



# Western States Water

## Addressing Water Needs and Strategies for a Sustainable Future

682 East Vine Street / Suite 7 / Murray, UT 84107 / (801) 685-2555 / Fax 685-2559 / [www.westernstateswater.org](http://www.westernstateswater.org)

Chairwoman - Jeanine Jones; Executive Director - Tony Willardson; Editor - Michelle Bushman; Subscriptions - Julie Groat

### **CONGRESS/ADMINISTRATION**

#### **Senate EPW/Army Corps of Engineers**

On May 8, the Senate Environment and Public Works (EPW) Committee held an oversight hearing on the U.S. Army Corps of Engineers' Civil Works Program. Witnesses included: Assistant Secretary of the Army (Civil Works) R.D. James; Deputy Commanding General of Civil and Emergency Operations Scott Spellmon; Director of the Wyoming Office of Homeland Security Lynn Budd; and Chairman of the Louisiana Coastal Protection and Restoration Authority Board.

James and Spellmon said the Missouri River System needs a comprehensive flood-risk study to determine how the patchwork of federal and local levees, multipurpose reservoirs, dams, and other flood control protections can better work together, but the Corps needs Congressional approval, but a lot of work has already been done in the Missouri River basin that the Corps would be able to leverage in expediting the study before rebuilding and upgrading the system.

Senator Joni Ernst (R-IA) pushed for flood control as the "unquestioned, number one purpose of this system" to reduce damage from repeated flooding. James acknowledged the multiple purposes of Corps projects as authorized by Congress: "There's got to be everything—environmental restoration, flood control, navigation, water supply, recreation, and so forth, particularly in reservoirs. But if you don't assess and take care of the flood control first, the rest of it doesn't matter because sooner or later you're going to get wiped out, just like this year." (*E&E News*, May 9)

Budd talked about the importance of partnerships in addressing floods. Streamgage data and SNOTEL monitoring are critical for forecasting and decision-making. "The network provides great information but is a mosaic of federal, state, and local contributors. Funding for maintaining the existing network is vital along with the expansion of the existing capabilities to include a more robust watershed assessment. Stream gauge funding at the federal level needs to be rethought. A clearer funding mission and expedited implementation would aid all users of this critical data."

She pointed to the success of the Forecast Informed Reservoir Operations (FIRO) demonstration project at the Lake Mendocino reservoir in California, and supported the use of FIRO for the Glendo reservoir in Wyoming. "FIRO is a novel approach...where data from watershed monitoring and modern weather and water forecasting are used to help water managers selectively retain or release water...in a manner that reflects current and forecasted conditions. With varying snow accumulations from year to year, use of FIRO will allow for more flexibility of storage and control of the reservoir water release. This allows for the holding of water when the downstream tributaries are already at capacity, and the conservation of water to extend the irrigation season for agricultural purposes and recreation with a constant focus on life safety priorities."

Budd also talked about the importance of a sedimentation plan for Big Horn reservoir. "Recognizing sediment is having an impact on the capacity of this and other reservoirs, the removal of sediment ensures the restoration of active water capacity as originally designed. As reservoirs fill with sediment, the ability to successfully manage regular inflows as well as spring run-off is impaired, creating impacts to life-safety, agriculture production and recreational opportunities."

Kline said: "Together the Corps and Louisiana's Coastal Program can accomplish great things and be a model for the nation in terms of state and federal cooperation and in terms of a holistic, systems approach to coastal resilience. But both partners must be up to the task and given the resources to carry their part of the load. Congress and the Corps have got to find a way to fund flood protection projects before disaster strikes." He noted several projects that were authorized for years, sometimes decades, before being fully funded. Additionally, the state's share of state-federal costs to upgrade the hurricane protection system increased by 62% due to eight years of construction delays by the Corps. Louisiana is a flood-prone state, but it is also proactively approaching coastal protection and restoration in a way that accounts for the ecosystem, flood protection, and a sustained economy, "...and we need the federal government to be the best partner it can be in this mission."

Kline said one of the fundamental causes of coastal land loss is a lack of sediment in wetlands. "Historically, natural flooding from the Mississippi and its [tributaries] provided regular influxes of new sediments to maintain wetland systems." Projects to re-connect the river to the wetlands has helped build and sustain those lands and improve ecosystems.

He also pointed out that the Corps' authorizations can be "too narrow and inflexible to meet the changing needs of an ecosystem... The Corps needs to be able to recognize [and more accurately calculate] the multiple benefits a project can deliver." He also said that "...perhaps Congress should consider bringing back earmarks specific for hurricane protection, flood protection, and coastal restoration projects, so that proactive investments in flood risk mitigation can preempt the need for vastly larger investments in emergency response and disaster recovery."

## **WATER RESOURCES** **GOES**

The Federal Communications Commission (FCC) is considering a proposal to auction a portion of the bandwidth utilized by the Geostationary Operational Environmental Satellite Program (GOES) satellite system to transmit hydrologic data, including U.S. Geological Survey (USGS) streamgage and other monitoring stations data before being downloaded into the National Water Information System (NWIS) for non-federal uses. The rulemaking notice indicates that there will be no disruption to the federal use of the portion of the radio spectrum; however, there is a concern that maintaining the GOES data fidelity would be difficult once wider bandwidth utilization occurs. Please review the Allocation and Service Rules for the 1675-1680 MHz Band Notice of Proposed Rulemaking and Order - GN Docket No. 19-116 for documentation regarding the proposed rule [http://www.westernstateswater.org/fcc\\_goes\\_spectrum\\_auctionmay2019/](http://www.westernstateswater.org/fcc_goes_spectrum_auctionmay2019/).

WSWC encourages all stakeholders who use data transmitted using the targeted bandwidth to evaluate the impact this auction would have on their respective programs and express their concerns in an expected comment period. Some WSWC members may recall a similar concern arose a number of years ago. The community of stakeholders who utilize GOES bandwidth data voiced their concerns and effectively protected it from incursion by other non-federal uses.

## **WaDE/Water Data**

On April 30, a new program housed at Duke University called the Internet of Water (IoW) launched a new website and began outreach efforts to promote and advocate for applying FAIR principles to non-sensitive water data (Findable, Accessible, Interoperable, and Reusable). Over the next three years, IoW plans to assist with the development of water data "hubs" and

build the capacity necessary to facilitate data curation, integration, and tool development nationwide. Together with partners and coalitions, it will conduct pilot projects to demonstrate the value of IoW, several of which involve WSWC's Water Data Exchange (WaDE) program. The WSWC has worked closely with Duke University and the IoW start-up team by providing guidance and supporting IoW as an advisory board member. <https://internetofwater.org/>.

New Mexico's new Open Water Data Act passed on April 3. Recently, IoW's Executive Director, Peter Colohan, and WSWC Sr. Program Manager, Sara Larsen were invited to New Mexico to present on their respective programs and to provide feedback and options available to participants regarding the new law. It directs state agencies to work together to identify and integrate key water datasets so they can be shared more effectively between agencies and with the public. New Mexico is the second state, after California in 2016, to pass legislation specifically directing agencies to integrate and share their data with other agencies and the public. <https://nmlegis.gov/Sessions/19%20Regular/final/HB0651.pdf>.

## **WATER RESOURCES/ENVIRONMENT** **Wildfires/Snow**

Researchers from the Desert Research Institute (DRI), the University of Nevada Reno, and Portland State University recently published an article in *Nature Communications* concluding that forest fires are increasing across the American West due to climate warming and fire suppression. Further, accelerated snow melt occurs in burned forests due to increased light transmission through the canopy and decreased snow albedo from deposition of light-absorbing impurities. Using satellite observations, they documented up to a 9% annual increase in western forests burned since 1984, and a 5-day earlier snow disappearance persisting for greater than ten years following a fire. They found black carbon and burned woody debris darkens the snowpack and lowers snow albedo for fifteen winters following a fire, using measurements of snow collected from seven forested sites that burned between 2002 and 2016. They estimated a 372-443% increase in solar energy absorbed by snowpacks occurred beneath charred forests over the past two decades, with enhanced post-fire radiative forcing in 2018 causing earlier melt and snow disappearance in greater than 11% of forests in the western seasonal snow zone. *Four-fold Increase in Solar Forcing on Snow in Western U.S. Burned Forests since 1999* is available at <https://www.nature.com/articles/s41467-019-09935-y.pdf>.

Kelley Gleason, DRI, added a troubling observation: "Earlier snowmelt is already linked to big fires in the mountains. And those fires could be feeding back and accelerating that snowmelt further – there's this kind of vicious cycle that's occurring, or we think is occurring."

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