

On December 12-14, the Colorado River Water Users Association (CRWUA) held its annual conference in Las Vegas, Nevada. Over 1,200 attendees participated in sessions on water technology, innovative funding mechanisms, tribal water opportunities and challenges, adaptation strategies in a changing climate, water transfers from agriculture to urban uses, and wildfire impacts on water quality and watershed restoration.

On December 13, two panels of representatives from the Upper and Lower Colorado River Basins discussed progress, terms, and anticipated implementation of their respective interstate Drought Contingency Plans (DCPs). Bureau of Reclamation Commissioner Brenda Burman introduced the panels, noting that last year she asked the states to complete their DCPs by this CRWUA meeting. She acknowledged their hard work through 2018, and that they are closer than ever before, “but close isn’t done.”

Considering the sobering hydrology and low storage levels at Lakes Powell and Mead, Burman said, the chance for crisis is too high not to complete these DCPs. She announced that the Upper Basin states approved their DCP on December 12. Although Nevada has signed the Lower Basin DCP, Arizona and California have not. Reclamation is sensitive to the efforts Arizona is making toward a consensus position among its many stakeholders for voluntary water use reductions, and has been patient with the pace of progress from all the states over the past year. But Reclamation will have to address the diminishing water resources with or without the voluntary DCPs from the states. Commissioner Burman announced that on January 31, 2019, Reclamation will publish a notice in the *Federal Register* seeking specific recommendations on actions that should be adopted for operations in the year 2020. The states will have 30 days to submit their responses.

The Upper Colorado River Commission panel included Commissioners James Eklund (CO), Tom Blaine (NM), Eric Millis (UT), and Pat Tyrrell (WY). They noted that although the individual states are accustomed to administering water within their borders, including calls and curtailments during water shortages, they do not know how that will look if they need to manage water shortages across state borders. Although the states have similar western water laws, sometimes they speak different dialects, making coordination of efforts a complex endeavor. The Upper Basin DCP provides a process for those four states to work together if that time comes. They are working on how to account for conservation and track wet water deliveries, seeking a consensus on measurements, verification, and building trust across borders. The states were careful to craft a DCP that fits within existing statutory authority, biological opinions, and NEPA studies.

The Upper Basin Commissioners acknowledged the differences between the Upper and Lower Basin DCPs, primarily because the Upper Basin’s focus is on protecting the storage at the end of their part of the river system. With inconsistent snowpack, it is difficult to ensure annual delivery obligations under the compact of 7.5 million acre-feet. It can be challenging for states to adjust upstream water usage during the year when the total amount of water available in Lake Powell won’t be known until the end of the water year. They noted that the Colorado River System Conservation Pilot Program, started in 2015, was extremely beneficial in helping the states work through some of the concepts that ended up in the DCP. The program worked surprisingly well, but it wasn’t perfect, and they were able to take the lessons learned and apply them to a more realistic demand management agreement within the DCP.

The Lower Colorado River Basin panel included Tom Buschatzke, Director, Arizona Department of Water Resources; Ted Cooke, General Manager, Central Arizona Project; Peter Nelson, Director of the Coachella Valley Water District and Chairman of the Colorado River Board of California; and John Entsminger, General Manager, Southern Nevada Water Authority. They talked about the different procedures each state must complete in order to authorize the Lower Basin DCP. They each emphasized that their residents and stakeholders are keenly aware of the drought conditions, the significance of Lake Mead levels, and the need to reduce water use. Arizona is currently looking at mitigation with diminishing compensation for voluntary reductions going forward. California is looking to alternative water supplies such as desalination, captured stormwater, and recycled water, and getting both agriculture and urban areas on board. Nevada has been working toward funding water infrastructure.

The Lower Basin panel acknowledged accusations that the states are not looking at the bigger problems, particularly the hydrologic deficits relative to the original allocations contemplated in the Colorado River Compact. However, while the DCPs are not a panacea to solve all the problems on the Colorado River, they are foundational. The DCPs are a nuanced scalpel, they said, that will help the states gradually bridge the gap between whole compact allocations and the federal sledgehammer of abrupt curtailments. The Law of the

River isn't "written in stone" said Entsminger. Rather, the Colorado River Compact is more like a computer operating system that requires updates, like the 2007 interim guidelines. The States are revisiting the interim guidelines and developing the DCPs because circumstances have changed again. The states will continue to address problems as appropriate and necessary long into the future.

Water Subcabinet

On December 14, a panel of federal agency representatives shared their recent interagency efforts to break down silos regarding their overlapping responsibilities on federal water programs and policies. Panelists included Tim Petty, Assistant Secretary for Water and Science, Department of the Interior; David Ross, Assistant Administrator for Water, Environmental Protection Agency; Bill Northey, Undersecretary for Farm and Conservation, Department of Agriculture; Rear Admiral Tim Gallaudet, Assistant Secretary of Commerce for Oceans and Atmosphere, Department of Commerce (NOAA); and Brigadier General Peter Helmlinger, U.S. Army Corps of Engineers, Northwestern Division Commander, on behalf of R.D. James, Assistant Secretary of the Army for Civil Works.

Petty kicked off the panel discussion by describing the initial days following his appointment to be the new Assistant Secretary for Water and Science. Following the advice of his predecessor Anne Castle not to get bottlenecked into his own silo, Petty met with Ross at EPA to talk about their respective overwhelming portfolios and what they could do to support each other. They also reached out to Northey, Gallaudet, R.D. James at the Corps, and Cathey Tripodi at the Department of Energy (DOE). Informally calling themselves a "Water Subcabinet," they began meeting in person or by phone at least once a month, to coordinate their water policy priorities and discuss how they could best help each other and support the states and tribes. They sought to better coordinate their legal responsibilities and leadership, recognizing their limited federal resources, numerous statutory mandates, the President's Memorandum on Promoting the Reliable Supply and Delivery of Water in the West, unique regional water needs that cannot all be treated the same, and the existence of over 60 federal task forces and working groups that have already been working on water quality and water resource issues. Rather than create anything new, they want to use their current resources more efficiently. Together, they are rethinking the way they approach infrastructure, technology, data, forecasting, water reuse, aquifer recharge, drought, flooding, storage, and other water management policies and programs.

Ross talked about EPA's Hypoxia Task Force addressing nutrients and harmful algal blooms across the Nation, and water reuse efforts. EPA and DOE have been working together to tackle the challenge of enhanced desalination and reuse of produced water, including a recent Memorandum of Understanding with New Mexico to study state and federal regulations impacting produced waters. He and Northey have worked together on the National Drought Resiliency Partnership (NDRP). EPA and the Corps and Reclamation are coordinating efforts under their respective Water Infrastructure Finance and Innovation Act (WIFIA) loan programs and policies on public-private partnerships.

Northey noted that this panel was the first time they've all been at a public meeting together. He emphasized the importance of leveraging interagency resources, and finding ways to help states with their needs. Referencing the adage that all politics are local, he argued that all water issues, from the environment to conservation, are also local. He talked about the 2018 Farm Bill, just passed by the Senate and House [and subsequently signed by the President on December 20], and the value of programs under the Natural Resources Conservation Service (NRCS), WaterSmart, Conservation Stewardship Program (CSP), Environmental Quality Incentives Program (EQIP), and Regional Conservation Partnership Program (RCPP), but noted that program funding is a small drop in the bucket compared to all that needs to be done. Those programs are built around partnerships, and by leveraging state, local, and federal resources, we can stretch those water resources to meet the needs of communities across the nation. He pointed out that the NDRP existed long before they arrived in Washington, D.C., and they're pulling together a NIDIS summit later in the Spring 2019. The Water Subcabinet is interested in hearing suggestions from states, tribes, and stakeholders on what activities can reach across agencies and pull those silos together.

Gallaudet addressed NOAA's role in water, from river forecast centers to improving the national water model, monitoring snowpack, adapting reservoir operations for drought, and forecasting extreme weather events. He talked about the improved accuracy of storm surge forecasts that enabled better evacuations before Hurricanes Florence and Michael, and two satellites launched in the past 18 months to gather water-related data.

Helmlinger echoed earlier sentiments on the need for inter-agency coordination on water policies and management. The Corps has been working on non-legislative changes to permitting and financing to improve infrastructure delivery. The Corps has been working with EPA to set up its version of the WIFIA loan program, and in January will send out a request for information on suitable pilot projects for public-private partnerships.

Reclamation/Tribes/Colorado River

On December 13, the Bureau of Reclamation announced the release of the Colorado River Basin Ten Tribes Partnership Tribal Water Study. The tribal study builds on Reclamation's 2012 Colorado River Basin Water Supply and Demand Study, and highlights the tribes' concerns about lack of water security, incomplete distribution systems, and regulatory and economic challenges to developing water systems along the Colorado River. The tribal study documents how tribes currently use their water, projects how future water development could occur, and describes the potential effects of future tribal water development on the Colorado River System.

The Ten Tribes Partnership was formed in 1992 by ten federally recognized tribes that claim federal Indian reserved water rights to the Colorado River or its tributaries. Some of those water rights remain unquantified. Five member tribes are located in the Upper Basin (Ute Mountain Ute Tribe, Southern Ute Indian Tribe, Ute Indian Tribe, Jicarilla Apache Nation and Navajo Nation) and five are in the Lower Basin (Fort Mojave Indian Tribe, Colorado River Indian Tribes, Chemehuevi Indian Tribe, Quechan Indian Tribe and Cocopah Indian Tribe).

Reclamation Lower Colorado Regional Director Terry Fulp said: "Reclamation recognized the need for additional analyses and work following the 2012 Colorado River Basin Study. Working together, the Ten Tribes Partnership and Reclamation have produced a valuable reference that is the first of its kind in the Colorado River Basin."

Reclamation Commissioner Brenda Burman said: "We face a prolonged drought that represents one of the driest 20-year periods on the Colorado River in the last 1,200 years. This study is an important step forward that furthers our understanding of the challenges facing the Colorado River Basin and the actions we can take to collaboratively address them." The study is available at: <https://www.usbr.gov/lc/region/programs/crbstudy/tribalwaterstudy.html>.