, SACRAMENTO, CA

### Meeting Objectives

1. Review and refine content and topics for inclusion in Update 2013
2. Discuss related research concepts and outcomes

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### Welcome and Agenda Review

Kamyar Guivetchi, Manager for the DWR Division of Statewide Integrated Water Management, welcomed everyone and thanked AC members for a great turnout. Every item on the full agenda is tied to content for Update 2013. A key discussion will focus on content for Chapter 1, which also informs content for the Highlights document. The opening speaker, Cathy Sandoval with the California Public Utilities Commission (PUC) will address water reliability and the linkage between water and energy. Another speaker, Mike Chapel, will describe the efforts of the California Biodiversity Council to further improve collaboration and alignment among all levels of government agencies. The day's luncheon speaker, Cindy Paulson from California Urban Water Agency (CUWA), will discuss the CUWA water supply reliability report. The day's final presenter is Terri Wegener, who will provide an overview of the Flood Future Report (FFR) draft Highlights document. Mr. Guivetchi announced that DWR will host an integrated water management (IWM) conference April 4-5, 2013, asking AC members to save the date.

### Water Plan Status Update



Lewis Moeller, Project Manager for Update 2013, recapped the range of public engagement activities undertaken during 2012. The Regional Forums are nearing the completion of the first cycle – each Forum is supported by a Design Team of local stakeholders. The Forums support development of the Regional Reports. All but three of the Resource Management Strategies (RMSs) have drafts that are posted online and Volume 1 is being drafted. Other completed work products include the Draft Assumptions and Estimates Report, and a Project Management Plan. Mr. Moeller also reviewed the list of currently scheduled upcoming Water Plan meetings. Paul Massera, Program Manager for Update 2013, explained that comments from the Plenary sessions are being incorporated into a draft Finance Framework; a Finance caucus meeting is planned for January to continue work on the draft.

## **Water and the California Public Utilities Commission (PUC)**

Jack Hawks, California Water Association, introduced the opening speaker, Cathy Sandoval, Water Commissioner for the PUC. He noted that the PUC regulates approximately 17% of the water service in the state, 80% of the electricity service and all of the natural gas service. Transportation, rail and safety also fall under the purview of the PUC, which is comprised of five Commissioners. Each Commissioner develops an area of focus and Cathy Sandoval serves as the Water Commissioner. PUC-regulated water agencies have a rate case review every 3 years, resulting in a heavy workload for Commissioner Sandoval's office. Ms. Sandoval's resume is extensive, with a graduate degree from Yale and a law degree from Stanford. She is a professor Santa Clara University Law School and her professional career includes a blend of public- and private-sector experience. Ms. Sandoval has previously served with the Federal Communications Commission in Washington, DC and the Department of Business, Transportation and Housing in Sacramento.

Commissioner Sandoval began her remarks by extending her thanks to Mr. Hawks for his service to the water community and to Lisa Beutler for the kind invitation to speak to the Water Plan. Ms. Sandoval introduced her staff team: Ditas Katague, Chief of Staff; Steve St. Marie, Water Advisor; Rami Kahlon, CPUC Water Director; and Danilo Sanchez, CPUC Division of Ratepayer Advocates. She also thanked AC members for their work on the CWP, which is both a wonderful resource and inspirational plan to guide future action.

The presentation would focus on aspects of WATER:

- W – widespread implications of water policy to provide safe water at reasonable rates
- A – access and affordability
- T – tiers of rates and implications for other goals, such as conservation
- E – efficiency at is relates to water and energy
- R – ready.

Widespread Implications: The mission of the PUC is to provide safe, reliable utility service at just and reasonable rates. This mission serves the touchstone that guides Ms. Sandoval's work. The water utilities and PUC have worked together to achieve that mission. The agency also partners with DPH to ensure that water supplies are safe. She mentioned a recent visit to a water treatment plant in Los Gatos, where source water is secured from rights dating back to 1890 and



delivered via gravity-fed infrastructure created around 1911. She noted the foresight and vision of 100 years ago in developing a system which provides a diverse range of resources to San Jose. The city is the 3<sup>rd</sup> largest in California SJ and one of the top ten largest cities in the US. The plant facility treats for giardia and cryptosporidium, where requirements have changed over the years. The plant is nearing the end of its useful life and upgrades are being evaluated.

The duties of safety and reliability are absolutely critical. It is easy to turn on the tap and take for granted that the water is there. The engineering of the State Water Project (SWP) is both a marvel and a concern. The potential consequences of a major catastrophic event could interrupt supplies for anywhere between 6 months to 3 years. However, much has changed over the past 25 years: southern California communities diversified their water supplies after drought allocations were enacted in the 1980s. In San Diego, the decision to move forward with desal is all about reliability, stability and resource diversity. Communities said, “Never again” to be so heavily dependent on one resource (i.e. the SWP).

**Access and Affordability:** The SWP played a major role in providing affordable water supplies. The construction of the project was transformative for communities. Access is a continuing priority and affordability must be considered for both present and long-term timeframes. San Diego faced a difficult decision in opting to develop desal, which is currently a more expensive source of water. A key consideration focused on increasing resource diversity to improve reliability. Another factor is that SWP rates are likely to increase, even before major retrofits and environmental projects are undertaken.

**Tiers:** A central responsibility for the PUC is working to develop utility rates – determining how much people will pay for services. Rates also factor in other goals such as conservation and sustainability. The tier structure results in higher costs as use increases: the more you consume, the more you pay. The first tier should represent average household use (2 people with no outdoor water use). In some areas, that value may accurately reflect water consumption for the household. The CPUC must look at whether tiers are set appropriately? In high-density communities, 2 bedroom apartments are likely to have more than 2 people in the household. Tiers must look at social justice impacts. Similarly, mechanisms must be in place to accurately forecast water use. Reduced use may either be due to conservation or the recession. There is a paradoxical outcome associated with reduced water use. In water delivery systems, 65% of costs are fixed and 35% of the costs are variable. Yet the 70% of the revenues are derived from the quantity rate, with 30% of the rate is tied to the fixed charge. Often there is insufficient revenue to cover fixed costs, which is corrected through the water revenue adjustment mechanism. The result is that ratepayers are paying more even as they reduce water use. Additional research is needed to look at incentives to encourage conservation.

**Efficiency:** One goal of rate-setting is to encourage efficient use of water, which has occurred. Another approach is transitioning to metered water, which can involve significant changes in people’s daily lives and routine. Consumers need assistance to effectively make that transition. Energy-efficiency is a related consideration in the use of water, from the efficiency of hot water heaters to encouraging the efficient use of energy in water systems that move and provide water.



The Los Gatos example of gravity-fed supply doesn't use energy for transport, the energy is used in the treatment of water. Cal Water Service is taking an innovative approach, installing a turbine at the point where high-pressure water supplies are stepped-down, which actually qualifies as a small renewable energy project.

Ready: Are we ready to deal with these challenges? We can partner and prepare for catastrophic events and interruptions in water supplies. We can look at predictable consequences and take action. The PUC is ready to work with agencies and organizations to take action and be better prepared for the future.

### **Questions**

Question: Are there studies that look at whether energy-efficient water systems actually produce an energy savings – or do they shift energy use from large pumps to end users?

Response: The answer depends a lot on the system. In Los Gatos, energy is typically only used at the treatment plant. The facility can also purchase stored groundwater, where there is a large energy component associated with the pumping of that water. The goal is not to shift energy intensity to end-users. There is an interest in energy efficiency associated with both agricultural and residential water use.

Question: The Directors of Monterey Peninsula Water District have publicly stated that the PUC does not want to see public ownership of desal facilities. Is that true? If so, is that a reasonable position?

Response: The PUC has not voted on any such position. If any statement was perchance made by PUC staff, that does not reflect the position of the Commission.

Question: There are communities that are interested in either installing, maintaining or upgrading water meters, but do not have the resources to do so. Is there any provision for that in the bill and are there any resources for assisting with water meters?

Response: We will provide that as an action item.

**ACTION ITEM:** Provide information on the bill relating to water meters.

### **Agency Collaboration and Alignment**

Kamyar Guivetchi introduced this agenda item by noting that the Water Plan has a keen interest in collaboration and alignment among various agencies. This topic re-emerges as an important theme in Volume 1. Several speakers will discuss work that has occurred since the September Plenary. The California Biodiversity Council (CBC) conducted a 2-day workshop on this issue in October, where State and Federal agency representatives joined members of non-profit organizations in discussions and presentations. Mike Chapel continues to lead this effort on behalf of the CBC, despite having recently retired from the Forest Service. The outcomes and next steps associated with the workshop will be the focus of the February 6, 2013 CBC meeting. Karen Buhr, Dave Bolland and Iovanka Todd will also be providing an update on a conversation



that began at the Floodplain Management Conference on September 7, 2012 and was continued at the Water Plan Plenary. This conversation focuses on regulatory alignment.

## **California Biodiversity Council (CBC)**

Mike Chapel opened by remarking that the Water Plan has really set the model for collaboration that many have been striving for over the years. He shared a bit of background on the CBC, which formed in 1991 through an MOU signed by 10 state and federal agencies. This came at the direction of the legislature, which sought to resolve many of the timber and forestry conflicts that surfaced in the 1980s. Although the differences between forestry management and DFG objectives were not resolved, the group concluded that agencies involved with managing and regulating public lands and resources often worked independently and did not have alignment in their programs and policies that led to effective conservation. This led to the 1991 MOU among the 10 agencies, which has now expanded considerably. The standing co-chairs are the Secretary of the California Resources Agency and the State Director of BLM.

The MOU called for a comprehensive strategy to protect California's plants and animals. The complexities of establishing an effective conservation strategy cannot be addressed through a single entity. Although many people were interested, the timing was not right to take this on. There was no legislative or executive direction to compel the process. In 2011, at the 20-year celebration, past and present resource agency Directors encouraged the group to continue their efforts. During the past several years, CBC leaders were tracking the work of the Water plan, as an example of what one agency can do. This approach confirms that comprehensive planning means agencies must reach out intensely and completely to other agencies and public interests.

The renewed interest in comprehensive and effective conservation led to the October workshop. The goal was to outline what would be needed in terms of commitment, timeline and practices from all agencies, to begin to do this work in earnest. The outcomes of the workshop will inform a new model that is being developed will be brought forward at the February meeting – using a resolution to recommit to the effort. What's important for all Water Plan participants is to know that your efforts are resonating with others and we may need your assistance to do this well.

## **Discussion**

Comment: It says a lot that you've retired and are still providing leadership for this effort. One of the strengths of the Water Plan is a strong local presence in the process. Land use is key to conservation. Local governments will need to understand the process and not be alarmed.

First perceptions may be resistance, yet makes sense from a local perspective to be on board.

Response: When the CBC was first formed, local agencies were very concerned. Fortunately, CBC leadership heard those concerns and encouraged full participation by local government. Over a three-year period, there were concentrated efforts to bring in the Regional Council of Rural Counties, California State Association of Counties (CSAC), and the subdivisions of County Supervisor associations. It would be great to have a higher level of participation from those organizations, as well as representatives from cities and other local government groups. Any ideas on how to improve in those areas would be greatly appreciated.



Comment: There is another process underway that is proceeding in a less organized fashion, looking at aligning – from a regulatory and mitigation and conservation viewpoint – the Clean Water Act, the federal Endangered Species Act and the state Endangered Species Act. The legislation and associated agencies work in completely different ways. Over the past 10 years, and working with those agencies and local government at the level of county-scale habitat conservation plans (HCPs), there has been real progress. We would be interested in working with you in this area.

Response: This would be very helpful, especially in the area of permitting.

### **Regulatory Alignment Conversation**

Iovanka Todd, Executive Director of the Floodplain Management Association, commented on the critical need to engage locals in natural resource management alignment. One aspect that will bring them to the table is addressing regulatory requirements for basic projects related to public safety, restoration and conservation. This creates on-the-ground impacts and local projects are facing surmounting costs, which can result in scaled-down activities. At the Floodplain Management Conference, the flood managers expressed their concerns about regulations that create obstacles to implementing projects with public safety and environmental benefits. There are difficulties in achieving community needs, along with goals outlined in the Water Plan. Pulling together to address this challenge represents a critical scope of work.

Dave Bolland, Senior Regulatory Advocate for the Association of California Water Agencies, shared that agency's interest in this area – where member agencies are focused on water supply. In accomplishing their missions, agencies must address a range of factors with limited funding. For example, IRWMP projects involve a lot of different interests implementing projects throughout the state. In terms of flood management projects, sponsors are trying to protect lives and assets. In the past, ACWA members discussed the need for regulatory streamlining. Some may have mistakenly interpreted this as a desire to short-circuit the regulatory process, which was not the case. The hope was to define a more focused approach for flood projects, to protect lives and property. Longer-term, ACWA is interested in regulatory alignment for several areas. Aligned interests could perhaps result in an MOU or standardized approach to obtaining outcomes that satisfy a range of interests.

Karen Buhr, Executive Director of the California Association of Resource Conservation Districts, spoke to the urgent need for alignment for those in the conservation community – many times, regulatory hurdles prevent the implementation of conservation projects. RCDs are involved with voluntary conservation practices on private land. What we hear is that the permit process, for a restoration project, takes at least a year and can cost tens of thousands of dollars. These are not large or complicated projects – this is what a standard fish passage project entails. And the RCDs have standard practices from the NRCS, which are well document and well defined – it really shouldn't take this much time and effort to implement a net benefit project. While local landowners are willing to fund these projects, the cost of compliance is prohibitive. Those who have gone through the permitting process are not willing to do so again; those who have heard about the process shy away from it. These are our partners in restoration, who should be encouraged and rewarded for doing this work.



The RCDs have been trying to deal with this issue. Over the last 10-15 years, they've been working with the "Partners in Restoration" program to support sustainable conservation. Twelve counties participate in this program, working with all the agencies involved with getting a project done. They identify the top 4 or 5 projects in their area, such as fish passage, rural road improvements or stream bank stabilization – these are basic, small-scale projects with a net benefit. The counties and agencies work out a blanket permit for that type of project, within parameters. Once the permit is established, anyone who wants to undertake that type of project in their county has a blanket permit do so – within the parameters that have been set out.

This has been a very productive approach. In Monterey County, 30 projects went forward and removed 5,000 tons of sediment that would otherwise have entered a creek and ultimately out to the Monterey Bay Sanctuary. Developing these blanket permits is time-intensive, and the program is looking for a more effective and efficient approach – such as taking this to a regional or statewide level. Other RCDs are using a less formal process. The Sonoma RCD has established proactive relationships with agencies and is processing 30 permits each year, with a staff of about 3-4 people. Recently, the Alameda RCD put through an EIR with DFG – which is another significant accomplishment.

As a result of these discussions on regulatory alignment, Ms. Todd, Mr. Bolland and Ms. Buhr are drafting an outline for a white paper, to discuss the issues that all parties are facing. The effort is highlighting the different perspectives associated with these issues, and increasing the awareness of common ground. The white paper continues to evolve and is focusing on three goals: to bring the "regulator" perspective into the discussion, to identify possible areas of easy gain; looking at agency discretion and options for improving the permitting process within the existing framework; and providing case studies, from both perspectives. With case studies, there may be some challenges in providing candid discussion of what the challenges are. Anyone who would like to contribute to the paper is welcome.

### **Discussion**

Question: Is the paper putting any upper limit on the size of the project?

Response: There are no boundaries yet regarding the size of a project or the type of project. Additional thought is needed in those areas.

Comment: There are enormous financial aspects associated with this, in terms of reducing costs and increasing certainty. Will this discussion be part of the strategy for the financial framework?

Response: The finance framework discussions have tried to define agency scope and the idea of alignment, primarily be looking for efficiencies. The framework is looking to identify opportunities associated with greater alignment.

Question: Which regulating agencies are involved?

Response: The US Army Corps of Engineers is engaged – as both a regulator and a regulated entity. Additional regulators need to be brought into the conversation.

Response: Kamyar Guivetchi explained that this work is also being shared with the State Agency Steering Committee members. They will also be reviewing the white paper as it evolves. This is an emerging conversation, occurring in several concurrent venues.



Comment: As a member of local government, who used to participate in the CBC – the previous approach seemed to be “top-down.” Local government has been frustrated and it would be helpful to think about the role of local representatives in the process.

Response: The RCDs are also local entities and have felt “listened to” in this current process. It’s an evolving and changing conversation, especially given the economic conditions. Local representatives are encouraged and welcomed to join this effort and share their perspectives.

Response: Many of the solutions will occur at the local level – we need your help to identify where those opportunities are likely to surface.

Comment: Consider IRWM planning efforts as aspects of local government. See if there are opportunities for agencies to work with IRWM groups as a venue for working through permitting processes.

Kamyar Guivetchi related that Update 2013 is looking to try and frame the discussion on agency alignment, to increase awareness among policy makers at all levels. Alignment is needed across the areas of data and information, planning processes and policy development. It covers the scope of agency activities. IRWM has encouraged local collaboration. The complementary aspect is agency collaboration, and the coordination of agency activities. Mr. Guivetchi shared his hope that the CBC resolution will be extended to other collaborative efforts, to gain additional momentum and support.

### **Land Use Decision Tool Update**

Elizabeth Patterson, DWR Land Use Lead, reminded Public AC members that one of the goals of the Update 2009 Land Use Resource Management Strategy was to take the decision model and apply it in a pilot setting. The decision tool compares all costs associated with traditional development against all costs associated with low-impact and LEED-ND development. This approach factors in long-term maintenance and replacement costs, and allows costs and benefits to be quantified for the Land Use RMS. The tool also identifies data gaps and provides information for future land and water use choices.

Work has been underway in developing that tool, as will be described by Allison Lassiter, UC Berkley graduate student and lead investigator for this effort. The tool seeks to quantify the water-related outcomes associated with land use decisions – this encompasses considerations for water supply reliability, flood management, water quality, habitat value and climate change mitigation. The preliminary findings note the relative absence of user-friendly tools to evaluate and compare land use scenarios. Also, available data is inconsistent, especially in the areas of maintenance costs and green infrastructure.

The format uses Microsoft Excel, where all formulas can be accessed and changed. Data can also be modified to reflect local conditions. The tool focuses on residential development and looks at how information at the lot level can be rolled up to neighborhood, city, county and watershed scales – to understand impacts of residential development at multiple levels.



The pilot study area looked at Sonoma County, considering how choices made at various levels cumulate and the resulting impacts – as well as what could have resulted from different choices. The outcomes were evaluated in terms of seven metrics. Four metrics relate to water: percent impervious surface, stormwater runoff from impervious surfaces, outdoor water requirements, and greenhouse gas emissions resulting from outdoor water use. The remaining three metrics relate to costs associated with a particular land use or development program: implementation costs, cost over 50 years, and cost over 100-years. Additional details were provided on each of the respective metrics.

The study evaluated different areas representing different types of residential development: traditional (pre-1987 regulations), SUSMP (Standard Urban Stormwater Management Plan, adhering to local stormwater regulations), GreenPoint (local regulations and some Cal Green Codes), and One Planet (local, Cal Green, LEED and One Planet standards). The GreenPoint site is in mid-construction and One Planet has yet to be constructed. The preliminary results show that each site yields its own pattern of land cover and cost attributes. Interestingly, the SUSMP development rated the poorest performance for land cover metrics and represented the 2<sup>nd</sup> highest costs. The projections for One Planet development yielded good results for land cover metrics, but scored the highest costs. GreenPoint development also yielded good land cover results, and has the lowest costs. Traditional development resulted in moderately poor results for land cover metrics, with moderate costs. Careful analysis of development options can reduce both initial and long-term costs while reducing resource use.

Question: Is the roofline included as an impervious surface?

Response: Yes. The impervious surface category represents on-the ground surfaces.

Question: Did you consider the benefit of plants in countering the effects of greenhouse gases?

Response: No – that is something that could be added to the tool in the future.

Question: This tool is helpful in communicating and coordinating with land use planners. Is there thought to perhaps adding groundwater recharge areas in the future?

Response: In striving to create a user-friendly tool, the infiltration rate requires calculations of slope and soil type. As a result, the tool measure runoff.

## **California Meadows and Restoration**

Barry Hill, Regional Hydrologist for the US Forest Service provided an overview of the Sierra Nevada Meadow Hydrology Assessment. The study relates to meadow restoration activities and is funded by DWR and the National Fish and Wildlife Foundation. Researchers from UC Davis, UC Merced, USGS and University of Nevada, Reno are also participating in this study – which was initiated to evaluate water resource benefits from restoration activities. Meadow restoration efforts accelerated during the 1990s as a result of external funding sources and the development of a cost-effective and effective technique called “plug-and-pond.”



The scope of the study was tied to six tasks, which were undertaken by different research teams.. A survey of existing studies (Task 1) showed that meadow restoration in the western US resulted in either greater volumes or duration of stream baseflows in the summer. Remote sensing was used to delineate meadows (Task 2) and was then field-checked (Task 3). The subsequent determination identified approximately 191,000 acres of meadow areas. The assessment of meadow erosion (Task 4) shows an average of 2 feet of erosion in meadows, with maximum erosion reaching depths of 12 feet. It was thought that restoration of eroded areas might increase groundwater storage.

Water budgets and groundwater models are being developed for 12 selected meadows (Task 5), with data collection activities continuing for another year. Preliminary results indicate that meadow evapotranspiration (ET) rates, previously thought to be a major source of water loss, may be lower than was earlier believed. Another significant result is that the meadows are tapping into adjacent bedrock aquifers – so that when eroded meadows are losing water, it draws down the larger regional aquifer. The hydrologic effect of plug-and-pond projects appears to support groundwater recharge. Preliminary results of groundwater modeling suggest that eroded meadows support higher late-summer flows, which may be due to pulling groundwater from the bedrock aquifers and the tributaries lose perennial flow as the water table drops. The final report (Task 6) is scheduled for Spring 2014.

A related effort, which is not part of the study, is measuring streamflow and groundwater levels relating to restored and unrestored sections of meadow in the Red Clover Valley. This was undertaken as a result of stakeholder reports that streamflow dropped after restoration activities were initiated. Measurements were taken on three unrestored reaches and two restored reaches. The long-term effects of meadow restoration on streamflows and groundwater levels have yet to be determined.

### **Discussion**

Question: Can you explain the water rights controversy?

Response: Restoration activities may reduce historic levels of late-summer flows. As a result, downstream water rights holders are not receiving the quantities that they did before.

Response: While erosion will increase streamflows (as a result of draining adjacent bedrock aquifers), those quantities diminish over time.

Question: How are water years factored in? The hydrology can be a significant variable.

Response: There was a wet year in 2010 and a drier year in 2011. The USGS model run included one wet year and one dry year.

Question: What are the impacts to grazing permittees?

Response: While grazing is typically not allowed for 2-3 years immediately after restoration, the USFS has not permanently excluded grazing from restored meadow areas.



Question: Are the causes of erosion likely to be factored into long-term evaluation of meadow restoration on water capture?

Response: Many of the eroded areas are the result of activities that occurred prior to the creation of the forest – such as logging, roads, ditches and more intense grazing.

Question: How much funding was required to support this study?

Response: The funding partners each contributed \$300,000 for a total of \$600,000.

Question: Are you looking at effect on larger hard-rock aquifer? Specifically, there is evidence that healthy forests create orographic effects which promote precipitation – and therefore overall water yield from the system.

Response: That's a good question. That aspect hasn't really been considered. There has been a discussion of meadow ET, knowing that the water has to be going somewhere. There have been some studies on the effects of forest management regarding that concept.

### **Watershed and Source Water Protection Initiative**

Bob Dean, Calaveras County Water District, reported that he is working on developing source water policy principles for ACWA. The principles will be accompanied by supporting documentation. Recently, Mr. Dean has spent time getting a sense of source water supply issues throughout the state. He noted that conditions and concerns vary considerably in response to ecosystem characteristics, water supplies and land use practices. Education is needed to emphasize the critical role that the Sierra Nevada plays in the state's water system. The effort is looking to develop a governance proposal to help identify funding options. One of the policy principles will focus on engaging local interests, with another principle addressing climate change.

### **CUWA Water Supply Reliability Report**

Cindy Paulson, Executive Director of the California Urban Water Agency (CUWA), provided an overview of the agency's Water Supply Reliability Report. She noted the earlier discussions on both safety and reliability associated with the PUC presentation. It is important to make the public aware of what it takes to make sure that water is available when we turn on the faucet. Ms. Paulson briefly discussed the history and mission of CUWA, a nonprofit organization comprised of 10 major urban water agencies – 6 in the Bay area and 4 in Southern California – providing water supplies to over 24 million people.

For the purpose of the report, CUWA defined water supply reliability as the ability to consistently meet water demands, across a wide range of climatic conditions and in light of uncertainties – and within acceptable service standards during catastrophic events. Providing reliable water supplies involves three components: supply diversification, infrastructure investment and sustainable financing. Information for the report was compiled from the 2010 Urban Water Management Plans of member agencies. This was the first time that information has been rolled up from multiple UWMPs, including cost figures.



Supply diversity has increased dramatically. Looking at total supply in 1990, to projected supplies for a normal year in 2030 – while imported supplies and groundwater sources remain relatively constant, other local elements have expanded significantly. This includes conservation savings, agricultural efficiency and transfers, and development of other local sources – as well as desal, recycled water and non-agricultural water transfers.

Water conservation is an important element in helping to meet future water demands. The California Urban Water Conservation Council was initially established under CUWA. Member agencies are directly involved in implementing water use efficiency measures and public outreach programs; they work indirectly to try and change behaviors through plumbing codes, standards and regulations. A seven-fold increase in conservation is estimated between 1990 and 2030, from about 250,000 acre-feet to 1.75 MAF. While there is still work to do, the member agencies are on track to meet the 20% reduction in per capita water use by 2020. Conservation efforts result in effectively managing water demands, even with steady population growth.

Similarly, recycled water supplies are expected to see a 6-fold increase from 1990-2030. Groundwater, another source of supply, is only expected to see a 10% increase over the same time period. The development of desal, which provided about 8,000 AF of supply in 1990, will likely generate 182,000 AF of supply by 2030. Investing in agricultural efficiencies may allow some portion of current agricultural supplies to be transferred for urban use. Other local supplies entail capture and storage of stormwater and runoff. The flexibility of using other supplies, in conjunction with storage options, may help reduce reliance on imported water during dry years.

Investing in infrastructure includes constructing and maintaining treatment facilities, storage facilities, and Delta conveyance and regional interties – along with asset management. Over the past 20 years, CUWA agencies have invest \$21 billion on infrastructure and diversification. Going forward, it will be critically important to generate revenue and maintain investment. It was noted that urban agencies do large projects well – such as Diamond Valley Lake, Freeport Regional Water Project, reservoir expansions at Los Vaqueros and San Vicente, a demonstration water purification facility, and seismic upgrades.

Reliable water supply requires sustainable financing. CUWA has done a substantial amount of work in the area of reliable water financing: developing white papers, policy principles, and communication messages; and reassessing conservation pricing options. CUWA is participating on the Water Plan Finance Caucus and interested in developing effective financing strategies.

## **Chapter 1**

### **Chapter 1 Review**

Paul Massera recapped that work is continuing on developing text for Update 2013. The production team is discussing general themes and is receiving guidance from executive on messaging. The overall document structure contains a few changes from Update 2009. Regional Reports will now comprise Volume 2, with the Resource Management Strategies (RMSs) located



in Volume 3. Volume 1 is proposed to include an opening chapter with a general description of the Water Plan, introducing the Update 2013 themes and new features. Direction guideposts will also be provided for the topics mentioned. Other chapters include:

- Chapter 2, California Water Today: Description of geophysical and social variability across the state; water portfolio data (1998-2010), IWM spending and debt levels, critical challenges, and responses and opportunities.
- Chapter 3, Imperative to Invest: Provides the vision, principles and objectives for Update 2013; focuses on need to act, implementation of IWM, and methods for categorizing future investment
- Chapter 4, Companion Plans: Overview of water governance in California, alignment of objectives and RMSs across State agency plans, and description of areas that require further alignment
- Chapter 5, Managing an Uncertain Future: Discusses recognizing and reducing uncertainty, assessing risk, sustainability indicators, future scenarios, projected future change in water demand, pilot approaches for regional evaluation of RMSs
- Chapter 6, Integrated Data and Analysis: linking collaboration with technical analysis, providing effective analytical tools, improving and sharing information, and associated recommendations
- Chapter 7, Finance Planning Framework: Outline of approach for prioritizing IWM investment in California, role of public (state) funding, estimated costs of future IWM activities and available financing strategies
- Chapter 8, Implementation Plan: Focus on recommendations, objectives and related actions; informed by progress report, Update 2013 enhancements and companion plans

The afternoon's discussion is oriented towards achieving a common understanding of the general approach for Chapter 1, as well as receiving feedback on topics and the overall flow of the chapter. Comments will also inform the content of the Highlights document. Participants were reminded that the three inter-dependent themes for Update 2013 are: IWM, collaboration for alignment and implementation, and investment in innovation and infrastructure.

Meeting participants were referred to a worksheet outlining the six different sections of the opening chapter: Introductory Narrative, Building on Update 2009, Update 2013 Themes, IWM, Collaboration for Alignment and Implementation, and Investing in Innovation and Infrastructure.

### **Questions of Clarification**

Question: Is this intended to provide an inclusive cost estimate for continuing to manage water in California? How will that number be developed?

Response: Yes, the number is intended to be inclusive. The scope of associated activities will be defined in section 4 (IWM). Various sources are being referenced for costs – such as the Flood Futures Report. Information from the 48 IRWM groups will also roll forward.



Question: Will the Bay Delta be included in the Highlights document? This is a formidable issue and should be included.

Response: Yes, this would be rolled in. The text will describe existing policy and efforts in the Delta. The Water Plan reflects the State's policies.

Question: Where do we describe the economic value of a sustainable, sufficient and reliable supply to California's economy?

Response: Chapter 1 will introduce the concept, describing the benefits around economic stability, environmental resources, and public safety – with additional details in Chapter 7.

### **Discussion**

Public AC members generally agreed that the text needed to be strengthened in terms of conveying a sense of urgency and threat. The concepts of public safety, environmental degradation and economic viability should be elevated. This is part of the context regarding urgency. The link between water supply and reliability, and California's economy, must be elevated to a national message. There are many investors outside of the State. The reliability of our water system may be more important to their investments than they realize. They may have a stake in figuring out a more reliable system.

Some AC members were concerned that repeating the theme of urgency may dilute its importance. The Water Plan was encouraged to discuss what has happened over the last 10-20 years in terms of response to the Water Plan. Specifically, look at IWM efforts that have been developed at a regional scale, and can be leveraged for greater efficiencies. The chapter should also describe challenges that these efforts are facing, and the need for agency alignment. More emphasis is needed on regional efforts and the connections between source water and how water is used downstream.

Lisa Beutler recapped several general impressions: It is important to understand what is at risk (regarding public health, safety, the environment). The message needs to be motivating rather than alarmist. The themes do not seem to reflect the aspects of urgency. Also, the discussion on regions needs to be elevated. The regulatory discussion can be framed in terms of the disincentives that have been put in place which discourage investment. Mr. Massera noted that the suggestion of impending doom seems disconnected from the recommendation to implement IWM. There are different timeframes, tactical short-term actions and longer-term strategic actions, which should be described.

### ***Section 1 – Introductory Narrative***

- **Document Guidance**: Who is the audience for the Water Plan? We want to encourage readers to go further into the document. Explain how to use it, where the sections are for planners, engineers, elected officials. Everyone needs to be involved.
- **Need for Investment**: The level of investment has fallen off recently – consider using graphics to help convey the message and concepts that we are trying to get across. Now is the time to put money back into the system – preventative actions will cost less in the



long-term (avoiding the larger expenses of dealing with catastrophes). If financing elements were put on a pie chart (for what's needed to fix infrastructure and environment), it's not a large part when compared to other state expenditures.

### Sense of Urgency

- Rate increases have been approved for investments that have emphasized urgency and reliability – the Water Plan should take that approach. The introductory phrase should consist of two sentences: Stakes are high. Update2013 provides a framework for action. The 2<sup>nd</sup> bullet should read: “California has the opportunity to manage its natural resources through government alignment, as well as...” The 3<sup>rd</sup> bullet should read: “Ecosystem services and infrastructure have either exceeded their lifecycles or fallen out of system equilibrium in a way that may reduce delivery of services and benefits.” The 4<sup>th</sup> bullet should say, “The California Water Plan Update 2013 identifies the State’s current conditions and challenges and provides a vision for future resource management and strategies for meeting resource management objectives.” [Note: Keep parenthetical clauses.] The 5<sup>th</sup> bullet: Delete first word (“The”), consider deleting this bullet. Add a 6<sup>th</sup> bullet: “Without water the State’s \$x trillion economy falls to its knees.” A national message is needed to focus on the economic effects of water reliability.
- There needs to be a deeper reality check – we are one of the world’s top economies and there are communities that don’t have water at all. There are people going to rivers with buckets. Let’s get real about the circumstances. We can provide photographs of what shouldn’t happen. If we really want to wake people up, we can do that. The story that will turn away investors, will reinforce that the stakes are high.
- The underpricing of water has led to over-exploitation (of actual resources, threats to public safety). The real costs of water have been poorly define and understood – complicating water management efforts. Benefits need to be clearly stated to show return on investment. Tell the story on the linkage between human and natural systems. (See the Pacific Institute study on water and relationship to economy and lifestyles.)
- Previously, the Water Plan was often referenced for fast facts. Consider that. Explain why huge rate increases are occurring (when water is being conserved), what’s the capacity to move water throughout the state? What type of natural disasters could impact delivery? When talking about high stakes, earthquakes and catastrophic events are a piece of this – as well as water supply and the impact of water development on the environment. This needs to be captured in a concise way.
- The text needs to support why the stakes are high: there are pockets of communities with needs, climate change, infrastructure vulnerability. That frames up the value of water reliability and the value of natural resources. Instead of saying “it’s time to act,” emphasize the accomplishments since 2005 to create a framework for action. Water agencies are doing things on their own locally. The Water Plan seeks to leverage those efforts to increase efficiencies (through collaboration and alignment), that’s the new part. Say that the stakes are high, say why, and explain the key framework of actions.



- While some projects have been taking place, many agencies have been in band-aid mode for last 10-20 years. There are great needs for projects, that aren't funded and agencies are falling further behind each year.
- When looking at alternative/green energies, there are already some problems brewing. Solar plants have impacts on water resources. We need to acknowledge that. There is already subsidence with some geothermal plants.

Lisa Beutler observed that many things are true and many things are true (at the same time). It will be important to show that different things are happening in different places. This observation generated some additional discussion:

- Consider the idea of showing trends as a graphic, could have the middle as a baseline (perhaps 2000). Then look at different topics to see how we've done in the last 10-12 years. For example, look at storage, urban water use efficiency, ability to meet existing contracts in dry years. Most items are showing a positive trend.
- If the Water Plan will be reporting trends, there are projections where trends cannot continue. Think about whether rates of change can be sustained into the future. There are limits to what can be accomplished.

### ***Section 3 - Update 2013 Themes (IWM)***

Ms. Buetler recapped that the project team has identified three overarching themes. Investing in innovation and infrastructure carries over from Update 2009, and there seems to be support for greater alignment. The group is struggling a bit with the perspectives on IWM. Kamyar clarified that the team is not looking for a definition of IWM, rather the operational outcomes associated with IWM – such as diversification of water supply. Specifically, what does water management need to do more of?

- **The 3 themes** make a lot of sense and set out a roadmap. We haven't told people why they need to be on the road. How do we convey that message? Who's the audience? A consistent message is needed for a range of audiences.
  - Who will be reading this? We should be able to hand this to interested members of the public and have them understand what's here.
  - Provide more explanation of why these themes are overarching.
  - The first sub-bullet on the three themes could say, "regional and statewide IWM planning"
  - Delete the word "collaboration" from the sub-bullet on alignment and implementation, no more talking about it – just do it.
  - "Investment" should say "**Strategic** investment in innovation and investment."
  - The CWP and Flood Future Report each have their own list of "three themes." It might be better to say that the focus for Update 2013 is...



- IWM seems like a subset of collaboration at the regional and local level. It might be one theme of IWM and collaboration. Then create a new theme that speaks to urgency (public health and safety). Say \$2 trillion economy rather than the n<sup>th</sup> largest economy. (These provide connections at the individual and macro levels. Then go into **IWM and collaboration**.
  - There is a lot of sense of linking collaboration with IRWM. There is not much collaboration occurring in the area of agency alignment. That should be separated. Inter-agency alignment also needs to include intra-agency alignment.
  - Collaboration at the local level could go much further if there was alignment at the agency level. For example, in the Sacramento Valley, the IRWM Plan will be completed by September 2013 – the CVFPP regional planning effort cannot be incorporated since that piece will not be completed until Spring 2014.
  - IRWM has brought people together to establish trust. Leadership is needed to describe what the future will be, and what the benefits are (of IWM/IRWM). This is a role for the State.
- If the end results are water security, reliability and sustainability – then maybe the focus is on resiliency. This can reflect ecological resiliency or social resiliency, and even social-ecological systems. It's the ability of a community or ecosystem to respond to perturbations (economic shock, wildfire).
- Update 2009 talked a lot about climate change – now, not so much. The need to address uncertainties should not disappear. (This is part of why the stakes are high.)
  - Consider putting this into Section 1, the Introductory Narrative, third bullet.
  - The 2009 plan didn't have the 2009 legislation. It didn't have twin goals. The BDCP, or Delta Stewardship Council, or WETCAT weren't on the table four years ago. Those things will continue to be there – they didn't go away. Update 2013 is adding new elements (enhancements). There have been responses as implementation, much has been institutionalized. Nothing is being subtracted.
  - Section 2 describes the work of Update 2009 and pieces that will carry forward.

## **Flood Future Report**

Terri Wegener, DWR, Manager of Division of Statewide Flood Management, presented information on the Flood Future Report (FFR) which provides the first statewide assessment of flood risks. The report is a joint report issued by DWR and the US Army Corps of Engineers. Ms. Wegener observed that the day's discussions and presentations focused on the themes of collaboration, agency alignment, reliability, sustainability, public safety and environmental stewardship. As was noted, this represents a lot of foundational messages.

The FFR is the primary document for integrating flood issues into Update 2013 of the Water Plan. The goal of the report is to better understand flood risks statewide and making recommendations for managing flood risks to guide policies and future financial investments.



Ms. Wegener introduced the FFR Highlights document, which provides an easy-read of key information on flood risks and recommendations. This creates a foundation for a dialogue on short-term actions and long-term strategies for managing flood risks. The release of the Highlights document coincides with the start of flood season. The supporting Technical Memoranda will be posted online in January. The FFR package will be released in March with a public comment period.

Walking through the document, the Highlights begin with an overview of flood risks. Eight different categories of flood risks are identified, accompanied by graphics illustrating the extent of flood risk associated with population, agricultural production, infrastructure, and sensitive species. Many do not understand the consequences of major flooding to those located outside the floodplains. Flood management is complicated by complicated and fragmented delegations of authority to more than 1,300 agencies, along with insufficient infrastructure and inconsistent funding. Historic federal funding has been drastically cut back.

Seven recommendations provide a framework for better managing flood risks. These are comprised of tools (conducting risk assessment, increasing flood risk awareness, and better flood readiness), planning (land use planning decisions, and planning at larger geographic scales), actions (alignment of governance, policies, and investment priorities; and sufficient and stable funding), and results (benefits relating to public safety, environmental stewardship and economic stability). These recommendations include short-term actions and long-term actions.

### **Questions and Comments**

Question: Three phrases are printed on the bottom of each PowerPoint slide. How does this relate to the report?

Response: Those are the phrases from the FloodSafe program. Public safety and environmental stewardship are key aspects of flood management. Economic stability will be affected by severe flood events in a number of ways.

Comment: These are very nice graphics and maps; the document is easy to understand.

Question: How do we really manage the necessary flood investment (\$100B) when the proposed bond issue shouldn't be more than \$10B?

Response: This marks the beginning of the dialogue that needs to take place.

Comment: On the funding side, cost-savings and efficiencies will be critical.

Question: Will the State prepare a response to the recommendations – for example an action plan?

Response: The next step, for Phase 2, will look at the implementation plan.



### **Flood Content in Update 2013**

As a reminder, Update 2005 did not contain much content on flood. Update 2009 provided the first RMS on flood. Update 2013 will include the FFR as a companion plan. Flood will more deeply embedded in discussions on water supply and environmental stewardship. These elements will be more seamlessly integrated in 2018. Material from the Highlights document will be represented in almost every chapter of Volume 1 for Update 2013. Flood content will be prepared for each Regional Report and for the Flood Management RMS.

Question: Is there a climate change component?

Response: Yes, detailed information is provided in the Technical Memorandum.

Question: The Regional Reports provide more depth at regional scale. Are local flood management agencies helping you to find tune this, by providing background information?

Response: We did coordinate and work closely with the counties and their key stakeholders. The flood information in the Regional Reports is pretty distilled. Readers are referred to the Technical Memorandum for additional information.

Comment: CalEMA has been involved in this process over the last year and assisted in reviewing the recommendations – which are right on target. CalEMA is working on developing the Northern California Catastrophic Flood Response Plan. This includes recommendations for planning and preparedness.

**ACTION ITEM:** Send out a link to the Northern California Catastrophic Flood Response Plan.

Question: Are you working with building officials, public works, environmental health, engineers, the Farm Bureau and Parks and Recreation? Also FEMA flood maps bring in a wide range of issues.

Response: The FFR did consult with FEMA. We will work through the Water Plan to continue coordinating with important stakeholder interests.

Question: Is there a reference to the Paterno decision? This establishes the importance of stable investing in infrastructure.

Response: State responsibilities are different throughout California. The Paterno decision does not extend to areas outside the State Plan of Flood Control.

Question: Is there a timeframe for Phase 2 and will Phase 2 involve stakeholder outreach?

Response: The timeline and approach for Phase 2 activities has not been developed at this time. Information will be shared as it becomes available.

Question: How do you differentiate short-term v. long-term investment? How does that roll forward into the CWP finance plan?

Response: FFR information will be incorporated into the Water Plan. The \$50B is the cost of projects on the books will be part of the financial needs assessment.



### **Progress Report**

A workshop was conducted to review the draft progress report, where a color-code was proposed for tracking the objectives. Another session will be convened to discuss the progress report, which is due at the end of January.

ACTION ITEM: Repost the draft progress report using a format that is printer-friendly.

### **Closing Remarks**

Kamyar Guivetchi thanked participants for their contributions throughout the day and wished everyone a safe journey home.



## **Attendance**

### **Public Advisory Committee Members and Alternates (30):**

**Dave Bolland**, Association of California Water Agencies  
**Karen Buhr**, California Association of Resource Conservation Districts  
**Merita Callaway**, California State Association of Counties  
**Grace Chan**, Metropolitan Water District  
**Anisa Divine**, Imperial Irrigation District  
**Mark Drew**, CalTrout, Inyo-Mono IRWM  
**Dave Eggerton**, El Dorado County Water Agency  
**Jack Hawks**, California Water Association  
**John Hopkins**, Institute for Ecological Health  
**Karah Karimah**, California County Planning Commissioners Association  
**Tom Keegan**, Water Plan Tribal Advisory Committee  
**David Kennedy**, American Council of Engineering Companies  
**Maria Kennedy**, SAWPA One Water One Watershed  
**Michele King**, Ca. Public Utilities Commission, Div. of Ratepayer Advocates  
**John Kingsbury**, Mountain Counties Water Resources Association  
**Nick Konovaloff**, Regional Council of Rural Counties  
**Karl Longley**, California Water Institute – Fresno  
**Danny Merkley**, California Farm Bureau  
**Valerie Nera**, California Chamber of Commerce  
**Vickie Newlin**, Butte County Dept. of Water and Resource Conservation  
**Tim Parker**, Groundwater Resources Association  
**Wendy Phillips**, League of Women Voters of California  
**Cindy Paulson**, California Urban Water Agencies  
**John Ricker**, County of Santa Cruz, Environmental Health Services  
**Mario Santoyo**, California Latino Water Coalition  
**Oscar Serrano**, Water Plan Tribal Advisory Committee  
**Bob Siegfried**, Carmel Area Wastewater District  
**Iovanka Todd**, Floodplain Management Association  
**Evon Willhoff**, Planning and Conservation League  
**Dan Young**, Surfrider Foundation

### **State Agency Steering Committee Members (3)**

**Bruce Gwynne**, Department of Conservation  
**Juan Perez**, CalEMA  
**Kerri Timmer**, Sierra Nevada Conservancy

### **Other (11)**

**Emilio Balingit**, Strategic Growth Council  
**Bob Dean**, Calaveras County Water District  
**Bob Gore**, Gualco Group  
**Rami Kahlon**, California Public Utilities Commission, Water Director  
**Ditas Katague**, California Public Utilities Commission, Chief of Staff  
**Michele King**, California Public Utilities Commission



**Rez Namvor**, RMC Water and Environment  
**Danilo Sanchez**, California Public Utilities Commission, Water Program Manager  
**Stephen St. Marie**, Ca. Public Utilities Commission, Water Advisor to Comm. Sandoval  
**Don Stump**, Calaveras County Water District  
**John Zanzi**, Dudek, Habitat Restoration Services

**Speakers (6)**

**Mike Chapel**, US Forest Service (retired)  
**Barry Hill**, US Forest Service  
**Alex Hinds**, Sonoma State University  
**Cathy Sandoval**, California Public Utilities Commission, Water Commissioner  
**Sarah Schneider**, CalPoly, Graduate Student  
**Terri Wegener**, DWR, Program Manager, Statewide Integrated Flood Management

**DWR (13)**

**Kamyar Guivetchi**, DWR, Chief, Statewide Integrated Water Management  
**Lew Moeller**, DWR, Project Manager, Update 2013  
**Jose Alarcon**, DWR, Lead for Water Quality  
**Emily Alejandrino**, DWR, Support for Tribal AC and Environmental Services  
**Manucher Alemi**, DWR, Lead for Water Use Efficiency  
**Megan Fidell**, DWR, Lead for Resource Management Strategies  
**Chas Grant**, DWR, Public AC Travel Coordinator  
**Rich Juricich**, DWR, Lead for SWAN and Analytical Tools  
**Jennifer Kofoid**, DWR, Water Plan Webmaster  
**Stefan Lorenzato**, DWR, Riparian Habitat Joint Venture Coordinator  
**Paul Massera**, DWR, Program Manager, Update 2013  
**Elizabeth Patterson**, DWR, Lead for Land Use  
**Michael Perrone**, DWR, Lead for Environmental Services

**Via Webinar (13)**

**Erick Cooke**, Environmental Science Associates  
**Ane Deister**, Parsons (Public AC member)  
**Gina Ford**, Department of Fish and Game  
**Charlotte Hague**, California County Planning Commissioners Assn. (Public AC member)  
**Barbara Hennigan**, Butte-Sutter Basin Area Groundwater Users  
**Mick Klasson**, Sacramento Area Flood Control Agency  
**Anthony La**, Water Replenishment District of Southern California (Public AC member)  
**Elissa Lynn**, DWR, Climate Change Team  
**Matthew Mahon**, The Dolphin Group  
**Salomon Miranda**, DWR, Floodplain Management Specialist  
**Carole Rains**, DWR, Research Writer  
**Michelle Selmon**, DWR, Climate Change Team  
**Sarah Sol**, DWR, Publications Team

Facilitation: Lisa Beutler, MWH, Executive Facilitator; Judie Talbot, CCP, Regional Facilitator