STATEMENT OF

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HEARING ON

DROUGHTS, DOLLARS, AND DECISIONS: WATER SCARCITY IN A CHANGING CLIMATE

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Chairman Whitehouse, Ranking Member Grassley, and Members of the Committee, thank you for the opportunity to testify before you today.

New Mexico is an arid State, and as a result, New Mexicans have made significant investments in infrastructure and water resiliency programs to ensure our cities, agricultural communities, and natural resources can continue to thrive. New Mexico is the 5th largest state in the Nation by surface area and is home to approximately 2.1 million people. Many of New Mexico's water users already recognize the importance of water conservation and careful water use, but if drought conditions continue or worsen, additional investments will be necessary to aid development of new strategies and tools to respond to the variable precipitation conditions and higher temperatures we will likely face.[1]

New Mexicans are not alone in facing these types of challenges. States throughout the nation have periodically experienced drought conditions, wildfires, and risks to their water supplies. For example, last October, I returned to Iowa City for a presentation at the University of Iowa College of Law and participated in a discussion that included questions regarding whether Iowa's farmers might have to start irrigating their crops like western growers because of the severity of the ongoing drought. Although conditions in Iowa this year have improved, the Iowa Department of Natural Resources reported earlier this month that "areas of the state continue to carry drought designations due to long-standing significant precipitation shortages over the

[1] "Bulletin 164 - Climate Change in New Mexico over the next 50 Years: Impacts on Water Resources." New Mexico Bureau of Geology & Mineral Resources, geoinfo.nmt.edu/publications/monographs/bulletins/164/.

past year. Some parts of Iowa have precipitation deficits nearly 7 inches below normal, and the state has now seen 209 consecutive weeks of dryness or drought conditions."

During 2020-2022, the Western U.S. experienced some of the worst Western drought conditions in recent history and major reservoirs hit record low levels. In the spring of 2022, instead of snow on the mountains above Santa Fe, New Mexico, smoke clouds billowed from the worst fire in the State's history. Communities throughout the West imposed drought restrictions on water use, and emergency actions were taken within the Colorado River Basin and California to protect major infrastructure systems and ensure communities could continue to receive drinking water. During 2023, the Mississippi River Valley, that extends for over 370,000-square miles from Minnesota to the Gulf of Mexico and includes all or parts of 12 States, saw record low conditions which resulted in disruptions to barge traffic and threats of saltwater intrusion into the New Orleans drinking water systems, jeopardizing billions of dollars of economic contributions to the economy.

Although emergency drought conditions have recently decreased around the country and today many places outside New Mexico are drought free, the summer conditions this year and the future precipitation projections are uncertain. Some places with above-average snowpack this winter, like the Colorado River Basin, will see below average runoff flows. Investments in improved prediction capabilities for weather systems and runoff analysis will help water management efforts going forward.

Thanks to recent precipitation, some communities are able to store water, capture stormwater and recharge groundwater, but these types of systems require significant capital investments and ongoing maintenance. Unfortunately, challenges still exist in New Mexico and other States due to aging infrastructure or inflexible management rules that minimize opportunities to capture water for later use or deliver water efficiently. For example, El Vado Dam, one of the major reservoirs in New Mexico, is currently inoperable and unable to store water, which greatly reduces the water management flexibilities necessary to provide irrigation and drinking water to communities, let alone meeting the needs of environmental flows in the Rio Grande. This summer may be another challenging year for water management within New Mexico, depending on the level and timing of precipitation that comes in over the next few months.

In the context of these ongoing challenges, over the past several years, the State of New Mexico has invested in modernizing its infrastructure and developing water management systems to be able to protect the State's water resources for future generations. In January 2024, Governor Michelle Lujan Grisham released a 50 Year Water Action Plan[2] that identifies eleven drought response actions to enable New Mexicans to respond to continued and potential future drought

[22] "50-Year Water Action Plan" *The State of New Mexico,* www.nm.gov/water-security-in-new-mexico/.

conditions. The 50 Year Water Action Plan is based on the assessments developed among a panel of experts in the 2022 report titled, Climate Change in New Mexico Over the Next 50 Years: Impacts on Water Resources.[3] The plan builds off the work of the 2022 New Mexico Water Policy and Infrastructure Task Force[4] and relies on contributions from technical experts, Tribal and acequia working groups and input from rural and urban communities throughout the State. The plan's recommended actions are complementary to several other ongoing water management priorities that must be implemented simultaneously including completion of Indian Water Rights Settlements; regional water planning; strengthening access to water data; and continuing to train the next generation of water managers. Implementation of the plan's recommended improvements in municipal, agricultural, and system-wide conservation, development of technical, science-based programs to identify new water sources, and protection and enhancement of water quality and watershed protections will require sustained efforts to secure funding from State, local and federal sources to protect the public resources that the State's communities rely on and will depend on solid partnerships to be successful.

Continued investments among multiple sectors will likely outweigh the costs of failing to respond to drought in the future. A 2019 economic study commissioned by the New Mexico Office of the State Engineer, estimated that the total direct damages in New Mexico as a result of drought conditions that occurred during 2017 through 2019 were conservatively estimated to be $2.4 billion. The report identified several drought adaptation measures that could be taken to help avoid or mitigate against financial losses as a result of drought, including many of the recommended actions contained in the Governor's 50 Year Water Action Plan. Potential drought mitigation actions include: municipal and agricultural water conservation efforts such as using drought-tolerant plant species, fixing leaks, installing low-flow appliances, and practicing water conserving irrigation technologies; building, restoring, or improving reservoirs, dams, and aquifer protective infrastructure can help capture and store water during wet or flood periods, which can then be used during drought conditions; reusing or recycling water, including use of greywater and storm water; planting and harvesting crops that are more resistant to drought or that consume less water; development of drought early warning systems allowing for timely planning and response; developing drought preparedness plans; implementing tools such as water leases and water transfers; and utilizing drought insurance to help protect communities, businesses, and individuals from the financial burdens imposed by drought. Many of these strategies make sense regardless of future precipitation conditions, and

[33] "Bulletin 164 - Climate Change in New Mexico over the next 50 Years: Impacts on Water Resources." *New Mexico Bureau of Geology & Mineral Resources*, geoinfo.nmt.edu/publications/monographs/bulletins/164/.
[4] "Facing New Mexico's 21st Century Water Challenges", *A Report of the New Mexico Water Policy and Infrastructure Task Force,* https://mainstreamnm.org/wp-content/uploads/2024/01/new-mexico-water-policy-and-infrastructure-task-force-final-report-2022.pdf

will require investments to protect the future, public supplies of water in the State of New Mexico.

As managers of public water systems understand, proactive management and development of resilient water systems is a constant, evolving process. Although New Mexico already has one of the lowest per capita water use levels in the West, the State's cities and towns are continuing efforts to reduce water use through repairs to aging infrastructure and development of additional water reuse capabilities. These types of water conservation efforts are not without costs and complications. For example, reduced water sales and deliveries as a result of increased household conservation results in decreased revenue for municipal water systems and therefore requires appropriate rate structures to ensure reinvestments in infrastructure can occur and operating costs can be maintained.

Agricultural water conservation will also continue to be a drought response strategy in New Mexico, and the State's irrigators will continue to be consulted to develop strategies to be able to efficiently utilize water for agriculture during drought. The State is committed to developing tools and policy incentives to expand water conservation and resilience within the agricultural sector through programs that can increase producers' voluntary adoption of high-efficiency irrigation technologies such as soil moisture sensors, utilizing satellite-based evapotranspiration data and planting drought resilient, low water-demand crops, all of which will require financial investments. Mechanisms have been developed in some States, including New Mexico, to compensate agricultural producers, who often have senior water rights in a basin, for voluntarily water transfers or water conservation efforts. Agreements often include consideration regarding the impact of reduced agricultural production on adjacent rural communities. In some circumstances, producers may be eligible for compensation in response to crop failure during emergencies, particularly through U.S. Department of Agriculture programs for agricultural producers impacted by wildfires, droughts, hurricanes, or winter storms. For example, the USDA estimates that producers in Iowa received more than $523.9 million in disaster recovery benefits during 2020, 2021, 2022, and 2023, and similar estimates are available from USDA for each state.[5]

Complications and Opportunities for Responding to Drought Related to the Source of Water Supply

Strategies to respond to drought conditions benefit by having a mix of surface water and groundwater as basis of supply, and a clear understanding of how to measure and monitor those supplies. Fortunately, New Mexico has long recognized the connection between surface

[5] https://www.fsa.usda.gov/programs-and-services/emergency-relief/index#SF

water and groundwater and has regulated those sources conjunctively. During drought conditions, groundwater may be a supplemental source of supply, but being able to understand the extent of that supply will be critical. Within New Mexico, as with many other Western States, efforts are being undertaken to identify and characterize groundwater aquifers for current and future municipal and agricultural water uses and New Mexico has invested millions of dollars in the research and data necessary to complete the analyses. One of the priority actions in the Governor's 50 Year Water Action Plan is to fully fund the technical work underway at the New Mexico Bureau of Geology and Mineral Resources to characterize and map the available groundwater throughout the State which will provide essential information necessary to manage the State's water resources during drought. The importance of this type of analysis was highlighted in a Wall Street Journal story earlier this month regarding the challenges of groundwater management in Kansas.[6]

Efforts currently underway in Eastern New Mexico provide a great example of how expanded knowledge about aquifer characteristics and conjunctive management of water resources can benefit local communities. Utilizing studies completed recently by the New Mexico Bureau of Geology for the Ogallala Aquifer in Eastern New Mexico, voluntary conservation efforts are underway through the Ogallala Land and Water Conservancy to develop sustainable land management and water use practices for the benefit of future domestic and agricultural water uses in the region, including Cannon Air Force Base. Simultaneously, the Eastern New Mexico Rural Water System is being developed through partnerships between the State of New Mexico, local communities represented through the Eastern New Mexico Water Utility Authority, and the Bureau of Reclamation to bring a supplemental supply of surface water from the State-owned Ute Reservoir to the local communities that are currently relying on groundwater from the Ogallala Aquifer. This project is expected to be completed in 2031 and will provide a reliable, conjunctively managed future supply of water to the communities in Eastern New Mexico. Completion of the project will depend on the continued contributions of the existing partners beyond the $179 million already contributed through State and local government investments and federal contributions of $540 million. This project, and others like the Lewis and Clark Regional Water System that will serve residents in South Dakota, Iowa and Minnesota, are examples of rural water projects authorized for construction through the Bureau of Reclamation's Rural Water Program and recognize the importance of ensuring that our Nation's rural, and in many cases Tribal, communities receive clean, reliable drinking water supplies.

[6] "Why America's Groundwater is Disappearing", *Wall Street Journal* May 9, 2024, https://www.youtube.com/watch?v=DdNtraY6HhQ

Development of Funding Opportunities and Strategies

The examples from within New Mexico and other States of collaborative efforts to manage surface and groundwater supplies for the benefit of the communities that rely on them rely on investments to ensure that a secure supply of water can continue to fuel the associated economies, especially during droughts. There is an unprecedented level of funding currently available across many federal agencies as a result of the Bipartisan Infrastructure Law and the Inflation Reduction Act,[7] which coupled with matching funds from State and local resources, make the investments even more robust.

In New Mexico, recent funding announcements for projects within the Rio Grande Basin and efforts to implement Indian Water Rights Settlements are excellent examples of the tremendous opportunity that exists now to pool resources from State, local and federal sources to develop infrastructure investments to respond to drought. The New Mexico legislature has made recent investments in excess of $100 million for water projects to enable New Mexico communities to withstand future droughts. The recent State funding has been matched by recent federal funding awards of a similar magnitude that will enable New Mexicans to continue to build water management capabilities and habitat within the Rio Grande Basin and other areas around the State, but the existing funding is a down payment for the additional funding that will be necessary to fully implement the required priority actions necessary to ensure we can meet our future water demands in the context of a predicted reduction in future water supplies. During the 2024 legislative session, New Mexico established a Match Fund with an initial appropriation of $75 million to leverage federal funding for infrastructure, research and economic development and the State is in the process of setting up the new grant programs associated with the new fund.

In addition, New Mexico is currently partnering with the Western States Water Council on an innovative program designed to pair potential federal funding sources with critical water infrastructure needs throughout the State. This effort will involve projects from multiple water use sectors, including habitat restoration, and the results and recommendations will be available as a model for use throughout New Mexico and in other states. As an additional resource, the federal government's National Integrated Drought Information System webpage drought.gov lists thirteen separate programs among the US Department of Agriculture, the

[7] https://www.nrcs.usda.gov/about/priorities/inflation-reduction-act [The Inflation Reduction Act provides an additional $19.5 billion over five years to support USDA's conservation programs that yield climate change mitigation benefits.]; https://crsreports.congress.gov/product/pdf/IF/IF12437 [The Inflation Reduction Act provided $4.6 billion and the Infrastructure Investment and Jobs Act provided $8.3 billion of additional funding to the Department of the Interior relating to water programs at the Bureau of Reclamation.

Department of the Interior, the Environmental Protection Agency, FEMA and other agencies that provide drought response services throughout the Nation in addition to the drought management resources that are available through agencies such as the Army Corps of Engineers.

Working With Partners on Funding and Water Management Strategies is Key

There is significant coordination among federal agencies and with non-federal state and local agencies to coordinate on water management efforts, improved data collection and management, improved forecasting and efforts that will benefit water users in all sectors during drought years or wetter conditions,[8] and the available funding has the biggest impact when it can be utilized in conjunction with collaborative efforts among multiple water management jurisdictions. Funding for infrastructure, combined with innovative cooperative management agreements provides an opportunity for New Mexico and other Western States to work together, with Tribal communities and federal government partners, to manage water resources collaboratively and effectively.

For example, cooperative coordinated management agreements have been in place in the Colorado River Basin for over 20 years and have formed the foundation for the negotiation of the agreements that are currently under development to respond to future conditions that may be even drier. Beyond the $670 million has been invested in the basin on water conservation efforts in the Colorado River Basin,[9] significant financial investments will continue to be required to maintain infrastructure and implement existing and future conservation agreements. Other river basins have been experiencing similar levels of drought, and efforts are underway to ensure the communities in those basins can also continue their ways of life. Within the Rio Grande Bain, the States of Colorado, New Mexico and Texas have recently developed collaborative management agreements to resolve long-standing, contentious litigation pending in the U.S. Supreme Court. Implementation of the Consent Decree supporting the Rio Grande Compact will require significant investments and continued coordinated water management strategies, which are already underway. Other examples of collaborative multilateral water management agreements exist in other Western States, and in Eastern areas like the Great Lakes and the Delaware River Basin. All of these types of agreements require sustained sources of funding from multiple jurisdictions to be successful.

[8] Drought in the United States: Science, Policy, and Selected Federal Authorities", *Congressional Research Service,* updated March 9, 2023, https://sgp.fas.org/crs/misc/R46911.pdf

[9] https://www.whitehouse.gov/briefing-room/statements-releases/2024/03/05/fact-sheet-biden-harris-administration-protects-stability-and-sustainability-of-colorado-river-basin-advances-water-conservation-across-the-west/

Closing

Thank you for the opportunity to participate in this hearing and describe some of the ways New Mexico and its partners are responding to drought. The strategies and actions under development will ensure that New Mexico's communities and those in other states can continue to prosper during droughts or any future conditions that may be on the horizon.