MINUTES
of the
WATER RESOURCES COMMITTEE MEETING
Holiday Inn Conference Center
Helena, MT
July 17, 2014

Table of Contents

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MEMBERS AND ALTERNATES PRESENT

ALASKA	**--**
ARIZONA	Bill Staudenmaier
CALIFORNIA	Jeanine Jones Tom Howard Betty Olson
COLORADO	Trisha Oeth
IDAHO	Jerry Rigby John Simpson
KANSAS	Greg Foley
MONTANA	Tim Davis
NEBRASKA	Jim Schneider
NEVADA	Roland Westergard
NEW MEXICO	Scott Verhines
NORTH DAKOTA	Jennifer Verleger
OKLAHOMA	J.D. Strong
OREGON	Racquel Rancier
SOUTH DAKOTA	Kent Woodmansey
TEXAS	Toby Baker Carlos Rubinstein

UTAH	Walt Baker Eric Millis Norm Johnson
WASHINGTON	Stephen Bernath Buck Smith
WYOMING	Pat Tyrrell Chris Brown Philip Stuckert Kevin Frederick

GUESTS

Carlee Brown, Western Governors' Association, Denver, CO
Jim Peña, USDA Forest Service, Washington, DC
Robert Harper, USDA Forest Service, Washington, DC
Shaun McGrath, EPA Region 8, Denver, CO
Joan Card, EPA Region 8, Boulder, CO
Julia Dalsoglio, EPA Region 8 Montana, Helena, MT
Tina Laidlaw, EPA Region 8 Montana, Helena, MT
Veva Deheza, NOAA/NIDIS, Boulder, CO
Mike Norris, USGS Headquarters, Reston, VA
Frank Kelly, USGS/EROA, Sioux Falls, SD
Darcy Bushnell, UNM-Utton Center, Albuquerque, NM
Curtis Seaton, Texas Water Development Board, Austin, TX
Patrick Lambert, U.S. Geological Survey, Salt Lake City, UT
Bruno Bowles, Southern Nevada Water Authority. Las Vegas, NV
Tucker Royall, Texas Commission on Environmental Quality, Austin, TX
David Schade, Alaska Department of Natural Resources, Anchorage, AK
Timi Vann, National Oceanic and Atmospheric Administration, Seattle, WA
Doug Kluck, National Oceanic and Atmospheric Administration, Kansas City, MO
Paul Blanchard, Northwest Pipe Co., Vancouver, WA
Garland Erbele, Wenck Associates, Pierre, SD
John Hagengruber, US Forest Service, Helena, MT
Alice Stanley, MT Department of Natural Resources, Helena, MT
Larry Kramken, Houston Engineering, Fargo, ND

WESTFAST

Eric Stevens, Federal Liaison, Salt Lake City, UT
Becky Fulkerson, Bureau of Reclamation, Washington, DC
Jean Thomas, USDA Forest Service, Washington, DC

Lee Koss, Bureau of Land Management, Washington, DC
Roger Pulwarty, NOAA, Boulder, CO
Michael Strobel, USDA-NRCS, Portland, OR

STAFF

Tony Willardson
Nathan Bracken
Sara Larsen
Cheryl Redding

WELCOME AND INTRODUCTIONS

Scott Verhines, Vice-Chair welcomed those in attendance at the meeting.

APPROVAL OF MINUTES

The minutes of the meeting held in Washington, DC in April 2014, were moved for approval by Roland Westergard and the motion was seconded by Tim Davis. The minutes were unanimously approved as presented.

SUNSETTING POSITIONS

Position #332 – supporting Federal Research and Development of Updated Hydroclimate Guidance for Extreme Meteorological Events. The position has been updated since the 2011 version. Jeanine Jones explained some of the changes, which include support for improvements and enhancements to the technological aspects. There is a marked up version in Tab C of the briefing materials. Some of the changes were recommended by the Executive Committee during their pre-meeting conference call. The Committee added winter storm Atlas and the soil moisture monitoring network.

Carlos Rubinstein moved for adoption of the position as revised. The motion was seconded by Betty Olson. The Water Resources Committee approved adoption of the position.

Position #333 – deals with the Reclamation Fund. Congress has enacted and approved a dedicated settlement fund, with transfers for the Reclamation Fund. This position has been updated with more current information and can be found in Tab C. It estimates that the unobligated balance at the end of each fiscal year is calculated to be $12.029 billion for FY2013, $13.118 billion for FY 2014 and $14.336 billion for FY2015.

Scott Verhines mentioned a rural water project in New Mexico.

A motion to approve the proposed position as revised was offered and seconded. The motion was unanimously approved by the Committee.

Position #334 – urging Congress to maintain the authorization and funding for the Water Resources Research Institutes was moved for adoption. A second to the motion was likewise offered, and the position was approved unanimously.

EPA WATER-RELATED ACTIVITIES AND RULES

Prior to the scheduled presentation, Tony Willardson read into the record a resolution of appreciation honoring Shaun McGrath, EPA Region 8 Administrator and former WGA Water Program Director. Pat Tyrrell moved approval, which was seconded by Roland Westergard. The resolution was adopted.

Shaun expressed appreciation for the resolution and for the opportunity to address Council members. He began by discussing drought efforts, including his past efforts while with the Western Governors' Association (WGA) to develop a comprehensive national drought policy, which led to the enactment of the National Integrated Drought Information System (NIDIS). WGA was also endeavoring to get more proactive planning in place on a watershed scale and to not wait for droughts to emerge, but to have NIDIS there to inform as droughts come on. Yesterday, EPA announced with Governor Bullock of Montana, this kind of comprehensive planning effort. This is a demonstration project and we hope to do more across the Nation.

Shaun addressed the Waters of the United States rule. Joan Card was along with Shaun. Joan was brought in to serve as an advisor to the EPA Regional Administrator. Joan is a former WSWC member from Arizona, who also chaired the WSWC Water Quality Committee.

Shaun noted that both he and Joan worked on the Waters of the United States (U.S.) before they began working with EPA. We know the Council has been working with Nancy Stoner, and we have had meetings across the country on this issue. The comment period has been extended 180 days. We will work to try to get this right. I want to make it clear that this rule is proposed, and EPA really does want to hear from you.

The purpose of the rule is to clear up confusion. Shaun mentioned the conference call held last week with EPA and the WSWC to discuss tributaries and adjacency. He encouraged states to submit constructive comments.

The current amendment has been in place since 1977. The amendment has confusing language and tests. Over 100 organizations have asked EPA to revise its regulation. It is a very complicated task to define jurisdictional waters.

EPA has turned to the science. Currently, EPA is doing outreach across the Nation. We are finding a lot of misunderstanding and misinformation about the regulations. EPA needs to receive your input to ensure the rule does what it is intended to do.

Shaun reviewed the language with respect to ditches – that they have a bed, banks, and ordinary high water mark. Irrigation ditches are not under the proposed rule. They have not expanded the regulation in the proposed rule. EPA is defining which ditches are and which are not included in the proposed rule. Many ditches have already been included under the current regulation as a Water of the U.S.

He described a setting with a farmer who did not know he had a ditch that was a Water of the U.S. He also described ditches which are out in drylands or do not flow all the time, or do not flow into a downstream water. He said that seasonal streams that do not flow year-round have always been protected under the Clean Water Act (CWA).

The permitting process is carried out by the U.S. Army Corps of Engineers. EPA does not anticipate the proposed rule should affect how states handle their water quality permitting processes.

The EPA Administrator herself said that if you did not need a permit before this rule, you won't need one with the proposed rule, unless you are proposing a new activity that is not exempt. The rule is intended to streamline the process. Court decisions have resulted in case-by-case determinations, which have slowed down the process. The rule is intended to reduce the number of case-by-case analyses required.

Misinformation is creating a lot of confusion. WSWC members have begun to identify many portions of the proposed rule that may need some clarification. Shaun encouraged states to continue to let us know of your concerns and submit these thoughts in formal comments.

There is a list of myths that EPA is trying to dispel. There are many questions about the impacts of the proposed rule on water management. The proposed rule fully preserves agricultural exemptions established under the CWA. The proposed rule clearly states for the first time that groundwater is not a Water of the U.S.

This rule is proposed and the deadline has been extended for formal comments. The deadline is now October 20, 2014.

Questions:

Stephen Bernath: – Do you want to comment on the agricultural interpretive rule as Washington has some concerns?

Shaun McGrath: The intent is to give assurances to agriculture, and take the existing regulations to ag and to broaden them. There are 56 specific practices. We are hearing some valid concerns about how we have structured that. There are apparently unintended consequences on this one. I urge you to make sure to provide specific comments on that.

Alice Stanley (with MT): What concerns that have been raised do you believe are valid?

Shaun McGrath: The interpretive rule – we may have missed the mark on it.

Joan Card: Irrigators who are not engaged in new activities won't have new requirements. That's the intent, but we're trying to clear this up. It is an educational process. It is difficult to say that the Corps has not been involved in your processes.

Shaun McGrath: Other waters -- "we're not sure." We need to have an additional look at these. The intent is not that they are jurisdictional. However, some are interpreting this as the rule stating that they're jurisdictional unless proven otherwise.

Pat Tyrrell: With respect to shallow subsurface water, how are you defining the difference between that and groundwater? I appreciate a lot of what you've said this morning. The concern is that we have had no engagement in this. We tried being involved two years ago with the guidelines. We have to go through the Preamble, and then have got this foreign document that is huge.

Shaun McGrath: That is a fair point about the process. EPA did not do extensive outreach with the states prior to putting out the proposal. It has been contrasted with the air rule, where EPA did extensive outreach before putting out a draft.. The process concern has been taken with some sensitivity. We are trying to catch up a bit now, and some of the misunderstanding that is out there is our fault. Groundwater is not jurisdictional.

Joan Card: Groundwater is not jurisdictional, and subsurface flow is not jurisdictional either, but there is a factor, or a test…to determine connectivity, adjacency, along with other factors.

Greg Foley: 95% of their practices won't qualify under the NRCS technical standards. There are watersheds that need restoration. 100% of nothing is still nothing. Kansas believes the current definition exempts those practices and that they don't need further clarification. We have concerns about regulation of non-point sources of pollution. Terraces are not on the list. As a whole, there's no purpose in setting the bar that high because there are a lot of folks who follow the practices without federal money. The current rule is adequate and enough.

Shaun McGrath: EPA's intent was to give assurances. The ag community is not feeling very assured. We may have missed the mark on this one.

Betty Olson: Will there be a clarification on the nexus brought about by recharging a Water of the U.S. with a groundwater basin that is exempt?

Joan Card: The significant nexus does not apply to groundwater. The nexus is from surface water to surface water. The nexus isn't between surface water and groundwater.

Betty Olson: Will there be efforts to reclaim shallow groundwater. If an underground stream is next to a blue line stream, will that create issues?

Shaun McGrath: If it is an underground water, it is exempt.

Now on the EPA Water Transfers Rule, and whether or not they require an NPDES permit, the Second Circuit Court remanded that back to EPA. The Department of Justice filed a protective appeal, which allows us an ability to appeal it. That doesn't mean that we will appeal it, but it preserves the deadline. The Solicitor General has not made that decision yet, but the deadline for making the decision on whether to appeal or not is September 11.

Tony Willardson: We have been approached by EPA about a potential change to the policy on recognizing tribes as states under the Clean Water Act. Do tribes have inherent authority to regulate aspects of the CWA?

Shaun McGrath: Since 1991, EPA has had a fairly strict statute. If there are fee lands owned by non-tribal members, we required the tribe to do a "Montana" test to see if the actions of the non-tribal folks within the reservation boundaries have an affect on the tribe's welfare. It is an expensive and burdensome criterion for tribes to undertake. EPA is considering whether or not this should be changed. The argument for considering the change is that in 1991, EPA adopted a strict interpretation of the statute. There have been some judicial findings and decisions since 1991. EPA has reviewed the Clean Air Act, which has similar language and provisions that are not as strict. We administer the Clean Air Act differently. The question before us, is should we make this change? If so, EPA would propose the change in the fall.

Nathan Bracken: We will be discussing this in our Water Quality Committee meeting. My understanding is that this is an interpretive rule. Could you explain that?

Shaun McGrath: It does not change the underlying regulation at all. Region 8 would be happy to organize a sidebar on this topic.

Shaun concluded by thanking the WSWC for the resolution. He said he looks forward to coming to more meetings in the future.

WGA WATER/DROUGHT ACTIVITIES

Carlee Brown reported that there is a lot going on at the Western Governors' Association (WGA). Tony and Nathan are integral to the work WGA is undertaking. The WSWC informs a lot of WGA's work.

The WGA Annual Meeting was held in June. WGA's New Chair is Brian Sandoval of Nevada and Oregon's Governor Kitzhaber is Vice-Chair. There were ten governors at the meeting, and several high level federal government officials. There was a lot on water on the Governors agenda. It was a great meeting.

Governor Sandoval's initiative is the Western Governors' Drought Forum. He signed an MOU with NOAA for managing extreme events. The Western Governors' Drought Forum will consist of a series of meetings, there will be a best practices library on the website, and a brief report.

The effort will be designed to understand where the states are with drought programs and what can be done to move things forward. NOAA will have a large role in this effort. WGA will use a similar process to that undertaken on the water transfers report. They will work with the WGA Staff Advisory Council and the WSWC to identify participants and who will be in the room for each meeting. The plan is to hold various regional meetings, each with a different focus. The first one will take place in September, in Norman, Oklahoma. Another meeting will likely be held in conjunction with the WGA winter meeting in Las Vegas, which is right before the Colorado River Water Users Association meeting. Other forum focus areas include ag impacts and environmental impacts, flooding and wildfire.

The Governors have sent two letters on the Waters of the U.S. The issue of state authority was underlined. On May 30th, the WGA filed for an extension of 180 days. Carlee thanked Shaun for his comments and for attending today. WGA is looking at finding bipartisan ground and will be working with the WSWC.

Another issue being reviewed is the Forest Service proposed ground water directive. WGA sent a letter that sets out a list of questions, and is in your materials on page 45. It focuses on state authority and engagement with the states.

Additionally, WGA is planning to prepare a letter on the EPA Water Transfers rule related to the notice of intent to appeal and efforts to overturn the water transfers rule.

WGA adopted four policy resolutions at the annual meeting. These policies are in the briefing materials under Tab H. Carlee briefly described the resolutions.

Lastly, Carlee mentioned that the WGA and WSWC Executive Directors have sent a joint letter urging appeal of the SDNY decision, remanding the EPA water transfer rule.

NIDIS DROUGHT UPDATE

Veva DeHeza extended a huge thank you to the Western States Water Council, as well as the Western Governors' Association (WGA), for their efforts and support in helping to ensure that the NIDIS Act was reauthorized. She believes that because of the partnership and the support from the states, this legislation was passed.

Reauthorization of the Act has propelled NIDIS to the next phase, which is a Congressional Report. Those working on the draft report hope the WSWC will provide input into what the vision is. Getting NIDIS drought plans to state and local governments is really important. The vision will hopefully begin to connect those dots to that end.

A Memorandum of Understanding was signed between NOAA and the WGA last June. We are bringing together your state drought coordinators to find out if our information is helping you with the triggers and mechanisms. We will be calling on WSWC for names to bring into this discussion.

Wildfire managers need information to be more responsive to fire and for managing extreme events.

Just prior to the NIDIS reauthorization, a NIDIS effort was launched on the Missouri River Drought Early Warning System. We hope to provide information to the WGA to create a ground-breaking consensus-driven set of best practices. From a regional perspective, this is something new.

NOAA is leading an effort they hope will become a National Soil Moisture Network. Soil moisture data is eluding us when we do forecasting, and there is a desire to coordinate amongst the many efforts that look at soil moisture. NIDIS is leading an effort to get the National Soil Moisture Network running. They are also working with the State of California on methods to advance forecasting capabilities, so that decision making can be improved. The California Department of Water Resources recently sent a letter to NOAA asking for more support, and seeking to improve drought early warning capabilities.

The Southern Plains, particularly Oklahoma and Texas, are being battered by drought conditions again this year. They have not come out of dry conditions since 2011. NIDIS is putting focus on the southern plains.

NOAA has been working in California to help deal with their drought. Two drought forums were convened in the State.

Roger Pulwarty added that NOAA wants to be sure they are working with the WSWC and its working groups. He stressed that monitoring systems are desperately needed or essentially there is no information to act on.

Veva noted there is an opportunity for the WSWC to call on federal agencies to secure funding and protect funding for basic monitoring. Please help protect the funding.

NRCS NATIONAL WATER AND CLIMATE CENTER ACTIVITIES AND NEEDS

Mike Strobel, Director of the National Water and Climate Center, talked about snow water equivalents and their importance. There are over 1,000 monitoring sites, and it is an international program as well. There is a very short period of time for collecting direct measurements. Such data is a critical part of USDA's network to see the information and notice any trends. There is not a lot of other information collected on high altitude conditions. NRCS makes measurements once a month (manually). This information is important because of the long-term nature of the data (from snow courses).

Most measurements are made by state agencies. NRCS has been moving away from manual snow measurement sites, and are now incorporating automated sites. There is a lot of concern about the loss of this long-term record. We make sure that we have a number of years of record before putting in SNOTEL sites, so that there is overlap. Manual sites provide one measurement per month while SNOTEL sites provide daily information. The biggest concern is

safety. Due to the terrain where these sites are located, it is dangerous to send people to check them manually. There are a number of other challenges, such as travel restrictions and limits on the ability to replace staff, among others. These have prompted the agency to make changes and become more innovative. They are transferring snowcourses over to SNOTEL sites. About half of the SNOTEL sites have soil moisture measurement devices. The Soil and Climate Analysis Network (SCAN) also has soil moisture sites. It is critical information.

There is work being done on USDA's climate hubs. NRCS set up climate hubs across the United States. These are partnerships working with other state, local, federal and private individuals to gather data and support climate research, information distribution and training to adapt to variations in agricultural businesses. It puts the information into the hands of the individuals.

With respect to the snow survey program, the budget had pretty steady funding until a couple of years ago. In 2012, the program suffered about a (20 %) reduction. Funding increased last year. This is a field-oriented program, and they collect a lot of data. Reductions in budget really have an impact. The agency has to make tough decisions to determine where cuts can be made to programs. The long-term records are unique and very valuable.

Mike welcomed Pat Lambert to the WestFAST organization as the new liaison.

Tony Willardson commented that Tab K contains some relevant maps. He also noted that the WGA and WSWC have written the House Appropriations Committee to voice support for the program. The letter also raised the concern that this is a priority program for states across the West.

Mike noted that they invite Congressional staff to come to a snow school, which goes over well with the staff each year, but the agency's budget continues to get cut.

USGS STREAMGAGE PROGRAM – BACKGROUND AND STATUS

Mike Norris, USGS National Streamflow Information Program (NSIP) Coordinator, addressed the Committee and used a powerpoint presentation.

He began by showing a slide on USGS Streamgage Network funding through time from 2003 – 2013. For FY2013, the State and local share is $49% or $79M. The other half comes from NSIP (17%), the Cooperative Water Program or CWP (17%) and other federal agencies (OFA) (17%). Funding has gone up since 2003 from $105 to $160M. NSIP funding has doubled and CWP has been flat. State and local contributions have increased quite a bit – almost doubled, but not quite.

USGS is making a $2M effort to flood harden streamgages that are at risk.

There are about 150 gages that are threatened or endangered streamgages, due to a lack of funding. That number was over 300 during the federal government sequestration. This is the

lowest it has been since USGS started tracking endangered gages. There is a need to prioritize streamgages.

The highest priority federal needs include: (1) compacts and decrees (can't shut these down); (2) forecasting; (3) sentinel gages of undeveloped streams; (4) major basins, plus borders and federal need; and (5) water quality.

WSWC states have 2,676 gages with an average of 30 per state versus the 18.7 national average (which includes the West). There is much more happening in the West. NSIP shows a definite bias of those states represented by the WSWC. Mike reviewed lots of statistics about funding and about NSIP streamgages. Please see the presentation on our website for details.

There has been a one-time NSIP investment of $67M in WSWC states, with an average of $3.7M per state. With respect to monitoring and assessments, we cannot just monitor. The data is of no value if it is not used. It has to be a streamflow information activity to have value. The value of the data comes from the uses of the data, and not from the collection and storing of it.

It is tricky. There are 8,024 gages in operation right now. See slide that shows that many gages are used for a lot of different purposes.

DATA, WATER AND SNOW MONITORING NEEDS IN THE UPPER MISSOURI RIVER BASIN

Doug Kluck, Central Region Climate Services Director provided a powerpoint presentation to the group.

Due to the flood at Gavins Point Dam in July 2011, there was an independent panel put together, which included participation from the WGA. This coalition is to provide information to build a better network to monitor soil moisture.

Doug said it would cost about $1.5 million to do everything that the interagency network believes should be done. The data would be a long-term investment. Language in the WRRDA bill, H.R. 3080, Section 4003, authorizes a federal coordinated effort to conduct soil moisture and snowpack monitoring in the Upper Missouri River Basin. Money would be put aside for SNOTEL and streamflow gages, as well as new monies for instrumentation.

The basin is waiting for the Army Corps to go through a process before they can move forward. It would be helpful to have discussions with the states and feds on the long-term viability of the program. If the instrumentation is out there, it does no good if it cannot be maintained and supported over the years.

In regard to the Drought Early Warning System (DEWS) Initial Steps, the first basin drought meeting was held in Feb 2014. A Tribal drought meeting will be held in September. The Missouri Basin drought portal can be accessed via a link from drought.gov.

Enhancing a new Missouri River basin monitoring system requires a multi-year process, and they are just starting with the effort. The Missouri is a big basin. There are many key agencies, states, academics, tribes, and NGOs involved, which means there will be a lot of hurdles to cross. The NIDIS process is an "umbrella" effort across state agencies with very specific drought regional programs.

El Niño is coming. Hopefully it means more moisture.

LANDSAT/NATIONAL LAND IMAGING PROGRAM UPDATE

Frank Kelly, Director of the USGS Earth Science Resources Observation and Science Center (EROS), addressed the Committee and used a powerpoint presentation. USGS and NASA began their partnership in 1966.

The 42nd anniversary for the launch of Landsat 1 is coming up. The Sioux Falls EROS site operates the Landsat satellite. Landsat has always been acquired as a one-off. Now, they are looking at putting a satellite together that will have an operational quality to it. Looking back, the cost is about $1B to put the satellite up (build it, launch it, and get into orbit), not including the costs of operation.

It has been a good time for the Landsat program. Congress is supportive. A conservative estimate of the value of Landsat to the U.S. users is $1.8B per year. Each Landsat satellite covers the same spot on the Earth every 16 days. With two satellites, they get coverage every eight days. Two-thirds of the applications require an 8-day repeat and these include such applications as crop productivity, fire assessment, flood monitoring, irrigation management, etc. One-third of the applications require thermal data. The thermal infrared sensor (TIRS) was put onto Landsat 8 to get water information. WSWC and WGA were instrumental in getting the TIRS sensor on the satellite.

Senator Mikulski (D-MD), Chair of the Appropriations Committee, considers herself the godmother of the program and really supports it. Anne Castle also supports the program and we have an opportunity with both of these women to push hard to get more. We have a narrow window of time to push this effort and get the funding needed. Senator Thune in South Dakota supports the program because it brings in a lot of money to his state. No one seems to have problems with Landsat, but people do have questions about how to pay for the program.

With regard to the operational status of the satellites, Landsat 8 (L8) is currently taking about 700 scenes per day, whereas it was designed to take about 400 scenes per day. The data collection increased from about 550 to 650 new scenes per day from Landsat 7. It has a five-year design life and 10 years of fuel.

Landsat 7 was launched in 1999 and is collecting over 400 new scenes per day. The collection strategy has been modified to concentrate on continental coverage; L8 is capturing reefs and islands. Landsat 8 has a specific channel that looks at cirrus clouds to see how that

impacts the other images the satellite takes. L8 provides more image data, better image data, and new measurements. L8 calibration and instrument teams are scanning the moon as a means to help further calibrate both TIRS and Operational Land Imager (OLI). It helps us to better use the data we have.

The Nation is remarkably close to solving a big problem for users of Landsat data. NASA & USGS are conducting a study with an implementation plan. They want this to become an operational program, and are currently at the 95% point. They are working to show that there are needs for this type of data.

Landsat 7 (L7) is well past its design life and will run out of fuel in the next 3-4 years. It was built to last for five years, but is now in its 15th year. L8 has ten years of fuel, while the instruments are designed to last for three years (TIRS, etc.). In about three years, there will be a significant threat to both the thermal abilities and the 8-day visit.

In order to sustain the Landsat program, NASA will build, design and launch the birds. USGS will do everything else. The Senate Appropriations Subcommittee on Commerce, Justice, Science, and Related Agencies is concerned that the 2014 funds are too low. The Committee also wants to reduce the costs to about $650M to put the satellite into orbit, compared to about $1B. That is a high bar as far as the engineering goes. The Executive Branch is not silent on this issue. The President's 2014 Budget designated $30M for NASA to develop a plan with the USGS for 20 years of imaging beyond L8. A report is being finalized and is due to OMB this August. Mike Freilich at NASA is spearheading this effort.

A couple of options have been suggested: (1) building a clone of Landsat 8 to ensure that we don't lose the 8-day repeat; or (2) a rebuild with the idea of flying a satellite that just has a thermal sensor. There is an idea of building such a satellite together with a foreign (European) system, but this has not been done before. Mission costs need to be reduced. We can buy systems on orbit. The budget profile is the dominant activity. This is a 20-year mission, but it is not new money. It's money that's already in NASA's budget. $2.4B is not a lot in the satellite business. To meet the mission objectives, NASA will need to reallocate money.

There was a recent assessment of the value of satellite observing systems. GPS was first and Landsat was second in terms of the usefulness of the data.

As far as next steps, it is imperative to start now on the near term solution. They will be pressing for a resolution of the issue with NASA.

NOAA-WEST/WSWC ACTIVITIES

Timi Vann, Western Regional Collaboration Coordinator with the National Oceanic & Atmospheric Administration briefed the committee using a powerpoint presentation.

Timi reported on a collaborative effort with the WSWC, which culminated in a Congressional briefing. The goals and objectives are to meet the changing needs of

stakeholders. It is important to address mission priorities at the appropriate scales. This will lead to improved cooperation.

Timi noted that it is hard to convey how important and challenging it is to explain western water to people in NOAA's DC office. The basic issues with water are – too little, too much, and poor water quality.

NOAA has a great regional partnership with the WSWC and the WGA. They are trying to elevate the level of understanding of western water issues with elected officials. NOAA partnered with the WSWC to raise awareness of water issuers from management and scientific perspectives. Improve the visibility and the value of NOAA in the region is a significant priority.

One cannot expect Congressional sponsors to know about western water issues if we don't speak with them about it. It's far better to hear from people who know about these issues.

NOAA West welcomes future opportunities to work with the WSWC to address critical water resources issues facing the West, and the ongoing needs for science, data and information. NOAA sincerely appreciates the work of the WSWC and its member states. Timi thanked all for their partnership!

CDWR/WSWC/JPL REMOTE SENSING WORKSHOP

Jeanine Jones commented that navigating NOAA's budget is daunting. She specifically has asked for a West-specific NOAA budget, and cross-cut Federal budget.

California and the WSWC want to continue the notion of an enhanced observing system. How do we make sure we have comprehensive coverage? How do we move forward? The Memorandum of Understanding with the Western Governors' Association will be helpful.

It is important to take advantage of new technologies. The fact that many things are coming together provides an opportunity to package this information and seek NASA's attention. Things seem to be falling apart with operation and maintenance, and water managers aren't able to take advantage of new technology.

NOAA is working on estimating fallowed acreage from Landsat data. Is the wonderful technology actually practical? The costs may outweigh the benefits.

Tony remarked about the hydrometeorological testbed program in California, and noted that the theme of this meeting has been data, data, data, data. How are we going to pay for that?

NASA approached the WSWC about doing this upcoming workshop. In some aspects, it extends from a partnership with the Jet Propulsion Laboratory (JPL). California's Department of Water Resources has about $1M of contracts with JPL to do things about water – land subsidence, snow observations, levee and canal systems deformations and the like. They are also

looking at fallow acreage during the growing system – which requires a big step -- going to something that's implementable.

Two-way communication is needed. The state water managers need to tell NASA what their technologies translate to in reality. When NASA flies the plane, it costs $3,000 per hour. If someone else does it, it's $11,000 per hour. Neither is feasible. The draft agenda for the meeting is in the briefing materials. Jeanine invited WSWC members and/or their staff, as well as federal entities, to attend the upcoming workshop on remote sensing applications. The meeting will be held August 25-27, in Pasadena, California.

WATER DATA EXCHANGE (WADE) UPDATE

Sara Larsen provided a recap of what the Water Data Exchange (WaDE) program entails. State water plans summarize data on different scales. WaDE will get out the information that is available now and try to work towards getting a more regional picture. Written documentation is available online that gives instructions on how to migrate your state's data.

The WSWC is working hard to finalize a contract with the Texas Commission on Environmental Quality to further the WaDE work. Sara requested numbers from the less actively involved states. WaDE would provide a more regional view of water availability in the West and will create a central repository for methodology information.

Wyoming is the first pilot state. They got very close to doing a live demonstration at this meeting. Sara anticipates a live demo at the next WSWC meeting in October.

Carlee Brown mentioned that the WGA recognized WaDE in their Annual Meeting in June 2014. WGA would like to harness the opportunity to accent WaDE and would like to see as many states as possible get plugged into WaDE by the next Annual Meeting in Lake Tahoe.

SANDIA NATIONAL LAB MAPPING WATER AVAILABILITY AND COSTS

Sara Larsen stated that Sandia wrapped up their project on mapping water availability and costs at the end of last year. She encouraged folks to review the maps and make sure the metrics are accurate for your state.

In Sandia's publication they mentioned WaDE and they appreciated the work being done by the WSWC.

DRAFT FY14-15 COMMITTEE WORK PLAN

Tony briefly reviewed the proposed work plan items. He noted this is a flexible workplan.

Carlos Rubinstein moved approval of the Committee's work plan. Tim Davis seconded the motion. The Committee unanimously adopted the FY2014-2015 work plan.

WATER MANAGEMENT SYMPOSIUM

Tony Willardson went over a proposed symposium agenda. He noted that three infrastructure symposia have been held thus far. The WSWC prepared a report after one of these meetings and identified some common areas. One of the things they have heard is that there is private money available. However, regulatory uncertainty and litigation challenge investors. The focus of this symposium would be how to streamline regulatory requirements. Meeting dates have yet to be determined. Tony suggested he would like to include engineering firms. There is a strawman agenda under Tab G in the briefing materials.

Scott Verhines commented that there is a lot of work being done in New Mexico on this topic.

OTHER MATTERS

There being no further matters, the meeting was adjourned.