**Statement of Michael L. Connor, Commissioner**
**Bureau of Reclamation**
**U.S. Department of the Interior**
**before the**
**Committee on Energy and Natural Resources**
**United States Senate**

**Exploring the Effects of Drought on Energy and Water Management**
**April 25, 2013**

Chairman Wyden and members of the Committee, I am Mike Connor, Commissioner of the Bureau of Reclamation (Reclamation) at the U.S. Department of the Interior. Thank you for the opportunity to testify before the Committee today regarding the effects of drought on energy and water management.

As most of us observed, 2012 marked an alarming increase of drought conditions in the United States. Under the U.S. Department of Agriculture's disaster designation process, 2,254 counties were declared primary drought disaster areas in calendar year 2012. This month, much of the West remains in a state of moderate to extreme drought conditions, one of the most severe in recent decades. As of April 17, 2013[1], 891 counties were designated as primary drought disaster areas, but the continuous nature of the drought, coupled with the approach of this year's summer season, are obviously of great concern to the affected areas. While storms this month have helped ease conditions in the Rocky Mountains, the Reclamation states still experiencing severe to exceptional drought[2] are Nebraska, Kansas, South Dakota, Texas, New Mexico, Colorado, Wyoming, Arizona, Nevada, Oklahoma and California.

Almost all Reclamation regions experienced low precipitation and runoff during 2012, raising the critical need for precipitation in 2013. Significant impacts were avoided in most regions last year mainly due to carryover storage, but it has become clear that the remaining winter snow pack will provide very little carryover to mitigate conditions in 2013. As of early April, runoff from the Colorado River and its tributaries into Lake Powell was at only 38 percent of average, and the reservoir itself held just 47.4% of capacity. Downstream on the Colorado at Lake Mead, Reclamation's other major facility on the Colorado, storage is at 50 percent capacity. Power production is also reduced in the face of reduced reservoir storage.

To be clear from the outset, Reclamation addresses drought as part of its core mission, operating its core infrastructure, as an entity established at the turn of the last century to provide water in the arid West. Reclamation was established as a water management agency, with its statutory framework gradually built upon individual project authorizations and financial partnerships with water users to insulate communities and rural economies against disruption in their water supplies. Dealing with drought conditions was then and continues to be a significant part of Reclamation's mission. Today, many of Reclamation's activities address drought through the use of enhanced water management that helps guard against and to a certain extent mitigate the

[1] http://www.fsa.usda.gov/FSA/webapp?area=home&subject=diap&topic=landing .
[2] http://droughtmonitor.unl.edu

devastating effects of drought, for example, through conservation. My statement today will summarize those activities and the results we are achieving.

Water Operations and Other Tools

Reclamation continues to operate its infrastructure within the inherently wide framework of hydrologic variability that defines the western United States year-after-year. Given this dynamic, Reclamation must constantly be prepared to work with our contractors to adjust annual operation plans in an attempt to mitigate the impacts of water shortages. As an example, given the ongoing drought in California, we are currently taking a number of actions associated with the Central Valley Project (CVP) to provide additional supplies to supplement low contractual allocations. These actions include rescheduling available storage, acquiring supplies from willing sellers; diversifying supplies to wildlife refuges that are served by project water; and constructing a new intertie between the CVP with the State Water Project that has provided more flexibility to pump water when it's available, adding tens of thousands of acre-feet of additional water supply to the project on an annual basis.

A second example concerns the Colorado River basin which has suffered through drought conditions for much of the last decade. Reservoir levels have plummeted and there were strong concerns during the early part of 2011, that the lower Colorado River basin would suffer shortages for the first time ever. A number of operational agreements have been executed over the last 10-15 years to incentivize conservation and increase the amount of water stored in Lake Mead – all with the idea of mitigating the impacts of long-term drought. The most recent agreement is Minute 319 to the 1944 Colorado River treaty, a historic arrangement between the United States and Mexico that was signed last November, providing a range of binational benefits including (1) allowing Mexico to make use of storage capacity in Lake Mead at its discretion; and (2) ensuring the availability of additional water supplies to U.S. entities through conservation and efficiency improvements in Mexico.

A final example includes the Klamath River basin in Oregon. According to the State's Governor, drought conditions are plaguing this basin in 2013. The low water year pits endangered fish versus endangered fish as one species needs more water in Upper Klamath Lake, whereas the other species needs sufficient river flows based on release from the Lake. This situation also pits the needs of both sets of fish species against the water supply needs of the agricultural community in the basin. Reclamation has worked with biologists in the U.S. Fish & Wildlife Service and the National Marine Fisheries Service to develop a new operational plan this year, intended to maintain protections for the fish while allowing irrigation operations to proceed during this year.

Overall, Reclamation and its customer community continue to experience impacts from ongoing drought and are using as many operational tools as are available to respond. These tools include:

- using excess capacity of project facilities for storage and conveyance of project and non-project water for use both within and outside of project boundaries (consistent with applicable authorities)
- purchase of water (from willing sellers) for ESA purposes and to mitigate losses and damages to communities from drought
- regulating the quantity and timing of reservoir releases (consistent with agreements), and
- educating producers confronted with reduced water supplies on research-based irrigation scheduling and management strategies.

WaterSMART

The wise use of water enables water users to optimize and stretch their finite supplies in every year. The Department's WaterSMART (Sustain and Manage America's Resources for Tomorrow) program provides the foundation for Reclamation's efforts, in partnership with those water users, to achieve a sustainable water supply. It includes efforts of Reclamation and the U.S. Geological Survey (USGS) to improve water conservation and help resource managers make sound decisions about water use. It is a prominent feature in the Department's Fiscal Year 2014 budget request, and functions as the Department's implementation of the SECURE Water Act, Title IX Subtitle F of Public Law 111-11.

Consistent with Secretarial Order 3297, the Department's implementation of WaterSMART includes funding locally cost-shared water management improvements that today are saving significant amounts of water. Completed WaterSMART grant projects, along with other conservation activities, are saving an estimated 616,000 acre-feet per year – enough water for more than 2.4 million people – and our current goal is to save 790,000 acre-feet per year by the end of 2014. Since 2009, about $94 million worth of WaterSMART grants has enabled 158 projects to proceed, leveraging federal funding to implement more than $280 million in water management improvements across the West. About $231 million in federal funding has also been provided for Title XVI Water Reclamation and Reuse Projects since 2009[2]. Eight projects have finished construction since that time, and eight others are expected to be completed in 2013. Project sponsors delivered about 295,000 acre-feet of recycled water in 2012, providing a drought-resistant supply and new flexibility for water managers.

The assessment of water supply challenges and impacts at the local level is the subject of ongoing activities within the WaterSMART Basin Studies Program and West-Wide Climate Risk Assessments (WWCRAs). The WWCRAs will continue Reclamation's development of consistent and comprehensive baseline projections of risks and impacts to Reclamation operations due to the impacts of climate change and other water resource challenges. WaterSMART Basin Studies are complete or underway today on 17 river basins[3], all of them looking 50 years or more into the future. They are funded through a 50-50 Federal/non-Federal cost share and, when completed, each study will identify adaptation strategies that can alleviate imbalances between water supply and demand. All of this is geared toward providing real-

[2] Includes regular annual appropriations and ARRA (PL 111-5).

[3] Los Angeles Basin, Pecos River, Republican River, Sacramento-San Joaquin River, Upper Washita River, Hood River, Klamath River, Lower Rio Grande, Santa Fe Basin, Henry's Fork of the Snake River, Niobrara River, Santa Ana River, Southeast California Region, Truckee River, Colorado River, St. Mary and Milk Rivers, Yakima River.

world, practical results: preparing our facilities and the customers that help us operate them to continue delivering benefits in the future. Reclamation's customers, including farms, cities, power users, recreationalists, and our ecosystem programs that support the country's fish and wildlife species all rely on the stability provided by the existing water infrastructure in the West. We are looking ahead, through inevitable periods of drought, to maximize the benefits of these projects for decades into the future.

WaterSMART also acknowledges the nexus between energy and water use. In addition to saving water, WaterSMART projects across the West have conserved 40 million kilowatt-hours of electricity annually – enough power for 3,400 households – and additional savings are targeted for the future. Additional milestones are described in the program's three-year progress report, online at http://www.usbr.gov/WaterSMART.

Reclamation is committed to continuing WaterSMART, and it is anticipated that the program will exhaust its authorized appropriations for WaterSMART's water and energy efficiency grants in the next year. Therefore, in order to continue use of this highly valuable program which is significantly contributing to drought resiliency in the West, an increase in the authorization ceiling will be needed. A requested amendment to Section 9504(e) of the Secure Water Act of 2009 (42 USC 10364(e)), raising the ceiling from $200 million to $250 million, is part of the Appropriations language section of Reclamation's FY 2014 budget request.

Storage

The ability to use storage and conveyance resources to mitigate future hydrologic variability, changing water demands, constraints on operations, and changes in runoff seasonality are key determinants of whether these natural runoff changes will translate into significant management impacts. It is reasonable to ask what role new water storage can play in insulating our country from drought, in the short or long term. Reclamation still studies, constructs and maintains large surface storage or other supply projects, when authorized by Congress, and in fiscal year 2014, Reclamation has a construction budget of more than $140 million for a variety of projects.

As mentioned above, there are 17 Basin Studies complete or underway across Reclamation on major river basins in the West under the WaterSMART Program, authorized by the SECURE Water Act. All of these major Basin Studies will consider potential new surface storage needs, as directed in the Act at Section 9503(b)(4)(e). Reclamation is also at work studying four major surface storage proposals in California, which if constructed, would be integrated with the existing Central Valley Project. But while important, surface storage in the Reclamation study and construction budgets has been joined by significant obligations for dam safety, and the modernization or repair of infrastructure built generations ago. For many reasons – political, economic, and social – the construction of new surface storage projects is being undertaken on a much more limited basis than in decades past. New societal priorities and advancements in scientific knowledge support increased focus on ecosystem restoration, adverse impact mitigation, efficient management, wastewater reclamation, and conservation as cost-effective ways to maximize existing surface water storage. These priorities have become central parts of the Reclamation vision today, and can provide significant quantities of new water supply in a very cost efficient manner.

There are roughly three dozen Reclamation dam projects, project features or other storage facilities across the West that were authorized by Congress but, for one reason or another, were never funded or constructed. The stories vary, but the most frequent reasons center around economics or an inadequate potential water market associated with the given facilities. In other cases, environmental, safety or geologic challenges came to light during projects' development and rendered their construction, completion or operation infeasible. Political opposition often contributed, leaving the proposals "on the books" awaiting further action, but with external events and new priorities passing them by.

Nonetheless, within the last few years, Reclamation has completed or helped facilitate several new storage projects that added additional water supplies in critical basins. These recent projects include (1) the completion of Ridges Basin Dam as part of the Animas-La Plata project and Colorado Ute Tribes Settlement; (2) Brock Reservoir on the Lower Colorado River, which helps regulate flows and conserve storage in Lake Mead; and (3) Los Vaqueros Reservoir expansion in California's Bay-Delta Region, a perennially water short area. Reclamation will continue to look at storage opportunities, both surface and subsurface, that make technical and financial sense and can help improve overall water management.

Cooperation

Last year, the Department of the Interior joined the National Integrated Drought Information System Office (NIDIS), the Western Governors Association and several other groups and agencies in hosting the National Drought Forum (NDF) in December 2012. The NDF included a series of plenary and breakout sessions to discuss the extent of the 2012 drought and outline actions that could help with drought response going forward. A draft NDF Report was released in February and highlights have been provided to local entities to provide strong examples of steps that can be taken to prepare for ongoing drought conditions.

The President triggered development of another initiative through his directive to "help the Midwest and states, like Colorado, move faster on projects that help farmers deal with worsening drought." Building on regional meetings held in the summer and fall of 2012 to hear concerns from affected communities, a Central U.S. Drought Mitigation Regional Team (DMRT) was formed in February to facilitate collaboration among Federal agencies (and their respective stakeholders) with ongoing and/or planned programs or projects. This effort will be focused on the States of Colorado, Kansas, Nebraska and Iowa. Reclamation is among the cooperating agencies in this effort which is being led by the U.S. Department of Agriculture (USDA), with participation from the Army Corps of Engineers and the National Oceanic and Atmospheric Administration.

Legislative Authority on Drought

Reclamation's primary approach to drought is to continue working with our stakeholders on a proactive basis to assess the implications of water shortages, develop flexible operational plans that account for expected periods of drought, and support projects that conserve water and improve the efficiency of water delivery infrastructure. Federal Drought relief is a "last resort" to be employed only in the most extreme of cases. However, given the extreme weather conditions currently facing many parts of the nation, we will continue to consider ideas to make drought relief even more effective through improved interagency cooperation and other changes.

Since 1991, Reclamation has had authority under the Reclamation States Emergency Drought Relief Act of 1991, Public Law 102-250 (Drought Act), to provide drought assistance to states and tribes. However, Titles I and III of that authority expired on September 30, 2012, and have not been reinstated. Under Title I of the Drought Act, Reclamation has provided emergency drought relief assistance most often through the emergency deepening and drilling of new private wells. Reclamation has also provided relief assistance through executing temporary leases and water service contracts, hauling water for domestic use, installing water measurement equipment, furnishing removable pipe for irrigation, issuing loans for acquisition and transportation of water, and providing water on a temporary basis to meet requirements under the ESA. Title II of the Drought Act authorizes Reclamation to provide planning and technical assistance related to drought planning, preparation, and adaptation strategies to all states, tribes and territories. This permanent authority allows Reclamation to assist non-Federal entities to prepare for drought so that they are less vulnerable when drought inevitably happens. However, that assistance is dependent upon funding as authorized under Title III of the Act.

While the Drought Act is in some measure an inherently reactive authority, and not the primary focus of Reclamation's drought-related strategies, it nonetheless is an important tool and for that reason, Reclamation's 2014 Budget seeks an extension of the authority through 2017.

Conclusion

The problem of drought is best addressed proactively through collaborative planning, targeted investments and an emphasis on water conservation, all of which we are focusing on through WaterSMART and other initiatives. Droughts and dry weather are not new to the arid West. The water infrastructure constructed by Reclamation and our partners in the West was built to mitigate for that reality. As the region continues to grow and experience changes in climate and the economy, we will continue to evaluate and plan for the impacts of drought. This year, we will continue to seek efficiencies in our infrastructure, continue to operate to that reality, and through programs like WaterSMART, continue to fund proposals by our customers to accomplish water-saving efficiencies of their own.

In the longer term, the Department is working every day to equip our agencies, partners and other resource managers with the data they need to answer the questions they face about water supply and use and to continue delivering water and power in the face of drought and our changing global climate. We value our partnership with Congress to bring the best thinking to the challenge of drought and climate change. These challenges will impact nearly every facet of Reclamation's operations, so as new solutions to these complex problems arise, we will pursue those as well.

Chairman Wyden, thank you for the opportunity to discuss these important topics. I would be pleased to answer questions at the appropriate time.