

**Written Testimony  
Submitted to the  
United States Senate  
Committee on Energy and Natural Resources**

**on**

**S. 1012  
New Mexico Drought Preparedness Act of 2017**

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Rio Grande Water Development in New Mexico

The Upper Rio Grande originates in the San Juan and Sangre de Cristo mountain ranges in southern Colorado and northern New Mexico. It bisects the San Luis Valley in Colorado and the entire state of New Mexico with this reach culminating at Fort Quitman, Texas. This portion of the Rio Grande is administered under the Rio Grande Compact by a federal appointee and three Commissioners from Colorado, New Mexico and Texas with support from the United States Geological Survey, the Bureau of Reclamation, and the Army Corps of Engineers. The annual mean flow as measured at the Otowi gage in New Mexico is 1 million acre-feet with wide variation, ranging from 250,000 to 2.5 million acre-feet. Irrigated agriculture consists of approximately 600,000 acres in Colorado, 200,000 acres in New Mexico, 100,000 acres in Texas. Additionally, up to 60,000 acre-feet is delivered to lands within the Republic of Mexico via the Rio Grande Project under the 1906 Convention between the United States and Mexico. The predominate crop due to climate, water supplies and labor considerations is alfalfa. Other crops include potatoes, chilé, corn, fruit, onions and pecans. There is an improving 'farm to table' market serving a demand for locally produced agricultural products ranging from lettuces to melons as well as organically grown products particularly near and in municipalities.

Due to rapid development in Colorado in the late 1800s, water shortages occurred in New Mexico and Texas on lands that had been irrigated dating back to the 1600s. Native American pueblo farmers, of course, irrigated even earlier. Litigation and international concerns led to the development of Reclamation's Rio Grande Project that built Elephant Butte and Caballo dams as well as a federal embargo against water development in Colorado and New Mexico pending the negotiation of the 1939 Rio Grande Compact (Compact). Since that time, there have been significant legal challenges raised by the states during drought periods that led to amendments to the Compact. There is currently a Supreme Court case whereby Texas alleges that New Mexico's water administration rules within the Mesilla Bolson are allowing excessive groundwater pumping that limits surface water deliveries through the riverbed to Texas, and by extension, to the Republic of Mexico. This case has been assigned to a Special Master and is proceeding at significant cost to the litigants and the United States. The Special

Master has issued his first report to SCOTUS recommending that New Mexico's motion to dismiss based on jurisdictional grounds be denied.

The upper Rio Grande differs significantly from the Colorado River Compact. On the Colorado River the Secretary is the river master and can mediate differences between the seven states given the United States' ownership of main-stem and tributary reservoirs serving all seven states. There are only two main-stem reservoirs on the upper Rio Grande, Elephant Butte/Caballo dams above Las Cruces and Cochiti Dam 60 miles north of Albuquerque, which is operated only as a flood control feature by the Corps of Engineers. Federal reservoirs were developed case-by-case for specific purposes with narrow authorities; they were not planned for use in administering the entire Rio Grande. This means that the upper states of Colorado and New Mexico have minimal storage options and must survive on the whims of the climate through a "run-of-the-river" type operation while meeting downstream delivery requirements as determined by the Compact. There have been a number of water short (drought) periods that have tested the resilience of the Compact. The 1950s was the worst, until the drought that began in the late 1990s and persists today. This has been the first period in recorded history where there has been far below average spring runoff for five consecutive years.

#### The Middle Rio Grande Valley and the Middle Rio Grande Conservancy District

The Middle Rio Grande Valley begins at the base of Cochiti Dam and extends some 160 miles south to Bosque del Apache National Wildlife Refuge. Approximately 65,000 acres are currently being irrigated in the Middle Rio Grande by the Middle Rio Grande Conservancy District (District). The District operates and maintains over 1,200 linear miles of canals, laterals, ditches and drains to meet the needs of its irrigators within six Native American Pueblos (Cochiti, Santo Domingo, San Felipe, Santa Ana, Sandia, and Isleta) and four counties. The District serves the irrigation needs of the six middle Rio Grande Pueblos, which include 8,847 acres of lands with prior and paramount water rights and an additional 11,951 acres of reclaimed irrigated lands.

The District is a surface water management entity and does not hold any ground water permits for its operations. The middle valley water supply system is a "run-of-the-river" operation, meaning that the spring runoff and summer monsoons provide the predominant flows to four diversion dams in the middle valley. There is some upstream storage on the Rio Chama at El Vado Dam (maximum of 186,000 acre-feet) to supplement late summer base flows. El Vado Reservoir storage is also limited by the terms of the Rio Grande Compact, making the middle valley subject to frequent shortages late in the season.

During the drought of the 1950s, the State Engineer "closed" the Middle Rio Grande basin to further unpermitted ground water appropriations. This required that new ground water wells be permitted and that their depletions be "offset" through the retirement of existing surface water associated with pre-1907 water rights. New Mexico and Colorado also incurred significant under deliveries to the Rio Grande Project during this period that severely restricted the District's use of El Vado Reservoir. This situation helped motivate completion of the San Juan-Chama Project to harness New Mexico's share of the Colorado River Compact, bringing an additional 96,000 acre-feet of water to the middle valley. This provided some relief but with shortages being experienced on the San Juan-Chama Project for the first

time in 2014 and 2015, the climatic conditions and Compact restrictions are severely limiting the District's abilities to manage shortages during this prolonged drought. This year and last the basin experienced average and above average runoffs. These conditions have occurred in only five years since 2001.

Endangered Species Act litigation led to a 2003 Biological Opinion for Middle Rio Grande water operations. This solidified the Middle Rio Grande Endangered Species Collaborative Program that authorized Reclamation to acquire San Juan-Chama project water from "willing" lessors to address habitat needs and set up a scientifically based adaptive management approach to conserve endangered species. The District is a prominent member of the Collaborative Program along with three federal agencies and twelve other state, tribal and local entities. The District has made significant commitments to off-set its actions and implemented conservation measures to advance the recovery of the silvery minnow, southwestern willow flycatcher, the yellow-billed cuckoo, and the meadow jumping mouse. The added conservation actions associated with the District's and Reclamation's operations have significantly enhanced the in-river conditions within the system but have reached their limitations based on water availability and the relative inflexibility of the federal reservoir system. The 2003 Biological Opinion was prescriptive and inflexible. The District, and its Biological Assessment partners (US Bureau of Reclamation, US Bureau of Indian Affairs, and the New Mexico Interstate Stream Commission), consulted collectively with the US Fish and Wildlife Service (Service) and successfully completed the 2016 Biological Opinion. The new Opinion (BO) has four major objectives: 1) Produce as many annual spring peak and overbank flows that produce silvery minnow spawn and recruitment conditions as available water and operational flexibilities allow; 2) Utilize system optimization and available summer flows to minimize river drying increasing the chances of summer survival; 3) Increase available habitat by lowering bank lines and creating backwater areas at for lower flow rates; and 4) Design and construct fish passage structures at the three District diversion dams. These four major objectives will be coupled with increased monitoring, continuing propagation as needed, and the implementation of a strong science program that will be based upon sound adaptive management strategies. It is envisioned that the Collaborative Program will be reinvented to become the core planning and science oversight mechanism for BO implementation and support for the agencies providing ESA compliance for the middle Rio Grande.

The New Mexico Drought Preparedness Act of 2017(the Act), sponsored by both Senators Udall and Heinrich, is principally designed to build upon, enhance and reauthorize the Secure Water Act of 2009. It will enhance agency authorities to allow for resources and operational flexibilities necessary to address changing climatic conditions in the desert southwest and help agencies, irrigation districts, and other water users to better cope with the wide variations in water supplies while meeting the requirements of the Endangered Species Act. We also note that the Pueblo Indian water users in the middle Rio Grande will be affected by many sections of the Act and thus encourage significant consultation and coordination with those tribal governments to assure their interests are adequately protected.

Section three of the Act proposes the establishment of a water acquisition program that is designed to assist in providing voluntary leasing options for farmers and other water right holders. This will allow for

additional water to remain in the river to support endangered species and to assist the District with water management and efficiency improvements. The District generally supports this effort with the understanding that leasing actions are only useful if there is actual water available for the purpose identified. Taken in concert with other sections of the bill, this water-leasing program can be a useful but limited tool for promoting agricultural and ecological resiliency. The District is uniquely positioned to sponsor a “pilot” leasing program for assuring that pre-1907 water rights remained tied to the land, while affording an opportunity for a targeted water supply to be available to sustain important habitat areas located south of Isleta Diversion Dam. The District recommends that the language in this section be made clearer that the Secretary must consult with the Six MRG Pueblos about this program.

Section four of the Act provides funding to address efficiency and conservation measures in areas the District and the MRG Pueblos believe are necessary for water management in the long-term, particularly in reaches of the river where summer drying is a common occurrence even in “good” water years. Actions already taken by the District to strategically deliver water to the river can be significantly enhanced by investments in efficiency measures focused on enhancing habitat where water is consistently available. The additional focus on the Isleta and San Acacia reaches of the river where it is most difficult to minimize river drying is welcome and the District has obtained a WaterSMART grant to build a pumping station at Neil Cupp that will replace a temporary pumping plant operated by Reclamation to allow for salvage drain returns to be used for in-river habitat maintenance, supplementing irrigation shortages, or both. The District is investing \$600,000 as cost-share on this project.

Section five of the Act addresses the need to provide critical flexibility within the federal reservoir system, with a particular emphasis on Cochiti Dam and Reservoir given that it is on the main-stem at the top of the Middle Rio Grande. Having the appropriate degree of authority provided to the Corps and/or Reclamation for managing a “conservation” pool for operational purposes will allow for spring pulse re-regulation to more accurately meet fish spawn and recruitment flows, preserve in-system flows during monsoon events, and generally assist with Compact delivery needs (assuming the three states can agree on needed adjustments to the Compact). If the Army Corps of Engineers cannot deviate from current operations and retain the ability to modify operations in the long-term, spawning of the silver minnow will be difficult and the species may not be recovered. We fully recognize the potential impacts that any changes to Cochiti authorization, including temporary deviations in operations, may have to Cochiti Pueblo and we fully support any action necessary to address the Pueblo’s concerns and request that the Pueblo be brought in at the very beginning of the process through formal government-to-government consultation. This is especially important given the physical and social damage that the construction of Cochiti Dam inflicted on the people and lands of Cochiti Pueblo. We also recommend consultation be extended to the other five MRG Pueblos who are downstream of Cochiti Dam and Reservoir and are affected by its operation.

Section six of the Act addresses the need for a comprehensive review of the upper Rio Grande that includes federal reservoir authorities, the Rio Grande Compact, and water management practices within the basin. We support such a study and have become a primary local partner with Reclamation in the development and completion of such a basin-wide study (Upper Rio Grande Basin Study) that is already

funded through Reclamation's Basin Study authority under the Secure Water Act. The District recommends that funding from this bill be dedicated to an independent science panel to provide a peer review process to help guide the Upper Rio Grande Basin Study process and provide assurance that it will have a scientifically-based focus with a sound and comprehensive review of policy matters with meaningful participation by agencies, Pueblos and other interests. As written, the Act has the NAS Study moving forward independently of the Basin Study process and we suggest this may be redundant and may fall short of what the Basin Study will be looking at given that the NAS Study would not be allowed to look at the reservoirs (Elephant Butte and Caballo) within the Rio Grande Project missing impacts of Rio Grande Compact requirements imposed on the upper basin.

The District supports section seven as emergency drought funding during severe water shortages would be welcome assistance for water users within the District including the six MRG Pueblos. Sections 8, 9 and 10 are also fully supported by the District with particular emphasis on the reauthorization of the Rio Grande Pueblo Irrigation Infrastructure Act. This is very important to the six MRG Pueblos and the District as we are strong partners in working together to leverage District, BIA, Tribal and Reclamation funds to construct and rehabilitate irrigation features to improve irrigation expand Pueblo irrigation features, improve efficiencies and provide drought resiliency. We also urge the Secretary of Interior, through the BIA and Reclamation, to consult frequently with our Pueblo partners in implementing this Act as well as the NM Drought Preparedness Act once it becomes law.

The basin has experienced a brief relief as there was an above average snowpack in 2016 and now in 2017 but long-term indications are that persistent drought may be the new normal in the southwest so the District and its partners will be working diligently to leverage all available resources to prepare for warmer and dryer years. These bills are designed to provide resiliency in times of drought and to maximize scarce resources for these purposes. The Middle Rio Grande Conservancy District will continue to do its part within its capabilities to achieve long-term and continuous improvements to preserve the agricultural and cultural uses of water while preserving the outstanding natural resources of the Middle Rio Grande Valley.