Ensuring Healthy Watersheds and Sustainable, Secure Water Supplies

In a time of exceptional drought, it is absolutely critical that States and the Federal government leverage our resources so we can make each drop count. Being "water smart" means working together to develop sustainable water initiatives that use the best available science to improve water conservation and help water resource managers to address water supply challenges well into the future.

Sally Jewell, Secretary of the Interior
February 9, 2016

Ensuring sustainable, secure water supplies—the foundation for healthy communities and economies—requires healthy watersheds. This is particularly challenging with climate change, record drought conditions, and increasing demand taxing those watersheds. Recognizing the States' primary role in managing water resources, Interior partners with States, Tribes, local water users, and other Federal agencies to leverage funding to increase the reliability of water supplies through programs that provide better tools for water management, promote water conservation and efficiency, and maintain and improve infrastructure. With the Department of the Interior playing a significant role in water delivery to one in every five farmers in the West and to over 36 million people, Interior must focus on innovative approaches to water conservation to meet current water needs and anticipate future challenges.

According to the National Centers for Environmental Information, the 2015 U.S. Drought Monitor reflected 29 percent of the western contiguous U.S. experiencing moderate to exceptional drought, recovering slightly due to El Nino precipitation, but still ending the year with 19 percent experiencing moderate to exceptional drought. Reservoir levels began and ended low in Arizona, California, Nevada, New Mexico, and Oregon and were below average in Idaho, Utah, and Washington by the end of 2015. This is all at a time of increasing demand for water for agriculture and cities. The effects of this drought in many western States, specifically California, Nevada, Oregon, and Washington, affects households across the Country because of the adverse impact on agricultural production. Drought is estimated to cost the Nation billions of dollars and impacts thousands of jobs. In California alone, the estimated cost of the 2015 drought on agriculture—crop production, livestock, and dairies—is $2.7 billion with a total loss of 21,000 seasonal and part-time jobs.

Priority Goal
Water Conservation

GOAL: Enable capability to increase the available water supply in the western States through conservation-related programs to ensure adequate and safe water supplies.

METRIC: By September 30, 2017, the Department of the Interior will facilitate the availability of water supplies employing conservation, efficiency, and technology in the western United States through Bureau of Reclamation water conservation programs to 1,040,000 acre-feet/year cumulatively since the end of 2009.

In addition to agricultural impacts, the lack of mountain snowpack in recent years contributes to record and near-record low streamflow. When combined with warmer water temperatures, this results in fish kills, affecting a number of endangered species. Tinder dry conditions pose a threat for wildfires, which can affect public health and safety and destroy resources and property. With reservoir levels at historic lows and continued depletion of aquifers, improved water management, water conservation, and water recycling are critical to address the imbalance between the demand for water and the available water supply.

WATERSMART
SUSTAIN AND MANAGE AMERICA'S RESOURCES FOR TOMORROW

Interior launched the WaterSMART initiative in 2010 by Secretarial Order 3297 to implement the SECURE Water Act. WaterSMART enables the U.S. Geological Survey and Bureau of Reclamation to make focused and leveraged investments to address the water resource challenges facing the Nation. Interior's WaterSMART programs are critical to achieving a sustainable water strategy that promotes water and energy efficiency. Confronting these water challenges and addressing the imbalance between supply and demand requires an understanding of the direct nexus between water and energy, the hydrologic connections between streamflow/surface water and groundwater, and the impacts of alterations based on human and ecological use and consumption. The Department's 2017 budget includes a total of $98.6 million for WaterSMART programs, with $61.5 million for water sustainability efforts through Reclamation, an increase of $3.4 million from 2016 enacted. The budget also includes $37.1 million for USGS, an $18.4 million increase from 2016 enacted. The programs included in WaterSMART are collaborative in nature and work across jurisdictional boundaries to achieve sustainable water management. Coordination between Reclamation and USGS has existed from the very beginning of the WaterSMART initiative. For example, the two agencies have been working together on preparations for new WaterSMART assessments in the Rio Grande and Red River basins—2016 to 2018—as well as on a National Brackish Groundwater Assessment, with the production and post processing of a national database that will provide critical information on brackish groundwater availability and quality. Interior's WaterSMART programs include:

National Water Census – This USGS research program focuses on national water availability and use and develops new water accounting tools that assess water availability at regional and national levels. Use of the diverse research on water availability contained in the National Water Census provides stakeholders with the information needed to make water management decisions and enhances the understanding of the connection between water quality and availability. In 2017, USGS is requesting funding to support decision support systems,

WATERSMART
(dollars in millions)

	2016 Enacted	2017 Request	Change
BUREAU OF RECLAMATION			
WaterSMART Grants	20.0	23.4	+3.4
Basin Studies	5.2	5.2	0
Cooperative Watershed Management	0.3	1.8	+1.5
Resilient Infrastructure	2.5	1.5	-1.0
Drought Response	2.5	4.0	+1.5
Title XVI Water Reclamation and Reuse Program	23.4	21.5	-1.9
Water Conservation Field Services	4.2	4.2	-0.1
Subtotal, Reclamation	**58.1**	**61.5**	**+3.4**
U.S. GEOLOGICAL SURVEY			
Ecosystems	0.5	3.3	+2.8
Climate and Land Use Change	3.5	7.7	+4.2
Natural Hazards	0.3	0.3	0
Water Resources	14.5	24.7	+10.2
Core Science Systems	0	1.2	+1.2
Subtotal, U.S. Geological Survey	**18.7**	**37.1**	**+18.4**
TOTAL, WATERSMART PROGRAM	**76.8**	**98.6**	**+21.8**

THREE SISTERS IRRIGATION DISTRICT PROJECT

As part of a 2015 WaterSMART Grant, the Three Sisters Irrigation District in Oregon will replace 14,000 feet of open ditch with pipeline. The project is expected to result in annual water savings of 1,900 acre-feet. A portion of the conserved water will be dedicated for instream flows to Whychus Creek. In addition, with completion of this project, pressurized water will eliminate the need for electrical pumps on farms, which use over three million-kilowatt hours of electricity annually, and will allow farmers who receive deliveries from the District to implement further improvements. The project includes the installation of four micro-hydro turbines with a combined energy capacity of 200 kilowatts.

provide grants to State water resource agencies to improve the base data at the necessary resolution for effective decision making, and create hydrologic models and databases that factor in economic, environmental, and societal values within watersheds to provide for communities' needs. The USGS budget also provides increases to: enhance access and use of water information through the new Open Water Data initiative; improve decisions on the quality and availability of surface and groundwater resources; integrate data and models better; and enable adaptive management of watersheds to support the resilience of dependent communities and ecosystems.

WaterSMART Grants – Through WaterSMART Grants, Reclamation awards competitive, cost-shared assistance for water management improvements that have a near term impact on water and energy efficiency. In 2017, Reclamation will fund between 35-45 new WaterSMART Grant projects, which will contribute to the Priority Goal for Water Conservation.

Cooperative Watershed Management Program – Reclamation provides financial assistance to establish and expand collaborative watershed groups and funds watershed management projects through this program. The program supports the development of watershed restoration plans and helps watershed groups address critical water supply needs and manage water quality and environmental issues to avoid potential conflicts exacerbated by drought.

Basin Study Program – The Basin Study Program addresses the impacts of a changing climate and water supply and demand imbalances and includes Basin Studies, West-Wide Climate Risk Assessments, and Landscape Conservation Cooperatives. Basin Studies are collaborative planning efforts with State and local partners to identify comprehensive strategies to address future water demands within a river basin and address climate change and other stressors on water and power facilities. West-wide Climate Risk Assessments provide a foundation for future Basin Studies through the development of guidance and tools to integrate climate change information into planning activities and develop state-of-the art projections of future supply and demand. Landscape Conservation Cooperatives provide a forum for stakeholders to identify shared science needs and meet those needs through applied science tools, collaboration, and information sharing.

Drought Response Program – This comprehensive approach to drought planning shifts emphasis from emergency response to advance a more proactive approach to drought through planning and implementation actions. The program works to avoid drought-related crises in the short term, while laying a foundation for climate resilience in the long term. Funding for planning and implementation actions is allocated through a competitive process emphasizing involvement from multiple stakeholders, the incorporation of climate variability information, and cost-sharing from non-Federal sponsors. According to the Federal Emergency Management Agency, for

every one dollar spent on mitigation, society saves on average four dollars. These efforts directly support the National Drought Resilience Partnership identified in the President's 2013 Climate Action Plan.

Title XVI Water Reclamation and Reuse Program – Title XVI projects develop and supplement urban and irrigation water supplies through water reuse, thereby improving efficiency, providing flexibility during water shortages, and diversifying the water supply. Federal investments in Title XVI projects, including all projects funded since 1992, made available over 369,000 acre-feet of water in 2015.

Water Conservation Field Services Program – Reclamation provides cost-shared financial assistance on a competitive basis to irrigation districts, Tribes, municipalities, and others for smaller scale water conservation activities, including water conservation planning, as well as technical assistance. It is estimated the 2017 funding of $4.2 million will conserve 2,270 acre-feet.

Resilient Infrastructure Program – The Resilient Infrastructure Program enables Reclamation to prepare for and protect its infrastructure against new climate extremes, and at the same time support healthy and resilient watersheds. The program advances scientific and technical evaluations to identify opportunities to proactively maintain and improve existing water infrastructure for system reliability, safety, and efficiency. These new evaluations will be extrapolated to Reclamation's entire portfolio of projects.

INDIAN LAND AND WATER SETTLEMENTS
(dollars in millions)

	2016 Enacted	2017 Request	Change
NEGOTIATION AND LEGAL SUPPORT			
Bureau of Indian Affairs	16.3	29.2	+12.9
Bureau of Reclamation	6.1	6.1	0
Other Bureaus and Offices	3.9	4.7	+0.8
SUBTOTAL, NEGOTIATION AND LEGAL SUPPORT	**26.3**	**40.0**	**+13.7**
SETTLEMENT IMPLEMENTATION			
Bureau of Reclamation			
Ak Chin Indian Water Rights Settlement Act	15.3	15.7	+0.4
Aamodt	6.0	6.4	+0.4
Crow	12.8	12.8	0
Navajo-Gallup Water Supply	89.7	87.0	-2.7
Taos Pueblos	4.0	0	-4.0
Other Ongoing Settlement Ops. and Maintenance	8.2	9.4	+1.2
Subtotal, Reclamation	**136.0**	**131.2**	**-4.8**
Bureau of Indian Affairs			
Aamodt	6.2	25.0	+18.8
Navajo-Gallup Water Supply	9.0	15.1	+6.1
Taos Pueblos	29.2	0	-29.2
Navajo Nation Water Resources Trust Fund	4.0	4.0	0
Other Ongoing Settlement Operation and Maintenance	0.1	0.1	0
Subtotal, Indian Affairs	**48.6**	**44.3**	**-4.3**
SUBTOTAL, SETTLEMENT IMPLEMENTATION	**184.6**	**175.5**	**-9.1**
TOTAL, SETTLEMENT FUNDING	**210.9**	**215.5**	**+4.6**

Resolving Water Claims

Today, implementing existing settlements and reaching new agreements is more important than ever given the need for water on many Indian reservations and throughout the West and the uncertainty regarding its availability due to drought, climate change, and increasing demands for this scarce resource. Settlements resolve long-standing claims to water; provide reliability with respect to supplies; facilitate the development of much-needed infrastructure; improve environmental and health conditions on reservations; and promote collaboration between Tribes, States, and local communities. Settlements have been, and should remain, a top priority for the Federal government.

Michael L. Connor, Deputy Secretary
May 20, 2015

Indian water rights disputes—which can date back 100 years or more—are a tangible barrier to socio-economic development for Tribes, and significantly hinder the management of water resources. Settlement of Indian water rights disputes can break down these barriers and help create conditions to improve water resources management by providing certainty of rights of major water rights holders who are parties to the disputes. This certainty provides opportunities for economic development, improves relationships, and encourages collaboration among neighboring communities. The United States pursues a policy of settling Indian water rights disputes whenever possible. Indian water rights settlements also are consistent with the general Federal trust responsibility to Indian Tribes and with Federal policy promoting Indian self-determination and economic self-sufficiency. Federally recognized Indian Tribes, States, local parties, and the Federal government acknowledge negotiated Indian water rights settlements are preferable to protracted litigation over Indian water rights claims.

The 2017 budget continues to strengthen the Department's capacity to meet its trust responsibilities and more effectively partner with Tribes on water issues. This includes support for water projects which address critical needs, such as providing clean and potable water for tribal communities and repairing crumbling irrigation and water delivery infrastructure systems, which are essential to sustain these communities. These infrastructure investments improve the health and well-being of tribal members, preserve existing economies, and over the long-term bring the potential for jobs and economic development.

The 2017 budget for authorized settlements and technical and legal support involving tribal water rights totals $215.5 million, an increase of $4.6 million from 2016 enacted. In 2016, the Department will complete the Taos Pueblos water settlement; and in 2017, the Department will complete the funding requirements for the BIA portion of the Aamodt water rights settlement.

Drought Response

Several parts of the Nation are experiencing unprecedented drought conditions and growing evidence exists that climate change is causing longer and more frequent droughts in some areas and increasing water supply variability. In the Colorado River Basin, the years 2000 to 2015 represent the worst multi-year drought in records dating back to 1906. On April 22, 2014, the western United States Drought Monitor's weekly report marked the first time in its history the entire State of California experienced moderate to exceptional drought. Low reservoir levels and extremely low mountain snowpack during the 2014-2015 snow season were visible manifestations of the drought in the West. With six of the previous eight years having below-average precipitation, 2015 began and ended with low water reservoirs in Arizona, California, Nevada, New Mexico, and Oregon, expanding to include Idaho, Utah, and Washington.

The President's Climate Action Plan, "Preparing the United States for the Impacts of Climate Change," released in June 2013, highlights drought preparedness as a priority. The Department continues a proactive approach by emphasizing mitigation and planning to increase resilience to drought in advance of a crisis. These Administration commitments are underscored by the unprecedented agreements reached at the November 2015 United Nations Framework Convention on Climate Change. The Department's approach is supported by the National Drought Mitigation Center established at the University of Nebraska-Lincoln to help reduce societal vulnerability to drought.

During a drought, water use changes and society needs to understand how this affects existing supplies. The budget request for USGS includes $3.9 million for drought science to quantify water availability, better understand how snowmelt factors into the hydrologic cycle, and investigate drought effects on reproduction and survival of species. In addition, $4.0 million is requested to develop methods to assess regional and national water use trends during drought periods that will lead to a near real-time assessment of water use during drought. This will improve the quality of collected and estimated water data and enhance development of forecasting tools for drought. The improved data accessibility and new visualization tools and products produced by USGS will help water managers improve water management and educate the public on the impacts of drought.

Meeting current and future water needs requires innovation and development of new technologies along with the dissemination of scientific information. The budget request for Reclamation includes $5.8 million for the Desalination and Water Purification Research program. It also includes $22.8 million for the Science and Technology program, of which $8.5 million would fund a technology prize competition focused on next generation advanced water treatment technologies with the potential to significantly reduce the cost and electricity usage of advanced water treatment, and $2.0 million to support Reclamation's continued work in open water data to make important water information available to support innovation across the Country.

Collaboration with non-Federal partners on advanced water treatment and clean water technology is essential to leverage Federal dollars and aggressively bring new technologies to the marketplace while conserving scarce western water resources and protecting species habitat. The Department will work to achieve this end.