



MEETING SUMMARY

**CALIFORNIA WATER PLAN UPDATE 2013
PUBLIC ADVISORY COMMITTEE
9:00 A.M. – 4:30 P.M.
CALIFORNIA DEPARTMENT OF PUBLIC HEALTH
1500 CAPITOL, SACRAMENTO, CA**

Meeting Objectives

- Discuss AC Draft Progress Report
- Preview April IWM Summit and IRWM Conference
- Recap highlights of California Water Footprint Report
- Develop content for various CWP chapters

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Welcome and Agenda Review

Lisa Beutler, Executive Facilitator for the Water Plan, welcomed Public AC members and noted that with the full agenda the meeting was beginning a bit early. Introductions were made around the room and on the phone. The agenda was quickly reviewed. The morning would start with a review and survey relating to a research project on Water Plan collaboration. Paul Massera, Program Manager for Update 2013, remarked that other agenda items will delve into discussing content for the Water Plan – identifying integrated water management challenges along with a first look at how to approach recommendations. Kamyar Guivetchi, Manager for the DWR Division of Statewide Integrated Water Management, observed that a meeting on Valentine’s Day is appropriate for the passion of everyone contributing to Update 2013. Other presentations focused on the progress report, California Water Footprint report and IWM efforts within DWR and a legislative update report.



Ms. Beutler commented on trying to balance the amount of presentations with discussion time in the Public AC agendas. Much of the work for Update 2013 rolls up from caucus meetings and workshops which, necessarily, involves reporting back to the Public AC. That background is essential for understanding content proposals. At the same time, Public AC members have expressed their interest in providing comment and suggestions. This meeting is designed to allow substantial discussion time among Public AC members.

Public AC Outreach and Engagement Research

Sarah Schneider, Graduate Student at Cal Poly, invited Public AC members to participate in a survey. The responses would be used as data in Ms. Schneider's research project regarding collaboration in the Water Plan. She explained that respondents should provide answers based on their perspectives. After explaining the approach, survey packets were distributed and meeting participants were allocated time to complete the survey. As responses were collected,

Water Plan Status Update

Lewis Moeller, Project Manager for Update 2013, reviewed the "Scoping and Deliverables Timeline," noting that the effort is working towards the Public Review Draft which will be released in June 19, 2013. Several documents, representing the Public AC Draft, have been posted on the website. The release date of the final Update 2013 report is March 4, 2014, which reflects an extension of time relating to lost furlough days.

In reviewing the meetings that have supported the work to date, the number is astonishing – with just over 110 meetings with various Water Plan stakeholder venues and meetings. The result is that all but 2 of the Resource Management Strategies have been posted and Regional Reports are being reviewed and posted this month. A webinar will be scheduled in March to focus specifically on objectives. During March and April, other meetings will be convened with the caucuses for Groundwater, DAC/EJ, Water Quality and Finance. Webinar options will be provided for all meetings. Additional meeting dates were also noted.

Upcoming deliverables include a draft of the "Californians Without Safe Water" in early April. This will be reviewed in Caucus. Graphics workshops will also be scheduled. Materials will continue to be refined, including the Progress Report and finance considerations. The final report will be submitted to the Governor's Office on December 14, 2013 for final review before the March 2014 public release.

Question: Is information from the IRWM efforts being incorporated into the Regional Reports?

Response: Yes. Currently, the Water Plan is coordinating with the IRWM branch to leverage information that was obtained through a survey of IRWM Plans. A brief summary has been developed on each IRWM effort, which will be provided as an addendum to the Water Plan. This information is being used to help develop the Regional Reports.



Question: The Regional Reports indicate that they will be discussing progress that has been made. What is the timeframe that is being looked at?

Response: Efforts that are projected through 2013 should be included in the Regional Reports. The goal is to look at what has transpired since Update 2009. Subsequently, developments since January 2010 should be included as well.

Draft Progress Report

Megan Fidell, DWR, Progress Report Author, introduced the framework for the report. Referencing the meeting handout, Ms. Fidell noted that these summaries reflect data contained in the online spreadsheet. The link is available on the meeting webpage. If members do not think that the level of progress has been accurately reported, it would be helpful to refer back to the data sets. At the front of the spreadsheet, is an overview with the calculations.

In developing the spreadsheet, the original worksheets were distributed to caucuses. The Tribal AC and the Water Technology caucus completed the worksheets, for their respective objectives. The other caucuses deferred, and DWR staff completed the surveys with input from other state agencies. The worksheets were also discussed at several public meetings.

The Progress Report comments on the 13 objectives contained in Chapter 7 of Update 2009. The goal is to report on whether the Water Plan is being implemented. The report itself provides a summary for each objective, compiled from the ratings contained in the spreadsheet. Scorings were provided for the actions related to each objective. Rankings were then assigned according to count. While this is not a very precise approach, it matches the precision of the objectives, related action and data received. It was noted that the draft report has been reviewed in workshops – people have generally agreed that the rankings make sense. Ms. Fidell noted that this represents a very early draft and comments can still be added.

The outline of the report was quickly summarized. Several caveats were introduced regarding the scorings, specifically:

- While progress is reported at the statewide level, there is much variation within and across the regions.
- The draft was written to encourage further discussion and feedback – additional responses are welcome, as are suggestions for how to improve the report.
- This Progress Report does not necessarily establish a baseline for evaluating future progress, since Update 2012 objectives and related actions may change.

Ms. Fidell remarked that the process and efforts undertaken to review progress on the 2009 objectives has encouraged taking a close look at the Update 2012 objectives and actions. Also, it was noted that the Progress Report does not measure the effects of collaboration.

The “dashboard” of the results is provided on page 5 of the Progress Report, with a status and trend indicated for each objective. The single page summary for each objective addresses the overall progress for the objective, along with successful actions, delayed actions and prominent barriers.



Key findings noted that many of the things that were recommended for the State to do, did get accomplished. For example, the Delta Stewardship Council was created and many of recommendations were incorporated into IRWM guidelines. Conversely, it was difficult to track more diffuse instructions to others – such as incorporating LID into land use. It was noted that the 2009 Implementation Plan was not written to be tracked.

Other difficulties that were encountered in drafting the progress include the presence of compound verbs and objects. Also, it's challenging to evaluate progress within a 2050 timeline. Some has more specific timelines. Another consideration was that 2 of the 13 objectives were tied to 2009 State companion plans, where agencies have moved onto different plans. Some actions may represent a preferred approach at a particular time, which may later be replaced by a new approach. It's difficult to capture that.

The Progress Report recommendations encourage separating visionary actions from more measureable actions, using evaluators' comments to refine objectives and related actions, and to develop more measurable objectives – if tracking progress is important.

In closing, Megan was commended for her work on the Progress Report. It was noted that writing a progress report is challenging – it's trying to put a picture into words. A Public AC member commented that the Progress Report is aimed at electeds. For a conceptual approach, the draft is really commendable and headed in the right direction. For those that care about the data, it's the job of stakeholders to get that information to the author.

Discussion

Comment: In looking at the objectives, it is likely that any number of folks can response to each object and related actions. It would be helpful to reach out to those who are beset informed to comment on each objective. For example, IRWMs in the regions are probably the best informed to provide input on Objective #1. For WUE, Director Mark Cowin gave a response to the legislature on the progress of urban water agencies, and there is much information in the report. Water agencies will know where they are in terms of meeting their 2015 targets and 2020 objectives. DWR knows which districts have submitted reports. The draft represents a good compilation and there is much more detailed information that is available – although there may not be the time and resources available to drill down into that.

Response: The hope is that Public AC members will help distribute this information to others who should take a look at the worksheets. Also, by indicating what the final product might look like, it is hoped that caucuses might want to take another look at the spreadsheets.

Comment: ACWA may also have information on this objective.

Question: How do you move in the wrong direction?

Response: By not moving on something that demands attention.

Question: How is overall progress determined?

Response: By tallying the number of actions that were rated “poor or fair” compared to those rated “good or excellent.”



Question: What are the key themes for Update 2013?

Response: The major themes are: IWM; agency alignment; and strategic investment, innovation and infrastructure.

Comment: Consider adding a timeline that shows the objectives associated with each Update (2005, 2009, 2013).

Comment: For the Update 2013 Progress Report, consider using surveys which can be adapted for regional input and posted online at URLs.

Comment: Larger, umbrella organizations may have good information on overall efforts and progress.

Comment: Regarding Safe Drinking Water, the Water Boards issued a report on February 4th, as required by AB-2222, on communities relying on contaminated groundwater. Another report, required by SBx2-1, is close to release and builds on the UC Davis report on nitrates in the Tulare Basin and Salinas Valley.

Comment: For **Objective 7**, Manage a Sustainable California Delta, mention the BDCP Habitat Conservation Plan which has been going on for 7 years. While it is difficult and slow-going, there is progress. Also, in addition to drafting the Delta Plan, the Delta Stewardship Council has also promulgated rules and regulations. In the Delayed Actions section, there could be a discussion that some of these efforts will take time. It was suggested that the barriers cannot be summed up in one sentence. All opposition is local. Is there opposition? Yes. Is there support? Yes. Is the final outcome yet to be determined? Yes.

Comment: In reporting on actions relating to other State plans, those plans may not have been aligned with the Water Plan. The finer-grain details about these efforts are constantly changing. It may be helpful to discuss what's aligned – or not aligned – with the Water Plan.

Comment: It was recommended that each summary page include a new section on actions or implications that inform Update 2013. This ties back to the 3rd caveat on page 4 and would follow the “Barriers” section. For example, with **Objective #2** (WUE), say something about urban stakeholder committee activities that are looking at Target #4 and refine the technical methodology. Put something like that here. This would say that what happened in 2009 is continuing on. There's no mention of how water agencies are making progress on their 20x2020 targets. Overall, agencies are on-track to reach 2015 targets.

Comment: The 3rd caveat in page 4 is difficult for most people to comprehend. It may be better to just consider and monitor each Water Plan on its own objectives. Regarding information that could help Update 2013 recommendations, look at what can be done to expedite delayed actions or reduce barriers. That would be another section on the sheet. That would be another way to structure the information.

Comment: Consider adding a category for actions that are “in-progress” (e.g. not completed, not delayed).

Response: That was considered, as well as providing links to other related report cards.



ACTION ITEM: Add a section on each objective summary for steps that could be suggested in Update 2013 to expedite actions or overcome barriers.

ACTION ITEM: Public AC members to send in links to other report cards that relate to the 2009 objectives.

ACTION ITEM: Public AC members were encouraged to complete worksheets for the objectives that they are most interested in, and to submit text for the summary sheets.

ACTION ITEM: Define N in the spreadsheet. (N=number of actions)

ACTION ITEM: Post Progress Report in Word format.

Legislative Update

Kasey Schimke, Assistant Director, Legislative Affairs, provides a brief update on where things stand in the legislative year. Looking at the legislative calendar, February 22nd is the deadline for bill introductions. The Department is looking for legislation that might impact water-related activities in the state. Other dates were provide for referencing including: May 31st – as the deadline to get out of the house of origin; and September 13th marks the last day to pass legislation.

Referring to the makeup of the legislature, Mr. Schimke noted that Democrats hold a super-majority in both the State House and Senate. There will be special elections on March 12th for two Senate seats. So far, there have not been many water-related bills. There are several on water quality, one on Salton Sea and another on groundwater. There are four bills relating to the Water Bond proposed for the November 2014 ballot. These declare intents to: change the date of the bond, reduce the amount of the bond, and either enact or repeal and replace the bond. DWR is waiting for the full bill introduction to come through, when additional language is available.

Question: Will the four water bonds bills be heard in tandem? What will happen to them procedurally?

Response: There will be different hearing dates, since there are both Assembly and Senate bills. Generally, bills with intent language don't even receive a referral for a hearing. There will be amendments and then heard in committee. It comes down to timing. Could be a joint hearing of the policy committees, to discuss these bills in total? Substantively, that could happen.

Question: Is it unlikely for DWR to be asked its opinion on AB 145 and 177 to move two Drinking Water programs from DPH to DWR?

Response: DWR will likely be asked to look into it internally. Procedurally, it doesn't affect the Department. The policy is dealt with elsewhere.

Question: Where might these four bills go or not go? How would this impact DWR's position to the bond?

Response: The overall policy of whether the bond should be on the ballot, should there be changes – that direction will come from the Administration and agency heads. Pertinent committee members are dealing with these issues of financing. Where this goes, and where



DWR might weigh in, will remain to be seen. The Prop 1-E and 84 allocations have funded a DWR flood activities. There was a \$17B cost projection for CVFPP flood investments. The prioritization discussions will be lengthy. We're only in the first year of a 2-year session.

Update on Statewide Water Analysis Network (SWAN)

Rich Juricich, DWR Lead on Data and Tools, provided a recap of the previous day's SWAN meeting. For the two last cycles of the Water Plan, the trajectory has been to develop data and tools to provide some quantitative descriptions about future water management conditions. A well-rounded team has been providing the expertise to help develop these tools.

The February 13th workshop described the analytical tools and methods, used in Update 2013, to look at how different factors might influence water management. The meeting also discussed input for scenarios, reviewed preliminary results from a vulnerability assessment, and provided feedback on what should go into this update.

A key data objective is being able to describe the entire hydrologic cycle and to evaluate water resource management strategies. A phased approach started in 2005, resulting in more comprehensive information in Update 2013 for three hydrologic regions (Sacramento Valley, Tulare Lake and San Joaquin River). This involves a finer-level look at demand, then looking at a subset of strategies and tradeoffs at the regional scale. Regional groundwater and surface water systems will be represented, using data developed on monthly timestep.

The study components involve scenario factors, resource management strategies, performance metrics and analytical tools. The scenarios consider a number of different climate conditions against three different population trends and three different population trends. There are many combinations of uncertain factors – there are 243 realizations of what future conditions might be. This is then synthesized to discuss the vulnerabilities that might be expected.

The response packages consist of various RMSs that are tracked across different levels of diversification. Data will be input and results developed through the end of March. Performance metrics are also being developed to evaluate the strategies – for example: reliability, magnitude of unmet demand, and change in groundwater storage.

Better evaluation of uncertain future water management challenges and solutions involves:

- Considering how water management conditions might change through 2050
- Identifying the key drivers
- Looking at how response packages can improve outcomes
- Understanding tradeoffs between response packages

The vulnerability analysis indicated that the Sacramento River does relatively well under the 243 simulations, while San Joaquin and Tulare Lake face greater challenges in agricultural and urban reliability. The vulnerability of urban reliability to future climate scenarios was charted and identifies the worst outcomes which are associated with conditions that are 12% drier and 1.5 degrees F warmer (than average). The tools can be manipulated to see various outcomes.



In terms of next steps, the vulnerability analysis will be completed and a webinar will be scheduled to demonstrate how to use the tool. Ultimately, the goal is to see how different RMSs and response strategies help reduce vulnerabilities and to understand the tradeoffs between response packages. Scenarios are those factors that water managers do NOT have control over. The response packages represent actions that can be taken. The results will help identify which investments make sense.

The scenario content will be reflected in several areas of the Water Plan: the Assumptions and Estimate Report, Highlights Document, Volume 1 – Chapter 5, and the Regional Reports.

Discussion

Question: Will new surface storage be represented at the state or regional level?

Response: Surface storage will be represented at the statewide level, including a north-of-Delta and a south-of-Delta option. The effect of new storage on regional water management systems will be evaluated. Once the data results are known, there can be a discussion of the reasonable response packages that should move forward.

Question: Does this include information from BOR on water storage options?

Response: No, not beyond one north-of-Delta and one south-of-Delta option. The tool is robust and can include that type of information.

Question: Will this deal with any water quality questions?

Response: While this will address flow-related objectives for the Delta, the tool is not set up for water quality analysis.

Question: Why is salinity not included?

Response: Water quality, in general, is something we want to bring into the scenario analysis.

The model can incorporate water quality components, but there is a resource constraint.

ACTION ITEM: Note that on the landscape legend.

Question: Will any of this appear in the implementation plan? What's the status of that?

Response: To the extent that the Public AC is comfortable taking analysis results and developing objectives or actions, that could be incorporated.

Question: Why was a three-year drought selected?

Response: The historic trace is incorporated and captures the 1987-1992 drought. The most severe drought years, for water management response were 1976-77 and we wanted to extend that another year. Also, UWMPs tend to look at a three-year drought.

Question: When considering responses to climate change and drought in the rural areas – did you factor in any enhancements to existing storage? Reservoirs could be raised or dredged.

Response: Urban demand includes both metropolitan and rural residential demand. The strategies are what we're proposing. If values could be determined for those enhancements, they could be input into the model.



Question: Did you look at where growth is expected?

Rich: The tool looked at assumptions for exports to the south, as well as population for all areas. Population includes density as part of the equation.

Comment: This is both informative and scary. It was mentioned that the tools incorporate flow objectives for the Delta. The Water Boards are looking at unimpaired flow values for the San Joaquin, which could far outweigh climate change impacts. It would be helpful if that could be tweaked as we go along.

Comment: In the San Joaquin region, the USFS is projecting two distinct changes in climate: the Southern Sierra may be warmer and wetter with a higher elevation rainfall system.

Water Plan Content Development: Key IWM Challenges

Paul Massera emphasized Update 2013 is literally being written and draft text is being brought to the Public AC for review and comment. The sections being looked at in the meeting are characterizing IWM challenges. This information will reside in the opening chapter of Volume 1, with additional detail in Chapter 2, “California Water Today” and Chapter 3, “Imperative to Invest.” The challenges will provide backdrop for the strategic recommendations. The text is intended to support a call for action, as well as highlighting and describing current challenges.

Public AC members worked in small groups to discuss various challenges. During the group reports, specific changes to text were forwarded to the authors. General themes are captured below:

Greater Drought Impacts (page 1)

- Generally, text is weak in expressing the danger of drought; need to convey the urgency of the situation
- Add likelihood of single- and multi-year droughts
- Provide a relevant story for each example to convey impacts to communities

Increasing Flood Risks (page 2)

- Don't generalize – provide examples. Not all old infrastructure is failing.
- Add numbers/statistics of people in flood insurance; trends.
- People and policy makers don't understand flood risk – poor understanding of magnitude, solutions; poor awareness of:
 - Magnitude of big event (will come) – need more serious characterization of next catastrophe
 - Levees failing
- Sea-level rise should address coastal flooding, tidal surges, advanced sea-level rise
- Give examples of economic risk
- Add stories relating to levees, earthquakes and Katrina
- Don't over-generalize, describe vulnerable areas and where progress has been made



Declining Ecosystems (page 3)

- There is undue emphasis on the Delta, broaden scope
 - other areas with ecosystem issues too - Tahoe, Salton Sea etc.
 - seawater intrusion
 - upper watershed issues
- Polluted ecosystems impact water supply
 - Improved ecosystem as potential source of augmented water supply
- Go beyond endangered species
 - A healthy ecosystem is better able to respond to climate change
 - The term “impairments” should be “declining water quality” (including groundwater)
 - Funding should not be population-based
 - Say more about water quality some contaminants are from natural sources
- Separating natural ecosystems and engineering infrastructure reinforces the separation that got us here. [biofilic cities!] Need to advocate for integration/combining.

Impaired Water Bodies Declining Water Quality

- Discuss other issues besides wildlife
- Efforts and funding to protect water quality should not be population-based
- Emphasize preservation of existing quality; restoring water quality triggers the question of restoration to what condition
- Add new sentence to say that significant efforts are underway to address non-point source in the Central Valley (irrigated lands program, CV Salts)
- Sentences 7 & 8:
 - Framework needed to evaluate new chemicals on an ongoing basis
 - Discuss natural sources of water quality degradation (arsenic, radon, chromium)

Aging Infrastructure and Outdated Assumptions (page 5)

- Aging and inadequate infrastructure needs an integrated statewide priority system
- Integrate with energy nexus
- New approach: Localized approach to drinking/potable water and sanitation (building-by-building approach)
- Inhibiting urban infill development, no funding to replace old lines/infill developers don't have funding, no way to tax it
- O & M is hard to sustain even when improvements are built (maintaining watersheds); no funding for O & M
- Discuss adequacy of infrastructure, storage, conveyance, operational efficiencies
- Be specific and describe aging infrastructure challenges
- Add numbers/statistics regarding State economy, water supply, etc.
- Urban areas have engineered infrastructure; rural areas have natural infrastructure (ecosystems) – hard to separate



Physical and Social Variability Variability and IWM (page 6)

- Need to separate out two different challenges:
 - Physical environment, including climate change impacts (update atlas info and technology)
 - Social environment, with focus on governance and regional differences

Climate Change (page 7)

- Scale and variability need more specificity
 - Include regional effects (beyond Delta)
 - Emphasize more ecosystem effects – ecosystems are dynamic and will continue to change
 - Consider species effects
 - Show/cite evidence – there are still a lot of people who don't think climate change is a REAL THREAT
 - Clearer signal – wetter/drier, here/elsewhere
 - Provide examples – Napa grapes
- Existing systems built for narrower band of variability than what climate change may bring
- New monitoring and management investments needed
- Need adaptive measures incorporated into water management
- Need greater integration of changing hydrology into regulatory process for proactive results over the long-term (e.g. water rights and flows)
- Will climatic stress on ecosystems and listed species result in more restrictive regulations?
- Climate change leads to multiple effects on every part of CA's infrastructure (sea-level is just one impact)
- What improves adaptability under largest range of scenarios?
- Present evidence and personal examples is key; tone should be more dire!
- Let's say that we have a serious problem on our hands
- There are modeling limitations for moving from large-scale to finer-scale projections. More watershed-specific data is needed to support and develop robust modeling systems to better inform managers and planners.

Future Uncertainty (page 8)

- First paragraph, on uncertainty knowledge and action, is not at the same logical level as the other paragraph.
 - Is internally focused towards planning
 - All plans will have to be done in a face of uncertainty and challenges.
 - This is more of a comprehensive section – can delete and absorb into other sections
 - First paragraph applies to everything, uncertainty is a fact of life
 - First sentence, prefer to say” “California will invest...”
 - Line 5: Can't “reduce” future uncertainty - we can develop more accommodating or resilient watershed and water systems.



- Second paragraph: There are three broad types of uncertainty: two are addressed here and the third being the inability to predict future conditions (such as developments that change fundamental conditions or assumptions).

Integrating Water Management within DWR

Kamyar Guivetchi introduced Gary Bardini, who has been Deputy Director for Integrated Water Management for the past two years. Mr. Bardini spoke at the Water Plan Plenary and has infused significant energy in DWR to actualize IWM approaches within DWR. He is speaking to the Public AC to share his thinking on IWM and provide information on how DWR's approach will be rolled out at an April Summit and Conference.

Mr. Bardini remarked that the Water Plan has provided the vision for IWM and that much has transpired over the past 10 years. The next release of the plan will continue to discuss where we are in terms of water management, as well as looking to the future. There are many efforts, among Public AC members and others, involving state, federal, tribal and local entities. These are now coming together.

The upcoming IWM Summit, on April 3rd, reaches out to all efforts and will describe the current state of IWM and the what is trying to be accomplished. IWM has progressed and evolved, and is at a point in time where there are many efforts in regional planning – with support from the electorate for propositions supporting implementation. There is a desire to build on and improve IWM efforts. The real part of moving forward is in establishing a more mature funding strategy and looking at what is required in terms of alignment among agencies and partners.

Activities and accomplishments in the state have heavily focused on the areas of water recycling, groundwater management, regional IWM and the actual plans themes. People have been brought together, resulting in better alignment at the regional level and better ideas about improving the value of programs. Actions have also taken place across the state in the areas of watershed and water supply protection: ecosystem habitat and corridors; increasing system flexibility through reoperation and storage, and working on water quality protection. There has been a great deal of investment in that area.

Flood protection is another major aspect of water management in the state, with significant efforts linked to the passage of propositions 1E and 84. The FloodSAFE initiative has made great strides in catching up and flood planning is being better incorporate into IRWM. Other efforts are looking at the Delta, in the areas of security, sustainability, the region as a place, and system benefits. What can be done to take pressure off that system? The water community can take pride in the accomplishments that have been achieved. There is still much work to be done and the challenges have become greater. Water Plan is central to capturing all of these aspects. As a strong strategic planning document, it is more than a DWR product and has broad ownership. When looking at past accomplishments and current efforts, *what* are we actually trying to improve? We are looking at increasing system resiliency, which is quite challenging – at all levels. The aspects of what we do and value encompasses public safety, environmental stewardship and economic stability. What contributes to resiliency?



Resiliency involves several aspects. Are systems adequately robust, are systems strong and reliable? Are there system redundancies that provide flexibility and create options? Redundancy and robustness typically involve infrastructure improvements. Also essential for resiliency is the resourcefulness to balance and resolve challenges real-time. Recovery is the last aspect – the ability to recover quickly after a crisis. Great progress has been made in the area of resiliency and future efforts are need to enhance local and regional and inter-regional resiliency.

Who is involved in improving system resiliency? How do we strengthen interaction among agencies? Implementing entities, operating entities, land use/county entities and regulatory entities must all be engaged in moving from single-purpose to multi-benefit management actions. A shift is also needed from a short-term to a long-term management view. How do we interact on a long-term basis? How do we maintain participation? How do we move from segmented approaches to more holistic approaches? These concepts need to be strengthened in the report.

How do we come together and move good projects forward to improve system resiliency? Tools, plans, actions and results must be aligned to improve public safety, foster environmental stewardship and support economic stability. We need to move broadly in the direction of those outcomes.

- For Tools:
 - implementers look at quality of models and data collection
 - operators look at decision systems and real time data for management actions
 - land use agencies look at guidance and temporal data
 - regulatory agencies are looking at improving science and analysis
- For Plans:
 - implementers are interested in leveraging and prioritizing projects
 - operators are interested in larger system infrastructure improvements
 - land use agencies are interested in strategic direction and perspectives
 - regulators are interested in satisfying requirements
- For Actions:
 - implementers seek grants and cost-share opportunities
 - operators seek additional improvements
 - land use agencies seek support for their economic base and community resources
 - regulators seek opportunities to maximize mitigation

From an analytical perspective tools encompass analysis (of hazards, exposure, performance and consequences). We need to quantify our performance metrics of analysis. Tracking analysis will improve results. Planning occurs at several levels (regional, system infrastructure, project prioritization and broader strategic plans). A performance metric for planning is to look at how often plans, and their associated management actions, are being implemented. More and more, progress must be tracked. If the intended results are not being obtained, why not? Actions typically involve reimbursements, grants, cost-share and direct expenditures. That's how actions are implemented. Performance measures for actions come down to – what is the benefit of the management action being taken?



The goal is to maximize benefits and incentives are provided to encourage that. The State seeks to put programs in place that drive management actions with broader benefits. The broader the benefits, the more incentives are put into the process. This also occurs at the federal and local levels. With this in mind, the IWM Summit seeks to articulate and reinforce:

- the value that we are all trying to provide,
- the successes and accomplishments to date,
- and the values and benefits that have been realized.

The IWM Summit will discuss: what is needed to make future system resiliency investments; lessons learned; areas for improvement; and opportunities for better alignment to improve outcomes. The Summit is connected to the IRWM Conference, encouraging integration of these items at the local level and to strengthen the watershed aspects of planning. Concurrent with that is the state's effort in rolling out BDCP and the subsequent implications for IRWM efforts.

Jenny Marr, DWR, provided additional details on the IWM Summit and IRWM Conference. These events are co-sponsored by DWR, the Water Education Foundation and California Water Commission. The IWM summit occurs on Wednesday, April 3rd from 1:30 to 5:30 p.m. in the Secretary of State auditorium, followed by a reception at the California Museum. The Summit furthers the vision of IWM through two panels and several keynote speakers. The IRWM Conference takes place on April 4-5 at the Sacramento Convention Center and features several concurrent sessions and will focus on how practitioners can move IWM forward. Online registration for the Summit opens on February 26th.

Water Plan Objective Implementation

Paul Massera recapped that the earlier discussion on IWM challenges sets up the discussion on what is needed to support IWM implementation. The framework for this discussion seeks to incorporate the idea of IWM sector roles to help develop actionable recommendations for Update 2013. The actions will support the Water Plan objectives.

The IWM sector roles that Mr. Bardini introduced comprise: implementers, operators, local land use planners and decision makers, and regulators. Beyond these roles are other interests associated with implementation – those associated with policy aspects, as well as public decision-makers. The sector roles contribute to advancing IWM in a variety of ways and are being used to represent various perspectives, which might propose specific strategies to achieve certain objectives. Meeting participants referred to the related handout, which listed 16 Water Plan objectives. Public AC members were asked to identify potential strategies that each sector area might adopt in implementing IWM.

Discussion

There were discussions about the nature of the roles. It wasn't clear how operators would tie to long-term issues and solutions. It was noted that the roles don't sort out as cleanly as the categories indicate. Overall, the idea of roles did not resonate with the group. IWM has to occur across institutional boundaries involving a mix of people. Trying to categorize those people, into



these breakouts, doesn't seem to make sense. Organizations or entities may play different roles in different situations. Similarly, each sector role is typically involved with several, if not all, emphasis areas. Some thought that the areas of emphasis were more relevant than the sector roles in discussing IWM implementation.

Specific comments were also made regarding individual sector roles and emphasis areas. When looking at the "land use" role, it wasn't clear why land use was called out separately, since that seems to be a sub-category of implementers. It was noted that land use planning addresses more than IRWM. While some land use activities may relate to IRWM, and it may not be necessary for land use planners to participate in IRWM. Also, there may be land *management* activities that related to IRWM. For example, in an overdrafted aquifer, a land use designation for agriculture doesn't capture rolling fallow practices to reduce groundwater reductions.

Likewise, the IWM emphasis for regulators as aligning across state agencies using a holistic outcome-driven approach doesn't match real-world conditions. Tensions exist between agency missions and choices have consequences and risks for resources. Also, for implementers, there may be single-objective efforts that are vitally important.

A question was asked as to *who* will be using the implementation plan and *what* are they likely to do with it. Is the implementation plan prescriptive or illustrative? Mr. Guivetchi responded that while nothing prescriptive about the Water Plan, it can be used as a roadmap for policy making. The goal is to provide guidance for policy-makers and decision-makers by providing information and recommendations. It was noted that there is a wide range of stakeholders that are involved with water policy and implementation at the local and regional level.

Thinking about the final product - who will read it and what do you want them to do about it? If a local agency is supposed to read this and do something about it, talk to them and determine the vehicle for conveying that. What can the state do in terms of implementation that will make a difference? It was noted that the objectives should address the desired outcomes (goals) referred to on page 1. This will not necessarily occur on a one-to-one basis. The question of which objectives are needed to achieve goals will have to be determined at the regional level.

In recapping, it was generally agreed that the concept of the four roles didn't reflect reality. While the idea of the emphasis had some support, others did not see it as especially helpful. If there are no roles, the emphasis category doesn't make sense. A better approach to addressing IWM implementation might be to identify strategies that implement objectives, then determining who needs to be involved. Another suggestion was to drop the idea of roles, using a more traditional framework of goals → objectives → strategies and tactics.

Aligning Government

Several efforts have been moving forward to improve alignment across agencies: several members of the Water Plan Public AC are working on a white paper, and the California Biodiversity Council (CBC) has adopted outcomes and recommendations directed towards



agency alignment (which was provided as a handout). There have been conversations about moving forward with some of the CBC findings. A worksheet lists potential recommendations in this area, which will be brought back to the Public AC for review and discussion.

Question: Will there be a pilot effort developed to prove the concept?

Response: Kamyar Giuvetchi noted that several existing collaborative planning efforts were described and discussed at the October 2012 CBC workshop to highlight alignment approaches. Conversations were also held on alignment opportunities for upcoming planning endeavors, such as the State Wildlife Action Plan.

Comment: The concepts are worth exploring and the tone should be to continue these efforts, while noting that legislative direction to agencies may not be aligned.

Question: If the CBC has adopted this resolution and the recommendations, why would the Public AC rework the proposals being put forth?

Response: Mr. Guivetchi suggested that the proposed concepts can be considered at a regional scale, and refinements could be made to emphasize applications to water management.

Public AC members were asked to think further about what should move forward and submit comments to Lisa Beutler.

ACTION ITEM: Send out CBC resolution in Word version.

California Water Footprint

Rich Juricich introduced the presentation, highlighting the work of Update 2013 in the areas of sustainability indicators. One of the metrics being considered is the water footprint, which is also being researched by the Pacific Institute. Heather Cooley, co-director of the water program at Pacific Institute, and Julian Fulton accepted the Water Plan's invitation to present their work and preliminary findings to the Public AC.

Ms. Cooley explained that their work on the water footprint assessment has been underway for the past 18 months. The analysis was released in December 2012. This approach has been used around the world, which takes a different perspective on water use – looking at the amount of water required to support the production of goods and services in California.

Mr. Fulton reviewed the basic concepts of the water footprint, the water used to produce goods and services is broken out based on internal v. external (e.g. imported) sources. The footprint also breaks out the water footprint for goods and services consumed in California v. those exports out of the state. The assessment describes three categories of water: green (rainwater), blue (groundwater and surface water) and grey (polluted waters). The focus on consumption tracks water used in the production of goods and services, including water that evaporates or transpires within the production process, or is polluted by the process. The footprint does not include return flows or environmental flows.



Some examples were provided, illustrating the amount of water used for grain, beef and dairy production. The method for determining these values was reviewed and data sources were identified. When looking at the results, Californians tend to have the same water footprint as average Americans (for any particular item), while source water relies much more heavily on blue water sources as well as imported water supplies. As a whole, California is a net water importer (especially green water which is used primarily for pasture). Approximately ½ of the blue water used for production is exported. This information was also provided via a bar chart.

California's water footprint on an annual basis is approximately 65 million acre-feet. A per capita value was provided in pie charts that broke out blue and green water, and compared California's consumption to US averages and global averages. National water footprints were presented as well. In California, approximately 90% of the water footprint goes towards food production. The remainder goes to industrial uses and direct consumptions. Imported and exported elements of the water footprint were broken out by production categories.

Approximately 40 million acre-feet of water becomes polluted in the production of goods and services consumed in California. The greywater footprint for Californians is considerably higher than that for the average American (954 gpcd v. 459 gpcd). Future efforts by the Pacific Institute will focus on the water footprints of energy products, California water footprint trends between 1990 and 2000, and regional water footprints and inter-regional flows. UC Davis will be providing an analysis on water footprint uncertainty (variance and error), as well as the business case for the water footprint.

Discussion

In responding to a question, it was clarified that the footprint values are consumption values. Specifically, it is the value for the amount of water required to produce goods and services consumed in California. Another question inquired as to how recycled water is accounted for in greywater. The greywater value represents the amount of water needed to bring polluted waters back to water quality standards. It was noted that this definition is different from the typical definition of groundwater. The greywater values are reported separately, providing a sense of how water quality and water quantity are linked.

Mr. Fulton was asked to describe the next phase of work relating to the business case. He replied that the business case is directed towards water providers. Production entities represent another audience which should be considered (e.g. business groups). Globally, there have been results generated in the area of supply chain reliability risks for large food corporations (e.g. the impact on business).

There was a cautionary note that readers may assign values of good or bad on uses of green and blue water, when cattle grazing on rain-supported pasture might be a good thing. Public AC members reported that they did not tend to look at the results this way. There was a comment that the energy requirements associated with water movement might be another element of the business model. It was noted that this concept is now much more developed from when it was



first discussed by the Water Plan AC for Update 2005. Would the Water Plan be reporting on the amount of California's water resources that are used for production of goods and services in California? This idea will be discussed offline.

There was a comment that this approach is consistent with the energy footprint approach and other resource consumption analyses. The trends in water consumption might be informative, especially when looking at climate change scenarios. Also, water footprint values come into play with conversations on food security. There was a comment that it would be interesting to see the water footprint associated with fracking, which is one of the uses being monitored by Pacific Institute. In closing, there was a comment that the Water Plan should consider the policy implications that can affect the way the Water Plan addresses this issue – keeping the focus on the Water Plan and managing water in California.

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 (20):

Dave Bolland, Association of California Water Agencies
Grant Davis, Sonoma County Water Agency
Anisa Divine, Imperial Irrigation District
Jack Hawks, California Water Association
Al Herson, American Planning Association
John Hopkins, Institute for Ecological Health
Karah Karimah, California County Planning Commissioners Association
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
John Mills, Tuolumne-Stanislaus IRWM, Upper Feather IRWM
Valerie Nera, California Chamber of Commerce
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
Don Stump, Calaveras County Water District
Bob Wilkinson, UC Santa Barbara

State Agency Steering Committee Members (2)

Bruce Gwynne, Department of Conservation
Liz Haven, Water Boards

Other (6)

Rachel Ballanti, California Water Commission
Bob Gore, Gualco Group
Mark Franco, Franco Consulting
Chuck Jachens, Bureau of Indian Affairs
Sarah Schneider, Cal Poly
Fraser Shilling, UC Davis

Speakers (8)

Manucher Alemi, DWR
Gary Bardini, DWR, Deputy Director
Heather Cooley, Pacific Institute
Megan Fidell, DWR, Lead for Resource Management Strategies
Julian Fulton, Pacific Institute
Jenny Marr, DWR, IWM Summit Coordinator
Kasey Schimke, DWR,
Sarah Schneider, CalPoly, Graduate Student



DWR (11)

Kamyar Guivetchi, DWR, Chief, Statewide Integrated Water Management
Paul Massera, DWR, Program Manager, Update 2013
Lew Moeller, DWR, Project Manager, Update 2013
Jose Alarcon, DWR, Lead for Water Quality
Tito Cervantes, DWR, Lead for Water Balance
Chas Grant, DWR, Public AC Travel Coordinator
Rich Juricich, DWR, Lead for SWAN and Analytical Tools
Jennifer Kofoid, DWR, Water Plan Webmaster
Hoa Ly, DWR, Lead for Resource Management Strategies
Mary Randall, DWR, Regional Coordinator, Northern Region Office
Terri Wegener, DWR, Program Manager, Statewide Integrated Flood Management

Via Webinar (9)

Andrew Aguilar, DWR
Alejandro Caminos, SNW Securities
Esther Conrad, UC Berkeley
Kei Ishida, UC Davis
Kelly Larvie, CalFire
Wendy Phillips, League of Women Voters
Sarah Sol, DWR, Publications Team
Ron Sprague, California County Planning Commissioners Association
Stephanie Suess, Tuolumne Me-Wuk Tribal Council

Facilitation Team: Lisa Beutler, Executive Water Plan Facilitator, MWH America; Judie Talbot, facilitation support;
Center for Collaborative Policy, CSU Sacramento