



Western States Water

Addressing Water Needs and Strategies for a Sustainable Future

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WATER RESOURCES

Bureau of Reclamation/New Mexico

On September 16, the Bureau of Reclamation announced a \$27M contribution over five years toward the multi-phase Eastern New Mexico Rural Water System to deliver 16,450 acre-feet/year of treated potable water from Ute Reservoir to the Eastern Mexico Water Utility Authority and 70,000 residents in the cities of Clovis, Portales, Texico, and Elida, as well as Roosevelt County and Cannon Air Force Base. The local communities currently rely solely on the Ogallala Aquifer, which has seen significant declines and it is no longer considered a sustainable long-term supply. Some residential wells have already gone dry. Municipal groundwater infrastructure systems are already nearing the end of their useful lives, and brackish groundwater migration and PFAS contamination presents serious health and safety concerns. The project is part of a 2006 New Mexico Interstate Stream Commission regional water plan and is urgently needed. The total estimated cost is \$527M (2017 dollars). Local, state and federal dollars have enabled phased construction of lateral lines and interim deliveries of clean drinking water.

Reclamation's press release stated: "This \$27 million will help fund the next phase of the project that will include finished water pipeline segments connecting the City of Clovis to the finished water tanks in the City of Portales and the segment of pipeline connecting the communities to the location where a water treatment plant will be built in the future to treat the raw water coming from Ute Reservoir.... The Eastern New Mexico Rural Water System will bring a secondary water supply and will include 120 miles of pipe, two raw water pump stations, the Ute Reservoir Intake Facility, a smaller water pump station and a water treatment plant. Today's funding announcement is in addition to nearly \$24 million provided by Reclamation since 2013 for earlier phases of [project construction]." <https://www.usbr.gov/newsroom/newsrelease/detail.cfm?RecordID=72543>.

WATER RESOURCES/ENVIRONMENT

Colorado River/Water Supply Variability

Utah State University researchers recently published a new study in *Nature Communications Earth and*

Environment showing that "interannual-to-decadal variability of the Colorado River water supply is predictable for several years in advance using a decadal climate prediction approach." The researchers based their assessment on three experiments that merged four climate models fully coupling the atmosphere, land, ocean, and sea ice, called the Community Earth System Model (CEMS). The primary finding was that "observational analyses and model experiments show that prolonged shortages of water supply in the Colorado River are significantly linked to sea surface temperature precursors including tropical Pacific cooling, North Pacific warming, and southern tropical Atlantic warming." Essentially, Colorado River water supply is predictable about two years out, based on patterns in ocean sea surface temperature. Another aspect of this finding is that soil water availability is tightly linked to Colorado River water supply. Referring to land and hydrological processes such as evapotranspiration, soil, groundwater and snowpack as a "land filtering effect" that mitigate largely unpredictable atmospheric weather patterns, researchers found annual changes in soil water reflect precipitation changes linked to long-term "ocean memories."

Researchers found a correlation between the interannual-to-decadal variability of crop yields (specifically alfalfa, wheat, corn silage and barley) and Colorado River water supplies. In other words, they found smaller crop yields in years that the Colorado River water supply was low. Also, larger wildfires were correlated with low Colorado River flows. Because of the tight relationship between Colorado River water supply and soil conditions, researchers suggest their multi-year predictions of the Colorado River also can apply to crop yield and wildfire predictions. This could have important economic implications and help water managers and agricultural users plan for the impacts of drought much earlier than they are currently able.

In a *Deseret News* interview, co-author Matt Yost said: "Somewhere between 70% and 80% of the water that is diverted [in the state of Utah] goes to agriculture.... So for farmers, irrigators, people that are using the water to grow crops, if they know in advance that [the] water supply may be less than optimal – if we're headed into a drought – then there are some decisions

they can make to prepare for that.” The study can be found at <https://www.nature.com/articles/s43247-020-00027-0> and the Deseret News article at <https://www.deseret.com/utah/2020/10/20/21513542/scientists-predict-colorado-rivers-annual-water-supply-utah-state-university-agriculture-wildfires>.

Water Reuse

On September 24, a State Summit on Water Reuse concluded a series of virtual, interactive discussions for state regulators about a range of water reuse issues “to support states developing reuse regulations or programs, foster learning for states experiencing new or changing drivers for reuse and support state and partner priorities on reuse, including related initiatives such as the National Water Reuse Action Plan (WRAP), the National Blue Ribbon Commission on Onsite Non-potable Water Systems, and others.” WRAP Action 2.2.2, called for enhanced state collaboration. Sessions were held each Thursday in September in conjunction with the WaterReuse Association’s 35th Annual Symposium, also co-hosted by the Association of Clean Water Administrators (ACWA), the Association of State Drinking Water Administrators (ASDWA), the Association of State and Territorial Health Officials (ASTHO), the Environmental Council of States (ECOS), and the Ground Water Protection Council (GWPC), in collaboration with the Environmental Protection Agency (EPA). Topics discussed included: state approaches to regulating reuse, variations in reuse terminology, federally unregulated contaminants, effective staff training, public health communication, fit-for-purpose specifications, developments in direct potable reuse, non-potable reuse, and produced water, how water rights impact water reuse, reuse on a watershed scale, and maximizing benefits of stormwater and aquifer recharge. Contact the Council’s office for a full summary of the meetings.

WATER RESOURCES/WATER RIGHTS Western Regional Partnership/Webinar

On October 22, the Western Regional Partnership hosted a webinar on “Collaborative Tools for Resolving Water Disputes,” featuring speakers: Michelle Bushman, Assistant Director and General Counsel, WSWC; Stephen Bartell, Assistant Chief, Natural Resources Section, Environment and Natural Resources Division, U.S. Department of Justice; Chris Rich, Attorney Advisor, Regional Solicitor’s Office, Intermountain Region, U.S. Department of the Interior; and John Echohawk, Executive Director, Native American Rights Fund (NARF). The webinar provided an overview of western water law and the approaches taken to avoid litigation of water rights when possible.

Bartell discussed seminal court cases that have set the stage for water law today in the western United

States, and he outlined how federal reserve water rights differ from water rights claims based on state law. Federal water needs include water for firefighting, road construction, maintaining administrative sites in national parks or forests, military bases, stockwater, wildlife and recreation. He noted several examples of federal reserve water rights decreed following litigation, adding several examples of decrees following negotiated settlements, which often create a win-win situation for the governments and other water users.

Bushman explained why states and other stakeholders care about reserved water rights that have developed over time. In the complex patchwork of state, federal, and tribal water laws, unresolved federal claims (and increasing drought conditions) create an uncertain future landscape for water managers and planners. Water rights settlements are important for both water security and flexibility. When everyone understands their relative rights and has the necessary infrastructure to access their water, then more creative solutions begin to emerge. She provided examples of negotiated agreements, compacts, and MOUs between states and federal agencies, states and tribes, and between multiple states that have helped avoid lengthy, costly litigation, created win-win outcomes, and improved stakeholder relationships.

Rich discussed complex, century-old conflicts along the Rio Grande River involving Colorado, New Mexico, Texas, the United States and Mexico. Often, water disputes go through decades of litigation and settlement negotiations. When one conflict is resolved, others can arise in subsequent years. Sometimes these disputes can be negotiated outside of the courtroom, while at other times litigation is required to get the relevant parties to act. New Mexico and Texas separately adjudicated water rights on the Rio Grande resulting in potentially conflicting decrees, which has led to further litigation that the parties are working to resolve through a settlement agreement.

Finally, Echohawk noted NARF was founded in 1970 to help tribes assert and defend their basic rights (including but not limited to water). NARF has been involved in nine of the 32 negotiated settlements for Indian water rights that Congress has approved. An additional 20 settlements are currently in process or awaiting Congressional approval. Echohawk mentioned the importance of the long-standing partnership with the WSWC, through the Ad-hoc Group on Water Rights Settlements, in getting settlements approved. Every other year, WSWC and NARF host a Symposium on the Settlement of Indian Reserved Water Rights Claims where experts can come together to discuss the progress of these settlements, how to push through road blocks, and share stories about the impact of unquantified rights on tribal members. The next Symposium is planned for Summer 2021.

The WESTERN STATES WATER COUNCIL is an organization of representatives appointed by the Governors of Alaska, Arizona, California, Colorado, Idaho, Kansas, Montana, Nebraska, Nevada, New Mexico, North Dakota, Oklahoma, Oregon, South Dakota, Texas, Utah, Washington, and Wyoming.