

**MINUTES**  
**of the**  
**WATER RESOURCES COMMITTEE MEETING**  
**Hard Rock Hotel & Casino Lake Tahoe**  
**Stateline, Nevada**  
**July 9, 2015**

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Hard Rock Hotel & Casino Lake Tahoe  
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**MEMBERS AND ALTERNATES PRESENT**

<b>ALASKA</b>	David Schade
<b>ARIZONA</b>	Tom Buschatzke Bill Staudenmaier
<b>CALIFORNIA</b>	Betty Olson Jeanine Jones
<b>COLORADO</b>	Dick Wolfe Hal Simpson
<b>IDAHO</b>	Jerry Rigby John Simpson
<b>KANSAS</b>	David Barfield Tracy Streeter
<b>MONTANA</b>	John Tubbs Jan Langel
<b>NEBRASKA</b>	Jim Schneider
<b>NEVADA</b>	Roland Westergard Jason King
<b>NEW MEXICO</b>	Tom Blaine Greg Ridgley
<b>NORTH DAKOTA</b>	Todd Sando Jennifer Verleger Michelle Klose Andrea Travnicek
<b>OKLAHOMA</b>	J.D. Strong
<b>OREGON</b>	Tom Byler

<b>SOUTH DAKOTA</b>	Kent Woodmansey
<b>TEXAS</b>	Robert Mace
<b>UTAH</b>	Walt Baker Eric Millis Norman Johnson
<b>WASHINGTON</b>	Buck Smith
<b>WYOMING</b>	Pat Tyrrell Chris Brown Sue Lowry

### **GUESTS**

Jackie McClasky, Kansas Department of Agriculture, Manhattan, KS  
Mark Limbaugh, The Ferguson Group, Washington, D.C.  
David Rabbitt, North Bay Water Reuse Program, Sonoma, CA  
Ginger Bryant, North Bay Water Reuse Program, Sonoma, CA  
Mark Millan, North Bay Water Reuse Program, Sonoma, CA  
Carlee Brown, Western Governors' Association, Denver, CO  
Mike Turnipseed, Former WSWC Member – NV, Carson City, NV  
Jim Davenport, Former WSWC Member – NV, Buena, WA  
David Moon, The Water Report, Eugene, OR  
Jordan Bunker, Southern Nevada Water Authority, Las Vegas, NV  
Alexandra Davis, Former WSWC Member – CO, Denver, CO  
Christopher Estes, Former WSWC Member – AK, Anchorage, AK  
Susan Cottingham, Former WSWC Member – MT and WSWC Consultant, Helena, MT  
Don Ostler, Upper Colorado River Commission, SLC, UT

### **WESTFAST**

Patrick Lambert, Federal Liaison, Murray, UT  
Michael Freilich, National Aeronautics and Space Administration, Washington, DC  
Bradley Doorn, National Aeronautics and Space Administration, Washington, DC  
Melinda Dalton, U.S. Geological Survey, Atlanta, GA  
Sonya Jones, U.S. Geological Survey, Atlanta, GA  
Pixie Hamilton, U.S. Geological Survey, Richmond, VA  
Mike Norris, U.S. Geological Survey, Pembroke, NH  
Anita Thompkins, U.S. Forest Service, Washington, D.C.  
Jean Thomas, U.S. Forest Service, Washington, D.C.  
Becky Fulkerson, U.S. Bureau of Reclamation, Washington, D.C.  
Dionne Thompson, U.S. Bureau of Reclamation, Washington, D.C.

## **STAFF**

Tony Willardson  
Michelle Bushman  
Sara Larsen  
Cheryl Redding

## **WELCOME AND INTRODUCTIONS**

Tony Willardson, WSWC Executive Director, started off the meeting by stating: “The Western States Water Council (WSWC) is a premiere water organization.” The WSWC was created at the direction of western governors pursuant to a resolution adopted by the Western Governors’ Conference during meetings in Portland, Oregon on June 10-13, 1965. The Governors explicitly stated, “The future growth and prosperity of the western states depend upon the availability of adequate quantities of water of suitable quality.” In 1965, the Governors were concerned about water availability, interbasin water transfers, and federal water resource development. They wanted a unified, direct voice in the use of their own water resources and an equitable means of appraising and meeting future water needs through a regional effort. To that end, the WSWC held its first official meeting on August 3, 1965 in Stateline, Nevada at Lake Tahoe. Then-Nevada Governor Grant Sawyer remarked at the time, “Gathered here today is a greater assemblage of knowledge of water problems of the West than has ever been seated in one hall before.”

Tony read letters sent to the Council by Governors Gary Herbert of Utah, Governor Matt Mead of Wyoming, and Governor Brian Sandoval of Nevada recognizing the WSWC’s 50<sup>th</sup> Anniversary. Pat Tyrrell, WSWC Chairman, also formally acknowledged the WSWC’s 50<sup>th</sup> Anniversary in a letter commenting that “the organization has...grown into what is now recognized as the pre-eminent water policy advisory body in the western United States. We are a collection of states with similar (if not identical) water laws, water interests and challenges. Through hard work, collaboration, and expert knowledge, the Council has developed a reputation for ably serving as an advisor to western governors.”

Tony noted that commemorative momentos of caps and lapel pins were available recognizing our 50 years. Additionally, he thanked Sara Larsen and her husband Bryan, for the new WSWC logo.

John Tubbs welcomed all in attendance and commented that it was an honor to Chair this 50<sup>th</sup> anniversary meeting. He thanked the hosts from Nevada.

Introductions were made around the room. Michelle Bushman gave a brief self-introduction as she was very recently employed with the Western States Water Council.

### **APPROVAL OF MINUTES**

The minutes of the meeting held in Tulsa, Oklahoma on April 16, 2015 were moved for approval by J.D. Strong, and the motion was seconded. The minutes were unanimously approved as presented.

### **SUNSETTING POSITIONS**

Position #343, a letter regarding the importance of rural water supply projects, has been redrafted in the form of a resolution. It may be found in the briefing books under Tab C.

J.D. asked about the “tribal trust and other federal responsibilities.” Are there any other responsibilities? Tony responded that this language was intended to address promises made to the state of North Dakota and tribes related to lands inundated by Lake Sakakawea and other projects, and John Tubbs mentioned the other responsibility is “wet water,” rather than a paper water right. Todd Sando mentioned that funds have been very limited for Indian water rights. Wet water is applied to compact-settled reserved rights.

The Chair suggested the Committee wait until later in the afternoon to revisit Position #344 – Vision on Water, adopted June 8, 2012, and do some additional work and revisions on it.

### **WGA DROUGHT FORUMS/WATER RELATED ACTIVITIES**

Carlee Brown addressed the Committee using a powerpoint presentation. She first reviewed the WGA Drought Forum Report. Carlee noted that the Drought Forum will continue to work on the initiative generated by Nevada Governor Brian Sandoval for at least the next two years. There is a framework for sharing best practices. It is more than just the report. WGA’s Drought Forum website includes an online library with resources, meeting summaries, case studies, and best practices.

Carlee reviewed the seven key themes from the report, which are:

1. **Data and Analysis** – Covers harnessing the USGS, NRCS, NASA, NOAA and other information from satellites on precipitation, snow, and runoff. They are also interested in data interconnections involving drought-wildfire-species.
2. **Produced, Reused and Brackish Water** – How do federal, state and local authorities use these types of water and the technologies?
3. **Forest Health and Soil Stewardship** – How to increase communications amongst agencies and increase interaction? WGA will hold a NOAA meeting with state fire managers, and foresters later in the fall, which will provide opportunities for interaction.

4. **Water Conservation and Efficiency** – WGA is looking into a meeting to explore this more fully. WGA might use this opportunity to do a brief introduction to water conservation and see if the governors want to do more with it.
5. **Infrastructure and Investment** – WGA may potentially hold a workshop on this topic area.
6. **Working within Institutional Frameworks** – The WSWC administered a survey on how the states handle drought. The WSWC prepared a table so states can learn from each other on drought declarations. WGA plans to use this, but it will go to the WSWC before it goes public.
7. **Communication and Collaboration** – WGA will maintain the online drought library for at least two years.

WGA will be continuing work on drought for the next two years and they want to make sure to meet the needs of the Governors.

Hard copies of the report were made available at the meeting, and it is downloadable as well.

#### **Questions and Answers:**

**Sue Lowry:** The report looks fantastic in terms of the layout. There is so much information out there on drought, and you did a great job on pointing to some important sites. With respect to the Seattle meeting for drought coordinator, we did not really know about it. The comment you made about the message to tie the pieces together is important.

**Carlee Brown:** There is travel funding available through NOAA for the upcoming coordination piece. The WGA has an MOU with NOAA. The invitation went out later than it should have. The forestry piece is not sufficiently highlighted. This meeting will be focused on the drought community. The forestry piece is not fully acknowledged as we want to build on this meeting and understand who the state forestry coordinators are first.

John Tubbs, Acting Committee Chair, thanked Carlee. He also noted that Montana's Governor Steve Bullock was just appointed as the WGA Vice-Chair.

#### **USGS GW/STREAMFLOW INFORMATION PROGRAM**

Pixie Hamilton, National Coordinator, Cooperative Water Program, noted the USGS is restructuring their water budget programs. They have restructured from seven programs to four, and these include: (1) the National Groundwater and Streamflow Information Program; (2) the National Water Quality Program; (3) Water Availability and Use Science; and (4) the Water Resources Research Act (WRRRA) Program.

USGS wants to reflect who they are in the four budgetary line items. With these four programs, they have consolidated both the streamgaging and groundwater monitoring program into one activity. This should make streamgaging even more visible. All WaterSMART work has been consolidated under one activity. The matching requirement from the former Cooperative Water Program has been maintained. USGS has done this consolidation to clarify their programs and make them more transparent. They are just changing the way they look at the world. They hope to better communicate who they are, what they do, and why it matters. The Cooperative Water Program is still sound and secure.

The Groundwater/Streamflow Information Program will all be in one place. It will no longer be funded disparately from various programs. On Oct 1, 2015, the vital components of the Groundwater and Streamflow Information Program will begin. The program is a unified national streamgaging network of about 8,130 real-time streamgages. It will bring together stable groundwater level networks, including the collaborative National Groundwater Monitoring Network. It also includes a growing network of interdisciplinary "Super Gages," which measure temperature, conductance, phosphate, nitrates, and so on.

The Groundwater/Streamflow Information Program includes development and application of hazard information and tools to minimize loss of life and property, particularly for things like flood inundation maps. These are rapidly deployable gages, which allow us to communicate quickly with emergency managers and warn the public of hazards.

The program also includes research, development, and application of innovative techniques and technical oversight for cost-effective monitoring and record extension. Management and development of instrumentation is through the Hydrologic Instrumentation Facility. The program provides information management and delivery of hydrologic data. Pixie mentioned Water Now, which is a phone app to see the level of water in rivers in real time.

USGS asked for \$73M in the President's budget. The House cut it by about \$4M. There has been some funding for use of remote sensing in the Arctic. Some funding is for new gages.

National Streamflow Network Funding is a collaborative effort with more than 850 partners. A powerpoint slide showed a pie chart with respect to the funding. The Cooperative Water Program is about 17% (the federal portion). NSIP is about 14%. The amount reimbursable from other federal agencies is 16%. The amount reimbursable from States, localities, and Tribes is 53%.

There are an amazing amount of uses for the streamgaging network. The number one user of the network is recreation (fisherman, canoers, etc.). Some 1,127 NSIP gages are fully funded, and USGS thanks you for your support. This is Pixie's passion on the program that is accessible to the states. She wants to have an inventory for all 8,100 gages. She is pulling together a team in USGS now to hopefully get to this inventory.

Pixie is forming a streamflow information collaborative comprised of federal, state and local partners and tribes. The collaborative will come together to further the implementation of a

national network of streamgages to meet the myriad information needs. Pixie hopes the WSWC will be involved. She wants to get the word out about the value of the streamflow information network and its economic benefits, as well as to inform how this network is being used. She would like to increase engagement, and wants the collaborative to “own” it, not the USGS.

When Pixie took on the program, she did not know much about groundwater. There is an active and real-time network of wells. There are 18,000 long term wells. There are climate response wells (590), to help understand climate trends. The below normal network currently has 1,443 real-time wells, and shows right away where there are drops in groundwater levels.

The National Groundwater Monitoring Network (NGWMN) is beginning to be implemented. They are initiating the “National Program Board.” They are expanding the NGWMN portal capabilities and initiating cooperative agreements to help support data providers. They have cooperative funding and are completing work on existing pilots. In August or September, they will be putting out a request for continuing pilot programs.

### **Question and Answers**

**J.D. Strong:** The competitive grants you just mentioned, are those for groundwater level and quality and not for water use?

**Pixie Hamilton:** This is for groundwater.

**Susan Cottingham:** Could you speak about your cooperatives with tribes?

**Pixie Hamilton:** With the coop program, we have ongoing work with 92 tribes. We are putting up about \$6M, and the tribes are putting up about \$1.5M. There is streamflow and habitat work. Tribes are important to us, and particularly in the National Streamflow Information Program. We are trying to work towards new gages on the ground in the tribal areas.

**Buck Smith:** In Washington, we have farmers that use the Water Now app for streamflow monitoring so they can run out and turn on irrigation when streamflow is high enough, and turn it off when the flow is lower. And they use the alerts.

**Pixie Hamilton:** Wow. Can I get that in writing? That is very important. We have new energy in the program.

**Buck Smith:** We also use it to check up on them to make sure they are turning on and off.

**J.D. Strong:** It sounds like you are getting a boost in funding.

**Pixie Hamilton:** We are getting some.

**J.D. Strong:** In the Coop Program, can we expect matching funds?



**Pixie Hamilton:** The budget is for \$60,709,000. The Senate cut it to \$57,700,000. If the House comes through we will come up a bit. We will do everything we can to preserve it.

**Sue Lowry:** It is up to each district office to decide, if they will fund streamgages. The district offices have the flexibility. A strongly worded directive from Pixie emphasizes the funding needs to meet the target, which helps OMB take things seriously.

**J.D. Strong:** They have the flexibility to put in money? The Water Center Directors will have the ability to...?

**Pixie Hamilton:** The Directors will have flexibility, with guidance from headquarters. We will hit that target.

**Todd Sando:** Mentioned that North Dakota received a request for the state's groundwater data from USGS this morning.

**John Tubbs:** It seems that understanding USGS' budget takes a Ph.D.

### **USGS NATIONAL WATER CENSUS UPDATE**

Sonya Jones, Science Advisor for Water with the USGS, addressed the Committee on the Water Availability and Use Science Program (WAUSP) of the National Water Census. This program will become effective on October 1, 2015.

Specifically, she addressed the goals of the WAUSP. The Program came about through the Secure Water Act. They interpret these goals so they can provide the data and the tools to help water managers make decisions. They don't want to get into the political and legal ramifications, but will provide technical information in order to support resource managers. The goals of the Program are: (1) to provide a more accurate assessment of the status of the water resources of the United States; (2) to assist in the determination of the quantity of water that is available for beneficial uses; (3) to assist in the determination of the quality of the water resources of the United States; (4) to identify long-term trends in water availability; (5) to use each long-term trend to provide a more accurate assessment of the change in the availability of water in the United States; and (6) to develop the basis for an improved ability to forecast the availability of water for future economic, energy-production, and environmental uses.

An Ad Hoc Committee has helped them set priorities for the National Water Census and create water budgets with different components, yet have a unifying theme to achieve the goals. An Ad Hoc Committee meeting was held in June. They are soliciting input as to where to go next.

The National Water Census national topical studies include: (1) estimation of flow in ungaged basins. There are pilots in the Southeast in which the statistical models are working a little better than rainfall-runoff models. There will be a pilot in the West in FY2016. (2) Water

use is an important product, and the Secure Water Act provided some funding for this topical study. The long-term goal is for site-specific information on water use. They completed a thermal electric project that provides estimates on consumptive use. It will be a 5-7 year effort. They are attempting to come up with methods to estimate irrigation consumptive use. They are in the process of writing a joint report with the Bureau of Reclamation (BOR) on differences in water use data collection/reporting, etc. The BOR and USGS are very interested in doing this joint study. The Basin States Commission is reviewing the report. It should be out in the next several months. (3) Groundwater information gathering, including a brackish water assessment is underway and should be finished in the next couple of fiscal years. They have targeted 30 principal aquifers for the country. It is slow going due to less funding. (4) Estimation of evapotranspiration and time frames are available on the data portal. And lastly, (5) Ecological water science is available on the HUC 12 level.

Focus Area Studies are comprised of the Appalachian-Chattahoochee Flint (ACF) River Basin, the Colorado River Basin, and the Delaware River Basin studies. Three new studies which will occur in FY2016, including the Upper Rio Grande River Basin, the Red River Basin, and the Coastal Basins of the Carolinas.

An unconventional oil and gas study in the Bakken area will be undertaken in FY2016.

With respect to information delivery, the portal for USGS census data is online at <http://cida.usgs.gov/nwc>. The data portal is the instrument for information delivery. It includes water budgets for precipitation and evapotranspiration, estimates for instream flows and statistics, bio data (ecosystems), datasets and publications.

The Secure Water Act authorized the State Water Use Grants program that will provide financial resources, thru cooperative agreements with State water resource agencies. The water use grants allocation was for \$12.5 M over five years. \$1.352M was allocated for FY2015. Each State has \$26,000 to write a workplan to outline where you need additional help in funding for the Water Use Program. Funding should be used to improve the availability, quality, compatibility and delivery of water use data that is collected and/or estimated by States. The data must be integrated with appropriate datasets that are developed and/or maintained by the USGS

The Competitive grants start in 2016, and provide \$250,000 for each state. The email that was sent out had the guidelines in it. Mindy Dalton is the grants coordinator, so if you have questions, contact Mindy and visit the website: <http://www.grants.gov/>.

The Interstate Council on Water Policy is hosting three stakeholder meetings likely from about August through November of 2015. They will try to determine what states and stakeholders need. They will encourage cooperation and collaboration between State agencies and the USGS to improve and build better water-use databases. In the guidelines, there is tiered criteria for major categories. The ultimate goal is for site-specific, watershed (HUC 8) and aquifer-based data, including improved consumptive use.

For details on the President's FY2016 budget and the House/Senate marks for FY2016 see the powerpoint slides on our website at: [http://www.westernstateswater.org/wp-content/uploads/2015/01/SJones\\_USGS-Water-Availability-and-Use-Science-Program\\_2015.pdf](http://www.westernstateswater.org/wp-content/uploads/2015/01/SJones_USGS-Water-Availability-and-Use-Science-Program_2015.pdf).

### **Questions and Answers:**

**Sara Larsen:** Can you talk about the timeline for the Water Use Grants?

**Sonya Jones:** They have until the end of July to apply for a grant and a full year to use the funds.

**Mindy Dalton:** Emails went out with guidelines and links for how to apply for grants. The requirements for the application are a budget and scope of work. States must develop a workplan that outlines what you feel your needs are for your specific state. The scope of work for the application should be based on development of that program. We will begin the competitive process in FY2016 -- depending on our allocation, which will be about \$1.5 M.

**Sonya Jones:** We are doing a strategic plan. We are very aware of the WaDE system. There are other entities like the WSWC. We have permission for the WSWC to apply for grants.

**J.D. Strong:** Is that for the FY 2015 grant or future?

**Sonya Jones:** Future.

**J.D. Strong:** Can states apply together for funds to build out WaDE further? We are trying to figure out how to quickly apply for the \$26,000, and through the WaDE program.

**Sonya Jones:** I think you all should get together and decide what you need.

**Mindy Dalton:** We would have to get a letter from all of the states who are interested that they are interested in getting that funding. The states would relinquish their responsibility to the WSWC.

**Question:** You talked earlier about a Joint report. Who is doing that report?

**Sonya Jones:** The Basin States Commission will handle this for us.

**Eric Millis:** So, the awards will be made soon after July?

**Mindy Dalton:** The sooner you get your applications in the sooner you will receive your awards.

**Sonya Jones:** You just had to get your application in by July 1.

**J.D. Strong:** On the geographic focus studies, I was talking to my TX friends, and we don't know what goes into those studies. I set up a conference call and talked about the fact that we don't want to wait until all of the stakeholders become involved. There are many litigious issues that come up. We want to have early involvement. What is USGS doing to engage the states early? Do you plan to engage the states?

**Sonya Jones:** The project leads were encouraged to reach out to stakeholders early on, even before the stakeholder process begins. I will take your concerns back and share them.

**J.D. Strong:** I set up the conference call with her, but haven't heard from her since.

**Tom Blaine:** New Mexico has not heard about it. I agree with J.D. that there are many litigious issues.

**Sonya Jones:** Matt is the project lead, and I will take this back to him.

**John Tubbs:** When states hear the term stakeholders, we pick up on that, and we believe we are more than just stakeholders. It's just an issue with language.

## **NASA SATELLITE DATA FOR WATER RESOURCES MANAGEMENT**

Dr. Michael Freilich, Director, Earth Sciences Division, NASA, addressed the Committee using a powerpoint presentation, which is available on the Council's [website](#).

In NASA earth sciences, we have about \$1.8 - \$1.9B for work to understand how earth systems will evolve, and to test and analyze products. Much of our funding (about 62%) goes to the hardware, or satellites, while the remainder goes to grants, etc.

We are using the vantage point of space to make measurements of many different variables. We develop products that underlie predictions for societal benefits, such as evapotranspiration (ET), etc. Many of the systems contribute to our understanding and development of information products pertaining to water cycle studies. Each of the missions with a "star" on the slide contribute to our understanding of the earth's hydrologic cycle.

Two launches that are contributing measurements right now are: (1) the Global Precipitation Measurement Mission (GPM), which is providing accurate measurements of rain and snow globally every four hours, while every 30 minutes or so, with 10km measurements, they are providing precipitation information; and (2) Soil Moisture Active Passive (SMAP) radar mission that provides high resolution measurements of soil moisture content in the top 5 cm of soil, globally every three days. It operates such that it can see through clouds. The measurements provide freeze-thaw states in the Boreal Forests.

The European Multi-Spectral Land Imaging mission is called "Sentinal - 2A." It covers all of the Landsat bands, except for the thermal bands. It cannot provide the data. It has better

resolution than the Landsat data. In about a year, Sentinel – 2B will be launched (mid-2016). This together with the Sentinel-2A, will provide 5-day system repeat information.

An open-data availability agreement with the European Union is in the final stages. NASA, NOAA, USGS, and the State Department will all sign the agreement. NASA has solicited and selected research investigations for multi-system data fusion products from multiple countries.

The long history of Landsat measurements was shown in a slide in the powerpoint presentation. Landsat is the only measurement that captures the thermal bands.

Landsat 7, launched in 1999, may operate well into the 2020-2021 timeframe. Each scene is corrupted in about 22% of the scene (or image). Landsat 8, which launched in February 2013, collects about 725 scenes per day. The fuel could last about 20 years. Both Landsat 7 & 8 are providing products from the thermal bands that are being used by water use managers.

Looking into the future with these missions, for the data products that state managers are using for their calculations, it has been more by luck than by planning that these missions have produced a continuous record. The Obama Administration has established the fact that our nation will have a planned, system engineered, affordable, and sustainable program.

With respect to other missions, the Thermal Infrared Free Flyer (TIF-FF) is planned for launch in 2019 and could fly in constellation with a reflective band imager.

NASA will start immediately on Landsat 9, a rebuild of Landsat 8 is to launch no later than 2023.

For the future, NASA is looking at land imaging technology and systems innovation, as well as hardware, operations, and data management processing investments to reduce risk in next generation missions.

The plan for Landsat 10 is a Class B full spectrum to launch around 2030. Mission architecture will be informed by the technology investments now and in the future. (See slide for fly-out mission architecture).

With respect to a sustainable land imaging program and Congressional action/status, the FY2015 NASA appropriation allocated \$64.1M for initiation of Landsat 9. It called for a “copy” of Landsat 8, and for a 2020 launch date. It also precluded being involved with any international partners, and no development of alternative “out of the box” approaches. NASA’s request to initiate both the TIR-FF (2019 LRD) and Landsat-9 (2023 LRD) in FY 15, consistent with the President’s FY16 budget submission, was denied by both the House and Senate, and focus placed on Landsat 9. (See slide for FY16 appropriations mark-ups in both the House and Senate).

Congress seems to be looking only at the next Landsat. There may be some fear that the U.S. would walk away from Landsat. We have begun the Landsat 9 project. It has been directed to NASA's Goddard Space Flight Center. Studies continue to help advance technologies and component development.

### **Questions & Answers**

**Pat Tyrrell:** Would you define constellation flying?

**Dr. Freilich:** It is just formation flying. It is a powerful tool. It allows us to establish virtual observatories. It allows you to bring up new instruments as they are ready, and doesn't hold things back.

**John Tubbs:** The progress you have talked about is significant.

**Dr. Freilich:** Thank you. It is not just NASA, but it is USGS and NASA together.

### **WATER DATA EXCHANGE (WADE) UPDATE AND WGA SUMMARY REPORT**

Sara Larsen reported that three states are flowing data in the Water Data Exchange portal, Utah, Wyoming, and Colorado. More states are working to get information into the portal.

The data is testing the limits of the cloud performance and database optimization. At the present time, the vendor does not work with larger datasets, so Sara is looking at remote hosting or ways to host the data locally at the WSWC.

The foundation that is being laid for WaDE has been a bit slow. Using a ketchup bottle analogy, Sara explained that getting the foundation data established, getting the states on board, and requesting states to carve out time to work on Wade has been a bit cumbersome. That said, she thanked the states for their work, and gave encouragement to continue the process.

The Council has received a tentative award for FY2015 Exchange Network (EN) Grant funding, which will assist the states of California, South Dakota, and Nevada. The goal is for a public release of the WaDE portal at the mid-Winter WGA meeting in December.

With respect to outreach and collaboration efforts, the federal Open Water Data Initiative (OWDI) will allow more heterogeneous partners. OWDI allows federal agencies to share data in a common format. The costs of extensive metadata can be pretty high. The federal agencies are trying to make recommendations regarding data standards, so that the integrity of the data is preserved, along with the quality of the data and "fitness of use". Sara wrote a paper for the *Journal of the American Water Resources Association (JAWRA)*, to try to ensure WaDE participation is included, and to provide guidance. To this end, Sara will attend and participate in a Congressional briefing at the end of July.

Sara's objective is to reach out to folks about the intrinsic value of the water data. To make the data reusable is important, and to include information about "provenance" and confidence in the data, and to explain the limits of the use of the data.

Water use is an important piece of the puzzle. A Western States Water Council (WSWC) survey compared water use programs and data gathering for different uses, areas, etc. The challenge is to add to existing programs, to move from a more patchwork approach and make it a bit more comparable and to flesh out how you got the data and metadata. The WSWC wants the data to be more useful, especially as you look across state boundaries.

Sara addressed the Water Use Data and Research (WUDR) timeline. The USGS first issued its WUDR Program description by email via their USGS Water Science Centers to their water use contacts within each state on June 24th, 2015. In her email, Sonya Jones of USGS mentioned the WUDR Guidelines document, which provides details of the technical requirements for both the FY2015 and FY2016 awards, as well as the first steps needed for states to apply for the initial round of funding for FY2015 (a set amount of \$26,000). Sara suggested that for the initial scoping, member states should try to get applications in as early in July 2015 as possible, but before July 30. In the Fall of 2015, states should use the scoping funds to develop proposals. In December 2015, the FY2016 solicitation will be published at Grants.gov. In April 2016, the awards will be announced.

Tony mentioned a copy of the WSWC's WaDE progress report to the Western Governors' Association is contained in the briefing books under Tab G.

## **FEDERAL WATER DATA COORDINATION**

Using a powerpoint presentation, Pat Lambert, WestFAST Liaison described a pilot effort to coordinate a soil moisture data network. WestFAST can play a role to help bring together the sources of soil moisture data. The data is highly variable. The thought is to integrate the *in situ* measurements, similar to the WaDE program. Those collecting the data include federal entities, state entities, and some university entities. However, none of the data are integrated. WestFAST is seeking to make this variable data from numerous sources better, and trying to find ways to integrate networks and remotely sensed datasets.

Pat explained that if he were a U.S. Drought Monitor author, he would want to see a percentile ranking map of current volumetric water content (see slide). A pilot was initiated in 2013 for monitoring soil moisture networks. The objective is to get a proof-of-concept near real-time soil moisture network implemented. See the slides for an explanation demonstrating the potential usefulness of a soil moisture data network.

The National Soil Moisture Network is being accomplished through several entities. They have a timeline to complete development in July 2015. They are using the pilot as an example of how to move forward with next steps in getting soil moisture and to stimulate

discussion for how to advance additional networks. These sorts of efforts are ongoing and they are trying to upscale the efforts to make the data available in a better manner.

John Tubbs commented that it is important to work with our WestFAST partners and liaison.

## **BUREAU OF RECLAMATION ACTIVITIES AND ISSUES**

a. Drought Response Program Funding / Drought Contingency Planning Funding – Dionne Thompson, Deputy Commissioner for External and Intergovernmental Affairs, U.S. Bureau of Reclamation

Dionne noted that this country is dealing with persistent, in some cases, unprecedented drought. Drought has been at the forefront of discussions by the Administration for several years. Drought has caught the attention of the White House, Cabinet Secretaries, and all levels of government. This Administration has adopted an “all in” approach to dealing with drought.

Reclamation’s new Drought Response Program is part of that approach. It is part of Interior’s Water SMART Program, which focuses on improving water conservation and sustainability, while helping water resource managers make sound decisions about water use. This new program is a proactive, three-pronged approach to drought that covers drought contingency planning, drought resiliency projects and emergency response actions.

One frequently cited estimate from FEMA is that “mitigation,” taking steps ahead of time to prevent known impacts from a natural disaster, saves \$4 for every one dollar expended. Planning ahead is generally seen as more efficient and more effective than measures taken in crisis mode. To incentivize planning and preparedness rather than crisis response, the majority of the drought response program funding will be allocated for contingency planning and drought resiliency projects. Applications for funding were due June 25, 2015. They are in the process of evaluating the proposals. Funding awards are expected by the end of September.

There are two pots of money. The drought resiliency projects have a \$3 million pot for “mitigation actions” that are identified in a drought contingency plan. These actions will: (1) increase the reliability of water supply; (2) improve water management and increase operational flexibility; (3) implement systems to facilitate voluntary sale, transfer, or exchange of water; and (4) provide benefits for fish and wildlife and the environment.

Emergency response actions to minimize losses are contingent upon available funding. Eligible emergency response actions are limited to activities such as temporary construction, water purchases, and the use of Reclamation facilities to convey and store water.

b. Major Rehabilitation and Replacement Needs Assessment



Dionne turned to Reclamation's infrastructure investment strategy. She noted that as facilities continue to age, Reclamation looks at its abilities to respond to issues to maintain safe and reliable facilities.

Senator Barasso introduced a bill this legislative session, S. 593, the Bureau of Reclamation Transparency Act. This bill would require additional reporting on Reclamation's infrastructure needs for both reserved and transferred works. Reclamation's strategy was presented in testimony by Dionne before the Senate Subcommittee on Water and Power in June supporting the legislation.

Reclamation's strategy process focuses on: (1) improving data collection, analysis, and reporting on the condition of Reclamation-owned infrastructure; (2) categorizing potential investments according to relative importance and urgency; and (3) collaboration with water and power customers in planning for these investments.

A series of formal and informal discussions will be held beginning in August 2015 to build relationships and engage with external stakeholders and customers. Meetings will be held at the regional office level to identify the affordability aspects of the investment needs.

Dionne concluded her remarks by reiterating that drought has the attention at the highest levels. The Bureau of Reclamation has a stake in the process of ensuring the sustainability and security of our water and power supplies for the economy and for future generations.

#### c. Loan Guarantees and Re-ACT Legislation

Mark Limbaugh talked about a proposal that is in concept at this point. It is not a bill yet. This concept is an innovative way of dealing with water infrastructure needs in the West. The bill is known as the Reclamation Efficiency Act of 2015 (RE-Act). It aggregates and amends existing Reclamation authorities to provide assistance to water managers across the West. The concept includes a Reclamation Infrastructure Finance and Innovation Authority (RIFIA) proposal with loans covering up to 49% of project costs.

New water infrastructure funding/financing tools include: (1) federal direct and guaranteed loans (RIFIA); (2) transfer of title to Reclamation facilities or elements of facilities; and (3) cost-shared competitive grants for small-scale storage, integrated regional water management and water recycling projects. Other key provisions in the Re-Act proposal incorporate: a de-authorization process to create budget offsets -- an expedited process to de-authorizing Reclamation projects and programs no longer viable. Reclamation would work with Congress and project/program sponsors to identify those projects in order to create budget offsets. Congressional oversight of grants means that before final grant awards are made, recommendations would be submitted to congressional committees of jurisdiction.

Re-Act loans would be a new Reclamation financing tool for water infrastructure projects in Western States (including Title XVI Projects). Re-Act would provide credit assistance for up to 49% of total project costs with a repayment period of up to 35 years at Treasury interest rates

with the ability to defer initiation of repayment for up to 5 years following substantial completion of a project. The annual debt service savings would be 10-20% or more and provide improved flexibility and cost-savings in comparison to municipal financing.

What is eligible? Water management and supply improvements, energy efficiency or hydropower, water reuse/desalination, or other projects that complement other federal interests. The projects must be in the Western States, including Alaska and Hawaii. The Congressional Budget Office only scores the subsidy associated with risk exposure. Re-Act includes huge leveraging of small federal investments. There is no requirement to borrow for a debt service reserve fund (muni bonds).

Differences between RE-Act loans and WIFIA loans are: (1) Re-Act loans will not compete with the SRF loan program; (2) transfer of title authority allows transfer of title to a Reclamation project or a component of a Reclamation Project to a non-federal entity where certain requirements are met; and (3) it allows a non-federal operating entity to obtain a loan guarantee.

Grants for small-scale storage, integrated regional water management and recycling projects would allow participation with local water management agencies to develop storage and conveyance facilities and other water supply infrastructure improvements. This includes Title XVI-like water reuse, recycling and desalination projects. There would be no need for additional project authorizations from Congress. Further, Re-Act would provide authority to participate in projects with cost-shared grants of up to \$20 million per project or 25% of the total, whichever is less.

David Rabbitt, Supervisor, North Bay Water Reuse Authority (NBWRA) for Sonoma County, also addressed the Committee with respect to the reasons they are advocating for Re-Act. NBWRA has a two-phased regional water recycling program. The area covers three counties and seven water and wastewater districts around San Pablo Bay. Phase 1 is valued at \$100M in infrastructure \$25M in U.S. Bureau of Reclamation Title XVI funds; \$4.8M in California Prop 50 and 84 funds; and \$74.2M in local rate payer funds. Phase 2 is being studied. They have identified an additional 25,000 acre-feet/year of recycled water that can be captured, stored, and put to beneficial use. Initial cost estimates value Phase 2 infrastructure at \$250M. The NBWRA needs funding tools that provide financial assistance to implement Phase 2 projects.

The RE-Act language proposed would allow the Secretary to make title transfers without the need for a complicated legislative process (through still subject to tacit approval by Congress).

John Tubbs inquired about the BOR infrastructure and guarantees funding. Mark Limbaugh responded this is done by the Treasury...if the risk is low the outlays are less.

### **CDWR/WSWC WORKSHOPS AND ACTIVITIES**

Jeanine Jones reported on a workshop held in May in San Diego on seasonal and sub-seasonal precipitation forecasting. The workshop highlighted for NOAA some of the forecasting needs. Hopefully we'll see how to work with them going forward. The workshop provided a great opportunity to determine a way forward to improve prediction, at least for the western states. We anticipate that proceedings of the workshop will be completed later this year.

The California Department of Water Resources (CDWR) has put money into the pot to do research. In addition, CDWR is contracting with the WSWC to continue work on this effort, as well as the California Irrigation Management Information System (CIMIS) program. California is also offering to work with neighboring and other western states in hosting a couple of workshops to determine how to expand this effort into interstate watersheds. A partner could include the State of Arizona. Workshops will be held to find out if other states are interested in participating in this program.

### **FY 2015-2016 DRAFT COMMITTEE WORKPLAN**

Tony Willardson provided a brief overview of updates to the workplan since the previous meetings held in Tulsa, Oklahoma last April. There was a motion to adopt the workplan as revised. The motion was seconded, and unanimously approved.

### **OTHER MATTERS**

There being no further matters, the meeting was adjourned.